

WOOLF PLAY:  
THE ART OF SCIENCE IN BETWEEN THE ACTS

by

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This manuscript has been read and accepted  
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Abstract

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In recent decades much has been written about Virginia Woolf and science. It is my contention that Between the Acts, what was to be Woolf's final novel, is her most subtle, most fully nuanced expression of scientific theory. Her interweaving of ideas concerning the primordial, history, the role of the observer, space, matter, and time all come together to make this book her most radical and innovative. While extensive studies have been done involving Woolf's entire oeuvre, no in-depth reading has focused exclusively on Between the Acts as it reflects the theories of Charles Darwin, Sir James Jeans, Sir Arthur Eddington, Albert Einstein, and quantum mechanics.

As background I look at the Victorian world into which Virginia Woolf was born and describe the scientific context with its particular attention to philology and language theory in England. The Victorians had great need for the predictability and order of the Cartesian-Euclidean-Newtonian universe. There was little room for randomness in such a setting, and writers depicted the world through "realistic," cause-and-effect description. But attending to the very important Darwinian

information, William James in his 1890 The Principles of Psychology introduced the idea of "stream of thought," where he described thought as a continuous flow deflected, nonetheless, accidentally, like the stream of a river by the accidental features of the river bed. Woolf was intrigued by the issues of sensation and perception and their connection to evolutionary development in her life-long endeavor to capture the transitory nature of human consciousness through language.

I offer a concentrated analysis of a work which served as a pivot from the Victorian into the Modern Age. In addition, I deepen the discourse concerning the interplay between language and science during this crucial moment. Through close reading and passage exegesis this dissertation establishes the inextricability of scientific rumination in Virginia Woolf's language in what would be her final attempt to move beyond the limitations of linear, deterministic, patriarchal, realist fiction. Between the Acts remains an exquisite work about the ephemerality of the cosmos and human experience and about the creative spirit in all its forms.

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Thanks to my family and friends, with a special bow to my mother, Jennie-Belle Campbell Coppus, who instilled in me an intellectual ardor from the beginning and who at ninety-one continues to love learning, and Luana Daniel Coppus, who has remained my steadfast friend, both of whom must feel as if they have spent almost as much time as I have at this endeavor.

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For my parents with love.

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Yes—one must dine and sleep and register one's life by the dial of the clock, in a pale light, attended only by the irrelevant uproar of cart and carriage, and observed by the universal eye of sun and moon which looks upon us all, we are told, impartially. But is not this a gigantic falsehood? Are we not each in truth the centre of innumerable rays which so strike upon one figure only, and is it not our business to flash them straight and completely back again, and never suffer a single shaft to blunt itself on the far side of us?

Virginia Woolf  
"The Memoirs of Sarah Bernhardt"  
1908

### Introduction: Woolf to Play

The examination of Virginia Woolf's writing over the past two decades has increasingly focused on the relationship of her work to the scientific theories and discoveries of the early twentieth century, in particular those of evolution, electromagnetism, wave theory, sound, relativity, and simultaneity. Much of this study has concentrated on The Waves, usually regarded as Virginia Woolf's most experimental book and the one most often cited as being directly linked to the "new physics." It is my contention, however, that Between the Acts, Woolf's final novel, is a subtler, more fully nuanced expression of scientific theory. Her interweaving of ideas concerning the role of the observer, the primordial, history, space, matter, and time all come together to make this book her most radical and innovative. This dissertation explores her "later style" in Between the Acts as it reflects the theories of Charles Darwin, James Jeans, Sir Arthur Eddington, Albert Einstein, and quantum mechanics. Through close reading and passage exegesis the dissertation establishes the inextricability of scientific rumination in Virginia Woolf's language in Between the Acts, what would be her final attempt to move beyond the limitations of linear, deterministic, patriarchal, realist fiction.

Science permeated the public mind in the first part of the twentieth century and challenged basic assumptions. Scientific discoveries were discussed in English newspapers, book reviews, magazines, and BBC radio talks, some of which were reprinted in the British radio journal The Listener. Gillian Beer has abundantly evidenced in her writing the fascination with scientific theories developing at this time.<sup>1</sup> Indeed, Beer reports that from 1929 to 1934, up to forty per cent of the articles in The Listener were written by scientists or were about science (Virginia Woolf: The Common Ground 113). Popularizations of contemporary science by the mathematician James Jeans and astrophysicist Sir Arthur Eddington were best sellers. Einstein's name was bandied about freely, and, according to Judith Killen, "A tourist in London during 1919-1921 could hear relativity jingles and limericks, read relativity cartoons, and buy souvenir relativity pottery and an Einstein cigar" (qtd. in Henry "Nebulous Networks" 270).

Virginia Woolf's exposure to scientists and their ideas started early in her childhood and continued throughout her entire life. Leslie Stephen, a close friend of the Darwins, had given her a copy of the HMS Beagle voyage, an edition called A Naturalist's Voyage Round the World (Woolf, Diary V: 275n), and himself attributed his loss of faith to the reading of Darwin. (Woolf never actually met Charles Darwin, who died in 1882, the year of her birth.) In March of 1940 she noted in her diary that she was "beginning Sense & Sensibility--& reading about Apes." Then she added: "That reminds me—to do a C[ommon]. R[eader]. on Darwin. V.of the Beagle one section: Downe the other" (Diary V: 274). (Darwin had settled at Downe, Bromley,

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<sup>1</sup> See in particular Virginia Woolf: The Common Ground, Open Fields: Science in Cultural Encounter, Darwin's Plots, "Wireless": Popular Physics, Radio and Modernism," and "Eddington and the Idiom of Modernism."

Kent.) Her father was close friends with many other scientific thinkers of the time as well, including T.H. Huxley, one of the “luminaries of evolutionary thought” (Lambert 1), G.E. Moore, the philosopher, and John Tyndall, the Irish physicist who wrote about heat, sound, and the importance of “the use of imagination in science.”

Woolf read Darwin’s and Tyndall’s works in her youth, and it is well documented that she read Darwin (including his journals), Jeans and Eddington as an adult. She may have listened to lectures by Jeans, Eddington, and Bertrand Russell (the mathematician and philosopher) on the radio or “wireless,” an invention that became fairly accessible (minus interference) to the public in the 1920’s. Woolf would also have met some of the scientists and science writers at Lady Ottoline Morrell’s Thursday evening parties at 44 Bedford Square beginning in 1907. (Morrell moved to Garsington in 1914, and her Garsington salon became a gathering place for scientists, literary writers and artists as well.) Woolf knew G. M. Trevelyan, the historian, H.G. Wells, the political philosopher and science fiction writer, Bertrand Russell, the philosopher, and Alfred North Whitehead, the mathematician and philosopher. As literary editor of The Nation from 1923-1931, Leonard Woolf reviewed books by Jeans, Wells, and Gerald Heard, the best-selling “populizer” of science (whom Leonard followed closely as editor). Both Eddington’s and Einstein’s works were often discussed within its pages as well. As editor of The Nation (which later became The New Statesman and Nation), Leonard wrote the weekly column “World of Books,” and he commissioned many friends (including Virginia) and younger writers to submit articles to the paper. Leonard, Heard, J.W.N. Sullivan, and W.J. Turner wrote reviews of scientific works by Jeans, Max Planck, and Sir William

Bragg (among others) after Leonard's editorial leadership well into the 1930's. According to her diary and letters, Woolf discussed scientific concepts with others in her literary circle, including Roger Fry, Lytton Strachey, Clive Bell, E.M. Forster, and, of course, with Leonard. Fry, her close friend, had studied the natural sciences before he became interested in art; he wrote about the common ground that artists and scientists have with one another in his book Vision and Design (1920), which Woolf read. In June of 1927 Woolf, Leonard, and her friends took a late night train to North Yorkshire to witness the total eclipse of the sun, the first one to be seen in England for over two hundred years. (In 1919 Eddington had successfully led the well-publicized British eclipse expedition to Brazil to photograph stars near the sun during an eclipse in order to verify Einstein's general theory of relativity. Eddington's report of the positive results of this expedition, "the bending of light by the gravitational field of matter," brought Einstein into public awareness.) She and Leonard bought a telescope in 1937 in order to study the stars.

All of these connections to the scientific world reveal how scientific theory became an integral part of Woolf's thinking and of her experience of the world. While this study concentrates on her last novel, Woolf's fascination with science is present in all of her books, including her first novel, The Voyage Out, in which she reflects on the nature of the primitive in twenty-four-year-old Rachel Vinrace's voyage to South America, and in her second novel, Night and Day, in which Katharine Hilbery, the main character, prefers a life filled with the purity of mathematics to a life with people. But there is a particular urgency and starkness in

Woolf's last novel, with its rumblings of war and the threat of annihilation (perhaps even extinction) of English life and the English countryside.

Over the past thirty years Gillian Beer has documented the particular attention both Darwin and Eddington paid to language through exacting revision of their own texts, revisions which underscore the two men's keen awareness of the difficulty—if not impossibility—of conveying truth through “objective” observation. Beer writes how Darwin understood that “all observation is theory-laden and therefore subject to interpretative sentences: ‘No facts without theory’ he wrote” (qtd. in Beer Open Fields 157). When Beer analyzes Woolf's writing, she considers all of her novels, in particular her presentation of prehistory in The Voyage Out and in Between the Acts, her first and last novels. She studies Orlando and The Waves, identifying certain passages that echo Eddington. She discusses Between the Acts in terms of its portrayal of a communal consciousness and Woolf's “resisting the end.” Beer suggests that this last novel (along with Orlando) is her “most mischievous and playful work,” but also is “one that muses much upon death and extinction...each word tells—sometimes at odds with its neighbour. Together these disparate words tell a resourceful history that jettisons ideas of development, discovers the remote past in the present moment, celebrates and mocks ‘Englishness’ and family life—and knows passion in all its probability” (Virginia Woolf 125). In Between the Acts Woolf studied Darwin's interpretation of history and then, according to Beer, she explored “in simultaneity pre-history and what Woolf dreaded would prove to be post-history” (Virginia Woolf 144).

Other critics such as George Levine (Darwin and the Novelists: Patterns of Science in Victorian Fiction), A. J. Friedman and Carol Donley (Einstein as Myth and Muse), and N. Katherine Hayles (The Cosmic Web: Scientific Field Models and Literary Strategies in the Twentieth Century) have written distinctively about the relationship of literary works and science in both the Victorian period and the twentieth century, but none has provided more than a cursory analysis of Woolf's writing. By studying the earlier and later typescripts of Between the Acts (originally entitled Pointz Hall), as well as the published version, and reading these against the scientific background offered by Darwin, Jeans, Eddington, Einstein, and quantum mechanics, I offer a concentrated, in-depth analysis of a work which served as a pivot from the Victorian into the Modern Age. In addition, I deepen the discourse concerning the interplay between language and science during this crucial moment.

"Victorian Dreams" considers the Victorian world into which Virginia Woolf was born and describes the scientific context with its particular attention to philology and language theory in England. The Victorians had great need for the predictability and order of the Cartesian-Euclidean-Newtonian universe. There was little room for randomness in such a setting, and writers depicted the world through "realistic," cause-and-effect description. But attending to the very important Darwinian information, William James in his 1890 The Principles of Psychology introduced the idea of "stream of thought," where he described thought as a continuous flow deflected, nonetheless, accidentally, like the stream of a river by the accidental features of the river bed. Woolf herself was intrigued by the issues of sensation and perception and their connection to evolutionary development in her life-long

endeavor to capture the transitory nature of human consciousness through language. Hans Aarsleff's The Study of Language in England, 1780-1860 and Philip Gura's The Wisdom of Words provide the counterpoints for the critical conversation of this chapter.

“Woolf’s Evolution” scrutinizes the space where Woolf’s syntax overlaps (in a sense) with that of evolutionary theory, and I attempt to accompany Woolf as she plays with Darwin’s often mellifluous design at once both breathtaking and staggering in scope. “‘Science’ was making things happen; it could predict their occurrence, its success precluded doubt. It seemed to many, at the time, final and unambiguous. One could depend on it” (Appleman 532). This was the mind-set regarding science eight years before Origin. Darwin’s study disputed every one of these “certitudes.” Causality became suspect, inexplicable anomalies in nature abounded, and progress was no longer the only end—and, in fact, there was no end, no final or ultimate understanding to the process of description. Nor was there an end to the uncertainties which Darwin raised.

In Darwin’s Plots Gillian Beer analyzes Darwin’s use of language, his discoveries, and their impact on nineteenth century literature. She emphasizes the uncertainty of the world he describes, how this world is “always capable of further description, and [how] such description generates fresh narratives and fresh metaphors which may supplant the initiating account” (49-50). Darwin did not separate human beings from other species, something that caused much controversy, since it was believed that humans (or, at least, white Englishmen) were at the top of

the ladder of life forms. In fact, rather than search for God or an originator, Darwin was looking for the “description of the process of becoming.” As Beer explains:

He sees struggle as essential to the continuity of nature, but he interprets it as interdependence or endurance as much as battle. The egalitarian, horizontal, ordering of his view of the natural world means that he eschews the simplicity of hierarchy. [...] In nature relations can never be simple. There is no single line of ascent and descent, but rather an abstruse lateral range of interconnections. (93)

It is this notion of the nonhierarchical that is Woolf’s subject in Between the Acts and that I explicate further in exploring Woolf’s attempt to depict the reality of one particular June day in 1939 England. By juxtaposing Shakespeare with nursery rhymes, for example, Woolf not only pays homage to both, but she elevates the status of nursery rhymes to that of Shakespeare (and likewise, “reduces” Shakespeare to the status of nursery rhymes). By including a village pageant within the text, Woolf is able to juxtapose scenes from throughout history and prehistory with those contemporary moments of the members of the audience, including “intervals” between the parts of the play, where characters wander among the grounds, discussing both mundane and deliberative issues. She also in this manner gives the reader a slice of 1939 England by reproducing a village custom of townspeople performing such a pageant, a common undertaking in the small English towns at this time.<sup>2</sup> Besides the more obvious mention of literary figures, works, and quotations peppered throughout Between the Acts—including Byron, Shakespeare, The Faerie

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<sup>2</sup>Woolf herself became engaged in such village plays while living at Rodmell, though she turned down local residents’ request to write one herself. See Beer, Virginia Woolf: The Common Ground 145-146 for further discussion of village plays.

Queene, Keats, Shelley, Yeats, Donne, Racine, and Swinburne—she celebrates medieval plays, the masque, and Restoration comedy, showing how their accidental features impinge in the present of her stochastic narration. Elsewhere animals and scenery are afforded as much dignity as the human characters—perhaps more. The passages describing nature are the most evocatively lyrical of the book.

The other trees were magnificently straight. They were not too regular; but regular enough to suggest columns in a church; in a church without a roof; in an open-air cathedral, a place where swallows darting seem, by the regularity of the trees, to make a pattern, dancing, like the Russians, only not to music, but to the unheard rhythm of their own wild hearts. (64-65)

(The syncopated rhythm of this sentence underscores the birds' unique wild path.) At one critical moment during the pageant, nature unexpectedly fills in the empty space that the players have left on stage. The wailing of a mother cow for her lost calf “rescues” the performance when human endeavor has failed. The playwright Miss La Trobe is in despair when everything stops and no one appears on stage.

“This is death,” she murmured, “death.”

Then suddenly, as the illusion petered out, the cows took up the burden. One had lost her calf. In the nick of time she lifted her great moon-eyed head and bellowed. All the great moon-eyed heads laid themselves back. From cow after cow came the same yearning bellow. The whole world was filled with dumb yearning. It was the primeval voice sounding loud in the ear of the present moment. [...] The cows annihilated

the gap; bridged the distance; filled the emptiness and continued the emotion. (140-141)

This is one of the countless instances of the ways in which Woolf features the perspectives in which humans and human life are to be considered in a post-Darwinian environment.

“Jeans, Eddington, and the Final Arbiter” considers the works of Sir James Jeans and Sir Arthur Eddington. Both scientists were prolific writers in the 1920’s and 1930’s, with Jeans writing books such as The Universe Around Us, The Mysterious Universe, Science and Music, Physics and Philosophy, and the more technically complex The Dynamical Theory of Gases, and The Mathematical Theory of Electricity and Magnetism, and with Eddington writing New Pathways in Science, The Philosophy of Physical Science, and The Expanding Universe, among others. Both Jeans and Eddington addressed various questions that Darwin had raised, in particular one of the most persistent and fundamental questions pondered in the late nineteenth and early twentieth centuries—to what extent the observer can be differentiated from the observed. Jeans questioned whether human beings can measure the world in any objective sense, but then went on to conclude that mathematical concepts best explain the physical world. (Jeans himself was a mathematician.) Eddington disagreed with Jeans, arguing that the mathematician is not necessarily the “Final Arbiter.” In contrast, Eddington stated that “the mind may be regarded as regaining from nature that which the mind has put into nature” (The Nature of the Physical World 244).

As an approach to the “problems of description” in Between the Acts, Woolf uses multiple perspectives exploring the reality of a June day in England shortly before World War II. She lets the reader listen to various characters’ thoughts, musings, and descriptions—often without identifying the speaker and even including the myriad speakers’ scraps of dialogue as if they were one lengthy run-on sentence.

What we need is a center. Something to bring us all together ... The Brooks have gone to Italy, in spite of everything. Rather rash? ... If the worst should come—let’s hope it won’t—they’d hire an aeroplane, so they said.... What amused me was old Streatfield, [...] Then those voices from the bushes.... Oracles? You’re referring to the Greeks? We’re the oracles, if I’m not being irreverent, a foretaste of our own religion? Which is what? ... Crepe soles? That’s so sensible... [...] But I was saying: can the Christian faith adapt itself? In times like these ... At Larting no one goes to church ... There’s the dogs, there’s the pictures ... It’s odd that science, so they tell me, is making things (so to speak) more spiritual ... The very latest notion, so I’m told is, nothing’s solid ... There, you can get a glimpse of the church through the trees. ... (198-199)

And along with this debate by Jeans and Eddington about the role of the observer came others—that of the insubstantiality of matter, the nature of reality, and humans’ place in the universe. Life and science were becoming less certain, less predictable; change became the “constant companion.” Both men in their work report the undermining (if not absolute repudiation) of earlier physical laws and theories when discussing what led to the present knowledge. In The Mysterious Universe

Jeans writes about “the dying sun” and “our extreme loneliness, and [...] the material significance of our home in space . . .” He continues with the following: “the universe [...] appears to be indifferent to life like our own,” and the world seems to be “actively hostile to life,” with radiation abounding throughout the galaxies, destroying life forms (4). Eddington discusses this growing lack of substantiality in The Nature of the Physical World:

In the scientific world the conception of substance is wholly lacking, and that which most nearly replaces it, viz. electric charge, is not exalted as star performer above the other entities of physics. For this reason the scientific world often shocks us by its appearance of unreality. It offers us nothing to satisfy our demand for the concrete. How should it when we cannot formulate that demand? (274)

As early as 1919 in her essay “Modern Novels,” Woolf describes life as an incessant shower of innumerable atoms, composing in their sum what we might venture to call life itself; and to figure further as the semi-transparent envelope, or luminous halo, surrounding us from the beginning of consciousness to the end. Is it not perhaps the chief task of the novelist to convey this incessantly varying spirit with whatever stress or sudden deviation it may display, and as little admixture of the alien and external as possible? (Essays III: 33)

Woolf was struggling with the problem of how to depict the mentality of daily life that is fleeting, full of sensation, memory, yearning, and loss. Each of her later novels represents a different approach to this depiction of consciousness through language.

By the time she was writing her last novel, she was exploring not only individual and collective human consciousness but the consciousness of nature, time, and space as well.

In The Cosmic Web: Scientific Field Models and Literary Strategies in the Twentieth Century N. Katherine Hayles portrays the world before Einstein: “the physical world was considered to be composed of isolated objects separated from one another in an empty space that was rigid and unchanging, with a universal ‘now’ pervading all space at any given moment” (42). Time was regarded as “a succession of universal moments,” and “there was never any ambiguity about the order of events. Hence causality could be unidirectional and absolute” (42). In “Einstein and the Mechanics” I investigate the manner in which Einstein’s theories and later those of quantum mechanics forced people to reassess both the inseparability of time and space, and the measurement of objects relative to the observer.

Einstein drew attention to relationships as well as to the nonhierarchical status of one object to another. He led the way to the idea of unity in nature, speaking of “the possibility of explaining the numerical equality of inertia and gravitation by the unity of their nature” (qtd. in Hayles, Chaos 48). In Virginia Woolf & Postmodernism Pamela Caughie argues that narrative for Woolf was not a matter of representation but of association. Woolf shuns teleological conclusions and instead writes about relations—relations among people, between the individual and the self, people and nature, nature and itself, history and prehistory, the artist and the creative process, and language and its capacity to celebrate life. “How difficult to come to any

conclusion,” Lucy Swithin observes. “‘But we have other lives, I think, I hope,’ she murmured. ‘We live in others, Mr. . . . We live in things’” (70).

Just as Woolf was intrigued by the ideas of Jeans and Eddington, she also discussed Einstein with her friends and questioned his theories, commenting about one such conversation in her diary on March 20, 1926: “I wanted, like a child, to stay and argue. True, the argument was passing my limits—how, if Einstein is true, we shall be able to foretell our own lives” (*Diary* III: 68). In her parallel fictional universe, represented in her final novel, Woolf is playing with the order of events as well as time. Near the beginning Lucy Swithin, a woman in her seventies, is shown reading H. G. Wells’s *Outline of History* and imagining a prehistoric setting.

She [Lucy] had spent the hours between three and five thinking of rhododendron forests in Piccadilly; when the entire continent, not then, she understood, divided by a channel, was all one; populated, she understood, by elephant-bodied, seal-necked, heaving, surging, slowly writhing, and, she supposed, barking monsters; the iguanodon, the mammoth, and the mastodon; from whom presumably . . . we descend. It took her five seconds in actual time, in mind time ever so much longer, to separate Grace herself, with blue china on a tray, from the leather-covered grunting monster who was about, as the door opened, to demolish a whole tree in the green steaming undergrowth of the primeval forest. (8-9)

This is Einsteinian—and Bergsonian—time.<sup>3</sup>

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<sup>3</sup>The French philosopher Henri Bergson (1859-1941) drew a distinction between external time such as that measured by a clock and the internal time of consciousness, “*la durée*.” He explains in *Matter and Memory*: “The duration lived by our consciousness is a duration with its own determined

Quantum mechanics furthered this discussion of relationships, time, space, chance, predictability, and unity. In his masterpiece Science and the Modern World (1925) Alfred North Whitehead speaks of the “discontinuous existence in space, thus assigned to electrons” (35). One area of exploration in quantum theory at this time (the early part of the twentieth century) was the possibility that “an electron does not continuously traverse its path in space. The alternative notion as to its mode of existence is that it appears as a series of discrete positions in space which it occupies for successive durations of time” (34). Whitehead then draws the following example: “It is as though an automobile, moving at the average rate of thirty miles an hour along a road, did not traverse the road continuously; but appeared successfully at the successive milestones, remaining for two minutes at each milestone” (34).

In addition to this rather confounding observation, Werner Heisenberg’s Uncertainty Principle called into question supposed “truths” on which scientists and the public based their perception of the world. The Uncertainty Principle and Niels Bohr’s emphasis on the role of language in explicating scientific principles continued the discussion of the connection between observer and observed. According to Hayles, quantum mechanics caused the two to be “wed into an indissoluble whole” (CosmicWeb 50). Woolf resists definitive assumptions about nature and its laws and instead stresses the lack of certitude with which humans must wrestle: “There was a fecklessness, a lack of symmetry and order in the clouds, as they thinned and thickened. Was it their own law, or no law, they obeyed?” (23). Nor does she limit herself to “earthly” description in Between the Acts: “Beyond that was blue, pure

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rhythm, a duration very different from the time of the physicist” (205). He continues: “And this rhythm varies, of course, from individual to individual” (207).

blue, black blue; blue that had never filtered down; that had escaped registration. It never fell as sun, shadow, or rain upon the world, but disregarded the little coloured ball of earth entirely. No flower felt it; no field; no garden” (23). In various ways throughout the novel, Woolf depicts nature as a living organism irrespective of any human presence.

“Woolf Play” considers Between the Acts in its broader, more contemporary, twentieth—and now twenty-first-century—context, in particular in relation to the role of “Anon” as author and the role of the audience as regarded by Miss La Trobe. In recent decades there has been discussion of the world as a “web,” and particle physics has led the way to the concept of field studies.<sup>4</sup> Hayles defines this concept as “a reality that has no detachable parts, indeed no enduring, unchanging parts at all. Composed not of particles but of ‘events,’ it is in constant motion, rendered dynamic by interactions that are simultaneously affecting each other” (Cosmic Web 15). Hayles is continuing Whitehead’s earlier use of the term in Science and the Modern World, in which he begins to clarify his meaning in the following passage:

One all-pervasive fact, inherent in the very character of what is real is the transition of things, the passage one to another. This passage is not a mere linear procession of discrete entities. However we fix a determinate entity, there is always a narrower determination of something which is presupposed in our first choice. Also there is always a wider determination into which our first choice fades by transition beyond itself. The general aspect of nature is that of evolutionary expansiveness. (93)

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<sup>4</sup>This theory can be traced back to Michael Faraday, who wrote about the unity of forces of nature. He suggested that all forces could be traced back to one singular force field, with the emphasis on “field.”

Whitehead then goes on to explain the need for a term to describe this “evolutionary expansiveness” while simultaneously acknowledging the limitation of the use of one word:

These unities, which I call events, are the emergence into actuality of something. How are we to characterize the something which thus emerges? The name ‘event’ given to such a unity, draws attention to the inherent transitoriness, combined with the actual unity. But this abstract word cannot be sufficient to characterize what the fact of the reality of an event is in itself. A moment’s thought shows us that no one idea can in itself be sufficient. For every idea which finds its significance in each event must represent something which contributes to what realization is in itself. Thus no one word can be adequate. But conversely, nothing must be left out. (93)

Both Whitehead and Hayles are speaking of an integrated “unstillness,” which, though composed of many elements, remains inextricably bound and by its nature ineffable and, simultaneously, ineffaceable, all of which echoes Emerson. Or, to express it in the words of Dennis Overbye, a science writer for The New York Times, “No Quark (or Electron) Is an Island in the New Physics of Relationships” (March 20, 2001). Near the end of the pageant, Lucy Swithin takes one of her “imaginative tours” of the mind: “Sheep, cows, grass, trees, ourselves—all are one. If discordant, producing harmony—if not to us, to a gigantic ear attached to a gigantic head. And thus, we reach the conclusion that all is harmony, could we hear it. And we shall” (175).

## Chapter 1: Victorian Dreams

In the early 1800's the most advanced of the sciences were astronomy and geology. Astronomy in particular captured the public's fervor at this time, and as the century continued, it was assumed to be the template for all science and, indeed, "all knowledge" by most Victorian scientists (Levine 34). In the 1830's the nebular hypothesis, an explanation of how the solar system came about, captivated the public and was considered by many "the single most impressive contribution to astronomy since Newton" (Millhauser, "In the Air," Darwin 29). The belief was that a nebula had cooled and broken off rings of matter, which then joined together to become the planets and moons, while the nebula's remaining mass became the sun. The theory fed into the early Victorian belief system of certainty, rationality, and simplicity. However, it also added an element of uncertainty. The theory pushed back the concept of God's original seven-day genesis and suggested that the universe "disposed men's minds to think of their universe as generated, developed through successive stages and in accordance with mechanical laws, rather than created miraculously in virtually its present form" (Millhauser, Darwin 29). Thus the religious basis for the understanding of the formation of the earth and "man's" universe was being questioned, and the Victorians' search for origins and need for human dominance over nature was beginning to suffer the dislocation from the center of the universe to a more distant, less familiar and less well-defined space.

In order to grasp the magnitude of the change in mind-set that the nebular hypothesis prompted, it is necessary to understand the highly defined parameters previously set forth by natural theology. Natural theology claimed that science

incontrovertibly supported religious ideology. As George Levine explains in his book Darwin and the Novelists, natural theology was the basis of the understanding of the natural world. Furthermore, it “endorsed” coincidence as “narrative convention. Coincidence is the ultimate confirmation of design. Within a Darwinian frame, however, where the themata of natural theology are used and disrupted, coincidence is only coincidence, reflecting, perhaps, the design of the author, but not of nature” (25). And the intricacies of the relationship between science and religion are underscored when one considers how contemporary (and occasionally not so contemporary) predominant Judeo-Christian religious beliefs dictated the determination of the origin not only of humans but of the planet as well.

In the 1600's the earth's age had been determined to be about six thousand years. This conclusion was based on the study of the Bible and the book of Genesis by calculating the number of human generations.<sup>5</sup> In the eighteenth century the French naturalist Georges Louis Leclerc Buffon (1707-1788) wrote the first naturalistic account of the earth's history, theorizing that the earth was 75,000 years old. Histoire naturelle, a thirty-six-volume work published between 1749 and 1789, contained a detailed description of the earth's mineralogical, botanical, and zoological components.<sup>6</sup> James Hutton (1726-1797), the English geologist, proposed the theory that the earth had evolved over a much longer period than had ever been considered. He argued against the theory of catastrophism, the belief that radical changes in the

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<sup>5</sup>In fact, Bishop Ussher had determined that “man was created at 9:00 A.M. on October 23 in the year 4004 B.C.” (Appelman, “Darwin: On Changing the Mind,” Darwin 533).

<sup>6</sup>Theology still took precedence over science, and Buffon was pressured by the Sorbonne theological faculty in Paris to publish a declaration indicating that he had erred in contradicting the writing of the Scripture.

earth's make-up were caused by physical catastrophes such as volcanic eruptions and earthquakes rather than gradual (evolutionary) changes. Hutton countered catastrophism with uniformitarianism in his study Theory of the Earth, published in 1788 and expanded in 1795. Uniformitarian theory of geology suggested the idea that the earth's changes over time were no different from those forces still in effect. The same slow processes (such as sedimentation and erosion) that were currently altering coastlines, in other words, were the same forces that had been at work all along.

Thus with the proposal of the nebular hypothesis (which most astronomers no longer accepted by the 1840's, though the general public still fancied it), the earth's beginning was now considered to have occurred almost incomprehensibly further back in time than ever imagined. And the nebular hypothesis introduced additional complexity regarding earth's beginning; plus, it furthered the deeply unsettling news of humans' diminishing role in the occupation of and justified control of (and over) the planet.

The awe-inspiring reaches of interstellar space, the compounded infinitudes of galaxies and systems that the modern telescope was thus opening to men's gaze, militated with a terrible force against the notion that mankind, masters of certain circumscribed areas on the accidental satellite of a half-burnt-out star, could possibly have any special value—let alone a central and decisive position—in the whole stupendous scheme of things. (Millhauser, Darwin 29)

Another consequence of the probing of the age of the universe in the nineteenth century was the growing awareness of the incontrovertible relationship between

astronomy and geology. This notion of the interrelatedness of the nature of things would surface later and have profound significance in Darwin's studies, Einstein's theories and Woolf's final novel.

Alfred North Whitehead depicts the first half of nineteenth century England as a "period of hope" in Science and the Modern World (96) with the plethora of scientific discoveries and technological advances, including life-altering inventions in the areas of communication, lighting, mass production, medical treatment, transportation, and waste disposal (Levine 3). And as the country was undergoing industrialization and urbanization, England was becoming the world power through colonization. And yet, perhaps in part because of these rapid changes, Victorians had great need for the notion that the universe was "unified, coherent, and rational" (Levine 2). Both religion and science were "concerned to describe a cosmos all of whose phenomena made sense, manifested intelligence and design" (Levine 24). Writers such as Charles Dickens depicted the world through cause-and-effect description. Before Darwin's ideas infiltrated the mind-set of the mass culture, the world was seen as predictable, and the concept of progress was unquestioned. The "highest," most "advanced" life form according to the Victorians was the white Englishman. The separation between "man" and animal was distinct and beyond doubt.

For most Victorians before Darwin—or before his ideas permeated the popular culture—the natural world was explicable. Levine clarifies the consequence of such tenets on Victorian life and literature:

Time moves regularly, predictably. Every story reflects other stories, retells them with new data. The narrator can be wise about the narrated

experience because he or she knows the generality of what the characters experience as particular. When reality is understood, time effectively ends; the story closes. Questions of identity imply the limits of the inquirer's consciousness, not uncertainty about the reality of classification. (36)

Narrative had a beginning, a middle and an end. It was a closed system; life had limits. Permanence reigned, as did a justification for everything. Things happened for a reason. There were no accidents in nature. Laws were intentional, teleological. No waste; no mistakes. God had designed the world, and the notion of perfection was a valid one in the natural theologian's world. History, in a sense, was irrelevant in terms of how the present had developed because God was the inventor/developer. A gigantic struggle within the consciousness of the English people was occurring which was bound up in the scientific and technological advances that were proceeding in so many fields at an astounding pace. In part because of these advances, the discussion/controversy between science and religion was becoming even more fervent in the twenty-five years before Darwin's 1859 publication of On the Origin of Species by Means of Natural Selection and the Preservation of Favoured Races in the Struggle for Life. Contributing to the tremendous upheaval among scientists and theologians was the anonymous publication of Vestiges of the Natural History of Creation in 1844. Although Robert Chambers (the anonymous author) used astronomical and geological discoveries in his explanation of things, he argued that the original state of humankind had been one of primitivism before becoming civilized. This suggestion shocked the English public.

Two profoundly influential clergymen who wrote about science and were

attempting to make sense of the relationship between science and religion and who used “natural theology” as a backdrop for their own studies were William Paley (1743-1805), the English theologian and philosopher, and William Whewell (1794-1866), the prominent English naturalist. Paley’s 1802 Natural Theology was mandatory reading in English universities well into the nineteenth century, and it was Paley’s belief system that had to be superseded in order for Darwin’s ideas to begin to be absorbed into the scientific milieu. Paley contended that a design—such as the nature of the lens of the eye of a fish—had been adapted to the water, just as the eye of land animals had adapted to the air, and that such adaptation implied “contrivance,” which meant that there must have been a designer. Paley concludes: “‘it is only by the display of contrivance, that the existence, the agency, the wisdom, of the Deity could be testified to his rational creatures,’ and ‘Design must have had a designer. That designer must have been a person. That person is God’” (qtd. in de Beer, Darwin 9). Paley did not, however, always give preferentiality to religion over science. And though he never believed in chance, he did not, like many others, believe that order ruled all nature.<sup>7</sup>

Like Paley, William Whewell did not always place religion above science. Whewell descended from the eighteenth century rationalist tradition, a tradition that included Paley’s natural theology (Levine 29). Whewell’s world was “perfect” in its adaptation, an ordered world in which natural laws—God-created—governed rationally. Whewell—like Darwin, who studied under him at Cambridge—saw a world in which multiplicity reigned; however, unlike Darwin, Whewell believed in a

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<sup>7</sup>See Levine’s Darwin and the Novelists for further analysis of Paley’s contributions.

much “safer” world—one with limits, predictability, and containment. He saw the world as a “clear narrative of stable reality to be discovered,” and this concept is reflected in the Victorian literature of the time as well (Levine 36). Whewell never doubted that humans were at the center of the universe, and he was convinced in the “benevolence of divine intervention” (Levine 34). He also held the view that people were unable to entertain two opposing theories simultaneously, a contention that Darwin would eventually argue against.

Whewell was at various points a professor of mineralogy, professor of moral philosophy, college master and vice chancellor of Cambridge University, and according to Janet Browne in Charles Darwin: Voyaging, he had “omnivorous” areas of interest:

Whewell never developed any narrow scholarly specialty, taking pains to remain as familiar with moral philosophy, German literature, international law, and “Niebuhrising” techniques of historical research as with natural science, astronomy, advanced mathematics from France, and the theory of the ties: an accumulation of interests that induced [Robert] Peel to make him master of Trinity in 1841, whence he emerged as one of the natural leaders of the university community and supplied an opening for carrying through some of the more dramatic changes in the world of higher learning. (127)

Add to this exhaustive list Whewell’s quest to understand the origins of language and the profound influence he was to exert in the area of language theory.

Gillian Beer carefully delineates what she calls the “growth of language theory”

in the nineteenth century as it relates to Darwin and evolutionary theory (OF 95-114), indicating that “the transformation of languages through time became a disciplined topic by the beginning of the nineteenth century” (Open Fields 100). In The Study of Language in England, 1780-1860 Hans Aarsleff links nineteenth century English philology back to the seventeenth century, the study of Old English falling into abeyance until the 1830’s. Emphasizing the complex interaction of among numerous disciplines of knowledge, Aarsleff traces the history of language theory and its broader implications. Despite English scholars’ seeming absence of intellectual curiosity regarding philology during much of the eighteenth century, elsewhere scholars such as the German writer and critic Friedrich von Schlegel (1772-1829) were delving into the origins of language. Schlegel wrote the first study of comparative Indo-Germanic linguistics, Über die Sprache und Weisheit der Indier, which gave impetus in part to the study of Indian languages and comparative philology. And in fact it was the “spectacular rise and high quality” of the level of scholarship among German classicists in the late eighteenth century that prompted English academics to embark on their own linguistic studies in the early nineteenth century (Aarsleff 221). Aarsleff explains:

It is universally agreed that the decisive turn in language study occurred when the philosophical, a priori method of the eighteenth century was abandoned in favor of the historical, a posteriori method of the nineteenth. The former began with the mental categories and sought their exemplification in language, as in universal grammar, and based etymology on conjectures about the origin of language. The latter sought

only facts, evidence, and demonstration; it divorced the study of language from the study of mind. (127)

Beer observes that “from the middle of the eighteenth century onwards there was a movement in the study of the history of language away from the view of language as a fixed structure towards the concept of language as a growing and developing medium. We can see this at the level of single words in the great interest of etymology” (Open Fields 101).

Two early nineteenth century scholars who recognized the significance of language study were the Englishman Sir William Jones (1746-1794) and the German Franz Bopp (1791-1867), Sanskrit experts whose work underscored the relationship of Indo-European languages. [Aarsleff asserts that in fact Schlegel derived much of his own scholarship from Jones (124)]. It is a fascinating side note that before the mid-1850's, language study in England was less an end in itself than a means to an end (Aarsleff 5). Both Jones and Bopp promulgated the view of “a lost mother tongue previous to Sanskrit” (Beer, Open Fields 101). They also brought to the forefront the critical issue of comparative grammar, a topic which Darwin would consider in Origin. In the journal Edinburgh Review which Darwin read on a regular basis, Alexander Hamilton wrote the following in his 1820 review of Bopp's Conjugations System:

Schlegel first indicated to his countrymen the sources of unexplored truths concealed in that distant region [India] and the important discoveries to which they might probably lead, in tracing the affiliations of nations, the progress of science, and the transactions of that mysterious period which

precedes all history [as] but that of one remarkable family. (qtd. in Beer, Open Fields 101.)

Jones made a number of assertions concerning languages and philological methods between 1785 and 1792, some of which “were devoted to the principal nations of Asia, to the Hindus, the Arabs, the Tartars, the Persians, as well as the ‘Borderers, Mountaineers, and Islanders of Asia’ and ‘The Origin and Families of Nations’” (Aarsleff 125). These areas of linguistic study greatly fascinated European scholars who had long been intrigued with the “mystery of the East” (Aarsleff 126). Jones was the first, according to Aarsleff, to include the category of languages as a separate, critical category of study with as much gravitas as the other three he considered: Philosophy and Religion, Sculpture and Religion, and finally Sciences and Arts (125).

Darwin had been reading language theory in the 1830’s (Beer, Open Fields 102). Indeed, the history of languages and their changes over time had become a “disciplined topic” by the beginning of the nineteenth century. “The second debate which informed language theory from the beginning of the nineteenth century was of equally great importance to Darwin, since it bore on methods of classification, and on genealogical patterns of knowledge and descent” (Beer, OF 100). Beer suggests that previous scholars have emphasized the interaction between the influence of science on linguistics as one-way and that this may reveal a bias of historians:

Twentieth-century workers in linguistics and historians of language-study have emphasized the dependence of mid-nineteenth-century linguistics on the evolutionary and organic metaphors. Implicated in that general view may be an unacknowledged assumption of primacy for the more

‘scientific’ field—the study of language depends upon the study of biology. However, more is revealed if we reverse the emphasis: much important nineteenth-century scientific work, particularly that of Lyell in geology and Darwin in evolutionary theory, drew upon the new models of language development. Within Darwin’s own thought we can observe him using language theory as metaphor, as model, and as illustration, and as an example of evolutionary process. We can see also the problems of argument this created for him late in his career.” (Open Fields 97)

In her perspicacious study A Natural History of Pragmatism: The Fact of Feeling from Jonathan Edwards to Gertrude Stein Joan Richardson, discussing the backdrop of the early nineteenth century’s “cultural climate,” observes that “it was language theory and comparative philology which provided models for thinking, particularly for discoveries in geology and in evolutionary theory, complementary to those offered by crystallography and morphology for biology” (84). In fact, in 1835 the philologist Richard Garnett stressed the intricate relationship of language, knowledge, and the objects to which language and knowledge are related, and he did this by equating the critical nature of recent scientific discoveries of Cuvier and Buckland to the mining of linguistic fossils. Garnett concludes: “The knowledge of words is, in its full and true acceptance, the knowledge of things, and a scientific acquaintance with a language cannot fail to throw some light on the origin, history, and condition of those who speak or spoke it” (Philological Essays by the late Rev. Richard Garnett, qtd. in Aarsleff 210). Indeed, in 1857 Michael Faraday (1791-1867), the British chemist and physicist, wrote a letter to James Clerk Maxwell (1831-1879), his fellow physicist, on

the perils inherent in relying on specific terms as any manifestation of absolute truth. In discussing the term “force,” Maxwell writes on November 23, 1857, ““experimentalists on force generally ... receive that description of gravity as a physical truth and believe that it expresses all, and no more than all, that concerns the nature and locality of the power. To these it limits the formation of their ideas, and the direction of their exertions”” (qtd. in Beer, Open Fields 180).

In the 1830’s an informal gathering of scholars at Cambridge comprised the Etymological Society—with Whewell at the center of the society at the time Darwin was studying there. Most of the scholars contributed to the two volume publication of Philological Museum that was meant to begin to rectify the dearth of English scholarship surrounding classical and modern languages (Aarsleff 219). The society was undertaking the classification of words, and Whewell, along with Darwin’s cousin (and good friend) Hensleigh Wedgwood (1803-1891), had a profound effect on Darwin’s own scrutiny of language. Wedgwood had been fascinated his entire life with the development of language and its relationship with consciousness, and he provided his cousin with additional insight into language theory, having begun working on an etymological dictionary beginning in 1833, which he published in three volumes from 1859-1867. In fact, following his return from his five year path of study on the Beagle in 1835, Darwin was in “almost daily contact” with Wedgwood (Richardson 91).

Whewell became one of the founding members of the Philological Society of London in 1842. The Philological Society was created ““for the investigation of the Structure, the Affinities, and the History of Languages; and the Philological

Illustration of the Classical Writers of Greece and Rome” (Aarsleff 211), and the group wanted to craft a New English Dictionary, although in fact it was not until 1860 that the Society took steps to finalize plans for what was to become the Oxford English Dictionary (Aarsleff 4). There were two hundred and three original members, and it is noteworthy that most of the names included the title “Reverend” (Aarsleff 211), which again underscores the blurring of boundaries or, to take a less oppositional stance, reflects the overlapping nature of the two areas of study, including not only antipathy but also a communion and commitment between the two. But antagonism seemed to take precedence. The Society focused on three areas—“classical philology; the investigation of the forms, dialects, and etymologies of English; and the ethnologically oriented philology that turned to distant non-Indo-European languages, such as the ‘dialects of the Papuan and Negrito race’” (Aarsleff 222). But the initial articles published in the first years are apparently unmemorable, and, in fact, the catalyst for a deepening discourse concerning philology was Chambers’ 1844 publication of Vestiges, in which the anonymous author argued that language was not of “miraculous origin” after all, a statement which compelled the geologist Adam Sedgwick (who had become the president of the Geological Society of London in 1829) to attest that Chambers’ book had “annulled all distinction between physical and moral” (“Natural History of Creation” in the Edinburgh Review, LXXXII, July 1845, qtd. in Aarsleff 224). Whewell published Indications of the Creator in response to Chambers, asserting that the history of languages would lead people “to regard the present order of the world as pointing towards an origin

altogether of a different kind from anything which our material science can grasp”” (Aarsleff 224-225).

In addition to Whewell’s heavy influence on Darwin at Cambridge, Adam Sedgwick (1785-1873) became another one of Darwin’s mentors, and he took the student with him—at the suggestion of John Stevens Henslow, the Cambridge botany professor—on his 1831 field trip to study the rocks of northern Wales. Like Whewell, the geologist had an extensive range of interests. He included William Wordsworth in his circle of friends (Browne 137), and Emerson sought him out as a dinner companion (Richardson 90). According to Browne, Sedgwick “aimed for the large view, the all-embracing hypothesis that would explain the earth’s history, the scientific truths that would, he believed, reveal God’s intention and allow mankind to come to know its maker” (137).

Darwin’s most influential science mentor at Cambridge was Henslow, who, in addition to his expertise in botany, was knowledgeable in mineralogy and a student of chemistry. Darwin’s older brother Erasmus had the highest regard for Henslow, having attended his lectures on mineralogy, and Charles quickly allied himself with the exciting young botanist who was a mere thirteen years older than Charles. Henslow invited him to his intellectual gatherings that included other Cambridge “hot shots” such as John Haviland, professor of medicine, and John Herschel, the mathematician and astronomer (Browne 126). Those attending Henslow’s lectures included Whewell and Sedgwick, in addition to other professors (Browne 121). Darwin often acted as Henslow’s assistant during class and would take long walks with him and even dine at Henslow’s house. Darwin could not have wished for a

more patient, more benevolent advisor, and he helped Darwin develop his attentive pursuit of the minutiae of the botanical world through the use of the microscope. This would prove, of course, to serve him well on the Beagle.

The French naturalist Chevalier de Lamarck (1744-1829) is credited with laying the groundwork for the theory of evolution with his belief in the concept of transformation. However, he still promulgated the notion of intent, believing, as Gillian Beer explains it, that “conscious endeavor and reflexive habit are agents of evolutionary change” (Darwin’s Plots 19). If animals “wanted” a change in their make-up, they could effectively make it happen, a concept which both Sir Charles Lyell and Darwin would dispute. In his book Zoological Philosophy (1809) Lamarck writes about a bird living near the water:

Now this bird tries to act in such a way that its body should not be immersed in the liquid, and hence makes its best efforts to stretch and lengthen its legs. The long-established habit acquired by this bird and all its race of continually stretching and lengthening its legs, results in individuals of this race being raised as though on stilts, and gradually obtaining long, bare legs, denuded of feathers up to the thighs and often higher still. (qtd. in Beer, Darwin’s Plots 19)

Lamarck’s theory, called “transformism,” included the idea that species transformed into other species over time and that “man” was the end result. There was no such thing as extinction in Lamarck’s world—in studying fossils of creatures no longer roaming the earth, he believed that they had descended into other species. He supported the idea of a “supposed tendency to perfection and to increased

complexity” (de Beer 4), as well as a hierarchy, but he could not reconcile the simultaneous existence of lowly organisms alongside the existence of more complex organisms. He suggested that there was another force at work in terms of plants and the simplest animals, and he was “therefore unable to provide a unitary theory of evolution” (de Beer 5). Lamarck did, however, note the almost limitless extent of time necessary for such changes to have occurred.

The British geologist Sir Charles Lyell (1797-1875) set out to make geology as legitimate a field of study as chemistry or physics, and his three-volume study Principles of Geology, the first volume published from 1830-1833, marks to many the beginning of the establishment of geology as a revolutionary scientific field of study. Lyell rejected catastrophism and Lamarck’s concept of transmutation. He suggested that there was a uniformity of rates in terms of the processes of time.<sup>8</sup> Though he refused to accept Scripture as a basis for geological theories, Lyell was still conservative in his interpretation of human evolution. But though Lyell questioned the catastrophic viewpoint, he did not question the immutability of species. He had difficulty with Lamarck’s theory that humans belonged in the theory of evolution. But he was not conservative in his belief that species could become extinct “as a result of their failure in the struggle for existence” (de Beer 7). He originated the technique of classifying strata, the layers of the earth’s surface. According to Gillian Beer, Lyell (and Darwin) indicated that in geology and natural history it was possible “to have plot without man—both plot previous to man and plot even now regardless of him” (Darwin’s Plots 17). Lyell writes the following in Principles:

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<sup>8</sup> Lyell revised this book eleven times between 1830 and 1872. Appelman observes that part of the originality of this book is that it “illustrates by its continual accretions the progress of geology over half a century” (10).

Even now, the waters of lakes, seas, and the great ocean, which teem with life, may be said to have no immediate relation to the human race—to be portions of the terrestrial system of which man has never taken, nor even can take, possession, so that the greater part of the inhabited surface of the planet remains still as insensible to our presence as before any isle or continent was appointed to be our residence. (qtd. in Beer, Darwin's Plots 17)

Robert FitzRoy, the captain of the Beagle, gave Darwin the first volume of Principles as a gift to take aboard the ship—FitzRoy had met Lyell recently and Lyell had requested some research be done for him on Captain FitzRoy's adventure—and Browne underscores the critical role Lyell's theories had on Darwin at this point of his exploratory development:

The theories of Charles Lyell, as put forward in his Principles of Geology (1830-33), were crucial to Darwin's understanding of the structure of St. Jago and central to all his other activities during the rest of the voyage. In one of the most remarkable interchanges in the history of science, Lyell's book taught Darwin how to think about nature. [...] Without Lyell there would have been no Darwin: no intellectual journey, no voyage of the Beagle as commonly understood. His influence—and his impact—on the young traveler can hardly be overestimated. (186)

One other British scientist who must be mentioned is John Tyndall (1820-1893) (whom Woolf read and favored as a child) who, like Darwin, emphasized the act of seeing through the use of the imagination. The title of one of his works highlights this

undertaking: Essays on the Use and Limit of the Imagination in Science (1870). In his “thinking much of light and heat, of magnetism and electricity, of organic germs, atoms, molecules, spontaneous generation, comets and skies,” Tyndall elevated the power of Imagination above all else, including the factual details of the natural world (Essays 15). “Bounded and conditioned by cooperant Reason, imagination becomes the mightiest instrument of the physical discoverer. [...] without this power, our knowledge of nature would be a mere tabulation of coexistences and sequences” (16). He recognized the role imagination plays in Darwin’s studies, referring to Darwin as “this soaring speculator” who combined “observation, imagination, and reason” with “wonderful sagacity” (42).

Like his admirers Sir James Jeans and Sir Arthur Eddington, Tyndall approached his task of scientific inquiry by crossing boundaries in his descriptive elaborations about nature. One example of this is when he suggests rather distinctively how to measure the total volume of all matter in the skies outside of planet earth.

Suppose a shell to surround the earth at a height above the surface which would place it beyond the grosser matter that hangs in the lower regions of the air—say at the height of the Matterhorn or Mont Blanc. Outside this shell we have the deep blue firmament. Let the atmospheric space beyond the shell be swept clean, and let the sky-matter be properly gathered up. What is its probable amount? I have sometimes thought that a lady’s portmanteau would contain it all. I have thought that even a gentleman’s portmanteau—possibly his snuff box—might take it in. And whether the

actual sky be capable of this amount of condensation or not, I entertain no doubt that a sky quite as vast as ours, and as good in appearance, could be formed from a quantity of matter which might be held in the hollow of the hand. (Imagination 36)

Tyndall stressed the need to understand origins, and he included in this quest all of human endeavor, not only science.

at the present moment all our philosophy, all our poetry, all our science, and all our art—Plato, Shakspeare [sic], Newton, and Raphael—are potential in the fires of the sun. We long to learn something of our origin. If the Evolution hypothesis be correct, even this unsatisfied yearning must have come to us across the ages which separate the unconscious primeval mist from the consciousness of to-day. (47)

In addition, Tyndall found fault not with the clergy in regard to evolution but with those scientific explorers who did not use their imagination to decipher that which remained beyond human understanding, calling them “the greatest cowards of the present day” (44). And he glorified above all else the “gift” of imagination, equating it to the act of creation. “Now there is in the human intellect a power of expansion—I might almost call it a power of creation—which is brought into play by the simple brooding upon facts” (18). In one of the most profound connections among thinkers of the nineteenth-century, Tyndall, Darwin and Emerson relied on literature for their inquiry into language theory, and all three took lessons from Milton in particular. Beer explains the attraction of past literature to Victorian science writers, emphasizing how literature “offered [...] stories by whose means to imagine the

world, and organization which potentiated fresh relations” (Open Fields 210) Beer continues:

Poetry offered particular formal resources to think with. Poetry works by cross-setting a considerable number of systems in simultaneity (natural speech word order, metric units, line units, grammatical units, cursive syntax—all play across each other). By means of metre in particular, and sometimes by rhyme, the poet sets up multiple relations between ideas in a style closer to the form of theorems than of prose. And if this sounds remote from the business of science consider the example of John Tyndall, whose work on radiation had, he suggested, been enhanced by an unusually developed mental awareness of relations in space, trained by his early reading of Milton’s epic of cosmic and syntactic spaces, Paradise Lost. (210)

Tyndall reveals his inextricable relationship to language:

English grammar was the most important discipline of my boyhood. The piercing through the involved and inverted sentences of Paradise Lost, the linking of the verb to its often distant nominative, of the relative to its transitive verb, of the preposition to the noun or pronoun which it governed, the study of variations in mood or tense, the transpositions often necessary to bring out the true grammatical structure of a sentence, all this was to my young mind a discipline of the highest value, and a source of unflagging delight. (qtd. in Beer, Open Fields 211)

Another critical factor regarding both science and literature during the Victorian

period is the collaboration of sorts between the two. Richardson explains:

This was the period when men and women of letters in America and Britain, whether literary historians, poets, journalist, or natural historians, would have read an article by Faraday, followed by another on the High Criticism, followed by another on Milton's prosody, collected in the same issue of the Edinburgh Review, the Fortnightly Review, the Westminster Review, the North American Review, the Quarterly Review, or any one of a number of other journals and magazines which shaped Victorian sensibility. (85)

Furthermore, Beer explains that such a variety of articles "lying alongside on the page encouraged the reader to infer connections between their activities by the simple scan of the eye and by the simultaneous availability of diverse ideas" (OF 203). One can see this as well by studying the index to The New Statesman and Nation in the 1930's, where one sees books about science and metaphysics reviewed next to a book about the last years of Queen Victoria, which is followed shortly by a book on Mozart (June 4, 1932) or another issue whose reviews address books about the artist Maxim Gorki, the writer Charlotte Bronte, and those about the Philosophy of Doubt (April 16, 1932). And the closeness implies something else as well, according to Beer, namely that such connections suggested that general laws were at the basis of this interrelationship, could they only be uncovered. "Such laws would stabilize all knowledge. The accessibility of widely diverse fields of knowledge fostered the belief that language is held in common," and ultimately that this "desire to cross disciplinary bounds was itself part of the insistence on kinship in evolutionary

thought” (OF 203).

In a striking, almost incredulous confluence of events, at the same time Darwin was carrying Milton with him on his travels, Ralph Waldo Emerson was doing so as well in America. In fact, according to Richardson, “From the earliest year of his journal-keeping in 1820 (when he was seventeen) and well through the period of his writing Nature (1836), there is not a year in which Milton or Paradise Lost is not referred to either as having been read or reread, or in memorial evocation” (86). Prior to his becoming an essayist, Emerson had studied theology and had become a Unitarian minister. Emerson, like Darwin, studied language theory and philology, and though in America the origins of the apprehension among writers differed from those in England, the consequences were similar: tremendous upheaval in theological, philosophical and literary circles. While Darwin’s theories were creating a crisis for the English, the search for ultimate truth in biblical texts was creating turmoil among American theologians.

In his study The Wisdom of Words Philip Gura traces the questioning of biblical interpretation in America and the growing disagreement among various Protestant branches of such interpretation. Gura closely documents this shift toward the acknowledgement of the ambiguity of language that occurred in nineteenth-century New England in particular. By the 1830’s some were convinced that Nature, rather than the Bible, “revealed the will of God, and man had to respond to nature with an intuitive faculty” (Gura 75). People began to believe that Christian truths were not to be taken literally; instead, a symbolic mode of discourse emerged, and by the 1850’s truth had come to be regarded as a “shimmering, ever-shifting premise,

never to be held firmly” (Gura 7). And just as Darwin’s evolutionary theories crossed the boundaries of science into literary forays, so did Americans’ search for truth in biblical exegesis. Gura explains how this search for truth in theological texts extended into philosophical and literary circles, eventually culminating in the symbolist mode. “For the most part, these harbingers of symbolic mode were theologians or philosophers whose interests were far removed from the realm of imaginative literature” (Gura 8). This is best exemplified by Ralph Waldo Emerson, whose theological background led him to embark on a literary path in which he grew to rely upon nature as his spiritual guide.

Emerson, like Tyndall—who quoted a passage from one of Emerson’s early poems “Musketaquid” at the beginning of Fragments of Science for Unscientific People—elevated imagination above all else in human nature, defining it as “a very high sort of seeing, which does not come by study, but by the intellect where and what it sees, by sharing the path, or circuit of things through forms, and so making translucent to others” (“The Poet” 207).<sup>9</sup> Furthermore, Emerson associated imagination and mental keenness with the geological landscape, and the geological landscape to art: “Genius [...] is sun and moon and wave and fire in music, as astronomy is thought and harmony in masses of matter” (“The Method of Nature” 94). Like Darwin, he marveled at nature’s relentless, never-ending surge: “If anything

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<sup>9</sup>The gentle Mother of all  
 Showed me the lore of colors and of sounds;  
 The innumerable tenements of beauty;  
 The miracle of generative force;  
 Far-reaching concords of Astronomy  
 Felt in the plants and in the punctual birds;  
 Mainly, the linked purpose of the whole;  
 And, chiefest prize, found I true liberty—  
 The home of homes plain-dealing Nature gave.

could stand still, it would be crushed and dissipated by the torrent it resisted, and if it were a mind, would be crazed; as insane persons are those who hold fast to one thought, and do not flow with the course of nature” (“The Method of Nature” 85-86). Nature never rests.

The method of nature: who could ever analyze it? That rushing stream will not stop to be observed. We can never surprise nature in a corner; never find the end of a thread; never tell where to set the first stone. [...] The wholeness we admire in the order of the World is the result of infinite distribution. [...] Its permanence is perpetual inchoation. Every natural fact is an emanation, and that from which it emanates is an emanation also, and from every emanation is a new emanation. (85)

Like consciousness, language, to be effective, must never rest: “all language is vehicular and transitive, and is good, as ferries and horses are, for conveyance, not as farms and houses are, for homestead” (“The Poet” 211). “Power [...] resides in the moment of transition from a past to a new state” (“Self-Reliance” 142). It is as though these moments of transition form a chain in which one movement passes the baton to the next. In Representative Men he explains:

Every thing, at the end of one use, is taken up into the next, each series punctually repeating every organ and process of the last. We are adapted to infinity. We are hard to please, and love nothing which ends, and in nature is no end. [...] Creative force, like a musical composer, goes on unweariedly repeating a simple air or theme, now high, now low, in solo, in chorus, ten thousand times reverberated, till it fills earth and heaven

with the chant. (“Swedenborg, or The Mystic” qtd. in Richardson 67)

The great thinker and American psychologist William James (1842-1910) consciously continued Emerson’s quest into linguistic analysis, and he underscored the notions of process, flight, change, relationship, and the (at times) inadequacy of language. In his attempt to describe the human thought process, James coined the term “stream of thought” in Principles of Psychology, published in 1890.<sup>10</sup> James describes five “characters” of thought:

- 1) Every thought tends to be part of a personal consciousness.
- 2) Within each personal consciousness thought is always change.
- 3) Within each personal consciousness thought is sensibly continuous.
- 4) It always appears to deal with objects independent of itself.
- 5) It is interested in some parts of these objects to the exclusion of others, and welcomes or rejects—chooses from among them, in a word—all the while. (I: 225)

In his effort to reflect the nature of consciousness in the most precise manner possible, James indicates that “thinking of some sort goes on” (I: 224). He uses the word “thinking” “for every form of consciousness indiscriminately. If we could say in English ‘it thinks,’ as we say ‘it rains’ or ‘it blows,’ we should be stating the fact most simply and with the minimum of assumption. As we cannot, we must simply say that thought goes on” (I: 224-225). Thought belongs (as far as people understand, James cautions) to a single individual, and thoughts in one person’s mind never join

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<sup>10</sup> Virginia Woolf had met William James’s younger brother, Henry, and had reviewed Henry James’s writing. She also reviewed Dorothy Richardson’s writing and was familiar with Richardson’s endeavor to portray this “stream of thought” in her series of novels collectively entitled Pilgrimage, the first of which was published in 1915.

any other individual's thoughts. James uses the example of those individuals gathered together in a lecture hall. "Each of these minds keeps its own thoughts to itself. There is no giving or bartering between them. No thought even comes into direct sight of a thought in another personal consciousness than its own. Absolute insulation, irreducible pluralism, is the law" (I: 226). He continues: "Whether anywhere in the room there be a mere thought, which is nobody's thought, we have no means of ascertaining, for we have no experience of its like. The only states of consciousness that we naturally deal with are found in personal consciousnesses, minds, selves, concrete particular I's and you's" (I: 226). (Consider Woolf's well-known passage from To the Lighthouse, "Time Passes," in which she plays with the notion of a particular—supposedly inanimate and impersonal—space/time indeed having a consciousness. She does this in Between the Acts as well.)

When James speaks of thought "always changing," he is saying that one's experience can never be repeated, and furthermore, he explains that "bodily sensation" is never repeated, despite one's misguided initial (and, in fact, careless), cursory view that feelings can and do remain the same. A person's "state of mind" is never the same. James explains that relations change, and as Heraclitus avers, one never steps twice into the same stream (I: 233). "Experience is remoulding us every moment, and our mental reaction on every given thing is really a resultant of our experience of the whole world up to that date" (I: 234).

Furthermore, the sensation of consciousness itself does not appear fragmented or disjointed. Rather, consciousness "flows," and James suggests the metaphors of a "river" or "stream" as being most apt (I: 239). James wants the reader to sweep aside

previous suppositions about thinking, and in a longer passage he explains areas where scientists have fallen short in their description of the life of the mind:

What must be admitted is that the definite images of traditional psychology form but the very smallest part of our minds as they actually live. The traditional psychology talks like one who should say a river consists of nothing but pailsful, spoonsful, quartpotsful, barrelsful, and other moulded forms of water. Even were the pails and the pots all actually standing in the stream, still between them the free water would continue to flow. It is just this free water of consciousness that psychologists resolutely overlook. (I: 255)

Like Tyndall, James attempts to correct what he regards as faulty thinking of his peers. He then considers the “definite image in the mind” as it relates to all those images that have come before, and in doing so, James refers to associations with this image as a “halo,” a word which Woolf will reiterate in her own strivings to create an understanding of consciousness. James continues:

Every definite image in the mind is steeped and dyed in the free water that flows around it. With it goes the sense of its relations, near and remote, the dying echo of whence it came to us, the dawning sense of whither it is to lead. The significance, the value, of the image is all in this halo or penumbra that surrounds and escorts it,--or rather that is fused into one with it and has become bone of its bone and flesh of its flesh; leaving it, it is true, an image of the same thing it was before, but making it an image of that thing newly taken and freshly understood. (I: 255)

Twenty-nine years later in her 1919 essay “Modern Novels,” Woolf recounts the shortcomings of many modern writer’s uninspired attempts to portray life in such precise terms that characters must be “dressed down to the last button in the fashion of the hour” (Essays III: 33). She suggests that such so-called realism in literature misses the expression of life in a deeply fundamental way.

Is it not possible that the accent falls a little differently, that the moment of importance came before or after, that, if one were free and could set down what one chose, there would be no plot, little probability, and a vague general confusion in which the clear-cut features of the tragic, the comic, the passionate, and the lyrical were dissolved beyond the possibility of separate recognition? The mind, exposed to the ordinary course of life, receives upon its surface a (sic) myriad impressions—trivial, fantastic, evanescent, or engraved with the sharpness of steel. From all sides they come, an incessant shower of innumerable atoms, composing in their sum what we might venture to call life itself; and to figure further as the semi-transparent envelope, or luminous halo, surrounding us from the beginning of consciousness to the end. (33)

She then asks if it is not the novelist’s obligation to depict “this incessantly varying spirit,” including the unexpected or abrupt aspects but excluding that which remains outside this mental experience of the self.

Both James and Woolf, like Eddington, criticized those who should be most discerning in their respective fields. At one point in Between the Acts she plays with the notion of what can and cannot be carried in a bucket of water. Lucy Swithin is

discussing with her brother Bart how far their village is from the sea. “‘You can’t expect it brought to your door in a pail of water,’ said Mrs. Swithin, ‘as I remember when we were children, living in a house by the sea’” (29). (Nor can consciousness be so contained or confined.) Lucy recalls aloud the lobsters and the salmon, and Bart nods. “He remembered, the house by the sea. And the lobster.” And then Isa muses: “They were bringing up nets full of fish from the sea; but Isa was seeing—the garden, variable as the forecast said, in the light breeze” (29). Even the image of nets full of fish implies something more, for the nets act as a sieve, letting the water fall back into the ocean while the fish remain. Woolf mines the characteristics of water, boundaries, and containment. When James discusses the “definite image in the mind” and how it is “steeped and dyed in the free water that flows around it,” he could be discussing the adumbrations of words as well as the personal histories that accompany the words on their travels through space/time. And here language fails, according to James, and, indeed, it “works against our perception of the truth. We name our thoughts simply, each after its thing, as if each knew its own thing and nothing else. What each really knows is clearly the thing it is named for, with dimly perhaps a thousand other things. It ought to be named after all of them, but it never is” (I: 241).

In discussing the concept of relations, James refers to the “dying echo of whence it came,” and the “dawning sense” of its destination. A bit further on he clarifies: “knowledge about a thing is to know of its relations” (I: 259). He uses the example of thunder and how, in essence, to speak of thunder as a separate sensation—sound—is to fail to appreciate the complexity of the experience. He reminds the reader that an individual is not bearing witness solely to the clap of thunder. “Into the

awareness of the thunder itself the awareness of the previous silence creeps and continues; for what we hear when the thunder crashes is not thunder pure, but thunder-breaking-upon-silence-and-contrasting-with-it” (I: 240). He indicates that any mental image or physical sensation is never repeated—the “halo or penumbra” follows it and adds to its history. So that when Lucy, Isa, Bart and others are sitting in a semi-circle in Between the Acts and admiring “the view,” they are not merely in an impotent stupor, which is one possible interpretation; rather, they are each moment witnessing something new. And, I would have to add, that the moments in between the moments are also new—that is, even calling a moment such, as if each were an isolated, singular experience, is misleading because, as James explains, one thought does not abruptly end and another begin (I: 240).

If recently the brain-tract a was vividly excited, and then b, and now vividly c, the total present consciousness is not produced simply by c's excitement, but also by the dying vibrations of a and b as well. If we want to represent the brain-process we must write it thus:

c—three different processes coexisting, and correlated

b

a

with them a thought which is no one of the three thoughts which they would have produced had each of them occurred alone. (I: 242)

Part of the difficulty resides within language—in particular, according to James, the English language. At least in Latin and Greek, names “changed their shape to suit the context in which they lay” (I: 236). James urges people to ponder language—both

the “resting places” (the substantives), and the “places of flight” (the transitives). He directs the reader to consider the “feeling of and,” the “feeling of if,” and he equates the understanding of those words with our understanding of words such as “blue” or “cold” (I: 245). Transitives are critical to language, he asserts, and yet they are often considered as incidentals, if they are considered at all. Their role, however, is not to be underestimated. “There is not a conjugation or a preposition, and hardly an adverbial phrase, syntactic form or inflection of voice, in human speech, that does not express some shading or other of relation which we at some moment actually feel to exist between the larger objects of our thought” (I: 245). He points out that “the relations are numberless, and no existing language is capable of doing justice to all their shades” (I: 245). And the words themselves—all words—are in motion in a person’s mind as they “pass” (I: 252). James observes how “large tracts of human speech are nothing but signs of direction in thought. [...] Sensorial images are stable psychic facts; we can hold them still and look at them as long as we like. These bare images of logical movement, on the contrary, are psychic transitions, always on the wing, so to speak, and not to be glimpsed except in flight” (I: 252-53). He writes about “lingering consciousnesses” and “swift consciousnesses,” and he indicates that for the swift one, “we have only those names of ‘transitive states,’ or ‘feelings of relation...’” (I: 247). He continues: “As the brain changes are continuous, so do all these consciousnesses melt into each other like dissolving views. Properly they are but one protracted consciousness, one unbroken stream” (I: 247-248).

James refers to a collective relationship among humans, comparing the work of a human mind to a sculptor’s work on a block of stone, and the primordial resides in

each block of stone, regardless of how the process proceeds.

In a sense the statue stood there from eternity. But there were a thousand different ones beside it, and the sculptor alone is to thank for having extricated this one from the rest. Just so the world of each of us, howsoever different our several views of it may be, all lay embedded in the primordial chaos of sensations, which gave the mere matter to the thought of all of us indifferently. We may, if we like, by our reasonings unwind things back to that black and jointless continuity of space and moving clouds of swarming atoms which science calls the only real world. But all the while the world we feel and live in will be that which our ancestors and we, by slowly cumulative strokes of choice, have extricated out of this, like sculptors, by simply rejecting certain portions of the given stuff. (I: 288).

And he concludes this particular section with exuberance. "How different must be the worlds in the consciousness of ant, cuttle-fish, or crab!" (I: 289).

## Chapter 2: Woolf's Evolution

In his book Darwin and the Novelists: Patterns of Science in Victorian Fiction George Levine observes that Darwin's world "knows no beginning or end" (51). But it is crucial to remember the Victorian world that Darwin was unsettling. Before his theories were accepted into the mainstream, the concept of "natural theology" pervaded Victorians' belief system—in particular that promoted by William Whewell, the prominent English naturalist of the nineteenth century who had been one of Darwin's mentors. Natural theology gave the Victorians a sense of limitation, teleological progress; it dominated science, literature, and everything else, reassuring the masses of a determined, recognizable, and predictable world. Even the number of stars was limited. George Levine explains:

Natural theology was the lens through which the natural world was seen and understood, and secular fiction, no more than science could see with other eyes. The central conventions of narrative—its teleological unfolding; its providential use of coincidence; its implicit faith in the ultimate coherence, rationality and intelligibility of the world being described; its movement to closure—all are consonant with the natural-theological view of things. (25)

By the time Woolf was writing, evolutionary theory had permeated the thinking and writing of the Victorians. Literary figures such as George Eliot, Joseph Conrad, and Thomas Hardy had incorporated Darwin's theories into their novels. Victorians' fascination with origins fed into the idea that "man" had evolved into his present state from the savage. Herbert Spencer, the philosopher and social reformer,

was a strong proponent of social Darwinism. Spencer proposed the terms “survival of the fittest,” in the process misconstruing Darwin’s definition of natural selection. He as well as other social Darwinists argued that wealthy, powerful, European white men were the “fittest” and the “highest” life form to date, justifying European imperialism, racism, and sexism, even though Darwin himself argued against placing humans at the top of any hierarchical scheme. But Victorian English patriarchal society found much to support its behavior toward the rest of the world by believing that more educated and technologically “advanced” members of society should indeed dominate those less educated, poorer people in society and indeed rule over entire cultures that were labeled inferior. Woolf did not let this rationale escape her, in fact, mocking it in Between the Acts.

Charles Darwin revolutionized the concept of history and the place of human participation in it. As George Levine explains, in Darwin’s world, “everything is always or potentially changing, and nothing can be understood without its history. Species, which had been conceived as permanent, transform into other species or are extinguished” (16). Woolf, inheriting the Darwinian perspective, recognized the weight of history in the present moment and depicted history in Between the Acts as always being present, be it primeval, individual, family, village, English, world, or even that history which is beyond humans’ awareness. Through complex interweaving of history and prehistory—in a novel which Avrom Fleischman calls a “constantly surprising work” (211)—by way of description, memory, reminiscence, historical reference, quotation, and the inclusion of a historical play or pageant within the novel, Woolf depicted a country on the precipice, a world grappling with an

unprecedented number of scientific discoveries and theories—and, by extension, technological inventions—concerning the history of the world, its supposed beginnings, the earth’s place in the universe and beyond, its geological changes over thousands of years, the nature of substance, the laws—if any—that govern all matter, and, of course, humans’ place within this vast panoply of named and unnamed objects, a place dwarfed by Darwin’s rendering of the natural world.

Between the Acts is framed by the prehistoric. Lucy Swithin is a perspicacious widow in her seventies whose very name indicates her brilliance. The name “Lucy” comes from the Latin Lūcia, probably from lūx, (stem lūc), “light” (“Lucy”). The Latin verb lūcēō means “to shine, be light, glow, glitter, be clear,” and the impersonal verb form means “it is light, day is dawning” (“lūcēō”). Lucy’s last name, “Swithin,” includes the word “within,” and it is indeed this “lightness within” Lucy that guides her and the reader throughout the time periods of the book. “Her eyes in their caves of bone were still lambent” (73). Lucy begins her day in the early morning (and at the beginning of the novel) with her “favourite” reading, what has been identified by Gillian Beer as a combination of H.G. Wells’ The Outline of History and his Short History of the World (Virginia Woolf 21), and Lucy reaches for that book again at the end of the day (and novel). (In the 1920’s and 1930’s histories about human evolution were quite popular in Britain. Woolf has written her own version in Between the Acts.) Lucy is first seen by the reader at eight o’clock in the morning of the summer’s day that Woolf explores throughout the book, and Lucy is reflecting on how she was awakened by singing birds “between the hours of three and five”—indeed, when “day is dawning”—and how she had spent the time

thinking of rhododendron forests in Piccadilly; when the entire continent, not then, she understood, divided by a channel, was all one; populated, she understood, by elephant-bodied, seal-necked, heaving, surging, slowly writhing, and, she supposed, barking monsters; the iguanodon, the mammoth, and the mastodon; from whom presumably, she thought, jerking the window open, we descend. (8-9)

Her description of the physical world as she relates it is interrupted here four times by the tags, “she understood” (two times), “she supposed,” and “she thought.” Woolf uses short phrases in Lucy’s imaginative reconstruction and further interrupts Lucy’s wondering with (seemingly) unnecessary reminders both to Lucy and to the reader that Lucy is doing the musing. This may be an effort for Lucy to anchor herself in the present and not become absorbed into the prehistoric scenery. And though the tags break the momentum of the stream of “writhing” creatures, they also place Lucy in the scene—she is a participant by way of observation, even though she describes a time before humans roamed the planet. She has become part of the description of the scene. And to emphasize the power of such textual cohabitation of the prehistoric with the present, Lucy actually confuses her maid Grace with those past inhabitants. Grace enters with Lucy’s breakfast tray, and Lucy has trouble distinguishing her “from the leather-covered grunting monster who was about, as the door opened, to demolish a whole tree in the green steaming undergrowth of the primeval forest” (9). Lucy’s identification with and participation in the prehistoric scene is so powerful that it crosses the boundaries of self—Lucy’s awareness—into Grace, who feels “the

divided glance that was half meant for a beast in a swamp, half for a maid in a print frock and white apron” (9).

Lucy Swithin carries this sensibility of the prehistoric (and the “light within”) with her throughout the day. Before the village pageant is performed, Lucy is having a conversation with her older brother Bart Oliver, retired from the Indian Civil Service, and Isa Oliver, a thirty-nine year-old woman in a troubled marriage with Giles Oliver, Bart’s son (a stockbroker). They are discussing how far away they are from the sea. Lucy contends that they are one hundred or even one hundred fifty miles from the sea, and Isa questions this number. Bart responds that they are only thirty-five miles away, “as if he had whipped a tape measure from his pocket and measured it exactly” (29). Isa responds, as if able to view the past,

“It seems more,” said Isa. It seems from the terrace as if the land went on for ever and ever.”

“Once there was no sea,” said Mrs. Swithin. “No sea at all between us and the continent. I was reading that in a book this morning. There were rhododendrons in the Strand; and mammoths in Piccadilly.”

“When we were savages,” said Isa. (29-30)

Isa follows Lucy’s train of thought and includes herself with the pronoun “we,” identifying all of them with the earliest humans. And, of course, the rhododendrons and mammoths were not actually in the Strand and in Piccadilly—neither the Strand nor Piccadilly existed then. Lucy is, in a sense, making the past inextricable from the present, making the two time periods cohabit one another.

During one of the “intervals” between scenes of the village pageant, as Lucy and the others have gathered inside the barn for tea, Lucy stares at the swallows flying overhead and addresses Mrs. Manresa, a woman known as the “wild child of nature” who has unexpectedly dropped in on the Olivers’ doorstep earlier in the day. “‘They come every year,’ she [Lucy] said, ‘the same birds.’ Mrs. Manresa smiled benevolently, humouring the old lady’s whimsy. It was unlikely, she thought, that the birds were the same” (101-102). Lucy repeats herself aloud a short time later. “‘They come every year,’ said Mrs. Swithin, ignoring the fact that she spoke to the empty air. ‘From Africa.’ As they had come, she supposed, when the Barn was a swamp” (103). Constant change is the rule in Darwin’s observation of the environment, so that swamp may indeed “be” barn over time. Lucy Swithin is not so naïve as to believe that the same birds have survived over the centuries, and yet to the extent that life is an endless stream that continues on despite the death of individuals within a species or genus, as Darwin suggested, perhaps they are indeed the descendents of those earlier birds. Lucy continues with her own internal musings while drinking her tea in the barn:

“Swallows,” said Lucy, holding her cup, looking at the birds. Excited by the company they were flitting from rafter to rafter. Across Africa, across France they had come to nest here. Year after year they came. Before there was a channel, when the earth, upon which the Windsor chair was planted, was a riot of rhododendrons, and humming birds quivered at the mouths of scarlet trumpets, as she had read that morning in her Outline of History, they had come ... (108)

Note that the Windsor chair has itself been “planted” where rhododendrons once lived in exultation. A bit later Lucy is seen to be “perched on the edge of a chair like a bird on a telegraph wire before starting for Africa” (116). She has become one of the birds—but Woolf adds a modern technological apparatus—a telegraph wire, a human invention used for communication. The past not only lies in the present; the present is also communicating with the past. Darwin emphasized beyond doubt the crucial role that history plays in the understanding of the present condition, and Lucy reminds the reader throughout the book how remnants of those earlier years rumble beneath the geological strata and human consciousness, despite the millions of years that supposedly separate them.

In the penultimate scene of the novel, Lucy once again reaches for her book before retiring for the evening: “But she had lost her place. She turned the pages looking at pictures—mammoths, mastodons, prehistoric birds. Then she found the page where she had stopped” (217). “She had lost her place,” suggests that the time between the readings—the bulk of the day—has been the distraction, and now that she has picked up the book again, she has returned to her “real” life. “‘England,’ she was reading, ‘was then a swamp. Thick forests covered the land. On the top of their matted branches birds sang’” (218). Her brother then rises to go to bed, and Lucy returns to the book. “‘Prehistoric man,’ she read, ‘half-human, half-ape, roused himself from his semi-crouching position and raised great stones’” (218). Lucy then rises from her own chair to go to bed, mimicking the earlier human form.<sup>11</sup> The entire day has been spent in the swamp, before humans even existed. And then the

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<sup>11</sup> Miss La Trobe rises as well once the pageant is over and the audience has left. “At last, Miss La Trobe could raise herself from her stooping position” (208).

reader is at the end of Woolf's book—although there is no end, according to Charles Darwin, and Woolf will stress a similar point throughout Between the Acts. Yes, there is extinction, so that mammoths and mastodons are no longer literally, and yet in Wells's mind, in Lucy's, and, finally, in the reader's, the prehistoric still exists. Both Beer and Brenda R. Silver comment about Woolf's use of Trevelyan in the final moments of the book. Once again Woolf did not quote him directly, just as she did not quote Wells earlier.<sup>12</sup> The passage Woolf borrows from Trevelyan is the following: "For many centuries after Britain became an island the untamed forest was king. Its moist and mossy floor was hidden from heaven's eye by a close-drawn curtain woven of innumerable tree-tops, which shivered in the breezes of summer dawn and broke into wild music of millions upon millions of wakening birds" (History of England, 1:15). Whereas Wells's massive work The Outline of History traces the evolution of prehistoric life over several chapters, Trevelyan broad brushes those "humanless" millions of years in a few pages and begins his English history only when humans appear in the equation. Consequently, Woolf's starting her novel with Wells's reptilian description works chronologically. But Trevelyan's passage resounds underneath the Wells at the beginning as well with the image of Lucy being roused by the singing of her own "wakening birds." In Orlando Woolf criticized Trevelyan's blatant omission of any discussion of women's lives in his version of social history (Beer, Virginia Woolf 144), and in her diary she described Trevelyan (comparing him to her father) as "'the glory of the 19<sup>th</sup> century. They do a great service like roman roads. But they avoid the forests & the will o the wisps'" (qtd. in

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<sup>12</sup>Woolf was reading Trevelyan while writing Between the Acts, and she quoted from his History of England at the beginning of one of her last (unfinished) essays entitled "Anon."

Hussey 320). By not taking literal quotations from either book for her own, Woolf acknowledges both Wells and Trevelyan, but she does not pay them the homage of naming them. It is as if she were saying that she could write their books better than they could. Furthermore, by framing her book with these two men's male exclusionary texts, she is, in a sense, writing (some of) women's history—that of Lucy, Isa, and Miss La Trobe—giving voice to those passed over by earlier male writers. Lucy hears Trevelyan's birds, but unlike Trevelyan, who mentions the birds in passing on his way to the more "worthwhile" exploration of men's roles, Woolf depicts the birds and their music as an integral part of her recording. She avoids neither "forests" nor "will o the wisps," be they the common swallow or common woman.

Lucy Swithin is not the only character whose surroundings are populated with animals that never actually encountered humans. After the pageant scene depicting the Victorians, Isa speaks. "'Were they like that?' Isa asked abruptly. She looked at Mrs. Swithin as if she had been a dinosaur or a very diminutive mammoth. Extinct she must be, since she had lived in the reign of Queen Victoria" (174). Isa seems to be redefining extinction, since Lucy is indeed still alive and breathing beside her. Lucy's response to Isa—although she does not "hear" Isa's internal musing about her status as an outdated creature—is to debunk the categorization: "'The Victorians,' Mrs. Swithin mused. 'I don't believe,' she said with her odd little smile, 'that there ever were such people. Only you and me and William dressed differently'" (174-75). William Dodge, the gay young office worker escorting Mrs. Manresa that day, comments, "You don't believe in history" (175). But this could be Lucy's way of

discounting such human-made categorizations, something Darwin would have supported. As Beer points out in her preface to the second edition of Darwin's Plots: "Darwin himself saw that taxonomies always cause trouble with boundaries" (xxx). Darwin does not trust the categories that humans have created. This would also explain why Lucy includes William with her brother and herself, both of whom are in their seventies, when William is so much younger and may have only been born at the end of the Victorian period—or later. Woolf is again blurring the boundaries.

Miss La Trobe is also cognizant of the primeval's presence, both (inadvertently) through the action of the play and also through its creation. The villagers, who portray a kind of chorus throughout the pageant, have been walking between the trees as they sing about Babylon, Nineveh, the Romans, Clytemnestra, the Queen, Agamemnon, and Troy, but the villagers' words become inaudible. The wind is rising and the rustling leaves drown out the "great words," the stage appears "empty," and Miss La Trobe, unable to move, bemoans her loss of power as playwright:

Illusion had failed. "This is death," she murmured, "death."

Then suddenly, as the illusion petered out, the cows took up the burden. One had lost her calf. In the very nick of time she lifted her great moon-eyed head and bellowed. All the great moon-eyed heads laid themselves back. From cow after cow came the same yearning bellow. The whole world was filled with dumb yearning. It was the primeval voice sounding loud in the ear of the present moment. Then the whole herd caught the infection. Lashing their tails, blobbed like pokers, they tossed their heads high, plunged and bellowed, as if Eros had planted his dart in

their flanks and goaded them to fury. The cows annihilated the gap; bridged the distance; filled the emptiness and continued the emotion. (140-141)

The pageant scene is “illusion,” “an erroneous perception of reality,” whereas the cows that rescue the scene are the real thing, the primeval. The cows “fill the scene” and “continue the emotion” when the present moment is empty. The primordial has found its own way into the play, a mournful, archetypal call that can be heard from the beginning of time. In a village pageant about history, prehistory cannot not be present, uninvited or not, and, in fact, it takes an active role. Out of Miss La Trobe’s moment of “death” comes life—life intrudes musically in the bellow of one cow, and then many cows, into the “ear of the present moment,” and it cannot be stopped. The “great names” and the “great words” are connected to the “great moon-eyed heads” of the cows. Miss La Trobe then waves her hand “ecstatically” at the cows, thanking “heaven” aloud (141). And in a comic and yet telling moment Woolf continues the connection between cow and human: “Suddenly the cows stopped; lowered their heads, and began browsing. Simultaneously the audience lowered their heads and read their programmes” (141).

In Virginia Woolf: The Common Ground, Gillian Beer writes about Woolf, Darwin, and prehistory, pointing out how “evolutionary theory had made a new myth of the past. Instead of the garden, the swamp” (17). Woolf opens Between the Acts with a brief scene that takes place in a room inside of Pointz Hall, with “the windows open to the garden” (3). They no longer begin in the garden but can merely observe from the outside. It is this swamp out of which Miss La Trobe’s next play begins to

rise when she is sitting alone in the pub after the pageant. “She raised her glass to her lips. And drank. And listened. Words of one syllable sank down into the mud. She drowsed; she nodded. The mud became fertile. Words rose above the intolerably laden dumb oxen plodding through the mud. Words without meaning—wonderful words” (212). Bart recognizes Miss La Trobe’s need for re-immersion in something primitive after the performance, something prelinguistic and unnamable. He stops by the lily pool, the water “opaque over the mud.” Lucy comments to her brother that they should thank Miss La Trobe, but he dismisses Lucy’s suggestion, thinking how Lucy is blinded from reality by her religion. “Skimming the surface, she ignored the battle in the mud. [...] ‘She don’t want our thanks, Lucy,’ he said gruffly. What she wanted, like that carp (something moved in the water) was darkness in the mud; a whiskey and soda at the pub; and of course words descending like maggots over the waters” (203). Lucy, at least here, still argues for the garden, according to Bart; Bart recognizes the swamp.

The prehistoric is only one of the layers of time of the many Woolf considers. Personal, family, English, and world history are also intricately woven together in Between the Acts, about which the reader learns through characters’ memories, conversations, as well as the narrator’s accounts. From the first page the reader sees elements of all four. A conversation among the villagers is taking place about the cesspool, which the county council has agreed “to bring water to the village,” but nothing has occurred yet to make this happen.<sup>13</sup> Mrs. Haines declares this is an inappropriate subject to discuss “on a night like this!” and after a cow coughs in the

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<sup>13</sup> The word “cesspool” comes from the Old French suspirail, “breathing hole,” from sou(s)pirer, “to breathe,” from the Latin suspirare, “to sigh, breathe out,” an apt description of the nature of Between the Acts.

distance, she relates how she used to be afraid of horses when she was a little girl, but never cows. She explains to Bart, the “old man in the arm-chair,” how her family had resided near Liskeard “for many centuries,” and that the graves in the churchyard support her assertion (3). Bart explains that the site chosen for the cesspool is on the Roman road, and that if one were in an “aeroplane,” one could see “the scars made by the Britons; by the Romans; by the Elizabethan manor house, and by the plough, when they ploughed the hill to grow wheat in the Napoleonic wars” (4). Within this one sentence there are references to four historical time periods, including the present, since an aeroplane is a contemporary technological invention. Mrs. Haines begins to say, ““But you don’t remember ...”” and then the story continues in Bart’s point of view. “No, not that. Still he did remember”—and he is interrupted by Isa’s entering the room. The reader enters into Isa’s thoughts, including her wondering about her own infatuation with Mrs. Haines’s husband Rupert, a farmer, and Isa recalls how she encountered Mr. Haines at a Bazaar and at a tennis party. Bart interrupts with dialogue and then internal musing—““I remember [...] my mother. ...’ Of his mother he remembered that she was very stout; kept her tea-caddy locked; yet had given him in that very room a copy of Byron. It was sixty years ago, he told them, that his mother had given him the works of Byron in that very room.” Then he quotes Byron aloud: ““She walks in beauty like the night,”” and ““So we’ll go no more a-roving by the light of the moon.”” Isa imagines that the words make “two perfect rings” that float her and Mr. Haines “like two swans down stream” (5). But this image is broken by the entanglement of her “webbed feet” with her husband, “the stockbroker” (5).

In this opening scene the reader is immersed in diverse associations triggered by both external—the cough of a cow, a chuckling bird, Byron’s poetry—and internal musings. History intermingles with every present moment. This exchange of dialogue is juxtaposed with characters’ private thoughts. The fact that Woolf starts off with a character’s conversations but then wanders off into reveries of the character’s ruminations emphasizes the initial public communication with others but hints that such communication is ultimately inside of and with oneself.

Historic people, artistic works—literary, musical, scientific—populate the dialogue and imaginings of various characters. Gillian Beer writes that this novel is a “spatial landscape, not a linear sequence,” observing that “because so much of it takes the form of thought, past and present lie level, culled as needed by the individual’s associations” (Virginia Woolf 20). This depiction of the book as landscape contradicts the Victorian concept of progress by instead leveling out the novel, making one moment (or thought) no more important than the next. It is as if Woolf wanted the book to be viewed as a painting that can be seen in one momentary burst of colors.<sup>14</sup> Past and present become inextricable. The present, in a sense, cannot exist by itself. Some of the historic figures and works mentioned include Byron, The Faerie Queene, the masque, Kinglake’s Crimea, Keats and the Kreutzer Sonata, Chaucer, Shelley, Yeats, Donne, the life of Garibaldi, the life of Lord Palmerston, The Antiquities of Durham, The Proceedings of the Archaeological Society of Nottingham, Eddington, Darwin, Jeans, the Times, Lemprière, the (unspecified) Encyclopaedia, Shakespeare, Reynolds, Constable, Gammer Gurton’s Needle,

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<sup>14</sup> This calls to mind Mozart’s reporting that while composing he would hear his entire musical composition in one simultaneous moment.

nursery rhymes, popular tunes, marching tunes, Wellington, Irrigation Officers Reports, Hibbert on the Diseases of the Horse, Walter Scott, and Scriptures, among others. These references are made by both major and minor characters, including Lucy, Bart, Isa, Giles, William, Mrs. Manresa, Miss La Trobe, Etty Springett, Budge, and the narrator.

In addition to these direct references, there are quotations dropped into the thoughts and conversations of various characters. Quotations—or adaptations of them—reverberate throughout, again by various characters, including lines from Shakespeare (King Lear, I Henry IV, Hamlet, Macbeth, Troilus and Cressida, the Sonnets), Swinburne, Cowper, Racine, Tennyson, Heart of Darkness, Stein, Whitman, Forster, and T.S. Eliot.<sup>15</sup> Some of the phrases are repeated by one or more characters—for example, “O sister swallow” from Swinburne’s “Itylus” and “scraps, orts and fragments” from Troilus and Cressida. In fact Woolf “borrowed” so many lines from other writers and incorporated them into Between the Acts that at one point while writing the novel, she was worried whether readers would consider Between the Acts original or merely a compilation of other writers’ words.

The pageant itself includes numerous time frames and is interrupted as it proceeds by “intervals” where the audience moves to the barn for tea, and it is also interrupted by the intrusion—welcome and unwelcome—of outside elements, both natural (including cows and rain) and unnatural or man-made (airplanes). The pageant begins with a Prologue (a little girl portrays young England; a chorus is the Earth), medieval England, the Elizabethan-Jacobean period, the Restoration, the Victorian

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<sup>15</sup> For more detailed analysis of these quotations see Beer (“Between the Acts: Resisting the End” in Virginia Woolf: The Common Ground), Fleishman, and Brenda Silver’s notes on Pointz Hall.

period, Present Time, and a final, supposedly anonymous address to the audience by the playwright.

A tension exists in Between the Acts between stasis and movement that echoes Darwin's sense of the endless, ongoing survival of the world and life (in some form) and that of constant change. The author describes a leisurely, ritualistic day that has occurred every summer for the past seven years that the village pageant has been performed. Conversations are repeated about the weather; the decision must be made as to whether the play should be performed inside the barn ("Barn") or outside, depending on the likely possibility of rain. Preparations must be made for the pageant. The placard announcing the play needs to be nailed up (and is inevitably removed every year by the "village idiot"). Workers must arrange chairs for the audience, and preparation for tea in the Barn during the Intervals must be coordinated. The actual waiting for the pageant begins, and there is the tradition of the reverend speaking after the play, asking for money for the church, which is perpetually decaying, and the telephone calls the next day about someone having left an article behind—a brooch, perhaps. This predictability (or the need for it), sense of order, presence of intention, and lack of randomness reveal the lingering remnants of Victorian belief, and, as discussed in the previous chapter, reflect Whewell's pre-Darwinian world of cosmic, teleological design.

One of the more comic scenes (and there are many) in the story that underlines this continuity revolves around what the weather will be that day. Isa is in the room with Bart, her father-in-law, when Lucy enters the room carrying a hammer, having just nailed up the placard announcing the play. Lucy crosses to the corner cupboard

and returns the hammer and some nails to their proper place. What follows is a long passage worth quoting:

“I’ve been nailing the placard on the Barn,” she [Lucy] said, giving him [Bart] a little pat on the shoulder.

The words were like the first peal of a chime of bells. As the first peals, you hear the second; as the second peals, you hear the third. So when Isa heard Mrs. Swithin say: “I’ve been nailing the placard on the Barn,” she knew she would say next:

“For the pageant.”

And he would say:

“Today? By Jupiter! I’d forgotten!”

“If it’s fine,” Mrs. Swithin continued, “they’ll act on the terrace...”

“And if it’s wet,” Bartholomew continued, “in the Barn.”

“And which will it be?” Mrs. Swithin continued. “Wet or fine?”

Then, for the seventh time in succession, they both looked out of the window. (21-22)

Isa alone appreciates the comic element in this repetitious, almost religious ritual.

Every summer, for seven summers now, Isa had heard the same words; about the hammer and the nails; the pageant and the weather. Every year they said, would it be wet or fine; and every year it was—one or the other. The same chime followed the same chime. [...]

“The forecast,” said Mr. Oliver, turning the pages till he found it, “says: Variable winds; fair average temperature; rain at times.”

He put down the paper, and they all looked at the sky to see whether the sky obeyed the meteorologist. Certainly the weather was variable. It was green in the garden; grey the next. [...]

“It’s very unsettled. It’ll rain, I’m afraid. We can only pray,” she [Lucy] added, and fingered her crucifix. (22-3)

The forecast is as unpredictable as Woolf’s novel; yet the characters collectively turn to the sky, accepting the ambiguous nature of the forecast as though it were conclusive, “wet or fine,” but not both. There is the comic reversal of control as well—the sky is supposed to bow to the meteorologist, apparently.

A bit later a similar scene ensues with Mrs. Manresa and her friend William Dodge. Mrs. Manresa acts shocked when she realizes that it is the day of the pageant, “aghast,” saying that they never would have intruded “had they known it was this afternoon. And once more the chime pealed. Isa heard the first chime and the second; and the third—If it was wet, it would be in the Barn; if it was fine on the terrace. And what would it be, wet or fine? And they all looked out the window” (45-46). The first time Miss La Trobe appears, she is pacing back and forth with “the look of a commander pacing his deck” (62). She has the same question: “Wet would it be, or fine? Out came the sun; and shading her eyes in the attitude proper to an Admiral on his quarter-deck, she decided to risk the engagement out of doors. Doubts were over” (62). Right before the play begins, the narrator is describing the seating arrangements and the ideal setting of the terrace, acting as a natural stage. “As for the weather,” the narrator observes, “it was turning out, against all expectation, a very fine day. A perfect summer afternoon” (76).

This return by characters to the familiar serves several purposes. On the one hand, it shows the repetitive, plodding, uninspiring conversations that occur in people's every day lives, the limited use people make of time and existence. On the other hand, such conversations are safe, familiar—the family and visitors might not be able to control military actions occurring in Europe, the rapidity with which society is changing in terms of scientific discoveries (although the “meteorologist” is attempting to exert some kind of order by letting the villagers know ahead of time what weather the day will bring), but they can pretend that life is the same as the previous years by discussing the same topics and repeating the same words. Isa even suggests a beauty in the repetition in terms of the tolling of the bells, church bells, perhaps, chimes that mark the passage of time and yet do so in a musical, reliable manner that acknowledge also the presence of the religious gathering place and perhaps of God. Beer further explains Woolf's meaning: “The community steadies itself through humdrum repetition, whose significance is in saying things again, more than in what is said” (VW 129).

The humor lies in the predictability of the conversations, in the “communal participation” of everyone involved in the particular scene, all turning to look out the window at the same time, the utter seriousness of those involved without their seeing the humor, as if what happens with the weather that day were a matter of life and death—even to the members of the audience. (The reader is never privy to the internal insights of the actors while they are on stage—only to Miss La Trobe's.) Adding to the humor of this ongoing preoccupation with the weather is another reoccurring scenario that best represents the dichotomy of the enduring nature of

existence as opposed to the fleeting, transitory nature of existence and the certitude of death: that of “the view.” Lucy, Bart, Isa, Mrs. Manresa and William Dodge have been discussing paintings inside the house; Giles has arrived home and must “change” (clothes), much to his consternation, because of the guests. Once he returns, having changed, he carries chairs outside in the garden and places them in a semi-circle so that “the view might be shared” (51-52). The narrator explains by noting the similarities between a descriptive passage from “Figgis’s Guide Book” (1833) to the contemporary landscape:

The Guide Book still told the truth. 1830 was true in 1939. No house had been built; no town had sprung up. Hogben’s Folly was still eminent; the very flat, field-parceled land had changed only in this—the tractor had to some extent superseded the plough. The horse had gone; but the cow remained. If Figgis were here now, Figgis would have said the same. So they always said when in summer they sat there to drink coffee, if they had guests. When they were alone, they said nothing. They looked at the view; they looked at what they knew, to see if what they knew might perhaps be different today. Most days it was the same. (52-3)

Lucy, the person immersed in the prehistoric, understands extinction. Giles then (internally) rages about “old fogies who sat and looked at views over coffee and cream” when Europe is teetering on destruction. Though he also loves the view, he blames Aunt Lucy for studying views “instead of—doing what?” (53). And he replays her frivolous life in his mind, again returning to his own actions, “and so he sat, with old fogies, looking at views” (54). Of course, if the war occurs here and the

countryside is destroyed by bombs, the view itself may be gone forever—not because of geological shifts or “natural” disaster, but because of men’s (and it is men’s, as Woolf points out in Three Guineas, published in 1938, and Between the Acts) destructive urges. Darwin emphasized the crucial aspect of personal observation—he began Origin, Beer notes, with the words “When we look...” (Darwin’s Plots 59). He wanted people to witness change in the environment with their own eyes, to witness the incrementally gradual wearing away that occurs. It is not enough, Darwin argued, simply, to read about it, even Lyell’s great tome Principles of Geology: “A man must for years examine for himself great piles of superimposed strata, and watch the sea at work grinding down old rocks and making fresh sediment, before he can hope to comprehend anything of the lapse of time, the monuments of which we see around us” (Origin 228-29). Woolf’s characters gaze at the view as something reassuring, something that they know. Seldom does the view appear changed. The narrator describes this view:

The other trees were magnificently straight. They were not too regular; but regular enough to suggest columns in a church; in a church without a roof; in an open-air cathedral, a place where swallows darting seemed, by the regularity of the trees, to make a pattern, dancing, like the Russians, only not to music, but to the unheard rhythm of their own wild hearts.” (64-65)

The characters are watching (celebrating) “the view”—just as later they will witness—and celebrate—the pageant. “‘Our part,’ said Bartholomew, ‘is to be the audience. And a very important part too’” (58). And yet the members of the audience

remain ambivalent about this beauty in front of them. The audience has gathered and is sitting restlessly, silently, with “nothing” to do:

They stared at the view, as if something might happen in one of those fields to relieve them of the intolerable burden of sitting silent, doing nothing, in company. Their minds and bodies were too close, yet not close enough. We aren't free, each one of them felt separately, to feel or think separately, nor yet to fall asleep. We're too close; but not close enough. So they fidgeted.

The heat had increased. The clouds had vanished. All was sun now.

The view laid bare by the sun was flattened, silenced, stilled. (65)

Finally Lucy and William distance themselves: “Mrs. Swithin and William surveyed the view aloofly, and with detachment.” “How tempting, how very tempting, to let the view triumph; to reflect its ripple to let their own minds ripple; to let outlines elongate and pitch over—so—with a sudden jerk” (66). As the heat increases and the clouds disappear, the view becomes almost intolerable—“The flat fields glared green yellow, blue yellow, red yellow, then blue again. The repetition was senseless, hideous, stupefying” (67). What repetition is the narrator referring to—the people's lives, their conversations that are so predictable, the social customs that these post-Victorians feel compelled to follow, of feeling “too close, but not close enough”? (65). Or perhaps it is the experience of being human—the repetition involved in being alive. During a scene while the Restoration play portion of the pageant is being enacted (called “Where There's a Will There's a Way,”) the view

actually participates in the play while the pageant scenery is being removed and the gramophone is playing a tune:

The view repeated in its own way what the tune was saying. The sun was sinking; the colours were merging; and the view was saying how after toil men rest from their labours; how coolness comes; reason prevails; and having unharnessed the team from the plough, neighbours dig in cottage gardens and lean over cottage gates.

The cows, making a step forward, then standing still, were saying the same thing to perfection. (134)

The audience collectively understands this referential ambience. “Folded in this triple melody, the audience sat gazing; and beheld gently and approvingly without interrogation” (134). Woolf does not have an object for the participle “gazing,” making the participle stand as an action by itself. This “triple melody” includes various aspects of life—nature, communion, food, labor, rest, day approaching night, family, imagination, appreciation. One thing leads to another, one thing is connected to another, and this sentiment is repeated throughout the text.

Although the Victorians liked to believe that there was such a thing as progress, Darwin stressed the idea that there was “no steady movement towards complexity,” as Beer observes in her introduction to The Origin of Species (x). The notion of progress, if it exists at all in Between the Acts, is ambiguous, ephemeral. The concept of repetition in the novel argues against improvement—consider the world that Woolf depicts. Granted, there are new-fangled devices, inventions, technological “advances” that she mentions, such as the gramophone, motor bike,

megaphone, airplane, telephone, and moving pictures, all indications of change that the Victorians would have considered signs of mastery of the world. But there is the pervasive sense in the novel that “all of this” has been done before or has existed indefinitely—the narrator’s observation that what was true in “1830 was true in 1939,” mentioned earlier, and the narrator continues with her suggestion that had Figgis been there in person (which in a way he is, since the narrator is bringing up his memory—much like Lucy bringing the dinosaurs into the twentieth century) and had Figgis done a roll call, half of those present, the ladies, gentlemen, villagers, would have said: “Adsum: I’m here, in place of my grandfather or great-grandfather,” as the case might be” (75). An unidentified voice is heard to say ““But it’s always been the same.”” Villagers in sacking sing during the pageant as they walk among the trees, “Digging and delving, [...] for the earth is always the same, summer and winter and spring; and spring and winter again; ploughing and sowing, eating and growing; time passes....” (125). A bit later they sing “Digging and delving [...] hedging and ditching, we pass .... Summer and winter, autumn and spring return ... All passes but we, all changes ... but we remain forever the same ... (The breeze blew gaps between their words)” (139).

Darwin emphasized that community—the whole of a species—takes precedence over the individual. “In social animals it [natural selection] will adapt the structure of each individual for the benefit of the whole community; if the community profits by the selected change” (Darwin 58). Woolf has taken Darwin’s notion of the importance of group survival over the individual, and she has underlined, in a sense, the characters’ understanding and appreciation of their place in the whole scheme by

creating a tension within their minds between their awareness of their roles as being one more creature in a long family (human) line and therefore not being irreplaceable, and yet their despair at being separated from every other living creature that has lived on and will ever live—hence the sense of the audience members as being “too close, yet not close enough.” They aren’t free “to feel or think separately.” People are caught, in part, in the time period in which they live, with the beliefs, suppositions, and limitations of the construct of the mind. And yet the reader is made, at times, excruciatingly aware of different characters’ isolation—especially Miss La Trobe’s, who is something of an outcast in part because is a lesbian, and she is ridiculed by many of the village residents. A revealing passage about this human isolation occurs during a lull in the pageant when “nothing” appears on stage:

He [Giles] said (without words), “I’m damnably unhappy.”

“So am I,” Dodge echoed.

“And I too,” Isa thought.

They were all caught and caged; prisoners; watching a spectacle.

Nothing happened. The tick of the machine [gramophone] was maddening. (176)

The irony is that each person is thinking about isolation and captivity rather than expressing the thought out loud, and yet each responds as though he or she has indeed heard what the others are thinking—“So am I,” and “And I too.” Giles (who is relating to Mrs. Manresa’s previous wordless glance) passes to Dodge who passes to Isa. (There is more irony in Dodge’s thought “echoing” Giles’s, since Giles is appalled by Dodge’s homosexuality.) They are all outsiders only capable of watching

from the mist, cognizant of the abyss. And then Isa, despite the seeming pointlessness, urges herself “on” nonetheless. ““On, little donkey,’ Isa murmured, ‘crossing the desert ... bearing your burden ...’” (176).<sup>16</sup>

In April 1938, Virginia Woolf wrote a (now well-known) diary entry about plans for her final novel and what she hoped for it: “all lit. [sic] discussed with real little incongruous living humor: & anything that comes into my head; but ‘I’ rejected: ‘We’ substituted” (*Diary V*: 135). In fact, much of Woolf’s attention is paid to the group rather than the individual. Some of this has been mentioned previously in other contexts. The villagers act as a chorus in the pageant, the dialogue of various individual audience members is reported in long paragraphs, the “group” collectively glancing out the window to check the weather and later at the pageant programs, and the little girl who “is” England in the pageant. There is the inclusion of quotations or rewritten snatches of them that are not specifically identified as such, as though the authors’ names are unimportant, or as if they are all by the same writer, and have been passed down from generation to generation: natural selection at work with literary heritage. “Between the Acts is preoccupied with communal survival, even as it glances across individual loss” (Beer, Virginia Woolf 129).

Nor does the narrator seem concerned about the fragmentary nature that results from such a communal depiction. Maria DiBattista describes Woolf’s style in this last novel. “A crisis of confidence lurks at the edge of every Woolfean sentence, begetting the suspense we feel in following her sinuous sentences through the many detours, self-interruptions and self-questionings that threaten to derail her thought and her narrative altogether.” (“Virginia Woolf and the Language of Authorship” 139). In

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<sup>16</sup> This scene calls to mind Samuel Beckett’s Waiting for Godot.

fact, the “scraps, orts and fragments” (a phrase borrowed from Shakespeare’s Troilus and Cressida) are savored throughout the day. Beer also reflects on Woolf’s technique:

Woolf undoes the canon. Fragments from famous works wind in and out of people’s consciousness, half-remembered, often misremembered, valued nonetheless. Like single words, single works are not autonomous. In memory they are shards scattered, or shared, among a community. That image of fragmentation becomes also a binding refrain in the book: ‘orts, scraps, and fragments’. The lines from Shakespeare’s most skeptical play Troilus and Cressida are persistently referred to, re-arranged, and riffled through the text. They express the scatter of identity, the absence of centre. Where in its original setting the strongest association of the metaphor is with the greasy remnants of a meal, Woolf (and Isa) re-invent the line so that it suggests instead archaeological findings and fragments—and the wisps of speech overheard. The book is not so much studded with quotation and allusion as combed through: sometimes mere sparks of reference remain, sometimes clandestine glories. (134)

Throughout The Origin of Species Darwin reiterated how limited humans are in their understanding of the world and how many are the questions “on which we are confessedly ignorant; nor do we know how ignorant we are” (Darwin 114). In his chapter on the “Imperfection of the Geological Period,” Darwin writes the following: “I look at the natural geological record, as a history of the world imperfectly kept, and written in a changing dialect; of this history we possess the last volume alone, relating

only to two or three countries. Of this volume, only and here and there a short chapter has been preserved; and of each page, only here and there a few lines” (The Origin of Species 251).

In addition to underscoring the limits of human cognition, Darwin took humans from the center of existence to that of being one more life form alongside many others—one of the more recent forms in terms of the millions of years that preceded humans’ “arrival.” Compared to Nature, “man’s” behavior is a self-absorbed, limited one. “Man selects only for his own good: Nature only for that of the being which she tends” (Darwin 56). Man treats nature and all animals the same, whereas nature differentiates between each and every species.

Under Nature, the slightest differences of structure or constitution may well turn the nicely balanced scale in the struggle for life, and so be preserved. How fleeting are the wishes and efforts of man! How short his time! And consequently how poor will be his results, compared with those accumulated by Nature during whole geological periods! Can we wonder, then, that Nature’s productions should be far “truer” in character than man’s production that they should be infinitely better adapted to the most complex conditions of life and should plainly bear the stamp of far higher workmanship? (Darwin 56-57)

And as if Darwin did not create enough uncertainty in people’s minds about the relative insignificance of humans’ role in the history of the universe, he stressed that the possibility of extinction could never be discounted, regardless of a species’

proliferation and degree of organization. Extinction played a much larger role than anyone had acknowledged before Darwin's studies. Darwin writes:

Looking to the future, we can predict that the groups of organic beings which are now large and triumphant, and which are least broken up, that is, which have as yet suffered least extinction, will, for a long period, continue to increase. But which groups will ultimately prevail, no man can predict; for we know that many groups formerly most extensively developed, have now become extinct. Looking still more remotely to the future, we may predict that, owing to the continued and steady increase of the larger groups, a multitude of smaller groups will become utterly extinct, and leave no modified descendants, and consequently that, of the species living at any one period, extremely few will transmit descendants to a remote futurity. (Darwin 81-82)

In her introduction to The Origin of Species Beer deftly sums up the shock of Darwin's theories when they first were introduced in 1859 and the ensuing years:

Survival and descent, extinction and forgetfulness, being briefly alive and struggling to stay so, living in an environment composed of multiple other needs, coupling and continuing, ceasing to be: all these pressures, desires, and fears are alerted in this work without any particular attention being granted to the human person. This is a history of a world in which the human has a place but has not always been present, and where other kinds have each their own lost and fitfully recorded histories. (ix)

One of the results of evolutionary theory was that “fixed laws no longer implied a fixed universe of matter. Instead everything was subject to irreversible change. Whole species had vanished and even the evidence of their existence had crumbled away” (Beer, Darwin’s Plots 37). It is ironic in a way that people felt more estranged from God or religion because actually, Darwin, in his interpretation, “sought to restore man to his kinship with all other forms of life” (Beer, Darwin’s Plots 57). And just as many men missed this particular point, so did they pay more attention to Darwin’s “survival of the fittest” battle in nature rather than his equally powerful arguments for the complex interrelatedness of all living organisms and their dependence on one another for survival.

None of this was lost on Woolf, who grew up during the Victorian period in a society in which, according to Cynthia Russett in her study Sexual Science: The Victorian Construction of Womanhood, science “spoke with the imperious tone of a discipline newly claiming, and in large measure being granted, decisive authorities in matters social as well as strictly scientific” (3-4, qtd. in Lambert 1). Russett goes on to say that if humans were no longer above all the other animals, then a “human hierarchy of excellence was needed more than ever” by those in power, and “Women and the lesser races served to buffer Victorian gentlemen from a too-threatening intimacy with the brutes” (qtd. in Lambert 1). Lambert reports that in an earlier draft of Woolf’s first novel, The Voyage Out, Rachel Vinrace, the young main character, considers women’s place: “Women, too, she remembered, are more common than men; and Darwin says they are nearer the cow” (Melymbrosia 28, qtd. in Lambert 1).

The two most prominent male characters in Between the Acts disparage women and their lives—Bart often dismisses his sister Lucy, ridiculing her for her religious beliefs, while Giles shows disgust with his Aunt Lucy, blaming her for his following social conventions and for her inability to understand the (male) business world. Isa writes poems in a book that looks like an account book for fear of Giles's response (50). Both men are connected to violence—Bart has memories of his military service in India, being helmeted and holding a gun, and early in the book he attempts and succeeds in frightening his grandson George with a rolled up newspaper, later calling George a “cry-baby” and a “coward” to Isa. He is also the one who wonders why Miss La Trobe leaves out the British army from any of her pageant scenes. ““Why leave out the British army? What’s history without the Army, eh?”” (157).

Giles reflects on the violence on the continent and belittles the trivial conversations and recreation taking place around him, the “old fogies” and their obsession with views. As he is awaiting the beginning of the pageant, listening to the chatter around him, he sees violence even in language: “Books open; no conclusion come to; [. . .] Words this afternoon ceased to lie flat in the sentence. They rose, became menacing and shook their fists at you. This afternoon he wasn't Giles Oliver come to see the villagers act their annual pageant; manacled to a rock he was, and forced passively to behold indescribable horror” (59-60). Giles encounters a snake swallowing a toad while taking a walk during an interval. “The snake was unable to swallow; the toad was unable to die” (99). He crushes both of them with his tennis shoes, blood sticking to his sneakers. Giles is seemingly the character most preoccupied with and concerned about the impending war and the violence taking

place on the continent, as well as being aware of the absurdity of the supposedly civilized conventions that “must” be observed, despite war planes flying overhead and countries being under siege. His reason for killing the two creatures seems to come from his sense of impotence about the war. “The white canvas on his tennis shoes was bloodstained and sticky. But it was action. Action relieved him” (99). But Giles does question the suggestion that post-Victorians are somehow more “advanced” than preceding generations. At one point one member of the audience, Mrs. Parker, is castigating the “village idiot,” who takes a role in the pageant, and William points out that the idiot is “in the tradition,” but Mrs. Parker objects, saying that there is an idiot in her village as well, and the idiot here disgusts her. ““Surely, Mr. Oliver, we’re more civilized?” We?” said Giles. We?” (111).

And yet the two characters who have the greatest awareness of the pretentiousness of the European white male, of the complexity of what is occurring around them, and of the fragility of the natural world, are women—Lucy Swithin and Miss La Trobe, both objects of ridicule by others. Though Woolf at times laughs at them herself (albeit lovingly), she also accords them the greatest dignity and insight. They are the most imaginative, the most creative, and the most celebratory of the intimacy of the natural world that includes them. Whereas Bart and Giles are depicted as dogmatic, even rigid in their beliefs, the two women are open, full of curiosity concerning the world and their interaction with it.

Lucy’s description of men’s occupations—or preoccupations—captures the underlying absurdity of so-called “civilized” European men and their self-appointed, god-like status. Giles recalls his Aunt Lucy’s “amazement, her amusement at men

who spent their lives, buying and selling—ploughs? Glass beads was it? Or stocks and shares?—to savages who wished most oddly—for were they not beautiful naked?—to dress and live like the English?” (47). The product, in other words, is inconsequential and interchangeable. Woolf not only mocks “civilized man,” but she reveals how they are spreading their absurdity to “savages.” The irony for Giles is that in actuality, he would have preferred to farm (its own kind of working with the earth and cultivating life), but he feels that he was forced by circumstances—his love of Isa and lack of capital—to work in the city after college (47).

In her pageant Miss La Trobe honors and mocks men as well as women—but she also avoids depicting the Army or any imperial conquest the British empire has made, as if she does not want to remind the audience of such patriarchal folly or waste her creative skills on them. Instead she chooses to underscore the more quotidian lives of the past centuries, including a parody of a Restoration comedy, “Where there’s a Will there’s a Way.” (Perhaps a pun on Shakespeare—“Will”?)

Both Lucy and Miss La Trobe (and at times anonymous audience members) make the connections that Darwin observed over and over through watching nature. Darwin returned to this notion of the constant interaction of organisms throughout Origin: “Let it be borne in mind how infinitely complex and close-fitting are the mutual relations of all organic beings to each other and to their physical conditions of life” (67). Later in the same chapter he writes, “I can see no limit to the amount of change, to the beauty and infinite complexity of the coadaptations between all organic beings, one with another and with their physical conditions of life” (90).

Lucy is the one reading about prehistoric life, after all, imagining how the “time before time” appeared and bringing it into the present. She is capable of an “imaginative reconstruction of the past; [...] she was given to increasing the bounds of the moment by flights into past or future; or sidelong down corridors and alleys” (9). She is the most enraptured by the swallows’ flight, looking out the window onto the garden and seeing three white pigeons “flirting and tiptoeing as ornate as ladies in ball dresses. [...] Their elegant bodies swayed” (69). She can walk into a room and see her brother as if for the first time—as, in a sense, it is the first time, since every moment is a different one from every other moment, and Lucy is a different person from the moment that she last saw Bart, according to William James’s description of “being,” as discussed in the first chapter. She is capable of transgressing time. At one point when she’s showing William the house, she glances at him with “a ravishing girl’s smile, as if the wind had warmed the wintry blue in her eyes to amber” (72-3).

During an interval before the pageant’s Victorian scene, Lucy approaches Miss La Trobe excitedly, grasping the meaning behind Miss La Trobe’s use of villagers as the different characters. “Their eyes met in a common effort to bring a common meaning to birth. They failed; and Mrs. Swithin, laying hold desperately of a fraction of her meaning, said: ‘What a small part I’ve had to play! But you’ve made me feel I could have played ... Cleopatra!’ ” (152-153).<sup>17</sup> And though their “common effort” must fail, just as humans, according to Darwin, fall so far short of comprehending all that surrounds them, Lucy and Miss La Trobe still have that “fraction” that connects them, and Miss La Trobe relishes this moment: “Glory possessed her. [...] Her

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<sup>17</sup> See Mitchell Leaska’s analysis of Mrs. Swithin’s comparison to Cleopatra in [Pointz Hall: The Earlier and Later Typescripts of Between the Acts](#).

moment was on her—her glory” (153). Immediately after the Victorian scene, Lucy takes off again on one of her internal musings:

Mrs. Swithin caressed her cross. She gazed vaguely at the view. She was off, they [William and Isa] guessed, on a circular tour of the imagination—one-making. Sheep, cows, grass, tree, ourselves—all are one. If discordant, producing harmony—if not to us, to a gigantic ear attached to a gigantic head. And thus—she was smiling benignly—the agony of the particular sheep, cow, or human being is necessary; and so—she was beaming seraphically at the gilt vane in the distance—we reach the conclusion that all is harmony, could we hear it. And we shall. (175)

Miss La Trobe also appreciates the degree to which nature plays a role in her play, in particular in the scene mentioned earlier in which the cows rescue her from death by bellowing for the lost calf, and in a later scene depicting “The Present Time,” when the stage remains empty longer than Miss La Trobe plans, and the audience becomes restless. Miss La Trobe encounters death once more:

But something was going wrong with the experiment. “Reality too strong,” she muttered. “Curse ‘em!” She felt everything they felt. Audiences were the devil. O to write a play without an audience—the play.... Panic seized her. Blood seemed to pour from her shoes. This is death, death, death, she noted in the margin of her mind; when illusion fails. Unable to lift her hand, she stood facing the audience.

And then the shower fell, sudden, profuse.

No one had seen the cloud coming. There it was, black, swollen, on top of them. Down it poured like all the people in the world weeping.

Tears. Tears. Tears. [...]

“That’s done it,” sighed Miss La Trobe, wiping away the drops on her cheeks. Nature once more had taken her part. (179-81)

Woolf’s enactment of the village pageant adds a depth or layering to her book in terms of the concept of constant change. A play, by its nature, is never repeated in the exact same way because—in the case of this particular village pageant—actors forget their lines, the gramophone that Miss La Trobe employs reels as if it were drunk with music, records are played in the wrong order, and the audience adds to the impromptu moments—people come in late to sit down, ask questions during the performance, and even make observations about the play loud enough for others—including Miss La Trobe—to hear. “‘All that fuss about nothing!’ a voice exclaimed. People laughed. The voice stopped. But the voice had seen; the voice had heard” (138). And in this case there is the added element of its being an outdoor performance, connecting it with past plays such as were performed in the open air of the Globe Theater, where nature insists on playing a role. Even if the play, because of the weather, had been performed in the Barn, elements of nature would have undoubtedly taken their part. The narrator describes the seven hundred-year-old “Noble Barn” set up with its arrangement of paper roses and refreshments before the audience members arrive:

The great doors stood open. A shaft of light like a yellow banner sloped from roof to floor. [...] The Barn was empty. Mice slid in and out

of holes or stood upright, nibbling. Swallows were busy with straw in pockets of earth in the rafters. Countless beetles and insects of various sorts burrowed in the dry wood. A stray bitch had made the dark corner where the sacks stood a lying-in ground for her puppies. All these eyes, expanding and narrowing, some adapted to light, others to darkness, looked from different angles and edges. Minute nibblings and rustlings broke the Whiffs of sweetness and richness veined the air. A blue-bottle had settled on the cake and stabbed its yellow rock with its short drill. A butterfly sunned itself sensuously on a sunlit yellow plate. (99-100)

This barn is not empty, nor is it unchanging.

Darwin's focus was on process rather than on beginnings and endings, and Woolf plays with this notion throughout Between the Acts. The reader begins the book in the middle of a conversation about a cesspool, just as Lucy picks up her Outline of History, which she has already started. Supposed beginnings and endings are interspersed throughout the novel, but they are unclear in delineation. Members of the audience are uncertain about when the play has actually begun; they are equally confused about whether or not it has ended. The Reverend Mr. Streatfield does not know how to end his interpretation of the play, and he trails off with the words, "And so ...". The narrator says, "How to make an end? Whom to thank?" (194). Then "God Save the King" is played on the gramophone. The notes stop, and then the question lingers. "Was that the end? The actors were reluctant to go. They lingered; they mingled" (195). Once the audience is (finally) gathering itself to leave, they ask one another questions, commenting on how Mr. Streatfield was saying that Miss La Trobe

meant that they all act. Voices continue: “Yes, but whose play? Ah, that’s the question! And if we’re left asking questions, isn’t it a failure, as a play? I must say I like to feel sure if I go to the theatre, that I’ve grasped the meaning ... Or was that, perhaps, what she meant? [...] that if we don’t jump to conclusions, if you think, and I think, perhaps one day, thinking differently, we shall think the same?” (199-200). Even as the current pageant is being performed, Miss La Trobe has already been considering her next one. Though she has had her “moment of glory” and she feels as if she has touched the audience at different moments, she cannot rest with that thought:

She could open her arms. She could say to the world, You have taken my gift! Glory possessed her—for one moment. But what had she given? A cloud that melted into the other clouds on the horizon. It was in the giving that the triumph was. And the triumph faded. Her gift meant nothing. If they had understood her meaning; if they had known their parts; if the pearls had been real and the funds illimitable—it would have been a better gift. Now it had gone to join the others. (209)

She calls the play a “failure” once again (209), but before she leaves the grounds with her gramophone records on her shoulder, she already envisions the curtain rising on her next pageant and where she will place the actors. By the time she is having a drink at the Inn, she hears “the first words” (212). She is beginning again. Beer writes that Woolf’s final novel “resists the end,” and this concept is reiterated throughout the text. The final scene of the book ends with a beginning—Isa and Giles

are finally about to speak directly to one another for the first time in the book, and Woolf describes the scene:

The house had lost its shelter. It was night before roads were made, or houses. It was the night that dwellers in caves had watched from some high place among rocks.

Then the curtain rose. They spoke. (219)

It was not “a night before roads were made,” but “it was night,” as if it were primordial time, before such differentiation of time was. The only night there ever was or ever would be.

### Chapter 3 Jeans, Eddington and the Final Arbiter

The British physicist John Tyndall, mentioned previously, wrote about the fresh way of seeing experience through the use of the imagination: “We can also magnify, diminish, qualify, and combine experiences, so as to render them fit for purposes entirely new. We are gifted with the power of Imagination” (Essays 16). Whereas Sir James Jeans and Sir Arthur Eddington repeatedly advise the reader to “imagine” throughout their writings, John Tyndall devoted an entire book to the critical role of imagination in scientific study. In addition, the Victorian Tyndall studied heat, light, and sound, but unlike many of his more rigid, supposedly all-knowing scientific peers, he avoided their “glacial impersonality” in his prose (Beer, Virginia Woolf 107). He writes about the ether and sound waves and the human inability to see them physically but how “we construct them in thought” (18). And then he emphasizes the human mind’s “power of expansion—I might almost call it a power of creation—which is brought into play by the simple brooding upon facts” (18).

Before the scene of “Present Time” in the pageant, while the audience is waiting for movement on the stage, Lucy caresses the cross that she wears around her neck and gazes “vaguely” at the view. The others (unnamed) guess that she is “off on a circular tour of the imagination—one-making” (175). She and Miss La Trobe are, on the surface, the most unusual thinkers in Between the Acts, but others have their own imaginative tours as well—Isa in particular, Mrs. Lynn Jones, George (Isa and Giles’s little boy), Mrs. Manresa, and even Giles. In Miss La Trobe’s longest historical act of the pageant (Where there’s a Will there’s a Way), she explains in the programme action that occurs off-stage:

“The producer,” Mrs. Elmhurst read out for her husband’s benefit, “craves the indulgence of the audience. Owing to lack of time a scene has been omitted; and she begs the audience to imagine that in the interval Sir Spaniel Lilyliver has contracted an engagement with Flavinda; who had been about to plight her troth; when Valentine, hidden inside the grandfather’s clock, steps forward; claims Flavinda as his bride; reveals the plot to rob her of her inheritance; and, during the confusion that ensues, the lovers fly together, leaving Lady Harpy and Sir Spaniel alone together.”

“We’re asked to imagine all that,” she [Mrs. Elmhurst] said. (141)

Mrs. Manresa agrees with Miss La Trobe’s decision to abbreviate the act, and she tells Mrs. Swithin that they must imagine. “‘Imagine?’ said Mrs. Swithin. ‘How right! Actors show us too much. The Chinese, you know, put a dagger on the table and that’s a battle. And so Racine’” (142). Mrs. Manresa interrupts the conversation at this point because she does not want to hear such aesthetic, high brow, ruminations. Miss La Trobe—and Woolf—are playing with the audience and the reader. The reported scene is one that would normally be regarded as the climax of the play. Miss La Trobe trusts the audience to be able to visualize the scene (the same audience whom she so often curses), and she is also, by not having the climactic scene acted out on stage, placing the focus elsewhere, in part on the parodic element of this age-old plot. The audience knows this story line and others of the pageant—a baby who is rescued by being placed in a basket on a river by an “aged crone,” a “Princess disguised as a boy.” During another scene Isa has trouble understanding the

commotion on stage, and she wonders to herself, “Did the plot matter?” She concludes that the playwright has purposefully created this “medley” and “confusion of the plot” (90). “Don’t bother about the plot: the plot’s nothing,” she realizes (91). Woolf’s attention lies elsewhere; she is subverting the hierarchical nature of story telling. If the—under normal circumstances—critical scene of a play is rendered inconsequential, what remains? Imagination looms large, but something else is occurring as well. The playwright, in this case (since the “imagining” here is nothing beyond what the audience has learned to expect over the years), is suggesting that the audience look elsewhere for sustenance.

Tyndall praises Darwin’s use of the imagination in his discoveries: “In the case of Mr. Darwin, observation, imagination and reason have run back with wonderful sagacity and success over a certain length of biological succession” (42). And like Darwin, he reaches back into the past to grapple with the awareness of the present. Tyndall explores the process through which scientific breakthroughs are navigated—the mind’s wanderings and wonderings—just as Darwin dwells on “the description of a process of becoming” (Beer, *Darwin’s Plots* 58)—and William James studies linguistic, often-unnoticed flights of transition. Tyndall speaks about wave-motion in his 1873 book *Six Lectures on Light*: “The propagation of a wave is the propagation of a form, and not the transference of the substance which constitutes the wave’ ” (qtd. in Beer, *Virginia Woolf* 107). He underscores the combination of reason and imagination, “a world not less real than that of the senses, and of which the world of sense itself is the suggestion and justification” (*Essays* 20). He not only advanced theories of light, heat, and sound; he also attended to the peregrinations of the mind

and its arrival at such theories. He challenged the reader's focus, rearranging words and the way people think about them.

Woolf challenges the reader's focus as well. What at first seems as if it might be the story line of Between the Acts—Isa and Giles's unhappy marriage, Lucy and Bart's sister and brother relationship, or the performance of the pageant—actually is subsidiary. Instead, Woolf has the reader listening to (or at times marveling at) characters' associative jaunts, watching Miss La Trobe's reactions to the performance of her play, and witnessing the natural surroundings and the nonhuman creatures that inhabit. As opposed to the writing in her previous works, the group or communal at times subsumes the individual characters (as it did for Darwin), her diary notation on April 26, 1938 about "'I' rejected: 'We' substituted" (V: 135) in Between the Acts, and the appreciation of the interrelationships of all the elements described, organic and inorganic, is the focus. The "story" is people relating to their surroundings and how those surroundings do (or do not) relate to them. The view, the swallows, and the Barn are irreplaceable elements (or characters) in Between the Acts that do not need humans' acknowledgement in order to be such.

Tyndall notes the "bewildering sense of vastness" of the "distances of stellar space," as well as the exploration with "infinitesimals compared with which the test objects of the microscope are literally immense" (Essays 35); however, it is Sir James Jeans who delves into the cosmos and returns to give the reader a staggering sense of what is out there and what is not. Throughout The Mysterious Universe Jeans emphasizes the earth's isolation from other celestial bodies and indeed the loneliness

of almost all stars from one another by virtue of the imponderable distances separating them. Jeans sets the parameters at the beginning of the book:

the majority [of stars] are solitary travelers. And they travel through a universe so spacious that it is an event of almost unimaginable rarity for a star to come anywhere near to another star. For the most part each voyages in splendid isolation, like a ship on an empty ocean. In a scale model in which the stars are ships, the average ship will be well over a million miles from its nearest neighbour, whence it is easy to understand why a ship seldom finds another within hailing distance. (1-2)

To compare the size of Earth to that of the stars is to consider the fact that the majority of the stars are large enough that “hundreds of thousands of earths could be packed inside each and leave room to spare,” and occasionally, “we come upon a giant star large enough to contain millions of millions of earth” (1). Jeans speaks of “our extreme loneliness” (4), the “vast meaningless distances” (3) and the “material insignificance of our home in space” (4). He uses analogies to give some sense of how insignificant this home planet is in relation to the rest of the cosmos in Eos or The Wider Aspects of Cosmogony. A number of black and white photographs of spiral nebulae, stages of nebular development and a star cloud are reproduced in this book, and he makes a remarkable comparison. “Any one of the photographs reproduced in this book would have to be enlarged so as to cover at least the whole of Asia before a body of the size of earth became visible in it at all, even under the most powerful of microscopes” (20-21).

Time as well has become as vast as the universe. Whereas Darwin spoke in terms of hundreds of thousands of years of earth’s existence, Jeans speaks of the earth

coming into being two thousand million years ago (Mysterious Universe 2). Furthermore, he conjectures that some stars may be “millions of millions of years old, perhaps five to ten millions of millions” (Eos 35). The sun will not live forever, and eventually the planet may well be “destined to die of a cold, dying sun” (Mysterious Universe 14). In Eos he employs a striking counter-image: “the universe is melting away into radiation. Our position is that of polar bears on an iceberg that has broken loose from the icepack surrounding the pole, and is inexorably melting away as the iceberg drifts to warmer latitudes and ultimate extinction” (41-42). The miniscule moment that human beings have existed underscores to Jeans the universe’s “indifference to life like our own,” and he takes this a step further by pointing out that the cosmos is “actively hostile to life,” and that this realization has made people terrified of it. “Emotion, ambition and achievement, art and religion all seem equally foreign to its plan” (Mysterious Universe 4).

At times it feels as if Woolf has taken this concept of the isolation of cosmic bodies and extended it to that of the characters in Between the Acts, communication from one being to another more often than not an impossible feat, sought but rarely attained. She stresses the struggle humans have in trying to connect to one another on equal footing. Isa recalls initially meeting Giles years before in Scotland while each was fishing. “She from one rock, he another” (48). These rocks might as well be stars; the distance between them is so unbridgeable even after years of marriage. She hides her poetry in a “record book” because she knows that Giles would mock her writing. She is infatuated with Mr. Rupert Haines, the gentleman farmer whom she has met only twice. She is aware of Giles’s infidelity with other women—“She could hear in

the dusk in their bedroom the usual explanation. It made no difference; his infidelity—but hers did” (110). And finally there is the fact that the two do not exchange one word throughout the entire book until the final scene, and even then, the reader is merely informed, “they spoke” (219). Giles, for his part, is preoccupied with Mrs. Manresa, and considers those “old fogies” sitting around discussing the weather and the view as fools, what with the war being fought on the continent and the immanent threat of annihilation of that very view. Isa asks herself, “Do we know each other? Not here, not now” (61). But if not “here,” when? If not “now,” when? The passage quoted earlier with the narrator musing about minds and bodies being too close and, simultaneously, not close enough, echoes Jeans’s point about Lemaître’s depiction of a universe never at rest, and the theory that the universe is either expanding or contracting, and that “the various objects in it are [are] all rushing away from one another, or all rushing towards one another, at a great rate” (Mysterious Universe 74). Whichever direction, people do seem to be rushing, in particular in the modern society that Woolf depicts. The characters are seldom in any kind of alignment through which they can exchange meaningful moments of intimacy.

Isa notes at one point that there is a “vast vacancy between her, the singing villagers and child” (78) and after a scene of the pageant, Isa ponders her sensation: “All is over. The wave has broken. Left us stranded, high and dry. Single, separate on the shingle” (96). At another point when Lucy Swithin is attempting to convey her sense of the play to Miss La Trobe, the two make a “common effort to bring a common meaning to birth. They failed” (52). Giles reflects while watching the

pageant that all of them are “caught and caged; prisoners; watching a spectacle” (176). After the pageant, “solitude had come again,” (204), and Lucy “returned to her private vision; of beauty which is goodness; the sea on which we float” (205).

Despite the accolades of many members of the audience and Miss La Trobe’s moments of “glory,” she decides while she is packing up her phonograph records, “her gift meant nothing. If they had understood her meaning; if they had known their parts; if the pearls had been real and the funds illimitable—it would have been a better gift. Now it had gone to join the others.” ““A failure,”” she groaned” (209). Heading to the pub by herself, “the horror and terror of being alone” and an “outcast” descend upon her. She considers herself not only an outcast of other people but of Nature as well. “Nature set her apart from her kind” (211). Perhaps that is the ultimate sense of estrangement a human being can have, a sense that nature itself has made her into or allowed her to be something unacceptable. And even though the play has gathered the people together for a short while, “each saw something different” (213), so that despite their communal experience during which everyone (theoretically) witnesses the same performance, each remains alone. “Dispersed are we,” the gramophone repeats over and over throughout the pageant, recalling the repetition of Cowper’s line that Woolf uses throughout *To the Lighthouse*, ““We perished each alone.”” But here death is not the immediate consequence—rather, dispersement and scattering occur, which could convey a death of the communal celebration.

This hostility of the universe to life that Jeans remarked upon was further delineated by Bernard Russell, who as an antiwar activist was much more precise and

condemnatory of “man’s” hostility to all life forms in an April 25, 1919 article entitled “Dreams and Facts,” published in the journal The Athenaeum and edited by Leonard Woolf:

The universe as astronomy reveals it is very vast. How much there may be beyond what our telescopes show, we cannot tell; but what we can know is of unimaginable immensity. In the visible world the Milky Way is a tiny fragment; within this fragment, the solar system is an infinitesimal speck, and of this speck our planet is a microscopic dot. On this dot, tiny lumps of impure carbon and water, of complicated structure, with somewhat unusual physical and chemical properties, crawl about for a few years, until they are dissolved again into the elements of which they are compounded. They divide their time between labour designed to postpone the moment of dissolution for themselves and frantic struggles to hasten it for others of their kind.... Such is man’s life viewed from the outside. (qtd. in Henry, “From Edwin Hubble’s Telescope to Virginia Woolf’s ‘Searchlight,’” 153)

Humans’ destructiveness is not limited to declarations of war, of course. There is the “everyday” violence—physical and mental—of one organism against another. So there is the hostility of the cosmos toward life on earth. Jeans wrote: “Life is the end of a chain of by-products; it seems to be the accident, and torrential deluges of life-destroying radiation the essential” (Eos 86). All life forms participate in or are affected by this destructiveness, not only humans. Darwin celebrated the astonishing array of creatures he encountered on his travels, but he also reported on the death, the

waste, the aberrant, and the ferocity with which nature and its inhabitants prey on one another for food. In Voyage of the Beagle Darwin observes the South American forest:

The day was beautiful and the number of trees which were in full flower perfumed the air and yet even this could hardly dissipate the gloomy dampness of the forest. Moreover the many dead trunks, that stand like skeletons never fail to give these primeval woods a character of solemnity absent in countries long civilized. Death instead of life seemed the predominant spirit. [Darwin, Voyage of the Beagle (London: J. M. Dent, n.d.) 380, qtd. in Beer, Virginia Woolf 15]

In Origin he warns against people's misunderstanding or misinterpreting the seemingly benign aspect of nature:

We behold the face of nature bright with gladness, we often see superabundance of food; we do not see or we forget, that the birds which are idly singing round us mostly live on insects or seeds, and are thus constantly destroying life; or we forget how largely these songsters or their eggs, or their nestlings, are destroyed by birds and beasts of prey; we do not always bear in mind, that, though food may be now superabundant, it is not so at all seasons of each recurring year. (Darwin 50)

Woolf carefully portrays brutality and more subtle facets of violence throughout this novel. As mentioned previously, the undercurrent of war rumbles throughout the book, despite Miss La Trobe's decision to avoid depicting any militaristic scenes in her play. The voice speaks from the bushes at the end of the play, presumably Miss La

Trobe's, "a megaphonic, anonymous, loud-speaking affirmation" (186). Among other things, the voice advises the audience. "Consider the gun slayers, bomb droppers here or there. They do openly what we do slyly. Take for example (here the megaphone adopted a colloquial, conversational tone) Mr. M's bungalow. A view spoilt for ever. That's murder. ..." (187). Woolf has already stressed the sacredness of a view, and here she equates people's ruination of such a view with murder. Several sentences later the voice cries, "O we're all the same," which could be both a curse and a blessing, since the unidentified voice is saying that everyone is a gun slayer or a bomb dropper as well as there being people who show "kindness to the cat; note too in today's paper "Dearly loved by his wife"" (188). No one is exempt from the peril—the voice even warns against presuming that "there's innocency in childhood" (187). In addition to Giles's worries about the war, the collective voice of members of the audience refer to it a number of times, and while Reverend Streatfield is speaking about the pageant, twelve aeroplanes [sic] fly overhead "in perfect formation like a flight of wild duck," drowning out the reverend's words, an unwelcome, uninvited foreshadowing of the enemy planes that may soon be blanketing (murdering) the countryside. Woolf's comparing the formation of planes to wild duck adds to the obscenity of the image. Not only are the aeroplanes not "wild duck," but also they may cause the extinction of such a formation of birds, and in a twisted, evil, manner, replace them.

Early in the book Isa picks up the Times that her father-in-law has dropped, and she reads about the rape of a girl by troopers in a barrack—men, presumably, on the same "side" that the betrayed girl is on. The troopers trick the girl into following them when they tell her that they have a horse with a green tail. Once she sees that the horse is an

ordinary horse, they take her to a barrack room, throw her on a bed and rape her.<sup>18</sup> This scene haunts Isa the rest of the day and perhaps even longer (20). Before returning to the pageant after one of the intervals, she reminds herself about what she should be attending to—not “the frantic cries of the leaders who in that they seek to lead desert us,” but rather, “the shepherd,” “the withered tree that sighs,” and “the brawl in the barrack room when they [the troopers] stripped her [the girl] naked” (156). She includes the rape scene in her list of memorable images because the crime is “real” to her. The next moment she witnesses her husband and Mrs. Manresa (without their realizing it) emerging from the greenhouse, having just committed adultery, Giles’s infidelity a form of abuse, a marital transgression.

Hostility and the threat of violence hover in different characters throughout the book. Some dislike and even loathe Miss La Trobe and William Dodge because of their homosexuality. Giles repeatedly mocks his Aunt Lucy in his mind, and Bart terrifies his grandson George by rolling up his morning newspaper like a beak and jumping out from behind a tree. Nor does nature remain unscathed—Giles comes upon a toad and a snake along the path at an impotent impasse:

There, couched in the grass, curled in an olive green ring, was a snake. Dead? No, choked with a toad in its mouth. The snake was unable to swallow; the toad was unable to die. A spasm made the ribs contract; blood oozed. It was birth the wrong way round—a monstrous inversion. So, raising his foot, he stamped on them. The mass crushed and slithered. The white canvas on his

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<sup>18</sup>Woolf took this incident from an actual news report. See Beer, *Virginia Woolf* 137-138 and *The Times*, 28, 29, 30 June, 20, 26, 30 July 1938.

tennis shoes was bloodstained and sticky. But it was action. Action relieved him. (99)

Miss La Trobe refers to how the audience has slipped or is slipping “the noose” (122), escaping from the play’s (and her) influence; Giles pictures himself “manacled to a rock,” and “forced passively to behold indescribable horror” (60). Isa too feels imprisoned. “Through the bars of the prison [...] blunt arrows bruised her; of love, then of hate” (66). Even love is dangerous in this world.

Before the performance Isa is reflecting how for the past seven years she and the others have gone through the same scenarios: the obsession about the weather, worry about the possibility of rain, and Lucy’s hanging the placard with a hammer and nails. The church bells chime, as usual—but something has changed this time. “Only this year beneath the chime she heard: ‘The girl screamed and hit him about the face with a hammer’” (22). The Times article reported that the girl hit one of the troopers “about the face,” but no mention was made of a hammer (20). Isa is interrupted in her initial visualization of the crime when Lucy enters the room holding a hammer. Isa has taken a detail from the present and incorporated it (the hammer) into the past. The two scenes connect to one another in Isa’s world, and Isa places a hammer in the girl’s hand for defense. Or perhaps Lucy “gives” her weapon to the besieged girl. Isa regards Lucy as bravely challenging the world around her: “What an angel she was—the old woman! Thus to salute the children; to beat up against those immensities and the old man’s irreverences her skinny hands, her laughing eyes! How courageous to defy Bart and the weather!” (24). By placing the words “her skinny hands, her laughing eyes” after the objects that Lucy is beating up against, Woolf is emphasizing what Lucy is up against;

her hands and eyes appear smaller than they would if mentioned first, and, therefore, they become even more remarkable. The juxtaposition of “Bart and the weather,” Bart being mentioned first, as if he were the more daunting of the two, is both humorous and revealing. Isa is equating her father-in-law as being as unpredictable, as unreliable and perhaps as unmovable as the weather. This is humorous because a person would not normally equate a man and the weather as equivalent objects. One is a living organism, whereas the other is—well, the science of the 1920’s and 1930’s is trying to discern the similarities and differences between the two. Woolf lines them up here next to each other. And Isa understands this on some level.

Language is not safe in this world. As Giles is sitting in the audience, he recognizes the threat: “‘We remain seated’—‘We are the audience.’ Words this afternoon ceased to lie flat in the sentence. They rose, became menacing and shook their fists at you” (59). At this time—the 1930’s—not only were the radio airwaves transmitting Eddington’s lectures, but Hitler’s speeches were traveling the airwaves as well, as Woolf noted in her diary (V: 169). Shortly after the words rise up and shake their fists, Isa dwells on “the word that Giles had not spoken” describing William Dodge. “Well, was it wrong if he was that word?” she asks herself, not even thinking the word “homosexual” to herself, but continuing to leave it unnamed (61). Later Phyllis Jones, the little girl portraying England in the opening scene, speaks to the audience. The narrator explains how England’s words “peppered the audience as with a shower of hard little stones” (78). When Giles considers the moral of Miss La Trobe’s Restoration play, the words rise and point “a finger of scorn at him” (149). Lucy gives William a tour of the house during one of the intervals, and they enter a room with a spotted toy horse on the floor. “‘The

nursery,” Lucy explains. “Words raised themselves and became symbolical” (71). The horse belongs to George, the little boy, and it is a “safe” figure, but the horse used to lure the girl to go with the troopers is not. Objects that are harmless in one context are used for malevolent purposes elsewhere, making the world even more unpredictable and unreliable. That is part of the power and cruelty behind Bart’s purposefully scaring George (his grandchild) and then disdainfully reporting to the child’s mother that her son is a “cry-baby” and a “coward” (18, 19). Isa realizes that Bart is telling her this to goad her into a reaction, and considers him a “brute” (19). Three acts of hostility emerge from this one incident: Bart’s initial scare tactic, the mocking of the boy to his mother, and Bart’s “dig” at Isa. (Bart knows that she abhors the “protective parent” role.)

Words can limit experience, calling up Darwin and his warnings about the limitations of merely cataloguing. Some of these limitations are due to the geological “record being incomparably less perfect than is generally supposed. The crust of the earth is a vast museum; but the natural collections have been imperfectly made, and only at long intervals of time” (Darwin 89). Darwin speaks of humans’ limited knowledge: “nor do we know how ignorant we are” (Darwin 114). In her late essay “Craftsmanship,” Woolf herself warns of the dangers of the human tendency to “refuse words their liberty. We pin them down to one meaning, their useful meaning, the meaning which makes us catch the train, the meaning which makes us pass the examination. And when words are pinned down they fold their wings and die” (Death of the Moth 206). The Reverend Streatfield climbs onto the soap-box to give his interpretation of the pageant, and the audience collectively cringes. “they saw, as waters withdrawing leave visible a tramp’s old boot, a man in a clergyman’s collar surreptitiously mounting a soap-box” (189).

All gazed. What an intolerable constriction, contraction, and reduction to simplified absurdity he was to be sure! Of all incongruous sights a clergyman in the livery of his servitude to the summing up was the most grotesque and entire. He opened his mouth. O Lord, protect and preserve us from words the defilers, from words the impure! What need have we of words to remind us? Must I be Thomas, you Jane? (190)

The collective consciousness conveys the absurdity of someone proceeding to reduce a play to a speech by what (whom) is referred to as “a piece of traditional church furniture; a corner cupboard; or the top beam of a gate, fashioned by generations of village carpenters after some lost-in-the-mists-of-antiquity model” (190). The narrator does not try to capture the reverend with merely one image. Nor is their displeasure limited to one word—it is a “constriction, contraction, and reduction to simplified absurdity”—the narrator playing with sound, rhyme, and repetition, attempting to do with language exactly the opposite of what the members believe that the reverend is about to do with words. And when he opens his mouth to speak, the “consciousness” delivers its own prayer or exhortation, asking the Lord to protect “us” not from religious leaders such as the reverend, but from “words the defilers, from words the impure.” People must go to the source—the words themselves—and bypass those who pretend to know them but in fact limit them. The words themselves can fail or be deficient—“What need have we of words to remind us?” Words themselves may lack something—not only the people who use them. “Must I be Thomas, you Jane?” As soon as one is “named”—Thomas, i.e., male, Jane, i.e., female, I, you, homosexual (“that word”), the limitations are set; the

boundaries are drawn, and something is lost.<sup>19</sup> It is, in other words, ridiculous and insulting for someone to “explain” what a play (or a novel) “means”; the only way to truthfully relay the pageant’s meaning would be for the play to be performed again, except that is not possible in actuality since the performers could not replicate their earlier performance exactly, nor could the audience watch it in the same way. The interpretation the audience is about to hear is further rendered ludicrous by everyone present:

He looked at the audience; then up at the sky. The whole lot of them, gentles and simples, felt embarrassed, for him, for themselves. There he stood their representative spokesman; their symbol; themselves; a butt, a clod, laughed at by looking-glasses; ignored by the cows, condemned by the clouds which continued their majestic rearrangement of the celestial landscape; an irrelevant forked stake in the flow and majesty of the summer silent world.  
(190-191)

And then the reverend’s first words are “lost” when he begins to speak.

Perhaps words have the capacity to be most devastating (even becoming a matter of life and death) when they are the “wrong” ones—that is, when they fail to convey what the artist (or playwright, in this case) intends. Miss La Trobe no sooner believes that she has “made them [the audience] see,” finding that “a vision imparted was relief from agony ... for one moment” (98), but then suddenly, without warning, as the gramophone music dies out, she returns to the agony (or she experiences agony anew), and her sense

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<sup>19</sup>Confer the narrator’s observation in *Orlando* about the mixture of moments of time and various selves inhabiting one person at any given moment: “For if there are (at a venture) seventy-six different times all ticking in the mind at once, how many different people are there not—Heaven help us—all having lodgment at one time or another in the human spirit? Some say two thousand and fifty-two.” (308)

of accomplishment disappears. “She hadn’t made them see. It was a failure, another damned failure! As usual. Her vision escaped her” (98). (The word “agony” comes from Greek meaning “contest, mental struggle.” This idea of a contest hearkens back to Darwin’s theory of the struggle for survival.) Nearer the end of the pageant, when the stage is suddenly empty during Miss La Trobe’s crafted “ten minutes of present time,” she panics. “Blood seemed to pour from her shoes. This is death, death, death, she noted in the margin of her mind; when illusion fails” (180). On the one hand, Miss La Trobe is being ridiculed with her seemingly melodramatic response, the “death, death, death” recalling King Lear and therefore (perhaps) underlining the supposed lack of tragedy in Miss La Trobe’s particular situation. On the other hand, although at times she appears ridiculous—this is, after all, “only” a village play, one of many seemingly being enacted this summer in other villages throughout England—at the same time the others do respect Miss La Trobe, her endeavor and her craft. Woolf takes the pageant and its playwright seriously—otherwise the play itself would not be included in such detail, nor would it resound so deeply with the characters and linger in their minds.

The range of human cruelty because of class, age, sex, race, sexual orientation, and disability is depicted throughout Between the Acts. The reader is occasionally even privy to the thoughts of the “working people”—Amy and Mabel, the nurses tending the children, discussing “fellers” (10, 11), Bond the cowman, who “thought very little of anybody, simples or gentry. Leaning, silent, sardonic, against the door he was like a withered willow, bent over a stream, all its leaves shed, and in his eyes the whimsical flow of the waters” (28); Mrs. Sands, the cook, who “had never in all her fifty years been over the hill, nor wanted to” (31). The villagers who play the various characters are

identified by name, although the reader never actually enters their thought processes. Albert, the “village idiot,” inspires uneasiness among the audience members. “There he came, acting his part [in the play] to perfection” (86). The narrator observes that he is “enjoying himself immensely,” but Mrs. Elmhurst is critical of his presence, worried that he might suddenly “do something dreadful” (87), and even Lucy worries that he might “have a fit” (86). Another character explains to her neighbor that there is a “village idiot” in her town as well, as if the mentally disabled are all the same.

Of course, just because Jeans wrote about the accidental manner in which humans—and all life—came to be on this particular planet at this particular time and about the ultimate death of all life as a result of the sun’s eventual dying out, with the earth alone remaining in “melancholy immortality,” and he wrote about the fact that the earth itself will not turn into radiation but “will continue to exist longer after the stars have turned into darkness and all life and light have vanished from its surface” (66), does not mean that the awareness of the vastness of the cosmos is what compelled Woolf to include the motif of violence, which pervades all of her novels. But part of the implication of the understanding of the almost endless quantity of space with an unfathomable number of stars and the almost irreconcilable estimate of the number of years that the stars had been in existence before the earth was even born, is that human beings have been breathing for such a infinitesimal amount of time compared to every where and every thing else. Jeans repeatedly depicts people as infants relative to how long they have existed, despite the fact that many members of Victorian and modern society consider themselves to be worldly wise. Darwin questioned the notion that humans are hierarchically above the rest of the animal world; now Jeans (as well as other

scientists) is describing the planet's existence as an afterthought, relegating the existence of human beings to less consequence, if that is possible. Woolf wrote about nature in all of her works, but in Between the Acts she focuses less on character and more on everything non-human, including places in outer space where animal life—or any life—has never existed. Life as people know it has never been a witness to this outer world, nor (to anyone's knowledge) has this outer world ever witnessed "life" as it exists on earth. Certainly Woolf has depicted nature as its own character—the chapter "Time Passes" in To the Lighthouse is the most well known passage supporting this, and the many poetic passages in The Waves prove this as well. But in Between the Acts Woolf is portraying both the inhabited world and a world or place which is truly indescribable in human terms because of its very definition. In what could be read as a paean to the sun, the narrator describes the following:

Certainly the weather was variable. It was green in the garden; grey the next. Here came the sun—an illimitable rapture of joy, embracing every flower, every leaf. Then in compassion it withdrew, covering its face, as if it forebore to look on human suffering. There was a fecklessness, a lack of symmetry and order in the clouds, as they thinned and thickened. Was it their own law, or no law, they obeyed? Some were wisps of white hair merely. One, high up, very distant, had hardened to golden alabaster; was made of immortal marble. Beyond that was blue, pure blue, black blue; blue that had never filtered down; that had escaped registration. It never fell as sun, shadow, or rain upon the world, but disregarded the little coloured ball of earth entirely. No flower felt it; no field; no garden. (23)

The narrator relating this information gives it more authority than if it were told from one character's point-of-view, where it could be seen as idiosyncratic musing of that particular character. Another reason behind Woolf's decision to render the description in the narrator's voice could be her growing preoccupation with depicting the "We" instead of the "I" in fiction, as noted previously. The narrator's voice carries with it an objectivity, an all-encompassing quality. The sun here is "illimitable," something which Jeans might have argued with in terms of its being a dying star. Woolf's sun embraces "every flower, every leaf," including those plants on earth that are not in its direct rays—sunlight is the source of the warmth that enables life to exist. Woolf attributes human emotion to the sun—compassion, "as if" it has an awareness of human suffering and its response to the suffering is one of "covering its face." Then the narrator describes the clouds and wonders if there is any law—their own or any other law—which they "live" by, noting that there seems to be no rule or order about them. The narrator calls them "wisps of white hair," one "hardened to golden alabaster," and "immortal marble." That is, some have human characteristics, some are mineral, and some are metamorphic rock.

The narrator goes "beyond" where any human being can go, which could be another reason that this description is not told from one person's point of view or imagination—because as soon as a person imagines it or starts to describe it, the space would no longer be that space being described, because if it were seen, it would cease to be what it is by its very definition. (I shall discuss this further when talking about Eddington and the role of the observer in science.) This is the "blue, pure blue, black blue

that had escaped registration. [...] No flower felt it; no field; no garden.”<sup>20</sup> The space is “pre-Eden.” That is, the garden does not exist. It is not Eden before the Fall, but a place that existed before Eden. This problem of description is related to Heisenberg’s Uncertainty Principle. The observer affects what is being observed—once observed, the space no longer is that which has “escaped registration.”

Much later Isa, in reverie, searches for the man whom she is secretly attracted to, Mr. Rupert Haines. She sees him for a moment, but he is “surrounded, inaccessible” (154). She goes on to ponder her life:

“Where do I wander?” she mused. “Down what draughty tunnels? Where the eyeless wind blows? And there grows nothing for the eye. No rose. To issue where? In some harvestless dim field where no evening lets fall her mantle; nor sun rises. All’s equal there. Unblowing, ungrowing are the roses there. Change is not; nor the mutable and lovable; nor greetings nor partings; nor furtive findings and feelings, where hand seeks hand and eye seeks shelter from the eye.” (154-155)

This could be the same space that has never “filtered down,” where nothing grows. She mentions a “harvestless dim field,” which suggests something different from a meadow, since life exists in a meadow. A field can be background, a subject, or area of scholarship. Isa might be describing a place in the mind, except that she says that there is no leave-taking, no feeling, no hand seeking another hand. Darwin wrote near the end of Origin: “In the future I see open fields for far more important researches” (Darwin 130). “All’s equal there,” Isa reports. She uses the word “all” rather than “everything,” which

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<sup>20</sup> See Tyndall’s explanation for why the sky appears blue in Chapter 7 of Fragments of Science for Unscientific People.

could be because “every-thing” implies distinct identities that are lumped together. What does it mean that this is the only place that she considers equality exists? And what does being equal mean to Isa? Before her reverie she urges herself to continue, telling herself that she “must go on.” After questioning where she wanders, she murmurs to herself:

“How am I burdened with what they drew from the earth; memories; possessions. This is the burden that the past laid on me, last little donkey in the long caravanserai crossing the desert. ‘Kneel down,’ said the past. ‘Fill your pannier from our tree. Rise up, donkey. Go your way till your heels blister and your hoofs crack.’” (155)

She continues “That was the burden,” she mused, “laid on me in the cradle; murmured by waves; breathed by restless elm trees crooned by singing women; what we must remember; what we would forget” (155). Isa has taken on the burden of human history in the form of memories and possessions through the waves, the trees—through that of nature, and that nature includes spaces in the cosmos where no one else has ever traveled. She yearns for a place where she need not be weighed down by what humans do and have done to each other—even or especially those things that people would prefer not to remember. In addressing people she then says, as she is returning to the seating for the pageant, “none speaks with a single voice. None with a voice free from the old vibrations. Always I hear corrupt murmurs; the chink of gold and metal. Mad music....” (156). This speaks of the collective memory of humankind. She hears the people’s betrayal of one another; indeed, she cannot get away from such licentiousness, and so she must encourage herself to continue despite this knowledge, this burden.

“On, little donkey, patiently stumble. Hear not the frantic cries of the leaders who in that they seek to lead desert us. Nor the chatter of china faces glazed and hard. Hear rather the shepherd, coughing by the farmyard wall; the withered tree that sighs when the Rider gallops; the brawl in the barrack room when they stripped her naked; or the cry which in London when I thrust the window open someone cries ...” (156)

Sir James Jeans begins The Mysterious Universe with the passage from Plato about an underground cave and the human beings who see shadows on the walls and who interpret those shadows as “truth,” when in fact they are only shadows. Jeans recalls this passage when he discusses how surprising the discoveries have been about space and time and the theory of quanta, all of which argue against the laws of cause and effect, and how the breakdown of the atom offered more surprises and the consequent understanding in the scientific world that “things are not what they seem” (151). But, he warns, the outstanding achievement of twentieth-century physics is none of these—rather, “it is the general recognition that we are not yet in contact with ultimate reality” (151). Jeans wants his readers to understand that the concept of the waves (and before that, the ether, according to Tyndall) is an idea that exists only in the mind. Before discussing the waves (or ether) in more detail, he begins by asserting his conclusion as such: “the ethers and their undulations, the waves which form the universe, are in all probability fictitious. This is not to say that they have no existence at all: they exist in our mind, or we should not be discussing them” (95-96). Nor is this the only place where he discusses what is in the mind and what is “real.” He grapples with the repercussions of the law of causation ceasing to be a part of the

“new physics” and how, consequently, “this picture contains more room than did the old mechanical picture for life and consciousness to exist within the picture itself... For, for aught we know, or for aught that the new science can say to the contrary, the gods which play the part of fate to the atoms of our brains may be our own minds” (35-36). At the end of Eos he suggests the possibility that the “infant” [humankind] may have been dreaming the entire time. “The picture it [the infant] sees may be merely a creation of its own mind, in which nothing really exists except itself; the universe which we study with such care may be a dream, and we brain-cells in the mind of the dreamer” (88). And lest humans retreat into the condescending, Victorian white patriarchal belief of being this omnipotent creature on the verge of understanding all of life’s mysteries, he reminds the reader again of the scope of earth’s presence:

Indeed our earth is so infinitesimal in comparison with the whole universe, we, the only thinking beings, so far as we know, in the whole of space, are to all appearances so accidental, so far removed from the main scheme of the universe, that it is a priori all too probable that any meaning that the universe as a whole may have, would entirely transcend our terrestrial experience, and so be totally unintelligible to us. In this event, we should have had no foothold from which to start our exploration of the true meaning of the universe. (MU 152)

Jeans has his method of analysis—a mathematically biased one in which the Final Arbiter, if there is one, must be a mathematician. And yet his own method of conveying his theories and explanations includes the understanding of various

analogies. One such analogy suggests that readers imagine a race of blind worms, and their exploration of the world as “worm-scientists,” and how the “apparent indeterminacy of nature may arise merely from our trying to force happenings which occur in many dimensions into a smaller number of dimensions” (Mysterious Universe 148). He explains this problem in terms of the worm-scientists, analyzing how they might interpret the reason behind why soil becomes wet at times in their underground world.

“if the worms, unconscious even of the existence of the third dimension of space, tried to thrust all nature into the two-dimensional framework, they would be unable to discover any determinism in the distribution of wet and dry spots; the worm-scientists would only be able to discuss the wetness and dryness of minute areas in terms of probabilities, which they would be tempted to treat as ultimate truth. (148)

He uses this analogy when discussing the space-time continuum, as humans understand it, proposing that humans may be conceptualizing the phenomena of the space-time continuum as occupying four dimensions when in fact it may involve more than four dimensions. I shall consider the space-time continuum as it relates to Woolf in the next chapter, but I want to mention it now to indicate what in part Jeans is trying to help his audience “see,” something which Miss La Trobe expresses her desire to do repeatedly, to make the audience “see.” She refers to her “vision,” and encourages the audience to do its own “wandering,” such as Isa does, to come to its own awareness or vision. In Physics and Philosophy, published in 1943, Jeans continues his study of the nature of reality, concluding the following:

We may picture the world of reality as a deep-flowing stream; the world of appearance is its surface, below which we cannot see. Events deep down in the stream throw up bubbles and eddies on to the surface of the stream. These are the transfers of energy and radiation of our common life, which affect our senses and so activate our minds; below these lie deep waters which we can only know by inference. (193)

These “deep waters” take the reader to Miss La Trobe in the pub near the end of Between the Acts, when the words of her next play are beginning to appear. Words “of one syllable” first sink into the mud as she rests with her drink. Then the mud becomes “fertile”—“Words rose above the intolerably laden dumb oxen plodding through the mud. Words without meaning—wonderful words” (212). Shortly before Miss La Trobe heads for the pub, while the players and audience are dispersing, Lucy wants to thank Miss La Trobe, but Bart prevents her from doing so, attributing Lucy’s religion to her shortsightedness about interrupting Miss La Trobe at such a precarious moment for the playwright. Bart ponders Lucy’s limitations, “Skimming the surface, she ignored the battle in the mud” (203). He alone seems to appreciate the extent of the suffering the playwright must be undergoing after Reverend Streatfield’s commentary and “the maulings and manglings of the actors” (203). Bart imagines the mind-set of Miss La Trobe as he and Lucy gaze into the lily pool: “What she wanted, like that carp (something moved in the water) was darkness in the mud; a whiskey and soda at the pub; and coarse words descending like maggots through the waters” (203). Lucy has her own response: “‘All gone,’ she murmured, ‘under the leaves’” (204). And then she has her own vision: “‘Ourselves,’ she murmured. And retrieving

some glint of faith from the grey waters, hopefully, without much help from reason, she followed the fish; the speckled, streaked and blotched; seeing in that vision beauty, power, and glory in ourselves” (204). The word “glory” connects Lucy to Miss La Trobe’s moments of “glory.”

Jeans introduces the notion of the communal in Physics and Philosophy, which, as mentioned earlier, is one of Woolf’s preoccupations in Between the Acts. Jeans arrives at this coalescing of individuals into one “gigantic” individual in the following passage:

In the particle-picture, which depicts the phenomenal world, each particle and each photon is a distant individual going its own way. When we pass one stage further towards reality we come to the wave-picture. Photons are no longer independent individuals, but members of a single organization or whole—a beam of light—in which their separate individualities are merged, not merely in the superficial sense in which an individual is lost in a crowd, but rather as a raindrop is lost in the sea. The same is true of electrons; in the wave-picture these lose their separate individualities and become simply fractions of a continuous current of electricity. In each case, space and time are inhabited by distinct individuals, but when we pass beyond space and time, from the world of phenomena towards reality, individuality is replaced by community. (204)

As I indicate in the conclusion, this sense of community in regard to so-called “individual” entities in the “new physics” of the late twentieth and now twenty-first century is being explored even further in relation to the interconnectedness of both

organic and inorganic. (Certainly the issue of global warming and its widespread effect as well as the notion of the law of unintended consequences underscores the interrelatedness of nature and the environment in profound ways humans are beginning to grasp and appreciate.) Jeans continues by extending his analogy to consciousness:

It seems at least conceivable that what is true of perceived objects may also be true of perceiving minds; just as there are wave-pictures for light and electricity, so there may be a corresponding picture for consciousness. When we view ourselves in space and time, our consciousnesses are obviously the separate individuals of a particle-picture, but when we pass beyond space and time, they may perhaps form ingredients of a single continuous stream of life. As it is with light and electricity, so it may be with life; the phenomena may be individuals carrying on separate existences in space and time, while in the deeper reality beyond space and time we may all be members of one body. (204)

In earlier work he does speak of a “universal mind” (Mysterious Universe 174-175) after concluding that “the universe can be best pictured, although still very imperfectly and inadequately, as consisting of pure thought” (Mysterious Universe 168). But it is not until this later work, first published in 1943 (after Woolf’s death), that he uses the word “community.”

Between the Acts considers the pushes and pulls of the dichotomy of individual vs. community. On the one hand, the individual struggles to be someone in his or her own right; independent of all others; on the other hand, the individual desires to be

understood by others and to be a part of something greater, part of a larger group. Members of the audience acknowledge that “their minds and bodies were too close yet not close enough” (65). And yet, despite various characters’ many futile attempts to have some connection with others (many of which have been documented earlier in this chapter), they have a profoundly urgent need to come together with other organic (and perhaps even inorganic) matter. The most obvious example of this is the concept of a village pageant. As mentioned previously, Woolf in her “real” life ridiculed the idea of village pageants and despaired over the banality of what she saw and was asked to participate in, but Miss La Trobe’s pageant in Between the Acts is humorous, moving, mysterious, and at times vicious (or viciously funny). And though some characters poke fun at the very idea of the pageant’s being presented yet one more year, and villagers may mock both Miss La Trobe and Lucy Swithin and their preparations, calling Miss La Trobe “Bossy” behind her back and Lucy “Old Flimsy,” they still participate in the pageant and work studiously at performing the play. Lucy may be “Old Flimsy” to the workers, but they conscientiously ready the audience seating by bringing up benches in the Barn. They witness Lucy nailing the placard up to the Barn, a second placard because either the wind or the “village idiot” took it down. They imagine that the idiot is “chuckling” over his misdeed “under the shade of some hedge” (27). And then Woolf adds, “The workers were laughing too, as if old Swithin had left a wake of laughter behind her” (27). So yes, they are laughing at Lucy, but it seems as if Lucy’s own pleasure at the prospect of the afternoon performance has spread to them and their preparations. Like a wave, her delight in the preparations has spread beyond her own physical being and has taken on its own

existence. At one point in The Mysterious Universe Jeans describes the sun's "activity": "As the sun journeys through space it must continually sweep up stray matter in the form of odd atoms and molecules, of dust particles and of meteors" (68). Lucy's presence seems to emit an aura at times; her "being" spills out beyond the physical boundaries of the body and perhaps even "sweeps up" some of those around her. There is also the scene mentioned in the previous chapter where Grace, the maid, feels Lucy's gaze on her (Grace) as being the kind of glance one would give to a prehistoric monster, and, of course, that is exactly how Lucy is regarding Grace at that moment. Lucy is also the one who seems to recognize most clearly the depth of the pageant's meaning. She draws people in around her and elicits powerful feelings from them, as well as having her own, such as when she tells Miss La Trobe that the playwright has made her feel as if she could have played Cleopatra (153). Lucy gives William Dodge a tour of Pointz Hall, communicating with him beyond their age difference, in spite of his homosexuality. They become "truants" together when others are gathering for the play, and they remain within the house. She smiles "a ravishing girl's smile, as if the wind had warmed the wintry blue in her eyes to amber" (72-73). "But her eyes in their caves of bone were still lambent. He saw her eyes only" (73). And there is Giles and his semi-constant berating of his Aunt Lucy in his mind—while in actuality he is unhappy with his own choices he has made in his life—but it is much easier for him to be critical of his aunt.

Miss La Trobe masterfully draws them all together, using a number of technological inventions, in particular the gramophone, whose "chuff, chuff, chuff" repetitive ticking holds the gathering together as much as any other element. Through

music she aims to maintain a certain mood—though she never specifically identifies what that mood is. She repeatedly feels thwarted by the audience members in their need for “intervals” as well as their need for a play subject to time constraints. She seeks coherence and continuity; they seek “comradery” in their intermissions and perhaps even time to reflect, or perhaps the intermissions reflect their inability to concentrate for longer periods of time. “‘Curse! Blast! Damn ‘em!’ Miss La Trobe in her rage stubbed her toe against a root. Here was her downfall; here was the Interval. Writing this skimble-skamble stuff in her cottage, she had agreed to cut the play here; a slave to her audience. [...] Just as she had brewed emotion, she spilt it” (94). The child Phyllis appears, and in a rhyming verse she explains that the scene is over, but no one is listening because each is looking at the programme, focusing on the word “Interval.” The gramophone begins and people “raise themselves” to go to the Barn for tea. The music “modulates,” repeating, “Dispersed are we” in different tones (95). The narrator explains: “The music chanted: Dispersed are we. It moaned: Dispersed are we. It lamented: Dispersed are we, as they streamed, spotting the grass with colour, across the lawns, and down the paths: Dispersed are we” (96). Mrs. Manresa, Isabella, William, Giles, and Cobbett all hear the words as they walk away or linger, pondering the play’s meaning. Isa follows Mrs. Manresa, Isa humming, “‘All is over. The wave has broken. Left us stranded, high and dry. Single, separate on the shingle. Broken is the three-fold ply ... Now I follow ...’” (96). William is less certain about what to do, and he lingers, asking himself, “‘Shall I [...] go or stay? Slip out some other way? Or follow, follow, follow the dispersing company?’” (96). Giles is immobilized—“‘Follow?’” he asks. “‘Whom? Where?’ He stubbed his light tennis

shoes on the wood. ‘Nowhere. Anywhere.’ Stark still he stood” (96). (These are the same sneakers that he is soon going to use to squash the snake that is swallowing the toad.) Giles, as mentioned previously, is (or seems to be) the character most preoccupied with the fighting on the continent; his existential questions reflect his sense of isolation in that concern, as well as his sense that there is no escape from what is going to happen soon in England. And through all of this, the music continues: “Dispersed are we, the music wailed. Dispersed are we [...] To the valediction of the gramophone hid in the bushes the audience departed. Dispersed, it wailed, Dispersed are we” (97, 98). This refrain continues at various points throughout the text. Although it appears that this is a song that is being played that includes these words, it could also be taken metaphorically—that is, this could be the message of what is being played on the gramophone. The song (if it is a song) is never described in terms of the music or in terms of any other lyrics; it is only described by its chanting, moaning, lamenting, and wailing, and the audience members understand its meaning. This understanding by all creates a community as well, albeit one that is scattering. But even in their scattering they are connected. Another reason that I suggest that these words may not be meant to be taken literally is that Woolf never explicitly identifies the tune as to its style, as she does elsewhere. Elsewhere music is identified as jazz, “a jingle and a jangle,” “a cackle,” a cacophony” (183). By not identifying the music by style, but only by emotion, each person is free to interpret the sound individually—and they all hear the same (linguistic) meaning: “Dispersed are we.” Miss La Trobe initially feels rewarded even as the audience departs for tea. “Flowing, and streaming, on the grass, on the gravel,

still for one moment she held them together—the dispersing company. Hadn't she for twenty-five minutes, made them see? A vision imparted was relief from agony ... for one moment ... one moment. The music petered out on the last word we" (98). And then the moment is gone, and she concludes that the pageant is all a failure, "another damned failure" (98). But perhaps it is not a failure. Perhaps Miss La Trobe is unable to maintain the emotion within herself beyond that one moment through no fault of her own. That is part of the definition of what it is that she has conveyed to and elicited from the audience. She worries about the audience "slipping the noose," but of course she can't truly capture them—that is, "holding" them there is antithetical to the idea of the communal sense that she seeks. Her vision has not truly escaped her—rather, she believes that it has because she is no longer in that moment. The reality of each moment is a separate reality and is possible without its contradicting the validity of a different moment. The sensation of each is real. One moment she has her "glory"; another moment she does not. The individual members of the audience may indeed all be walking on different paths in different directions, literally, but they remain connected by their continued consideration of the play—although, of course, she is not aware of their thoughts at this point. And though she is discouraged as she walks down to where the actors are undressing, "butterflies feasted upon swords or silver paper; where the dish cloths in the shadow made pools of yellow" (98). Nature as well as human-made objects have continued to shine.

The same gramophone that follows them as they part ways also welcomes them back after another Interval—indeed, the gramophone's music collects the disparate parts in to a somewhat bedraggled whole: "The music was summoning

them. Down the paths, across the lawns they were streaming again” (118). And just as Woolf has written evocatively about the Barn, the cows, and the sun, here she celebrates the sacredness of music and its power to transform:

Feet crunched the gravel. Voices chattered. The inner voice, the other voice was saying: How can we deny that this brave music, wafted from the bushes, is expressive of some inner harmony? “When we wake” (some were thinking) “the day breaks us with its hard mallet blows.” “The office” (some were thinking) “compels disparity. Scattered, shattered, hither thither summoned by the bed. ‘Ping-ping-ping’ that’s the phone. ‘Forward!’ ‘Serving!’—that’s the shop.” So we answer to the infernal, agelong and eternal order issued from on high. And obey. “Working, serving, pushing, striving, earning wages—to be spent—here? Oh dear no. Now? No, by and by. When ears are deaf and the heart is dry.” (119)

They are (collectively) lamenting the cruelty and restrictions of convention in their own lives, in the wastefulness of actions, and in the daily often absurd diatribe that seeks to disrupt any sense of communion. Perhaps the most absurd point involves the element of time. People are not even sacrificing themselves at the office or shop for anything “here”—but for “by and by.” And, she is saying, that if that moment of “by and by” ever comes, people will be too decrepit to appreciate it. But then the music calls up something from their depths, something beneath the forces that separate people from themselves.

For I hear music, they were saying. Music wakes us. Music makes us see the hidden, join the broken. Look and listen. See the flowers, how they

ray their redness, whiteness, silverness and blue. And the trees with their many-tongued much syllabing, their green and yellow leaves hustle us and shuffle us, and bid us, like the starlings, and the rooks, come together, crowd together, to chatter and make merry while the red cow moves forward and the black cow stands still. (120)

Music beckons them and soothes, and it makes them “join the broken,” referring to the previous passage where some are noting that the day “breaks us with its hard mallet blows.”

Louise Montello in her book Essential Musical Intelligence discusses the primal place of music in people’s lives. “When we are children’ she writes, listening to music usually evokes a mood of awe, wonder, joy, celebration and love that we openly share with our parents and loved ones. Thus, for most of us, this earliest memory reflects an aura of safety, security and trust in the inherent goodness of the world around us.” (qtd. in Langone F7). According to Dr. Montello, people’s bodies may actually release endorphins while they are listening to music. In an article entitled “We Got Rhythm: The Mystery of Music and Evolution” Nicholas Wade discusses the cultural universality of music and humans’ captivation of it: “All societies have music, all sing lullaby-like songs to their infants, and most produce tonal music, or music composed in subsets of the 12-tone chromatic scale, such as the diatonic or pentatonic scales” (F4). Darwin recognized the power of music, pointing out that a human’s appreciation of and creation of music “must be ranked among the most mysterious with which he is endowed” (qtd. in Wade F1).<sup>21</sup> In the same article researchers Dr. Anne Blood and Dr. Robert Zatorre report that studies of musicians

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<sup>21</sup> See Darwin’s experiments with earthworms and plants.

listening to “self-selected” music reveal that the music “activated similar neural systems of reward and emotion as those stimulated by food, sex and addictive drugs.” That Miss La Trobe understands this primal experience on some level and is able to “tap into” it argues for the power of her play, and also helps explain her use of nursery songs and nursery rhymes in the pageant, as well as that of the chorus.

The audience members talk among themselves as they wait for the play to resume, with “scraps and fragments” of their words reaching Miss La Trobe. There are four paragraphs of these snatches of conversation, some gossip, some questions—“D’you think people change? Their clothes, of course. But I meant ourselves ... Clearing out a cupboard, I found my father’s old top hat.... But ourselves—do we change?” (120-121). On the one hand, the disjointed bits of conversation reflect the audience’s disconnection from one another, including sentences that appear to be non-sequiturs, which echo the reality of how people sometimes talk to one another, each basically carrying on a separate conversation while (supposedly) relating to one another. But the way Woolf bunches the dialogue scraps in one paragraph makes it seem as though the speakers of the dialogue are connected, and the lack of identification of the particular speaker helps create the sense of “We” rather than “I” that Woolf was seeking. One aspect difficult to convey in text is the possibility that people are probably talking simultaneously.

Reverend Streatfield’s “sermon” at the end and the collection of money for the church—the church being another communal meeting place—also underscores the coherence of the group—this time because of their negative feelings toward the reverend as a kind of “spoiler.” The lingering of both the actors and the audience at

the end reveals the wish to maintain the communal connection, even if Miss La Trobe is correct and the play was indeed a failure. Streatfield abandons his sermon mid-sentence, unable to continue. ““And so ...”” he breaks off, an example of aposiopesis. They question if Streatfield’s utterance is the end of the event, but then God Save the King is played on the gramophone. They wonder again if the pageant is over; both actors and audience linger. ““And little England, still a child, sucked a peppermint drop out of a bag. Each still acted the unacted part conferred on them by their clothes” (195). Nature takes part once more.

Beauty was on them. Beauty revealed them. Was it the light that did it?—  
the tender, the fading, the uninquisitive but searching light of evening that  
reveals depths in water and makes even the red brick bungalow radiant?

“Look,” the audience whispered, “O look, look, look—” And once  
more they applauded; and the actors joined hands and bowed. (196)

Light, like the sun covering its face earlier from compassion, seems to have acquired some human characteristics—“tender,” and “uninquisitive but searching.”

“Uninquisitive” implies that there is no motive behind the actions of the light—and yet it still reveals everything within its line of sight, revealing elements that otherwise would not be seen. The audience applauds either the light or the actors or both; the actors take the credit and bow. Reluctance to leave lingers.

The gramophone was affirming in tones there was no denying, triumphant  
yet valedictory: Dispersed are we; who have come together. But, the  
gramophone asserted, let us retain whatever made that harmony. O let us,

the audience echoed (stooping, peering, fumbling), keep together. For there is joy, sweet joy, in company.” (196)

Lucy Swithin is the most conventionally religious character in Between the Acts, and yet her conception of God is not as conventional as her brother seems to think—but she does draw on a concept of a collective gathering of life in her reverie:

Sheep, cows, grass, trees, ourselves—all are one. If discordant, producing harmony—if not to us, to a gigantic ear attached to a gigantic head. And thus—she was smiling benignly—the agony of the particular sheep, cow, or human being is necessary; and so—she was beaming seraphically at the gilt vane in the distance—we reach the conclusion that all is harmony, could we hear it. And we shall. (175)

In Science & Music Jeans describes how hearing was the last of the human senses to develop—the other senses were quite established by the time hearing caught up with the others. Eyesight had established itself as the predominant sense through which people interacted with the world. At the end of his study of sound, Jeans asserts that the ear “is beyond question the most intricate and most wonderful” (252). Why does Lucy imagine a gigantic ear rather than, for example, a gigantic eye? Earlier there is the narrator’s (and Woolf’s) celebration of music. “Music wakes us. Music makes us see the hidden, join the broken” (120). Music enables people to see. Words often fail in this work—for Miss La Trobe, Reverend Streatfield, Isa—“Books open; no conclusion come to” (59); “Did the plot matter?... The plot was only there to beget emotion. There were only two emotions: love, and hate. There was no need to puzzle out the plot.... The plot’s nothing” (90-91); “All else was verbiage, repetition” (91).

In “Where there’s a Will there’s a Way,” Valentine comes to meet Flavinda but he doesn’t see her (she is hiding). Flavinda fears he may kill himself with his own sword in his belief that she is not going to meet him as planned. ““O faithless wretch!’ he sighs.” She responds, “Lord, how he fingers his sword! He’ll run it through his breast like the Duke in the story book!... Stop, Sir, stop!” (138). She steps out from hiding, and they embrace. ““All that fuss about nothing!’ a voice exclaimed. People laughed. The voice stopped. But the voice had seen; the voice had heard. For a moment Miss La Trobe behind her tree glowed with glory” (138-139). Is it the story (of words) that the voice recognizes as ridiculous, or the love that they represent from a storybook (to which Flavinda refers at various moments)? Is it this unimaginative repetition of storyline which has been played out ad nauseum in badly-written stories which Miss La Trobe is mocking and consequently is so pleased that at least the “voice” understands her meaning? One word—“nothing”—declares all the previous words are insignificant.

Lucy names animal and plant forms: “sheep, cows, grass, trees, ourselves—all are one.” And then she points out possible reservations and addresses them. “If discordant, producing harmony—if not to us, to a gigantic ear attached to a gigantic head.” The word “harmony” in music means (among other things): “the combination of (simultaneous) notes so as to form chords; that part of musical art or science which deals with the formation and relations of chords” (OED). Even if people cannot hear the relationship, the blending into pleasing sound, something or someone else can—a gigantic ear. Lucy does not mention God by name, though she refers to a gigantic head. Then she justifies or attempts to explain the “agony” of a particular animal

suffering (a conundrum which Darwin resolved by concluding that happiness prevails over misery for the most part in all sentient beings), although she does not actually give a specific reason for the suffering. It is as if she is saying that the suffering may not resound to the gigantic ear as such. “We” conclude that all is harmony and if we do not hear it that way, this is because we are unable to, but the gigantic ear comprehends in a way that people do not. Has the “Creator” (as both Jeans and Eddington refer to) ever been depicted as an ear—as someone who listens? Why does Woolf (or Lucy) understand music as the great unifier? Music is a universal language; words are not involved, which would limit the discourse to human beings. Even in the opening scene of Between the Acts a bird is heard “chuckling.” Occasionally both Isa and William patronize Lucy and her beliefs, assuming her to be off on a “circular tour of the imagination” (175), “circular” echoing the idea prevalent at the time about the space of the cosmos circling back on itself, such that if a person were able to start from one particular point (the person having a long-enough life span) and continue to travel through space, he or she would eventually end up back at the starting point.

Sir Arthur Eddington’s writing, perhaps even more than Jeans’s, spoke not only to other scientists but actively engaged philosophers, professionals in other fields, and lay people. Gillian Beer describes Eddington’s most popular works:

They [...] raise a number of questions about the nature of authority, the constituencies of readers, and the interaction of discourses across diverse fields. They present a nicely insoluble conundrum about influence—a conundrum that makes it clear that we are likely to go astray if we look

only for orderly reading exchanges between scientists and literary writers.  
 (“Eddington and the Idiom of Modernism” 296).

Eddington had a highly nuanced approach to the analysis of the observer’s role in science, as well as a self-critical approach to the unquestioned authority of the scientist. He scrutinized the language that he employed to convey his own observations and theories, and peered into the nature of substance itself.

“No facts without theory,” Darwin argued, presenting nineteenth-century intellectuals some of the groundwork on which to debate the objectivity of anyone assuming the role of observer (qtd. in Beer, Open Fields 157). But even before Darwin’s Origin of Species was published, scientists were pondering the issue. In a paper that he read to members of the British Association for the Advancement of Science in 1839, the ethnographer James Prichard lamented the lack of interest in ethnography and the passage of time without any attempt to meet and understand races that were becoming extinct. Prichard warned against the folly of anyone who attempted to study a race of people without first understanding the language of such people. Beer lists some of the questions raised by Prichard: “What are the boundaries of natural history? Are human beings within its scope? Are they one species or several? Are they separate from all other species because created as souls by God? And do all, all savages, have souls? Or are they—here danger lies—a kind of animal? (If they, then we?)” (Open Fields 60). He argued that all human beings were of the same species. Both Darwin and Huxley went further, believing that “no observer outside humankind would have invented a special category for man as opposed to other primates” (Open Fields 119). The British anthropologist and mythographer

Edward Tylor (1832-1917) looked well beyond the cultural imperialism of the Victorian period and underscored the similarities between primitive and advanced culture. He objected deeply to Europeans' slaughtering of indigenous Tasmanians, accusing the Europeans of having misread (misheard) the Tasmanians' language as sounds without meaning, failing "to understand that culture is always present in any human group" (Open Fields 82). In fact, he asserts that human culture is always complex, and language plays a distinguishing role in such society. Tylor wrote in his study Primitive Culture (1871) that "The development of language between its savage and cultured stages has been made in its details, scarcely in its principle" (qtd. in Beer, Open Fields 85).

Beer has written extensively on the historical context of the "problem of the observer" in Open Fields, paying particular attention to theorists of the nineteenth century, but including in her research an analysis of how this issue continues into the present. In her chapter "Speaking for the Others" she discusses the assumptions of supposed objectivity of the European traveler in the nineteenth century and his (invariably male) reported journeys in the first person. "First person thus stands in for (and so usurps) the utterance of the people described. It presents itself—and is presented within the over-narrative—as if it were that experience, rather than a partial, possibly mistaken, certainly incomplete, interpretation of it" (79-80). Of course, merely removing any reference to the observer does not solve the problem, either. And the question of the motivation of the explorers comes into play as well. Though the anthropological memoirs of nineteenth-century English explorers were not filled with the "piratical" focus of earlier English travels, "they [memoirs] were

nevertheless an expression of the will to control, categorize, occupy, and bring home the prize of samples and of strategic information” (59).<sup>22</sup> Sir Arthur Eddington continued this scrutiny of the limitation and egocentrism of the scientist as guide in the understanding of the cosmos.

Sir Arthur Eddington was a greater skeptic than Jeans when it came to pondering the limitations of the recording of human observation in general and that of scientists in particular. He questioned some of those basic underlying assumptions of how people go about studying the world. “It is our instinctive outlook that we are always the same; it is our environment that changes” (The Expanding Universe 90). In 1927 Werner Heisenberg theorized in the Uncertainty Principle or the Principle of Indeterminacy that measuring the position and the momentum of a subatomic particle simultaneously is an impossible feat. And Heisenberg’s observations went even further—namely, that in the attempt to measure either factor, the observer cannot help but alter the system he or she is measuring. The observer inextricably becomes bound to what is being observed. A person “can only choose the method causing the disruption. [...] Accepting a range of possibilities (becomes) unavoidable in a universe chronicled by an observer” (Yom 146). Eddington makes his own conclusions about this:

The principle of indeterminacy is epistemological. It reminds us once again that the world of physics is a world contemplated from within, surveyed by appliances which are part of it and subject to its laws. What

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<sup>22</sup> Beer warns the contemporary reader/explorer against making the same error: “To dismiss all Victorian writers as racist because they use vocabulary that offends us now, or because they all work within a developmental view of human history, has a further powerful disadvantage. It has the effect of absolving present-day readers and allowing us to feel enlightened. The rejection costs us no self-inquiry” (Open Fields 78).

the world might be deemed like if probed in some supernatural manner by appliances not furnished by itself we do not profess to know. (Nature of the Physical World 225)

Part of the impossibility of actually coming up with true (or pure?) observations has little to do with who is doing the looking, because no person (non-scientist or scientist) is able to step outside the world he or she is observing and not use the very physical equipment for recording and measuring and noting characteristics of the object under scrutiny.

Eddington suggests that observers are much more involved than they acknowledge when they decide what should be studied; the limitation is people's "frame of conventions" (Nature 148), something which Beer insists humans are constitutionally unable to remove from calculations to this day. Eddington questions what "external" elements are capable of being studied. And because these objects come to people through consciousness, he avers that what people are observing in actuality is connected inexplicably to human consciousness. He refers to the connections to the outside world as "fibers," and, he says, "from those ends we more or less successfully reconstruct the rest, as a palaeontologist reconstructs an extinct monster from its footprint" (Nature 278).<sup>23</sup> The simile that Eddington uses about a paleontologist reconstructing an "extinct monster from its footprint" resonates throughout his writing. The problem, in part, lies with human-made instruments and the time it has taken for the light from other parts of the cosmos to reach earth or to reach that place which humans are able to "witness" through the telescope. In The

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<sup>23</sup> Bertrand Russell makes a similar point in Analysis of Matter (1927): "What the physiologist sees when he examines a brain is in the physiologist, not in the brain he is examining" (qtd. in Eddington, Nature of the Physical World 278).

Expanding Universe he refers to the “theory of ghosts” and the fact that space is “populated with real stars and galaxies but [also] with ghosts of stars which existed 6000 million, 12000 million, etc. years ago” (76). A bit later he calls cosmic radiation “a museum, a collection of relics of remote antiquity” (80). In other words, the observer is limited not only by the instruments that he or she has created and by the human senses, but also by something even less understood, the element of time. And whereas one might think that scientists are better trained to understand the “nature of the physical world,” at least some of the problem of the inability for humans to further their comprehension of the external world rests, according to Eddington, on his fellow scientist’s—both past and contemporary—shoulders, and “the way in which the scientific realm of thought has constituted itself out of a self-enclosed cyclic scheme” (Nature 308).<sup>24</sup>

One of the ways Eddington grappled with the awareness of the dilemma of the solitary traveler speaking from one point of view was for him to consider other points of view, in particular non-human ones. He wrote about the possible perceptions of visitors from other planets (Science and the Unseen World 63), the outlook of a talking electron (Nature of the Physical World 59, 222), the voice of a rod (Nature 143), and that of a four-dimensional worm (Nature 42). He constantly reminds the reader that the objects that humans do consider must be regarded from all angles. (As mentioned previously, he even argues the importance of studying the sun when it is invisible (Beer, “Eddington” 298). Eddington notes myriad dangers confronting all

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<sup>24</sup>This is comparable to Woolf’s complaint against realist fiction and her belief that such fiction has created a self-enclosed, unquestioning and unambiguous delineation of life, despite its label as “realist.”

human exploration: “And so an object which, viewed through our form of conventions, may seem to be behaving in a very special and remarkable way may, viewed according to another set of conventions, be doing nothing to excite particular comment” (Nature 148). He included physics as one of those “set of conventions” not to be relied upon solely, and one way he addressed this limitation was to draw from other scientific fields and well as fields beyond science. “It is the preconceptions—imported from other branches of science—that can fertilise an investigation otherwise doomed to barrenness” (Expanding Universe 63). He explains the danger of regarding the world from a purely scientific point of view. “I think that those who would wish to take cognizance of nothing but the measurements of the scientific world made by our sense-organs are shirking one of the most immediate facts of experience, namely that consciousness is not wholly, nor even primarily a device for receiving sense-impressions” (Science and the Unseen World 44). There is a “transcendental outlook” as well, Eddington argues, and he goes on to relate a passage from a Swarthmore Lecture by J. S. Hoyland in which Hoyland describes an hour of the night before dawn:

“when the stars are unbelievably clear and close above, shining with a radiance beyond our belief in this foggy land. The trees stand silent around one with a friendly presence. As yet there is no sound from awakening birds; but the whole world seems to be intent, alive, listening, eager. At such a moment the veil between the things that are seen and the things that are unseen becomes so thin as to interpose scarcely any barrier at all

between the eternal beauty and truth and the soul which would comprehend them.” (Hoyland qtd. in Eddington, Science 44-45)

How fascinating that Eddington chooses a passage in which the writer refers to the vanishing, indiscernible line between the “seen” and the “unseen.” He calls the experience “mystic thought which has taken possession of the mind and dominated the sense-impressions. Yet who does not prize these moments that reveal to us the poetry of existence?” (45-46). Eddington indicates that humans need to make room for such an experience. Nor does Eddington place this “non-scientific” description as being secondary to that which can be “measured with the tools of the physicist or described by the metrical symbols of the mathematician” (Science 47). “It is necessary for human survival, he [Eddington] insists, to live with multiple epistemologies” (Beer, “Eddington” 302).

One of the most fundamental problems that Eddington identifies in the scientific world is that of the means by which scientists attempt to convey their findings—that is, through language. Sir Arthur Eddington chose his words with care and deliberation, and he did so not only by studying the words of those both inside and outside of science, but also by the meticulous revision of his own work, following the examples of scientists before him, in particular, Lyell, Darwin and Tyndall. Lyell, for instance, referred to Ovid, Tyndall to Milton’s Paradise Lost and Emerson, and (as mentioned previously) Darwin, it is well known, took a copy of Paradise Lost with him on the Beagle. Darwin was already revising his writing while on the Beagle, and, according to Beer, the many phases of writing and revision “played in with his physical exploration to generate thought” (Origin xiv).

Gillian Beer has done extensive research on Eddington's revisions of Nature and how in those revisions, over and over, he revised his work to put the focus on the intermediary between the actual event and that which was being described, looking at and acknowledging, in a sense, the "and" connecting the two, if indeed, it is even possible to connect the two. Beer writes:

Eddington again and again recognized the need to emphasize representation, attribution, and the activity of interpretation rather than to affirm the essential properties of things. So, after revision, "fields of force" no longer "belong" but "are assigned to" "the category of 'influences' not of 'things.' He draws progressively further away from the taken-for-granted categories by which classification takes place. "We feel it necessary to [have] [assume] concede some background to the measures' and—later in the same sentence—"the properties of this world" become "the attributes of this world." (qtd. in "Eddington" 298-99)

Eddington notes the inability of language to explain conceptions that humans have yet to grasp, just as Woolf laments the inability of language to convey experience. In discussing Bohr's "semi-classical" hydrogen atom model, Eddington recalls that this is an "electron describing a circular or elliptic orbit." He adds this caveat, however: "This is only a model; the real atom contains nothing of the sort. The real atom contains something which it has not entered into the mind of man to conceive. [...]" This 'something' is spread about in a manner by no means comparable to an electron describing an orbit" (Nature 198-9). He writes about the "empty form of words" while discussing Einstein, relativity, length, the frame of reference to the observer,

and the impossibility of reflection in linguistic terms of expressing what it would mean if every length in the universe were doubled (Expanding Universe 97). In The Philosophy of Physical Science, one of his later works, he draws attention to the limited number of verb forms: “the view that activity (expressed by verbs and gerunds) is of a few simple kinds and that variety resides in passivity (expressed by nouns) has purely linguistic origin. The paucity of verb forms is familiar to mathematicians as a difficulty of ordinary speech easily surmounted in their own symbolic language” (qtd. in Beer, “Eddington” 311). In analyzing one of the limitations of looking at objects from a microscopic point of view, Eddington purports that the concept of entropy in the nineteenth century brought about a much-needed “alternative standpoint” in which focus shifted from such a breakdown into elemental features to “qualities possessed by the system as a whole, which cannot be split up and located—a little bit here, and a little bit there. The artist desires to convey significances which cannot be told by microscopic detail and accordingly he resorts to impressionist painting” (Nature 103).

In other words, if one could list every word in a particular text (literary or otherwise) as well as give each word’s etymology and association to other words, count the number of times a particular word is repeated, note its location in every sentence, name each word’s sentence part and part of speech and record the number of nouns, verbs, prepositions, conjunctions, adjectives, adverbs, pronouns, interjections, and then gerunds, participles, and so on), measure the length of the sentences, list every rhetorical device employed (aposiopesis, litotes, periphrasis, zeugma—the list is almost endless) and how many times in the text each is employed,

list the types of sentences (questions, commands, declarations), break down the uses of active voice and passive voice, number of fragments and run-ons, the amount of dialogue, how much each character (if there are characters) speaks, scansion of every line, and then compile all of this data into one work and use it as an accompaniment to the primary text, what would this compilation reveal about the original text? Would it help the reader come to the understanding of the object under study? Even if someone could “finish” such a study, the individual would not conclude that this would answer the question of the meaning of the prose work. Eddington reports the following in the study of a falling stone:

the microscopic analysis [of the falling stone] is distributed among the molecules, the sum of the energies of the molecules making up the energy of the stone. But we cannot distribute in that way the organization or the random element in the motions. It would be meaningless to say that a particular fraction of the organization is located in a particular molecule. There is one ideal of survey which would look into each minute compartment of space in turn to see what it may contain and so make what it would regard as a complete inventory of the world. But this misses any world-features which are not located in minute compartments. We often think that when we have completed our study of one we know all about two, because “two” is “one and one”. We forget that we have still to make a study of “and”. Secondary physics is the study of “and”—that is to say, of organization. (Nature 103-104)

(This echoes William James's exquisite attention to language and the meaning of the word "of.") Eddington He continues his caveat against restricting scientific understanding to the "inventory method," suggesting that "there is nothing to represent 'becoming' in the physical world," and in fact, if the inventory method were the only means by which science proceeded, it would have declared that "'becoming' is an unfounded mental illusion—like beauty, life, the soul, and other things which it is unable to inventory" (104).

In Eddington's view people must reconsider their assumptions about the nature of their surroundings and their relationships to those surroundings as seen through necessarily subjective points of view. Woolf spent her entire writing life giving voice to those previously ignored or disregarded, not so much silencing the white, European, upper class male, as offering alternative views to biases propagated by so many male writers and scientists. A revealing side note offers further insight into what women had to contend with in the second half of the nineteenth century. In 1860 Lyell wanted women admitted to the Geological Society, whereas the scientist T.H. Huxley did not, observing that "five-sixths of women will stop in the doll stage of evolution to be the stronghold of parsondom, the drag on civilization, the degradation of every important pursuit with which they mix themselves" (qtd. in Beer, Open Fields 205.) Huxley's regard of blacks and working class men was equally dismissive. Between the Acts abounds with outsiders—working-class people, children, women, homosexuals, old people, and one character who is developmentally disabled. Perhaps the most surprising addition of voice to this final novel is that of the working class. Woolf has often been criticized for her depiction—or exclusion—of

the working class in her work, but here she describes aspects of their inner lives in a manner previously unexplored. The narrator discloses fragmentary details of characters' lives scattered throughout the novel (indirectly emphasizing the phrase "scraps, orts and fragments" which is repeated throughout the text). Woolf invites the reader into numerous characters' points of view—identified and unidentified, human and non-human—and she explores the persona of "Anon," an unspecified voice that appears periodically to address the pageant's audience through a megaphone. The roles of the servants and members of the working class inhabit this work more than any of her previous works. Woolf has often been criticized for her condescending treatment of characters outside her own class, but here she has taken a more inclusive approach. "Trixie" Sands, the cook, is one who "had never in all her fifty years been over the hill, nor wanted to" (31), and Candish, Bart's servant, is one who "loved flowers, [...] Queerly, considering his gambling and drinking" (35). The reader encounters both throughout the text, Candish bringing chairs for members of the audience (65), his mother being "one of the Perrys" (75), holding onto Bart's dog (204), and his bringing in the second post and stoking up the fire (216). Mrs. Sands, the cook whose family has lived there for centuries, makes her presence felt even more, at one point preparing the meal of filleted soles, grumbling about "Bartie" bringing guests in to see the kitchen (32), and Woolf captures Mrs. Sands's movements, mingling the cook's presence with the ongoing life at Pointz Hall:

Then, returning to the kitchen, she made those quick movements at the oven, cinder raking, stoking, damping, which sent strange echoes through the house, so that in the library, the sitting-room, the dining-room, and the

nursery, whatever they were doing, thinking, saying, they knew, they all knew, it was getting on for breakfast, lunch, or dinner. (33)

Then she and Lucy combine forces. “Mrs. Sands fetched bread; Mrs. Swithin fetched ham. One cut the bread; the other the ham. It was soothing, it was consolidating, this handwork together. The hands cut, cut, cut. Whereas Lucy, holding the loaf, held the knife up” (34). They appear to switch roles—Mrs. Sands cuts the ham that Lucy had retrieved, and Lucy cuts the bread. (In addition, Woolf places them on equal footing by having the narrator address both by their married names.) Then both characters’ musings are represented, with Lucy pondering why stale bread is “easier to cut than fresh,” and ending in a vineyard in Italy, whereas “Sands” (as she is now referred to) notices other inhabitants of the room—the clock, cat, and the buzz of a fly, musing about the unfairness of other workers having fun “hanging paper roses in the Barn” while she toils in the kitchen (34). This is the only scene in which members of the two classes collaborate with more than cursory attention, it seems, although the entire presentation of the pageant is an immense group effort by all participants, and, in fact, this book more than any of Woolf’s previous works is a concatenation of motley outcasts.

There are the workers who laugh at “Old Flimsy”—young men and women, including Jim, Iris, David, and Jessica, all making decorations for the Barn, and Mitchell’s boy, delivering the fish by motor bike, who no longer has time to feed the pony lumps of sugar because his deliveries have been increased (31), Grace, Lucy’s maid, who senses Lucy’s prehistoric wanderings when she delivers tea that morning, and Bond, the cowman, “leaning, silent, sardonic, against the door he was like a

withered willow, bent over a stream, all its leaves shed, and in his eyes the whimsical flow of waters” (28). The reader does not know what the villagers are thinking as they act in the pageant but is told through the narrator and audience members who the actors are in their “everyday” lives: “Millie Loder, (shop assistant at Messrs. Hunt and Dicksons, drapery emporium), in sprigged satin, representing Flavinda,” and Eliza Clark, “licensed to sell tobacco,” portraying Queen Elizabeth (83). The narrator continues with a descriptive passage combining elements of the character’s costume with the actor’s real-life personality:

Could she be Mrs. Clark of the village shop? She was splendidly made up. Her head, pearl-hung, rose from a vast ruff. Shiny satins draped her. Sixpenny brooches glared like cats’ eyes and tigers’ eyes; pearls looked down; her cape was made of cloth of silver—in fact swabs used to scour saucepans. She looked the age in person. And when she mounted the soap box in the center, representing perhaps a rock in the ocean, her size made her appear gigantic. She could reach a fitch of bacon or haul a tub of oil with one sweep of her arm in the shop. For a moment she stood there, eminent, dominant, on the soap box with the blue and sailing clouds behind her. The breeze had risen. (83)

The “queen” then addresses the audience in verse, calling out to various factions of England, people, products, nature, and art—“warrior and lover,” “Cargoes of diamonds, ducats of gold,” “The throstle, the mavis,” and “For me Shakespeare sang—.” Both the throstle and the mavis are Old World birds, giving the speaker and her lines a sense of history. The same woman that with one sweep of a brawny arm

can “haul a tub of oil,” can celebrate herself as the Queen, “Mistress of pinnacles, spires and palaces—/ (her arm swept towards the house)” (84). Eliza Clark can forget her lines and still be called the “Great Eliza,” with the gramophone reeling “from side to side as if drunk with merriment” (85), the audience catching the spirit and laughing at the scene, perhaps finding hilarity in the image of Eliza’s own “swarthy” arm with that of a baby’s: “The ashen haired babe/ (she stretched out her swarthy, muscular arm)/ Stretched his arm in contentment” (84).

Other working class characters include Amy and Mabel, Tommy, Beryl, Phyllis Jones, Hilda, Albert, Mrs. Otter, David, John, Irene, Lois, Mrs. Neale, Mabel Hopkins, Millie Loder, Mr. Hammond, Budge, Mrs. Hardcastle, Eleanor, Mildred, Arthur, Edgar, and Jimmy. Some are mentioned only once by name, such as Jimmy, who is in charge of playing the records on the gramophone in proper order. Other times the focus is on the routine of their lives, with the narrator interpreting the scene:

The nurses [Amy and Mabel] after breakfast were trundling the perambulator up and down the terrace; and as they trundled they were talking—not shaping pellets of information or handing ideas from one to another, but rolling words, like sweets on their tongues; which as they thinned to transparency, gave off pink, green, and sweetness. This morning that sweetness was: “How cook had told ’im off about the asparagus; how when she rang I said: how it was a sweet costume with blouse to match;” and that was leading to something about a feller as they walked up and down the terrace rolling sweets, trundling the perambulator. (10)

The nurses' words do not perish once spoken but linger with flavor and even color in the mouth, indicating that spoken words and the sensation itself of spoken words traverse the boundaries of aurality into that of taste and vision. (Recall Eddington's emphasis on representation rather than facts or "inventory.") Nor is this particular conversation necessarily different from others between Amy and Mabel; that is, the narrator observes, "This morning that sweetness was ..." Other mornings include other "sweetnesses." The impact of particular words has not vanished with their utterance (or mark on the page); the words have an extended life. The stress is less on the content of the particular words, which, according to the narrator, are unimportant for any message they might convey—similar to the repetitive discussion of the weather that occurs every year before the pageant and Isa's observation about how the plot should not be considered; "the plot's nothing" (91)—but instead on the physical pleasure involved in the forming of the words themselves and the ritual of making them. The word "transparency" comes from the Latin preposition trans, meaning "across, to or on the farther side of, beyond, over," and pārēre, meaning "to appear, be visible." The OED defines the word "transparent" as "having the property of transmitting light, so as to render bodies lying beyond completely visible; that can be seen through; diaphanous." Words transmit light—they are not "limited" to one meaning or sensation as might be expected. This concept returns when Mrs. Manresa, the "wild child," goes to the Barn for tea during an Interval. "She looked before she drank. Looking was part of drinking. Why waste sensation, she seemed to ask, why waste a single drop that can be pressed out of this ripe, this melting, this adorable world? Then she drank. And the air round her became threaded with sensation" (56).

The narrator continues addressing the village actors by their pageant names even when they are off stage. “Flavinda was in her petticoats. Reason had thrown her mantle on a holly hedge. Sir Spaniel was tugging at his jack boots. Miss La Trobe was scattering and foraging” (150). “Miss La Trobe” is mentioned after the three other characters, Flavinda, Reason, and Sir Spaniel, as if she too were a character in the play, which (of course) she is. Whereas Lucy reports to Miss La Trobe that she (Miss La Trobe) has made her feel as if she (Lucy) ““could have played ... Cleopatra,”” the actors actually do play other characters, both large and small, real and fictional, including England, Queen Elizabeth, Reason, Lady Harpy Harraden, Deb (Lady Harraden’s maid), Sir Spaniel Lilyliver, Lord and Lady Fribble, and Sir Smirking Peace-be-with-you-all (a clergyman). In fact, these last three characters are listed in Miss La Trobe’s play program as characters in “Where there’s a Will there’s a Way,” but they do not appear as named in the course of the play (125-126). In the earlier typescript of Between the Acts entitled Pointz Hall (which includes a copy of the later typescript as well), Woolf includes yet another character’s name, “Squire Jog Trot” (Pointz Hall 131), although that name is no longer listed in the later typescript (356).<sup>25</sup> An unidentified character appears before Flavinda during the scene in which she is expecting her lover, Valentine. Flavinda identifies the male character as a “cit” or “fop,” someone “raising his glass, prithee, to have his fill of me” (136). Why does Woolf (or Miss La Trobe) name characters who do not appear physically in the play? It could be that the reader is not privy to the entire play as it is performed, or that Miss La Trobe may mention characters in the program she has had printed—the

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<sup>25</sup>Leaska reports that a short passage is missing right before this part of the later typescript (Pointz Hall 356n).

“blurred carbon sheet”—whom she has since cut from the play, or Miss La Trobe may have listed the roles without any intention of their actually appearing on stage, causing the reader (both of the program and of the text) to consider the boundaries of what constitutes the elements of a play.

The working class can also mock those from the upper class in Between the Acts. In a scene (mentioned previously) where the workers—Jim, Iris, David, and Jessica—are preparing decorations for the Barn, they refer to Lucy Swithin as “Old Flimsy” as she has returned to the Barn to nail yet another placard announcing the play since the first one was removed. This is the scene where Woolf actually connects the workers to Lucy through the “wake of laughter” that she seemingly leaves behind her. The workers make the following observations about “Old Flimsy”:

The old girl with a wisp of white hair flying, knobbed shoes as if they had claws corned like a canary’s and black stockings wrinkled over the ankles, naturally made David cock his eye and Jessica wink back, as she handed him a length of paper roses. Snobs they were; long enough stationed that is in that one corner of the world to have taken indelibly the print of some three hundred years of customary behaviour. So they laughed; but respected. If she wore pearls, pearls they were. (27)

The pronoun “they” in the clause “snobs they were” could refer to either group; the reference is ambiguous. If the pronoun does refer to the workers, Woolf is undermining the hierarchical status by placing the workers in the “all-knowing” position. Both parties can be snobs, unable to erase “some three hundred years of customary behavior.” Both parties are joined to each other in their assessment of the

other. And yet, the respect remains. Woolf changes the word to “respected” in the published manuscript, whereas in the later typescript the word is “admired” (Pointz Hall 278). Woolf revised the word in a direction that implies mutuality rather than hierarchical status. The audience members (as elite as they may regard themselves as members of the upper class) do attend the pageant and, in fact, may be considered to be in the more passive role as the observers. Despite their repeated claims of how critical the audience is, they are still the ones observing the action rather than writing or acting it. On the one hand, they sit around in a semi-circle on the lawn, repeating the same words and sentiments year after year; on the other hand, they relish “the view” and become part of the very splendor of which they bear witness. Neither group is exempt from Woolf’s biting reflection.

Beer explains how Eddington “tweaks by the tail” his fellow scientists “with his suggestion that the autotelic system of physics is fated to misdescribe the world because it cannot work with those counterepistemologies of the everyday. It can neither say sufficient, nor little enough” (“Eddington” 309). Woolf, too, was challenged by the difficulty of depicting the experience of the everyday. As noted earlier, she was equally critical of fellow writers who continued to rely on the methods promulgated in particular by writers of Realist fiction. She remained suspicious of narrative and plot, suspicious of closed systems of novels that were ultimately inert, relentless, and unforgiving. In writing about Virginia Woolf’s late essay “Anon,” Nora Eisenberg outlines Woolf’s continued “dis-ease” with language and its limitations as a means of communication (253-266). Ideally, the reader would actually see the pageant being performed while reading, with the music, dance,

makeshift costumes, lost words, villagers in sacking, and the exuberant swallows, the forlorn cow calling for her calf, and the sudden rainstorm. Woolf merges so many elements in addition to language in Between the Acts, perhaps in an attempt to address this issue and offer a solution.

As Lucy, Bart, Giles, and guests Mrs. Manresa and William Dodge are sitting in a semi-circle before the pageant, relishing the view, Lucy sadly reflects: “‘That’s what makes a view so sad . . . And so beautiful. It’ll be there,’ she nodded at the strip of gauze and upon the distant fields, ‘when we’re not’” (53). This is “a sadness at the back of life” which Lucy does “not attempt to mitigate” (Woolf, The Common Reader 38). Of all the characters in Between the Acts, this woman in her seventies whose name means “light” seems aware of her “own standing in the shadow, and yet is alive to every tremor and gleam of existence” (Woolf, The Common Reader 38). The conversation continues with banter about paintings and Shakespeare, and then Bart’s exclamation, “‘There! [...] That proves it! What springs touched, what secret drawer displays its treasure, if I say [...] Reynolds! Constable! Crome!’” Lucy protests, “‘We haven’t the words—we haven’t the words. [...] Behind the eyes; not on the lips; that’s all’” (55). Lucy Swithin is suggesting that people’s words are limited, that people have not been able to find the words to describe the view, or Shakespeare, or the artists’ creativity—or, as she adds, “Behind the eyes.” The brain is behind the eyes. She is asking if what is seen can ever be fully or accurately depicted through words—“by the lips”? As Eddington says, the mind is the “vehicle” through which everything in a human’s world is filtered. As soon as one’s lips attempt to describe the phenomena, the external—be it a view, Shakespeare’s words,

or an artist's vision, one must fail: hence Miss La Trobe's predictable and inevitable failure at attempting to convey her "vision."

At the end of the pageant an unidentified voice using the megaphone advises the audience members: "Before we part, ladies and gentlemen, before we go ... (Those who had risen sat down) ... let's talk in words of one syllable, without larding, stuffing or cant. Let's break the rhythm and forget the rhyme" (187). If this is the playwright speaking, she wants no excess explication, no "padding," no cant—no special language for a select group. Miss La Trobe wants to strip away the false splendor, the spectacle, by presenting her play as a village pageant with the homemade costumes, a painted sheet spread on the ground representing a lake, nonprofessional performers, blurred carbon copy programs, and tea taken in the Barn. In her well-known letter passage to the composer Ethel Smyth on August 28, 1930, Woolf explained how she was "writing to a rhythm and not to a plot" in The Waves (204). But here Miss La Trobe wants to break the rhythm as well. No rhyme. At one point near the end of the pageant, the music acts as the interloper:

The tune changed; snapped; broke; jagged. Foxtrot, was it? Jazz?  
Anyhow the rhythm kicked, reared, snapped short. What a jangle and a jingle! Well, with the means at her disposal, you can't ask too much. What a cackle, a cacophony! Nothing ended. So abrupt. And corrupt. Such an outrage; such an insult; And not plain. Very up to date, all the same. What is her game? To disrupt? Jog and trot? Jerk and smirk? Put the finger to the nose? Squint and pry? Peak and spy? O the irreverence of the generation which is only momentarily—thanks be—"the young." The

young, who can't make, but only break; shiver into splinters the old vision; smash to atoms what was whole. What a cackle, what a rattle, what a yaffle—as they call the woodpecker, the laughing bird that flits from tree to tree. (183)

The language jumps, jaunts, and rhymes with childlike playfulness. And though the narrator laments the young and their “breaking” the old vision, Woolf herself continued to “shiver into splinters” old narrative techniques—including those of her own past. The paragraph ends with the image of a laughing bird, perhaps taking delight in all of this wonderment—but not a “real” woodpecker on the scene; rather, it is recalled by the word.

One of the most fascinating aspects of Eddington's studies is his quest for understanding the nature of substance. In his argument that substance was not what people had been taught, Eddington focused on its elusive qualities. In the introduction to Nature of the Physical World, he writes: “The external world of physics has thus become a world of shadows. In removing our illusions we have removed the substance, for indeed we have seen that substance is one of the greatest of our illusions” (xiv). In the next paragraph he lauds this recognition, commenting that the “frank realisation that physical science is concerned with a world of shadows is one of the most significant of recent advances” (xv). In reflecting on how reality was defined before the scientific understanding of the 1920's and 1930's, Eddington notes how the “thinking mind” had been replaced “by a system of physical objects and forces” and how by regarding these physical objects and forces as hierarchically closer to the truth, it was believed that “we strip away an illusory part of our

experience and reveal the essential truth which it [the thinking mind] so strangely disguises” (Science and the Unseen World 29). He explains further that such a belief’s “attractiveness belonged to a time when it was considered that the way to understand or explain a scientific phenomenon was to make a concrete mechanical model of it” (29).<sup>26</sup> However, the “new” physics regarded the mind as being at the forefront rather than being secondary to any of the external facts presented as truth. Eddington acknowledged the physicist’s reluctance to place the mental above the physical: “It is difficult for the matter-of-fact physicist to accept the view that the substratum of everything is of mental character. But no one can deny that mind is the first and most direct thing in our experience, and all else is remote inference— inference either intuitive or deliberate” (Nature 281).

Once again he returned to the limitations of language and measurement in the physicist’s world when confronting the concept of substance. How could the scientist begin to describe substance when the language itself could not portray the world “accurately?” “The view that activity (expressed by verbs and gerunds) is of a few simple kinds and that variety resides in passivity (expressed by nouns) has purely linguistic origin. The paucity of verb forms is familiar to mathematicians as a difficulty of ordinary speech easily surmounted in their own symbolic language” (qtd. in Beer, “Eddington” 311). Beer explains further:

One problem the physicist faces, he [Eddington] suggests, is that of translation from a symbolic system already imbued with subtle gradations of temporality and motion into a cruder speech system. Yet he is also distrustful of the resolution by observing physicists of everything into

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<sup>26</sup>The supposed concreteness of Realist Fiction comes to mind.

waves. He argues that substance can be expressed now only as form in motion, “[T]he concept of substance has disappeared from fundamental physics; what we ultimately come down to is form. Waves! Waves!! Waves!!! Or for a change if we turn to relativity theory—curvature!” (Science 110). For Jeans [...] substance becomes event, for Eddington form (without the implication of stasis), while for other popular interpreters such as J.W.N. Sullivan [...] substance becomes behavior. (“Eddington” 311-12)

Furthermore, Eddington describes the problem with the reliance in the use of scientific measurements: “Science has at last revolted against attaching the exact knowledge contained in these measurements to a traditional picture-gallery of conceptions which convey no authentic information of the background and obtrude irrelevancies into the scheme of knowledge” (Nature xi).

Because of these quandaries, he urges the reader, in effect, not to study the notion of substance “head on.”

Our conception of substance is only vivid so long as we do not face it. It begins to fade when we analyse it. We may dismiss many of its supposed attributes which are evidently projections of our sense-impressions outwards into the external world. Thus the colour which is so vivid to us is in our minds and cannot be embodied in a legitimate conception of the substantial object itself. But in any case colour is no part of the essential nature of substance. Its supposed nature is that which we

try to call to mind by the word “concrete”, which is perhaps an outward projection of our sense of touch. (Nature 273)

In The Expanding Universe he continues this consideration of the external world and its composition. “It must be remembered that we are only aware of an atom or any other object in so far as it interacts with the rest of the universe, and thereby gives rise to phenomena which ultimately reach our senses” (105). Eddington proposes that the mind is the medium through which all description must pass, and though people want to assume that there is an essence or factual concreteness of those objects that scientists spend their lives measuring, he indicates the fallacy of such assumptions: “The solid substance of things is another illusion. It is a fancy projected by the mind into the external world” (Nature 318). In order to illustrate his understanding of substance, he explains with a particular playfulness at the beginning of The Nature of the Physical World how he draws himself up to two tables in order to begin writing: there is the first table that is “substantial, [...] a thing; not like space, which is a mere negation; nor like time, which is—Heaven knows what!” (ix). He goes on to describe his second table, the scientific one:

My scientific table is mostly emptiness. Sparsely scattered in that emptiness are numerous electric charges rushing about with great speed; but their combined bulk amounts to less than a billionth of the bulk of the table itself. Notwithstanding its strange construction it turns out to be an entirely efficient table. No.1; for when I lay the paper on it the little electric particles with their headlong speed keep on hitting the underside, so that the paper is maintained in shuttlecock fashion at a nearly steady

level. If I lean upon this table I shall not go through; or, to be strictly accurate, the chance of my scientific elbow going through my scientific table is so excessively small that it can be neglected in practical life. (x)

And it is this second table that is “really there—wherever ‘there’ may be” (xii). It is in part modern physics’ analysis of this second table into its components—including emptiness—that has, according to Eddington, led the “external world of physics” into “a world of shadows.”

To underscore this ethereality, he describes in a long passage at the end of Nature some of the “spectacularity” involved in a supposedly unspectacular event—that of a person entering a room:

I am standing on the threshold about to enter a room. It is a complicated business. In the first place I must shove against an atmosphere pressing with a force of fourteen pounds on every square inch of my body. I must make sure of landing on a plank traveling at twenty miles a second round the sun—a fraction of a second too early or too late, the plank would be miles away. I must do this whilst hanging from a round planet headed outward into space, and with a wind of aether blowing at no one knows how many miles a second through every interstice of my body. The plank has no solidity of substance. To step on it is like stepping on a swarm of flies. (342)

Eddington then explains the inherent dangers of such a momentous endeavor.

Shall I not slip through? No, if I make the venture one of the flies hits me and gives a boost up again; I fall again and am knocked upwards by

another fly; and so on. I may hope that the net result will be that I remain about steady; but if unfortunately I should slip through the floor or be boosted too violently up to the ceiling, the occurrence would be, not a violation of the laws of Nature, but a rare coincidence. These are some of the minor difficulties. I ought really to look at the problem four-dimensionally as concerning the intersection of my world-line with that of the plank. Then again it is necessary to determine in which direction the entropy of the world is increasing in order to make sure that my passage over the threshold is an entrance, not an exit. (Nature 342)

According to Beer, Eddington “trains the reader in how to read modern physics: trust themes not objects, form not substance, and incommensurable narratives not single stories. Everywhere underlying his argument is an emphasis on storied sequences, but these sequences are not like nineteenth-century narratives, [...] As prominent is dissolution, false endings, wayward connections, and simultaneities” (“Eddington” 313). He notes in New Pathways in Science how even the word “wave” is broad enough to include a variety of interpretations, “waves of water, of air, of aether, and (in quantum theory) waves of probability” (qtd. in Beer, “Eddington” 310). And yet he remains dissatisfied even with such an open-ended term, believing it to be restrictive nonetheless. Like Darwin, he continually searches, and he warns against “standing still,” perhaps in a manner replicating what he believes to be closer to the understanding of the nature of substance as being that of “form,” as he expresses in his later work The Philosophy of Physical Science (110, qtd. in Beer, “Eddington” 312). It is Eddington’s belief that the “true spirit” of science (and religion, for that

matter, which he discusses quite often as juxtaposed to science—alongside, not necessarily in opposition) is “seeking,” which implies movement at the center of any endeavor (Science and the Unseen World 88), because, as he puts it, “the conception of matter [...] is a monument erected by the mind to mark the scene of conflict” (Nature 156). He warns pointedly that seeing the monument as the cause of the matter is as ludicrous as one who “visit[s] the site of a battle” and “ask[s] how the monument that commemorates it can have caused so much carnage” (Nature 156).

How does Virginia Woolf portray the tangible and the intangible in Between the Acts—or, to be more precise, what are the linguistic methods that she uses to explore the nature of substance? Physical objects in Between the Acts are not limited by their exterior design. That is, even Eddington’s “first table” can assume properties beyond those attributable to it on the surface. When the Barn is first introduced, for instance, it is described as a “great building in the farmyard,” and the narrator bestows dignity to it by pointing out that it was “as old as the church, and built of the same stone, but it had no steeple.” The narrator explains some of the care with which the Barn was built: “It was raised on cones of grey stone at the corners to protect it from rats and damp,” and even compares the wagons entering the “splendidly illuminated” hall to ships of the sea returning to port in the evening. People’s vision of the Barn is equally striking: “Those who had been to Greece always said it reminded them of a temple. Those who had never been to Greece—the majority—admired it all the same” (26). The building with its “great doors” is reintroduced later during one of the Intervals. “The Barn, the Noble Barn, the barn that had been built over seven hundred years ago and reminded some people of a Greek temple, others of the middle ages, most people

of an age before their own, scarcely anybody of the present moment, was empty” (99). Few people recognize the building for what it “really” is. Woolf is suggesting that an object may hold within it numerous meanings, and who is to say that one interpretation is more “real” than another? Even the definition of the concept of emptiness is ambiguous. The narrator reports that the Barn is empty but then continues by recording its (Its) contents, including refreshments (for the audience members at the pageant), mice, swallows, beetles, insects, a stray bitch, a blue-bottle and a butterfly (100). Mrs. Sands might consider the Barn empty, but the narrator, despite her or his repetitive mantra, seems to “think” otherwise.

Another object that becomes more than what it would appear is a door that Isa faces immediately after reading in the [London] Times about the rape of the young woman by troopers in the barracks. After reading the article—or while reading it—Isa has a greater sense of “reality” around her: “That was real; so real that on the mahogany door panels she saw the Arch in Whitehall; through the Arch the barrack room; in the barrack room the bed, and on the bed the girl was screaming and hitting him about the face, when the door (for in fact it was a door) opened and in came Mrs. Swithin carrying a hammer.” (20) Isa “witnesses” the rape while staring at the door panels—the door becomes the Arch, and then she sees through the Arch to the barrack room, the bed, the girl’s struggle. And when suddenly the door opens, Isa must be reminded that the wood panels are not only a vehicle through which she visualizes a violent sexual assault but is also a door—in parentheses, as if as an afterthought. But before it opens, the door has become something else in Isa’s mind. As if the door’s function does not add enough indistinctness, Mrs. Swithin advances

into the room “sidling, as if the floor were fluid under her shabby garden shoes” (20). This entire scene takes place in the library immediately after Isa considers various volumes of verse, autobiography and finally science—ending her perusal with the three names: “Eddington, Darwin, or Jeans” (20).

Another place where the words carry the observer further than might be expected is the pageant’s picnic reenactment from the 1860’s. The gramophone is warbling “Home Sweet Home,” and Mrs. Lynn Jones, a widow, responds with the words, “O but it was beautiful,” not referring to the play, but to her own childhood home. Etty Springett, a widow who lives with Mrs. Jones, interrupts with a dismissal of the scene: “Cheap and nasty,” but Mrs. Jones still “sees” the home. Woolf does not say that Mrs. Jones remembers or recalls her childhood home; rather, she literally sees it: “the lamplit room; the ruby curtains; and Papa reading aloud” actually appear right there at that moment. Mrs. Jones questions the reason for the home’s perishing, and she imagines what might have ensued had the home remained. She considers the consequences:

If they [her family] had met with no resistance, she mused, nothing wrong, they’d still be going round and round and round. The Home would have remained; and Papa’s beard, she thought, would have grown and grown; and Mama’s knitting—what did she do with all her knitting? Change had to come, she said to herself, or there’d have been yards and yards of Papa’s beard, of Mama’s knitting. (174)

Mrs. Jones is amusing in her supposed imaginings but also intrinsically shallow: she associates stasis with the creation of more of the same substance—endless “bearding”

and knitting—if there were “nothing wrong” with the home.” But she is being too literal and at the same time not literal enough. For if everything remained the same, her father’s beard would never grow and her mother’s knitting would always be in process—she would always be knitting the same object. Mrs. Jones concludes that there is something wrong with the home and, consequently, she concludes, that time must pass. “What she meant was, change had to come, unless things were perfect; in which case she supposed they resisted Time” (174). This recalls Eddington’s observation that “the solid substance of things is another illusion. It is a fancy projected by the mind into the external world” (Nature 318). More beard and more knitting imply more measuring, and it is measuring of the same so-called solid substance, Mrs. Lynn Jones’s projection of a supposedly different kind of world. But Eddington warns the reader of the limitations of measurement. Mrs. Jones believes she is considering a rationale for why there must be something “unhygienic” about the home, but in fact, it is her inability to see beyond the mundane that keeps the world within the confines of such trivialities. Her thought immediately after “Mama’s knitting” reveals this dullness: “Nowadays her son-in-law was clean shaven. Her daughter had a refrigerator” (174). Not only that, but she equates change with error. The world changes for people; the world does not dictate the rules—people do. According to her, the world adjusts to people’s needs. Perhaps Mrs. Jones’s (and others like her) confined, confining views of the world are what is unhygienic about the world and such limited views are the reason that the home has to perish. (Elsewhere Mrs. Jones expresses fear of Albert, the “village idiot,” and what he might do, revealing yet more of her stultifying viewpoint.) Change does not necessarily

have to be interpreted as the sign of something wrong with the world, in other words. Neither Lucy nor Isa sees the world in such a closed, self-absorbed manner.

And, in fact, Lucy does not make assumptions about the objects and her actions around them. She acknowledges change but rather than find change threatening, she finds it life-affirming, exhilarating. For instance, Lucy enters rooms in her own house with a sense of freshness and adventure, even though she has lived there her entire seventy-plus years. At one point Bart is sitting in his chair with his Afghan hound resting on the floor next to him. He notices with disdain the way his sister enters the room. “The door trembled and stood half open. That was Lucy’s way of coming in—as if she did not know what she would find. Really! It was her brother! And his dog! She seemed to see them for the first time” (116). In another scene she offers to show William Dodge the house before the pageant begins, and when they are standing together in the hall, Mrs. Swithin pauses. “‘This,’ she said, ‘is the staircase. And now—up we go’” (68). Certainly William knows what a staircase is—but Lucy names it and explains that the two of them will use the staircase to go up, as if in her world such commonplace objects deserve acknowledgement, thereby bequeathing upon them a certain reverence.

She leads William up those stairs until they reach a painting on the way: “lengths of yellow satin unfurled themselves on a cracked canvas as they mounted” (68). Woolf’s method of introducing the painting of an unknown woman is to call attention to the color (the woman’s dress, presumably) and the action of unfurling before mentioning the fact that these “lengths of yellow satin” are contained within the borders of a canvas. Woolf portrays the picture as a visual phenomenon before

identifying it as the portrait of a human being. Then Lucy explains to William, ““Not an ancestress . . . But we claim her because we’ve known her—O, ever so many years. Who was she?’ she gazed. ‘Who painted her?’ She shook her head. She looked lit up, as if for a banquet, with the sun pouring over her” (68). Does the pronoun “she” in “she looked lit up” refer to Lucy or to the woman in the portrait? Because the previous sentence “She shook her head” obviously refers to Lucy, the beginning of the next sentence initially seems to be describing Lucy as well, but then the next phrase “as if for a banquet” takes the reader back to the satin-dressed woman, as does Lucy’s next comment: ““But I like her best in the moonlight,’ Mrs. Swithin reflected and mounted more stairs” (68). The sun “pouring over” the portrait then is the “real” sun apparently coming in through a window, not sunlight in the painting (as Lucy recalls the canvas in the moonlight), and “real life” interacts with art, or with Lucy’s perception of it. The interaction occurs between Lucy and the painting as well, as Mrs. Swithin “reflects” the painting. Lucy has probably passed this canvas hundreds of times, and yet the painting continues to enthrall.

When Lucy and William arrive at the top of the stairs, she asks aloud, ““And now what comes next?’ She stopped. There was a door” (69). Obviously she knows what room is behind the door, but she raises the possibility that it might not be what it was in the past. They enter the morning room, and then she continues her verbal description of their journey: ““Now up, now up again.’ Again they mounted. ‘Up and up they went,’ she panted, seeing, it seemed, an invisible procession, ‘up and up to bed”” (69). She carries the history of all those who climbed the (same?) steps before her. Before entering one of the bedrooms, she knocks on the door and listens. ““One

never knows [...] if there's somebody there'" (69). And her curiosity, expectation, and reverence (for the house) have spread to William as well, who "half expected to see somebody there, naked, or half dressed, or knelt in prayer" (70). As it turns out, this is a spare room that has been uninhabited for months. Mrs. Swithin explains to William: "'Here,' she said, 'yes, here,' she tapped the counterpane, 'I was born. In this bed.'" She rests on the edge of the bed. "'But we have other lives, I think, I hope,' she murmured. "'We live in others, Mr. ... We live in things'" (70). Lucy lives in the painting, in the stairs "up and up," in the counterpane that she taps. And now, having shown parts of her house to William, having accepted him for being homosexual ("she had guessed his trouble"), and having confided in him, she lives in William as well.

Emptiness pervades the novel, bringing to mind Eddington's recognition that most of his "scientific table" consists of emptiness. At one point when the dining room is devoid of people (Candish has just left), the narrator describes two paintings that hang there and how studying the lady in the picture leads the viewer "into silence. The room was empty. / Empty, empty, empty; silent, silent, silent. The room was a shell, singing of what was before time was, a vase stood in the heart of the house, alabaster, smooth, cold, holding the still, distilled essence of emptiness, silence" (36-37). This passage calls into question the nature of the space contained within a room (and the essence of any space), which, on the one hand, may seem full of physical objects (objects which according to Eddington consist mostly of emptiness), but, on the other hand, is predominantly space with surrounding walls, a shell even at the very "heart of the house" where a vase holds the "still, distilled

essence of emptiness, silence.” The vase is one more silhouette inside another.

At one point during the play, Isa comes to a realization about the “center” of things—in this case, the center of the play. Whereas many other audience members are focusing on the pageant’s content or action, Isa sees beyond either:

Did the plot matter? She shifted and looked over her right shoulder.

The plot was only there to beget emotion. There were only two emotions: love; and hate. There was no need to puzzle out the plot. Perhaps Miss La Trobe meant that when she cut this knot in the center?

Don’t bother about the plot: the plot’s nothing. (90-91)

Much later during the pageant, after the scene in which Flavinda and Valentine meet secretly, embrace, and proclaim their love for one another, an unidentified voice calls out, ““All that fuss about nothing!”” Miss La Trobe rejoices at the response. “People laughed. The voice stopped. But the voice had seen; the voice had heard. For a moment Miss La Trobe behind her tree glowed with glory” (138-139).

During the dispersal of the crowd after the pageant is over, as noted previously, scraps of conversation are heard—unidentified voices discussing the play as well as trivial non-sequitors, irreverent or irrelevant proclamations, all exchanged with equal emphasis. At the end of one such passage, someone refers to one of the consequences of Eddington’s studies: ““It’s odd that science, so they tell me, is making things (so to speak) more spiritual ... The very latest notion, so I’m told is, nothing’s solid ... There, you can get a glimpse of the church through the trees.”” (199). Experience, as Woolf “reports” it, has fewer boundaries than previously understood, including those boundaries between people, those between organisms, and even those between

objects and humans. So, for instance, Bart and Lucy may often disagree about the question of faith (with Bart referring to Lucy's as "superstition"), but they have no need to finish the argument. "She flushed, and the little breath too was audible that she drew in as once more he struck a blow at her faith. But, brother and sister, flesh and blood was not a barrier, but a mist. Nothing changed their affection; no argument; no fact; no truth" (26). The flowers can "ray their redness, whiteness, silverness and blue. And the trees with their many-tongued much syllabing, their green and yellow leaves hustle us and shuffle us" (120). A tree may become "a rhapsody" (209), and people's minds can be overcome with the view, so much so that the boundaries between human and nature dissolve: "How tempting, how very tempting, to let the view triumph; to reflect its ripple; to let their own minds ripple; to let outlines elongate and pitch over-so-with a sudden jerk" (66). The sun can dominate the atmosphere so exclusively that it absorbs everything around it: "All was sun now" (65). Or objects can remain "merely" themselves. "For by some lucky chance a wall had been built continuing the house, it might be with the intention of adding another wing, on the raised ground in the sun. But funds were lacking; the plan was abandoned, and the wall remained, nothing but a wall" (52). Objects in this novel interact with humans as if they (the objects) contain their own personality. The gramophone acts "drunk with merriment" (85), or it may "gently state certain facts" (133), with both the view and the cows echoing these facts (134). When William informs the others that he has been looking at paintings, one of the pictures has its own point-of-view. "The picture looked at nobody. The picture drew them down the

paths of silence” (45). One cow yearning for her lost calf can stir all the other cows’ yearnings until “the whole world” is “filled with dumb yearning” (140).

At one point in Eddington’s discussion of reality and the existence of the external world, he explains that the theory of an electron is basically equivalent to “something unknown is doing we don’t know what,” and then likens this to the opening lines of Lewis Carroll’s “Jabberwocky”: “The slithy toves / Did gyre and gimble in the wave” (qtd. in Eddington, Nature 291). But by adding numbers to the equation, Eddington suggests, some comparisons may begin to help differentiate one atom that contains “eight circulating electrons” as opposed to another atom that has “seven circulating electrons” (291). He then concludes the following: “Out of the numbers proceeds that harmony of natural law which it is the aim of science to disclose. We can grasp the tune but not the player. Trinculo might have been referring to modern physics in the words, ‘This is the tune of our catch, played by the picture of Nobody’” (292). At times Miss La Trobe wants to be “Nobody” as the playwright. She hides in the bushes while the play is being performed, speaks “anonymously” to the audience through a megaphone, and does not even emerge to accept the applause when the play is over.

Isa’s thoughts appear at times to be a poetic tune. The reader “catches” her thoughts sporadically without necessarily knowing what it is that has been “caught.” On the one hand, there is the image “inside the glass” of “Mrs. Giles Oliver” as she is introduced to the reader the first time she is seen alone in the text, the image of the woman secretly in love with Rupert Haines, but, on the other hand, there is her “outside” image: “But outside, on the washstand, on the dressing-table, among the

silver boxes and tooth-brushes, was the outer love; love for her husband, the stock broker—‘The father of my children,’ she added, slipping into the cliché conveniently provided by fiction. Inner lover was in the eyes; outer love on the dressing-table” (14). The “inner” Isa writes poetry in a book “bound like an account book in case Giles suspected,” knowing that he would disapprove (15). Isa’s external life does indeed appear mundane—she is married with two children and a stockbroker husband, whom she knows occasionally “cheats” on her— as he does with Mrs. Manresa (off stage) during one of the Intervals. Giles’s infidelity is excusable, Isa notes angrily, whereas her own would be inexcusable. But Isa’s “inner” reality reveals rich, lyrical, and at times indecipherably dense musings. She ponders the meaning of the pageant and on two separate times remarks aloud that the play continues to run in her head (105, 112). While others are discussing the Barn decorations during an Interval, how they take their tea, and the destination of the King and Queen, Isa (like Lucy Swithin) is off on her own wanderings. Despite attributing her thoughts to the play, she meanders into her own private making. At first, reiterating the words of the gramophone “Dispersed are we,” Isa receives her tea and considers the following:

“Let me turn away,” she murmured, turning, “from the array”—she looked desolately round her—“china faces, glazed and hard. Down the ride, that leads under the nut tree and the may tree, away, till I come to the wishing well, where the washer-woman’s little boy —”she dropped sugar, two lumps, into her tea, “dropped a pin. He got his horse, so they say. But what

wish should I drop into the well? That the waters should cover me,” she added, “of the wishing well.” (103)

In contemplating the barrenness around her, she desires her own death, the result of immersion in a wishing well. “‘There,’ Isa mused, ‘would the dead leaf fall, when the leaves fall, on the water. Should I mind not again to see may tree or nut tree? Not again to hear on the trembling spray the thrush sing, or to see, dipping and diving as if he skimmed waves in the air, the yellow woodpecker?’” (104). And as discussed earlier, at times she finds herself in unoccupied spaces that serve as palliative refuge. She even “escapes” during the pageant, heading toward the flowerbeds before the end of another pageant scene:

“Where do I wander?” she mused. “Down what draughty tunnels? Where the eyeless wind blows? And there grows nothing for the eye. No rose. To issue where? In some harvestless dim field where no evening lets fall her mangle; nor sun rises. All’s equal there. Unblowing, ungrowing are the roses there. Change is not; nor the mutable and lovable; nor greetings nor partings; nor furtive findings and feelings, where hand seeks hand and eye seeks shelter from the eye.” (154-155)

Boundaries hold no control here for Isa. At the end of The Expanding Universe Eddington writes about the voyager who sees a “distant shore,” and how humans strain “to catch the vision. Later we may more fully resolve its meaning. It changes in the mist; sometimes we seem to focus the substance of it, sometimes it is rather a vista leading on and on till we wonder whether aught can be final” (126). Isa is that voyager here. She not only questions the nature of space uninhabited by humans but

also, perhaps by traveling to this uninhabited and uninhabitable land, she becomes the repository of other people's yearnings, collective memories and a collective unconsciousness.

“How am I burdened with what they drew from the earth; memories; possessions. This is the burden that the past laid on me, last little donkey in the long caravanserai crossing the desert. ‘Kneel down,’ said the past. ‘Fill your pannier from our tree. Rise up, donkey. Go your way till your heels blister and your hoofs crack.’” (155)

She continues “‘That was the burden,’ she mused, ‘laid on me in the cradle; murmured by waves; breathed by restless elm trees; crooned by singing women; what we must remember: what we would forget’” (155). The waves move; the elm trees are restless; the women sing. Motion reigns. Referring to herself as a “little donkey,” Isa encourages herself to continue on to “patiently stumble,” and to ignore the “chatter of china faces glazed and hard.” Instead she urges herself to attend to what is real, such as “the brawl in the barrack room when they [troopers] stripped her [the girl] naked” (156). How to separate what is real and what is unreal is the quandary, for she reminds the reader that “‘none speaks with a single voice. None with a voice free from the old vibrations’” (156). One must always be on guard for the unreal's intrusion into the real. Corruption hovers everywhere: “‘Always I hear corrupt murmurs; the chink of gold and metal. Mad music. ...’” (156). Even music, that vehicle capable of unifying all life, can be mad. Discerning the real amidst all of that surrounds humans may seem almost impossible, but Eddington points out that it is not critical that scientists' theories “will survive in the letter; but a sureness that we are on

the road” (Science and the Unseen World 91). Woolf is one of the voyagers on that road.

## Chapter 4 Einstein and the Mechanics

As a child, perhaps as young as sixteen, Albert Einstein considered the movement of light in one of his “thought experiments,” trying to understand the nature of light and why its speed was unlike that of any other force. While pondering this problem of “running with light,” Einstein reconsidered the supposed absoluteness of space, time, and the (omnipresent) ether, which was believed to carry the light (Zajonc 254). In 1905 Einstein published four papers. In the first one, “On a Heuristic Viewpoint of the Generation and Conversion of Light,” he suggested that light is not continuous like a wave as Maxwell asserted, but is in fact released in discrete amounts called quanta. “The energy of [a light ray emitted from a point source] is not distributed continuously over ever-increasing volumes of space but consists of a finite number of energy quanta localized at points of space that move without dividing, and can be absorbed or generated only as complete units” (qtd. in Farmelo 13). Humans are unaware of the light or radiation being transmitted in packets rather than as a continuous stream because each quantum is so minute that human eyes are unable to perceive the “separate arrivals.” Einstein declared the idea of the ether as superfluous, and he also asserted that radiation is an entity unto itself and does not need something else in which to exist.

Einstein also argued with Planck by applying Planck’s formula more broadly than Planck himself did. Rather than saying that the formula applied only in the case of “the energy of the atoms in a cavity when they interact with light,” Einstein applied the formula to “the energy of every light quantum,” and “he proposed that matter absorbs or gives out radiation not in a continuous stream—as classical theory implied—but ‘as if’ the radiation consisted of quanta” (Farmelo 13, 14).

In the second and third papers, “A New Measurement of Molecular Dimensions” and “On the Motion of Small Particles Suspended in a Stationary Liquid,” Einstein not only positively proved the existence of molecules, but he also was able to approximate the number and size of molecules in a stationary liquid. It was in his quest for the understanding of light that Einstein wrote his fourth paper of 1905, “On the Electrodynamics of Moving Bodies,” in which “Einstein reduced Newtonian physics to a convenience, highly valuable for small-scale physics, but far from the spirit of the laws which the universe operated” (Friedman and Donley 51). Later known as the Special Theory of Relativity, this paper changed people’s conception of time and space. There are two parts to this paper. The first has to do with the accuracy of Galileo’s understanding of the laws of physics: “when we find the correct laws of physics, [...] they will have exactly the same forms in all uniformly moving, ‘inertial,’ reference frames” (Friedman and Donley 51). The second assumption declares: “the speed of light will be observed to be the same for any inertial frame”; in other words, the speed of light is the “new absolute quality of the universe,” whereas all other velocities remain relative (Friedman and Donley 51). All other measurements depend upon reference points for their meaning. Without this comparison to something else, a measurement has no relevance in the world. And perhaps the most shattering paradigm shift to emerge from Einstein’s Special Theory is the notion that time, like all other measurements except the speed of light, is also relative. Time can both speed up or slow down, and, furthermore, simultaneity is relative as well. What appears to occur simultaneously to one person (such as finger snapping of both hands with outstretched arms, to use Friedman’s example) does not

occur simultaneously to another observer. In classical physics one is able to say positively whether or not the two events are simultaneous or not— there is a universal truth that is externally valid, in other words. But Einstein disagreed with this assumption.

Einstein enacted the lesson in the relativity of simultaneity with the example of a train, someone on the train, someone else on the embankment of the railway, and two strokes of lightning. He asked the following question in regard to these elements: “Are two events (e.g. the two strokes of lightning A and B) which are simultaneous with reference to the railway embankment also simultaneous relatively to the train?” (Relativity 29-30). His answer was negative, and with that, the concept of time and space became inextricable. Einstein continues: “Now before the advent of the theory of relativity it had always tacitly been assumed in physics that the statement of time had an absolute significance, i.e. that it is independent of the state of motion of the body of reference. But we have just seen that this assumption is incompatible with the most natural definition of simultaneity” (31). Einstein’s example of the failure of simultaneity using a train, an embankment and lightning proves that simultaneity is “only a relative observation” and “not a universal fact” (90). Although Friedman and Donley are quick to point out that Einstein’s conclusions continued to include causality, they also emphasize how the laws presented a radical shift in human understanding:

The existence of absolute, universal simultaneity is a deep cultural value. Many creation myths and social world views assume that the universe has some particular existence for every moment of time, of that universe. The

failure of simultaneity to be an absolute property implies that “the universe at one moment” has no verifiable reality. Moments are not universal; the present is a parochial concept, valid for each observer, but with a different meaning for any observer in any other inertial frame. (56-57).

The western notion that time was uniform throughout the universe had been accepted for centuries. “The state of that universe could be known, at least to God, as it changed from instant to instant. But now the universe as a whole has been separated into fragments that can never share a universal moment of time” (Friedman and Donley 59). Or, as Einstein himself states, “unless we are told the reference-body to which the statement of time refers, there is no meaning in a statement of the time of an event” (Relativity 31).

This difficulty in the sharing of simultaneous events is reflected in the inability of Woolf’s characters to find common ground with one another and even within themselves (as depicted in the “Present Scene” in which La Trobe confronts the audience with mirror fragments and their reluctance—except for Mrs. Manresa—to face themselves). And in part because of this separation or division, the world remains fragmented by definition, not necessarily only because of limitation on humans’ ability to meet on common ground and in common time. Woolf continues this disruption of what was formerly considered definitive, sequential and absolute in her depiction of a world in which time no longer rules as an external, predictable force. The internal wanderings of characters become glimpses or snatches of an immeasurable and timeless terrain.

Rather it is the design of the universe that necessitates such fragmentation. Is Woolf saying that this is part of the design, or is it the characters who lack the ability to cross the boundary separating them from one another? As noted previously, Woolf borrows the phrase “orts, scraps, and fragments” from Shakespeare’s Troilus and Cressida and uses it in varying forms more and more frequently as the novel continues. Such traces of a person’s identity, of their words—both internal and external—musings, actions, and interpretations of the world are some of the fragments that, joined together, compose the character. There are “scattered bits” (25); “scraps and fragments” (39, 120, 122); “floating unattached” (149); “stray voices, voices without bodies” (151); “as we are [...] in parts” (184); “each declaimed some phrase or fragment from their parts” (185); “the audience saw themselves, not whole by any means” (185); “ask how’s this wall, the great wall, which we call, perhaps miscall, civilization, to be built by (here the mirrors flicked and flashed) orts, scraps and fragments like ourselves?” (188); “All you can see of yourselves is scraps, orts and fragments?” (188); “Was that voice ourselves? Scraps, orts and fragments, are we, also, that?” (189); ““Scraps, orts, and fragments! Surely, we should unite?”” (192); “No, I thought it [the pageant] much too scrappy” (199); “but the end of that sentence was cut short” (202); ““Orts, scraps and fragments,’ she [Isa] quoted what she remembered of the vanishing play” (215).

In this last example Isa may think that she is quoting the words from the play, but, in fact, that phrase is not spoken by any of the actors, although it is used by the individual speaking through the megaphone (presumably Miss La Trobe) near the end of the pageant—and other places it is repeated internally by La Trobe, by Reverend

Streatfield, or by the narrator, but those are the words Isa recalls. It is as if she is distilling the entire pageant—the roles, costumes, props, scenes, background music, nature’s participation, as well as the intervals between acts and her own internal musings about emotions, nature, a donkey, an account book, unoccupied spaces, her husband, her husband’s indiscretion, her children, Rupert Haines, her interpretation of the play (ideally I would repeat all of her words here) down to their essence—“orts, scraps, and fragments.”

The division of the text itself into discrete units, separated by blank spaces, underscores the fragmentary nature of the world being sketched. Readers may unconsciously connect the passages and may not necessarily note the breaks at first. (Perhaps this is related to Einstein’s explanation of people’s seeing light as continuous rather than as discrete packets of quanta.) The yearning for a universal or all-inclusive time/space period dominates the novel, but more often than not, the fragmentary element prevails.<sup>27</sup> Whether it is the scraps of conversation by unidentified audience members, the pastiche of historical periods represented in La Trobe’s pageant, the incongruous mixture of literary quotations and allusions along with nursery rhymes, the concatenation of voices, or the fragmentary nature of one character’s mind—not only is the reader often uncertain of the characters’ mental machinations—but so is the character as well. It is as if each section is a discrete burst, and different elements of one packet (quanta) relate to those in other packets, and the reader must find the connections in order to gather any understanding of the

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<sup>27</sup> Various life forms—excluding humans—gather collectively with ease, whether the groups are cows, swallows, or the creatures in the Barn, including mice, swallows, beetles, other insects, a dog, blue-bottle and butterfly. Only the snake and toad seem caught, although that is Giles’s point of view, not necessarily the snake’s or toad’s. Furthermore, Giles stomps on both of them.

book (event). Whatever vestige of a moment is depicted, there are some moments that remain unwritten, unattended. Each remnant is necessarily incomplete, and it is not Woolf's inability to fill in the lacunae but rather the nature of what is being described. She cannot step outside this environment or circle, nor can the reader, just as the observer can never be outside that which is being measured, as Heisenberg proved.

An obvious example of this follows: "Empty, empty, empty; silent, silent, silent. The room was a shell, singing of what was before time was; a vase stood in the heart of the house, alabaster, smooth, cold, holding the still, distilled essence of emptiness, silence" (36-37). At first glance this description appears to be that of the dining room in Pointz Hall minus its human occupants. However, upon further scrutiny, one discovers that it may be the room depicted in a painting that hangs on a wall in the dining room. The painting is that of an unidentified woman: "the lady was a picture. In her yellow robe, leaning, with a pillar to support her, a silver arrow in her hand, and a feather in her hair, she led the eye up, down, from the curve to the straight, through glades of greenery and shades of silver, dun and rose into silence. The room was empty" (36). The next paragraph begins with the aforementioned "Empty, empty, empty," either suggesting the room in the painting or the dining room in which the painting hangs. The vase may or may not actually be in the dining room—but the fact that it is mentioned within the same sentence as the room, separated only by a semicolon, connects the vase to the room, which is then described as a shell. The shell contains a timelessness, and then, at least grammatically speaking, there is another shell within the room—the vase—which holds yet another emptiness or stillness (the nature of a "vase"). In physics the word "shell" is defined as "A set of electrons

forming one of a number of concentric structures around the nucleus of an atom; spec. a set of electrons each having the same principal quantum number. Also, (a set of nucleons forming) a corresponding structure within a nucleus.” If indeed the room is a shell, a set of electrons around a nucleus in another group, the room itself can hardly be “empty,” as it might appear to those who only equate occupation with human presence. This definition of a shell emphasizes the idea of relationship—for this shell is one of a number of shells around the nucleus—and, in fact, the shell may be within the nucleus. Here is the concept of an object that both surrounds the object (nucleus) which can also be within the object: not literally, of course, but the word itself can describe something either inside or outside.

Simultaneously, what lies at the “center” of the play is an anonymous voice in the audience calling out, ““All that fuss about nothing!”” (138), and, as mentioned previously, Miss La Trobe responds glowingly to such an observation, believing that “the voice had seen. The voice had heard” (138). This brings to mind Einstein’s note to the fifteenth edition of Relativity in which he debunks the concept of “empty space”: “space-time is not necessarily something to which one can ascribe a separate existence, independently of the actual objects of physical reality. Physical objects are not in space, but these objects are spatially extended. In this way the concept of ‘empty space’ loses its meaning” (vii). Is the emptiness of the room the same as the vase at the heart of the house, the “nothing” in the midst of the play, and if so, what does it signify? La Trobe could be indicating a nihilism at the center of everything; she could be (based on the comment’s coming at the end of the scene with Flavinda and Valentine embracing) observing the inanity of humans’ romantic machinations

and shenanigans, or people's preoccupation with nonsense in general (be it writing a village pageant, performing it, watching it, or be it life itself and all of its daily distractions). Or she could be commenting—nonjudgmentally—about the origin of the universe and beyond, and so, consequently, elevating it to the status of that which needs to be acknowledged and appreciated for being what it is—“nothing” more and “nothing” less.

Scientists necessarily look for components, particles, or subdivisions that comprise larger systems in order to analyze their fundamental rudiments. Language as well can be broken down into components—morphemes, phonemes—and Woolf's rhyme and linguistic play with language and literary genres reflect her understanding of this examination of breaking down discourse in order to make sense of it. And yet Woolf also understood the danger in attempting to reduce words to one meaning. She reveled in the complexity of language and referred to words as living beings in both Between the Acts, where they “rose, became menacing, and shook their fists at you” (59) and her late essay “Craftsmanship”:

Words, English words, are full of echoes, of memories, of associations—naturally. They have been out and about, on people's lips, in their houses, in the streets, in the fields, for so many centuries. And that is one of the chief difficulties in writing them today—that they are so stored with meanings, with memories, that they have contracted so many famous marriages. (203)

And she argued for their not being isolated from one another, explaining how they live “variously and strangely, much as human beings live, by ranging hither and

thither, by falling in love, and mating together, [...] much less bound by ceremony and convention than we” (205). Woolf explains about words:

They are highly democratic, one word as good as another ... no ranks or titles in their society. Nor do they like being lifted out on the point of a pen and examined separately. They hang together, in sentences, in paragraphs, sometimes for whole pages at a time. They hate being useful; they hate making money; they hate being lectured about in public. In short, they hate anything that stamps them with one meaning or confines them to one attitude, for it is their nature to change. (206)

It is as if words are electrons in a nuclear orbit—knowing where the electron (word) is located at any particular moment in its path is impossible. In addition, “observing” a word necessarily affects its motion, thereby altering it forever. A person cannot take a word and use it “objectively”—that is, any use of it necessarily adds (something) to its history. With this in mind, Woolf wants to give the reader an unbiased look at the Barn—not through human eyes, which would irrevocably, inextricably alter it in some way. Even the mirrors that the actors hold up near the end of the play are in pieces and thus reflect the audience members in a piecemeal manner. “But that’s cruel. To snap us as we are, before we’ve had time to assume ... And only, too, in parts. ... That’s what’s so distorting and upsetting and utterly unfair” (184). “As we are” is apparently “in parts.”

Part of the revolution that Einstein helped to begin addressed not only light as discrete entities, countering the earlier belief that light consisted solely of waves, but it also connected forces that had been thought to be completely independent of one

another. “Space, time, mass, electricity, magnetism, gravity, and other properties, formerly thought to be independent by virtue of absolute status, might actually interact” (Friedman and Donley 60). And continuing further analysis of the wave-particle duality, in 1921 Louis de Broglie reexamined wave theory, and in 1924 he suggested a much more complicated relationship between wave and particle—indeed, de Broglie “proposed a synthesis combining the best of wave and particle theory, replacing the duality of particle and wave with a theory of connection between the two. De Broglie’s groundbreaking work posited the trail of a particle as a set of imaginary points from which standing waves might emanate” (Yom 146).

Woolf represents elements of both particle and wave theory in her final novel. Both coexist. Individuals remain isolated in many instances (the text littered with “orts, scraps and fragments”), and yet the audience also disperses across the lawn in a stream, and snatches of dialogue of various unidentified audience members are collected in one paragraph. When the actors falter, nature steps in to continue the production. There are the interruptions of outside forces during the play—the intervals for tea, the war planes interrupting Reverend Streatfield’s analysis, and the novel passages themselves—twenty-four—in all—are separated from one another by blank spaces. A tension exists in Between the Acts between a sense of threnodic isolation and a sense of irrepressible joy over transitory connections that do manage to occur between life forms. This almost relentless impulse to unite makes the (at times) understated acts of violence all the more appalling. So, for example, Isa’s young son George is seen “grubbing” near the beginning of the novel:

The little boy had lagged and was grouting in the grass.... George grubbed. The flower blazed between the angles of the roots. Membrane after membrane was torn. It blazed a soft yellow, a lambent light under a film of velvet; it filled the caverns behind the eyes with light. All that inner darkness became a hall, leaf smelling, earth smelling, of yellow light. And the tree was beyond the flower; the grass, the flower and the tree were entire. Down on his knees grubbing he held the flower complete.

(11)

George is indeed grouting—filling himself. Light plays a critical role here as in other scenes of enlightenment, such as the one where Lucy shows William the house, and he notes that “her eyes in their caves of bone were still lambent” (73) and the audience members notice the actors still in costumes after the play: “Beauty was on them [the actors]. Beauty revealed them. Was it the light that did it?—the tender, the fading, the uninquisitive but searching light of evening that reveals depths in water and makes even the red brick bungalow radiant?” (195-6). For George the flower blazes between the roots of a tree, and then Woolf repeats the word “blaze,” saying that the flower blazes a “soft yellow, a lambent light,” and it even fills “the caverns behind the eyes with light.” Woolf does not specify whose eyes—as if she could be talking about all those who would stop to notice this radiance. And just as George’s grouting fills, so the flower’s light fills “the cavern behind the eyes with light.” The brain is behind the eyes, underground space suggests the unconscious, and then there are the (supposedly) empty spaces between particles to which the word “cavern” refers. Woolf is calling attention to human structure—not only that which is present

physically but also that which is absent as well. The “inner darkness” that has been illuminated by the lambent light then becomes a hall, so internal space is expansive and absorbs sensations of the outer world—“leaf-smelling, earth smelling, of yellow light.” The tree is beyond and could include the roots between which the flower resides. Then the three are joined—“the grass, the flower and the tree were entire. Down on his knees grubbing he held the flower complete.” George is on his knees, as if in prayer (as Miss La Trobe kneels elsewhere). Besides the more common meaning of digging up by the roots, “grubbing” is slang for eating or feeding. Such keen observation on George’s part fills or sustains him and he sees the grass, flower and tree as whole; he comprehends the flower (and existence?) in its entirety.

George’s ecstatic experience is interrupted by his grandfather’s violent intrusion. Bart, the “separatist” (118), jumps out from behind a tree, holding a rolled up newspaper as a snout. “Then there was a roar and a hot breath and a stream of course grey hair rushed between him [George] and the flower. Up he leapt, toppling in his fright, and saw coming towards him a terrible peaked eyeless monster moving on legs, brandishing arms. ‘Good morning, sir,’ a hollow voice boomed at him from a beak of paper” (11-12). George is wrenched from his haven of wholeness; the roar, hot breath and grey hair usurp the grass, flower and tree. And yet Bart is not without his own subtlety. He returns to his newspaper after calling his grandson a “cry-baby,” but a breeze blows the newspaper out: “and over the edge he surveyed the landscape—flowing fields, heath and woods. Framed, they became a picture. Had he been a painter, he would have fixed his easel here, where the country, barred by trees,

looked like a picture” (13). Of course, had Bart been a painter, he might have recognized George’s epiphany and not disrupted it.

Bart and Lucy’s relationship represents both wave and particle. He observes that she belongs to the “uniters”; he belongs to the “separatists” (118). But Bart, here again, reveals a less rigid vision than one might expect. Though he ridicules Lucy’s faith, he also grants his sister—and thereby himself—the ability to imagine beyond the more traditional concept of God. He ponders, “why, in Lucy’s skull, shaped so much like his own, there existed a prayable being. She didn’t, he supposed, invest it with hair, teeth or toenails. It was, he supposed, more of a force or a radiance, controlling the thrush and the worm; the tulip and the hound; and himself, too, an old man with swollen veins” (25). He is not so literally minded that he believes Lucy’s God is a human figure. Furthermore, a complementary relationship exists between them. Their blood relatedness appears to override any disagreement or disapproval one has for the other. Lucy is hurt by her brother’s remarks, but she is also connected to him in a manner that transcends differences. “But, brother and sister, flesh and blood was not a barrier, but a mist. Nothing changed their affection; no argument; no fact; no truth. What she saw he didn’t; what he saw she didn’t—and so on, ad infinitum” (25-26). Their differences become a reciprocity, with each filling in or compensating for what the other might miss or misconstrue.

Miss La Trobe is the one who consciously attempts to draw all of these disparate entities together (these “dancers at a cotillion” (Jeans, Mysterious Universe 168)), in order to create unity, a stream of historical and present-day artifacts that includes both human-made inventions and nature. It is ironic—but also fitting—that

she is the one attempting to unite everyone since she herself is isolated from the others because of her homosexuality. Even the narrator mocks her endeavor, referring to her as one with the “look of a commander pacing his deck” (62).

“Bossy” they called her privately, just as they called Mrs. Swithin “Flimsy.” Her abrupt manner and stocky figure; her thick ankles and sturdy shoes; her rapid decisions barked out in guttural accents—all this “got their goat.” No one liked to be ordered about singly. But in little troops they appealed to her. Someone must lead. Then too they could put the blame on her. Suppose it poured? (63)

They not only are ready to pounce on her for a badly written play, apparently, but for bad weather as well! After the pageant when Miss La Trobe is on her way home, she finds herself “cut” by old Mrs. Chalmers. The insult causes her to reflect on her life. “The women in the cottages with the red geraniums always did that. She was an outcast. Nature had somehow set her apart from her kind. Yet she had scribbled in the margin of her manuscript: ‘I am the slave of my audience’” (211). The reader realizes that La Trobe attempts to enact this accord among all because of her reaction when she fails or when she feels the audience slipping away, as well as when she savors success. Images of wave and particle are artfully juxtaposed: “Flowing, and streaming, on the grass, on the gravel, still for one moment she held them together—the dispersing company” (98). That “one moment” (particle) where they all exist is enough. “A vision imparted was relief from agony ... for one moment ... one moment” (98). Miss La Trobe acknowledges that the possibility of “writing” (embracing) all into a “moment of simultaneity” is a remote if not impossible task.

No universal time exists, and Miss La Trobe understands what she is up against and that what she is undertaking is most likely beyond her capability (or anyone else's), but this is her undertaking nonetheless.

Near the end of the pageant when La Trobe tries to show the audience “ten minutes of present time,” she strives to “expose them, as it were, to douche them, with present-time reality” (179). But again she feels the audience “slipping the noose” of her control. The endeavor on her part fails in this instance; she is rescued by someone else's help—that of nature. “And then the shower fell, sudden, profuse.... ‘That's done it,’ sighed Miss La Trobe, wiping away the drops on her cheeks. Nature once more had taken her part” (180-181). Rain is both particle and wave. Rain is composed of individual drops, but when in abundance, the droplets appear to be a stream. “The rain was sudden and universal” (180), just as the mother who had lost her calf calls out and saturates the air with her plaintive cries. At another point when the stage is empty and the actors have missed their cue, she frets about the empty stage: “the emotion must be continued; the only thing to continue the emotion was the song; and the words were inaudible” (139).

The narrator also indicates La Trobe's feat of bringing elements together. At the beginning of an interval, audience members walking away from the play move to the “modulating” music's chant, moan, and lament: “Dispersed are we, as they streamed, spotting the grass with colour, across the lawns, and down the paths: Dispersed are we” (95-96). Again, the stream—wave—is countered with specks—particles. Isa comments to herself at one point during an interval that ““The wave has broken. Left us stranded, high and dry. Single, separate on the shingle”” (96). Several

paragraphs later Miss La Trobe watches the audience walking away: “Flowing, and streaming, on the grass, on the gravel, still for one moment she held them together—the dispersing company” (98). Giles stays “like a stake in the tide of the flowing company” (96). The audience members stand to witness their reflections in the mirrors, “and the barriers which should divide Man the Master from the Brute were dissolved” (184). The actors are reluctant to disband once the pageant is completed. Rather, “they lingered; they mingled” (195).

Time is a major character in the novel, for time is the conduit through which the others are able to meet. Later the actors are changing costumes while La Trobe is keeping her eye on the audience, hoping that they remain attentive despite the interval before her (the pageant’s) depiction of the Victorian Age.

The audience was on the move. The audience was strolling up and down. They kept their distance from the dressing-room; they respected the conventions. But if they wandered too far, if they began exploring the ground, going over the house, then. . . . Chuff, chuff, chuff went the machine. Time was passing. How long would time hold them together? It was a gamble; a risk. (151)

Time is the force or being that everyone has in common at this particular moment, as if once this nonpartisan overseer lets go its ephetic oversight, time itself will break off into subjective, myriad moments, but for this one instant, all exist in the same time and space (as their individual, unidentified voices are gathered in single paragraphs), so that they are undifferentiated. And though “stray voices, voices without bodies, symbolical voices” make their way to Miss La Trobe (implying a

separation or disjointedness), these voices seem to be connected by “invisible threads” (151). “Over the tops of the bushes came stray voices, voices without bodies, symbolical voices they seemed to her, half hearing, seeing nothing, but still, over the bushes, feeling invisible threads connecting the bodiless voices” (151). La Trobe hears these voices and appears to be the one “half-hearing, seeing nothing,” but the participles could be modifying the word “they” (symbolical voices). At the end of the sentence, the participle “feeling” may modify La Trobe, although the words “but still, over the bushes” interrupt the flow, and, in fact, by putting even more distance between the participle and the word it modifies, Woolf suggests that the participle may actually be modifying a more ephemeral, dispersed sensation that is doing the feeling. The word “feeling” could also be modifying “invisible threads,” so that the threads are the “ones” feeling. Even the phrase “over the tops of the bushes” at the beginning of the sentence is shortened later rather than being repeated, with the words “the tops of” dropped to “over the bushes,” as if the threads have elided the unnecessary words. The syntactical uncertainty underscores the intangibility of what it is Woolf is describing.

And then as the participants begin to separate for another interval, with Lucy addressing the playwright, and the playwright then assisting the actors with their wardrobe, the gramophone’s insistent sound-making persists: “Tick, tick, tick, the machine continued. Time was passing. The audience was wandering, dispersing. Only the tick, tick of the gramophone held them together. There, sauntering solitary far away by the flower beds was Mrs. Giles escaping” (154). Miss La Trobe orders the person in charge of the records to start the next recording, as if the repetitive click of

the gramophone's operational sound (its breathing, so to speak) and its music will prolong their unity. (The separation of the sounds of the "tick, tick" underscores the distinct particles, and yet simultaneously, the separated "ticks" connect the people.)

Einstein suggests, as noted earlier, that unless people are informed of the "reference-body to which the statement of time refers, there is no meaning in the time of the event" (31). The "reference-body" in Between the Acts could be seen as the performance of the pageant. When, for example, Isa is mentally wandering peripatetically during an interval, she becomes separate, detached from others and in her own "time." This is not to say that characters remain inaccessible from one another during the intervals—Isa's time merges with William Dodge's when they have their conversation in the greenhouse, while Lucy and William find common meeting ground when Lucy is showing him the house. Lucy and Miss La Trobe almost have such a moment of intimacy, but the moment lapses. Giles and Mrs. Manresa, it is intimated, have sex "off-stage," but that is outside the purview of the reader, which suggests that it is a "non-event," not worthy of its own time or space in the novel.

Time, for all its discrete moments, is much less bounded than Lucy suggests. She has an exchange with her brother and William Dodge:

Tick, tick, tick the machine continued.

"Marking time," said old Oliver beneath his breath.

"Which don't exist for us," Lucy murmured. "We've only the present."

“Isn’t that enough?” William asked himself. Beauty— isn’t that enough? But here Isa fidgeted. Her bare brown arms went nervously to her head. She half turned in her seat. “No, not for us, who’ve the future,” she seemed to say. The future disturbing our present. (82)

Taken literally, the future—for Isa, at least—intrudes into the present, making the present less a singular moment and more of a concatenation of numerous moments (for which of the future moments should one include?) The reader has seen repeatedly how the past inundates the present. And yet, Woolf seems to be saying that a person or bird—a swallow, for example—does not truly end with death, but continues on. Half the people in the village, the narrator contends, would say the following about their own presence: “‘Adsum; I’m here, in place of my grandfather or great-grandfather,’ as the case might be. At this very moment, half-past three on a June day in 1939 they greeted each other” (75). Here again are wave and particle—the “ongoing” bloodlines juxtaposed with the discrete moment in time. So although Lucy maintains that they only have the present, in fact, they do have the future, to the extent that anyone does.<sup>28</sup> Recall Bart’s observation that one’s life was “circled, as happens after seventy, by one recurring question. Hers was, should she live at Kensington or at Kew? But every year, when winter came, she did neither. She took lodgings at Hastings” (24-25).

Lucy is the character upon whom time and space bestow the most freedom and imagination. Early in Between the Acts when Lucy is reading her Outline of History,

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<sup>28</sup> In the Early Typescript Bart makes this observation.

she inhabits a time best described as Bergsonian.<sup>29</sup> “It took her [Lucy] five seconds in actual time, in mind time ever so much longer, to separate Grace herself, with blue china on a tray, from the leather-covered grunting monster who was about, as the door opened, to demolish a whole tree in the green steaming undergrowth of the primeval forest” (9). Time is not the same externally and internally; nor is one representation more valid than the other. Even the words “mind time” with the single syllable words, spondaic stress, the slant rhyme of “mind time,” as well as the elongated vowel “i” sound in both words slow the reader, emphasizing the longer period of time that the mental space entails. In the rest of the sentence Woolf contrasts the two different worlds of actual versus that of mind. In “actuality” there is Grace with “blue china on a tray,” while “mentally” there is the leather-covered grunting monster who is “about”—which is then interrupted with a return to (so-called) present time, “as the door opened,” and then back to “mind reality”—“to demolish a whole tree in the green steaming undergrowth of the primeval forest.” In fact, Woolf has written the sentence such that the door could be the “creature” about to demolish the tree, thus linking the two time periods, perhaps joining them literally, since a door is a human invention—an invention created through the destruction of trees. So “mind time” has its own reference point and becomes not only—as in Einstein—dependent upon who is doing the measuring but also dependent upon whether or not the time is actual. In other words, the same person may measure time

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<sup>29</sup> In earlier drafts Woolf identifies this book as Outline of Science. Wells did co-author a book entitled The Science of Life along with Julian Huxley and G. P. Wells, reviewed by Barrington Gates in The New Statesman and Nation on March 14, 1931. Perhaps Woolf felt that a book of history was more all-encompassing for what she wanted Lucy to be relating. Woolf may also be poking fun at two men whose writing she disrespected, at least in part—Wells for the quality of his writing and Trevelyan whom she chastises in Orlando, as Beer indicates, for his exclusion of women in his discussion of social history (VW 144).

differently. There is the physical passage of time, which could be seen as affecting the physical body, and there is internal time, which has its own existence, apparently not limited by the external force.

The next paragraph continues this theme when Lucy Swithin observes a thrush bounding across the grass with something pinkish in its beak. “Tempted by the sight to continue her imaginative reconstruction of the past, Mrs. Swithin paused; she was given to increasing the bounds of the moment by flights into past or future; or sidelong down corridors and alleys” (9).<sup>30</sup> Not only does Lucy imagine the past, but she also does it with mathematical precision. In mathematics the word “construct” has to do with the drawing of a geometric figure that meets particular requirements. Both time and space appear concomitantly: she travels into past and future and then sidelong as well, a lateral design (mathematical grid) of time and space, reinforcing Einstein’s explanation of the inseparability of the two. According to Bohnenkamp, the most “disorienting” aspect of the relativity theory is the following:

the discovery that time and space are neither absolute nor separable, but are locked indivisibly together in a continuum generally designated as space/time. These traditionally stable, fixed entities become relative, subjective. The ways in which we perceive them are inextricably locked into our frame of reference. Time does not flow smoothly from past to present to future; it exists in a block interpenetrated by space or perhaps in a pool or sea—not as a river, the way it is often depicted. The sequentiality and seriality that we experience in it are illusory. Similarly with space. It

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<sup>30</sup>This recalls George’s own expedition a bit later while grubbing, with the blazing flower filling “the caverns behind the eyes with light,” and the “inner darkness” becoming a “hall,” as well as Isa’s excursion “down drafty tunnels,” a journey also triggered by the sight of a flower (154).

is neither contiguous nor uniform in Einstein's view. It is not empty nor is it a substance. The "nothing" is "something," but what it is is again dependent upon frame of reference or perspective. The Euclidean coordinates that we project upon reality may map it, but they are not reality itself. (21-22)

The western notion that time is uniform throughout the universe had been accepted for centuries. "The state of that universe could be known, at least to God, as it changed from instant to instant. But now the 'universe as a whole' has been separated into fragments that can never share a universal moment of time" (Friedman and Donley 59). Or as Einstein states, "unless we are told the reference-body to which the statement of time refers, there is no meaning in a statement of the time of an event" (Relativity 31). Bohnenkamp further explains Einstein's understanding of space/time: "Time does not flow smoothly from past to present to future; it exists in a block interpenetrated by space or perhaps in a pool or sea—not as a river, the way it is often depicted. The sequentiality and seriality that we experience in it are illusory. Similarly with space. It is neither contiguous nor uniform in Einstein's view" (21-22). Space is no longer the static force; nor is it "still." It may be finite or infinite, according to Einstein. Just as there is no objective time, "the concept of space as something existing objectively and independent of things belongs to prescientific thought, but not so idea of existence of an infinite number of spaces in motion relatively to each other" (Relativity 159).

Furthermore, space and time are linked to both event and experience: "concepts space, time and event can be put psychologically into relation with experiences.

Considered logically, they are free creations of the human intelligence, tools of thought, which are to serve the purpose of bringing experiences into relation with each other, so that in this way they can be better surveyed” (Einstein, Relativity 161). Throughout her writing Woolf juxtaposes women’s inner (and outer) experience to that of men’s, letting the two sides reveal aspects about each other rather than having the narrator inform the reader what to think. When Einstein suggests that there are “an infinite number of spaces in motion relatively to each other,” he could easily be describing the mental perambulations of Lucy, Isa and George and their inner expansive—and seemingly at times limitless and inexplicable—discoveries, perceptions and observations. The “concept of space as something existing objectively and independent of things” is no longer acceptable in Einstein’s understanding of the world (159). Nor did Einstein underestimate the psychological role in the understanding and interpretation of his theories. While discussing the space-time continuum, he assigns to every point (or “event,” as he labels each point) four numbers:  $x_1$ ,  $x_2$ ,  $x_3$ , and  $x_4$ . Because the point has an existence beyond that of a single motion, Einstein writes

its permanent existence must be characterized by an infinitely large number of such systems of values, the co-ordinate values of which are so close together as to give continuity; corresponding to the material point, we thus have a (uni-dimensional) line in the four-dimensional continuum. In the same way, any such lines in our continuum correspond to many points in motion. The only statements having regard to these points which

can claim a physical existence are in reality the statements about the encounters. (105-106)

The illusion of continuity exists at times between people in Between the Acts when, in fact, the distance separating the characters remains. The intervals that supposedly break the flow of the pageant are actually external and more obvious manifestations of the discontinuity that exists within the pageant itself, between characters and audience members, between Miss La Trobe's artistic intention and the audience's understanding of it, and even between her own purpose and her ability to convey that purpose—hence William James's attention to linguistic transitions and Emerson's attention to change.

Thus the possibility for “real” connection or “touch” is fairly doomed from the outset, and yet simultaneously, it is only through such interaction with elements (scientists seem to be saying), or with one another and their surroundings that people can find meaning and can measure any sense of their own lives. Bohnenkamp explains the relationship between relativity and reality:

Central to the paradigm of relativity is the notion that reality, instead of lying in the objective world, lies in the act of measuring or perceiving it, in the phenomenological transaction between subject and object. As the implication of the Schrodinger's cat parable shows, however, the reality of an event is not determined until it is measured, and consequently the observer plays a major role in constituting reality. The world “out there” is colored by, if not constituted, “in here.” (22)

If the Theory of Relativity confounded many laypeople with one of the greatest scientific discoveries of the twentieth century, quantum mechanics further deepened the unsettling news about laws governing existence.<sup>31</sup> One of the most disturbing aspects of quantum theory is the level of uncertainty that it introduced into the world of subatomic particles. According to Friedman and Donley, “Quantum Mechanics, then, emphasizes discontinuity, indeterminacy, statistical description, probability, and subject-object coupling or overlap. Disintegration, violence, and derangement appear even on the sub-atomic level” (127). They point out that quantum theory did not originate what they call the “juxtaposition of complementary opposites” but it did emphasize such a connection (132).<sup>32</sup>

Bohr, when speaking of quantum mechanics, observed that a profound truth could be discerned because the opposite was also a profound truth (Friedman 131). Bohnenkamp reports that in quantum mechanics, “any bi-polar oppositions collapse, as Bohr’s theory of complementarity predicts. If light can be both a particle and a wave without contradiction depending upon the frame of reference from which it is considered, then it follows that other traditional opposites in the Relativistic paradigm also methexize” (22). Complementary juxtapositions are strewn throughout the novel—some examples I have discussed in other contexts—Lucy belonging to the “unifiers,” Bart to the “separatists” (118); “the young, who can’t make, but only break” (183); “actual time” vs. “mind time” (9); the “dream hand” vs. the “real hand” (17). There is the image inside the mirror (as Isa studies herself) as opposed to that

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<sup>31</sup> Note in particular the work of Louis de Broglie, Werner Heisenberg, Schroedinger, Max Bourne and Neils Bohr.

<sup>32</sup> As far back as 1801 Thomas Young’s double-slit light experiment showed the “light in destructive interference with itself would result in areas of shadow” (Yom 149).

outside (13); “inner” love as opposed to “outer” love (again in regard to Isa); the “soul sublime” and the “soul bored” (16); the “inner” voice and the “other” voice (119); the “public” voice, presumably as opposed to the private voice (102).

Brenda Silver has commented on Woolf’s use of “warring opposites, and their reconciliation,” pointing out that even in the Earlier Typescript of Between the Acts, Pointz Hall, Woolf had “already identified her polar centers: Lucy (unity) against Bartholomew (separation); Isa (artistry) against Giles (materialism); Manresa (heterosexuality) against Dodge (homosexuality)—and so on at various levels of polarization” (239). This hearkens back to Faraday and his work in electromagnetism with its emphasis, as Richardson observes, on “polarity and wave action” as described by Emerson:

That great principle of Undulation in nature, that shows itself in the inspiring and expiring of the breath; in desire and satiety; 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, is known under the name of Polarity, --these ‘fits of easy transmission and reflection,’ as Newton called them, are the law of nature because they are the law of spirit.

(Essays and Lectures 62, qtd. in Richardson 65).

Woolf mixes the mundane with the sublime by having someone from the audience identify with the oracles when discussing the play: “‘Then those voices from the bushes. ...Oracles? You’re referring to the Greeks? We’re the oracles, if I’m not being irreverent, a foretaste of our own religion?’” (198). The audience members’

anonymous comments on the play and on existence—the comment is made in the midst of other “oracular” observations. As mentioned previously, the words “Dispersed are we” are repeated throughout the pageant, and the gramophone both celebrates and mourns with these words. “Dispersed are we, the gramophone triumphed, yet lamented, Dispersed are we.” (198).<sup>33</sup> The diffusion can be seen as both recognition of something accomplished but also a sign that something has passed that cannot be recaptured.

The observation that “we are the oracles” is a gibe as well on Woolf’s part in that she follows the observation about oracles with such humdrum comments. ““Which is what? ... Crepe soles? That’s so sensible ... They last much longer and protect the feet....”” (198). These remarks are far from revelatory. Simultaneously, Woolf could be elevating such talk, scattering it with psychologically shrewd snippets: ““It’s odd that science, so they tell me, is making things (so to speak) more spiritual ... The very latest notion, so I’m told is, nothing’s solid ...”” (199). The ephemerality of nature as described by modern science underscores the insubstantial moment in which people occasionally but seldom cohabit; the moment of holding all people and nature together is fleeting. Simultaneously, the unknown speaker is emphasizing the connection between science and spirituality, arguing that the new science does not debunk religious beliefs but actually bolsters them. This calls to mind Whitehead’s description of the unity of bodily experience. He asserts the following: “my theory involves the entire abandonment of the notion that simple location is the primary way

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<sup>33</sup> These words are not evident in the earlier drafts of Pointz Hall, which underscores the layering process of artistic endeavor as well as that of discovery. This brings to mind Lyell’s numerous revisions of Principles (as noted in the first chapter) and how just as Lyell’s mutable work reflects the act of thinking over time, so does Woolf’s manuscript, albeit in a shorter time period. And, of course, there is the probability that had she lived, Woolf would have made additional revisions.

in which things are involved in space-time. In a certain sense, everything is everywhere at all times. For every location involved an aspect of itself in every other location. Thus every spatio-temporal standpoint mirrors the world” (Science and the Modern World 91).

Immediately after the anonymous voice makes its contradictory pronouncements by megaphone at the play’s conclusion and before the Reverend Streatfield speaks, the gramophone recordings are mixed, and Jimmy searches for the “right” one. Once again all are united by music, which, like the voice, has become anonymous. “[W]as it Bach, Handel, Beethoven, Mozart or nobody famous, but merely a traditional tune?” (189). Here again equality reigns—all music is equal, the same as individual words. Furthermore, the music is referred to as a voice: “Anyhow, thank heaven, it was somebody speaking after the anonymous bray of the infernal megaphone” (188). Voice is music; music is voice. What follows is a long passage that, unlike other passages involving a collective consciousness, is not in quotation marks or italics:

Like quicksilver sliding, filings magnetized, the distracted united. The tune began; the first note meant a second; the second a third. Then down beneath a force was born in opposition; then another. On different levels they diverged. On different levels ourselves went forward; flower gathering some on the surface; others descending to wrestle with the meaning; but all comprehending; all enlisted. The whole population of the mind’s immeasurable profundity came flocking; from the unprotected, the unskinned; and dawn rose; and azure; from chaos and cacophony measure;

but not the melody of surface sound alone controlled it; but also the warring battle-plumed warriors straining asunder: To part? No. Compelled from the ends of the horizon; recalled from the edge of appalling crevasses; they crashed; solved; united. [...]

Was that voice ourselves? Scraps, orts and fragments, are we, also, that? The voice died away. (189)

In this mixture of contradictory reckoning, one idea is averred only to be countered with its opposite. The subject/pronoun/noun fluctuates between singular and plural in number. Supposedly it is “somebody speaking”—one voice, but the singular “somebody” refers to the plural “ourselves,” as in “ourselves went forward.” “Ourselves” become one, and yet simultaneously are differentiated—some gather flowers above (“on the surface”), while others struggle with the meaning below (“others descending to wrestle with the meaning”).

The syntax underlines the variety—there is no parallel structure here. The noun being modified follows the participle in the phrase “flower gathering some on the surface,” whereas in the next phrase the noun precedes the participle—“others descending to wrestle with the meaning.” This latter phrase is also more complex syntactically, perhaps to underline the more difficult undertaking.

They are then reunited with the phrase, “But all comprehending, all enlisted.” “All” is modified by the participle “comprehending,” and in the second half of the sentence, “all” is either modified by the participle “enlisted,” or the “all” could be the subject of the verb “enlisted,” again, interrupting the parallel structure of the sentence. “The whole population of the mind’s immeasurable profundity came

flocking.” “Whole population” suggests numerous elements, but the plethora is contained within one mind. Then comes a mixture of phrases and clauses, “from the unprotected, the unskinned; and dawn rose; and azure; from chaos and cacophony measure.” The words “and dawn rose” at first glance appear to be conjunction/subject/predicate, but the word “rose” could also be an adjective modifying “dawn,” and the next phrase, “and azure” could be a continuation of the sequence, with “azure” being another color of dawn. Then measure emerges from chaos and cacophony—the prepositional phrases come before the word “measure,” as if what emerges rises to the top. But Woolf warns the reader, lest she or he believe all is calm with this “measure,” “but not the melody of surface sound alone controlled it; but also the warring battle-plumed warriors straining asunder.” Again there is that which is on the surface and that which is underneath. Woolf implies that conflict is unavoidable. But these fighters are not there to disrupt unity: “To part? No. Compelled from the ends of the horizon; recalled from the edge of appalling crevasses; they crashed; solved; united.”

Quantum mechanics offered another startling difference from Einstein’s Theory of Relativity. Quantum theory replaced the totally predictive with mere probability. Hence the audience members could be described as “neither one thing nor the other; neither Victorians nor themselves” (178), and they feel “a little not quite here or there (149). Many characters in Between the Acts continue to be guided by the old physics: ETTY, for example, wants to come to a conclusion about the pageant’s meaning and “liked to leave a theatre knowing exactly what was meant” (164). In some respects Miss La Trobe is successful in her effort to thwart the notion of a simplistic and

definable depiction of reality, for time intrudes on various audience members to the point where they (unwittingly) make absurd remarks. The audience members exhibit impatience with the pageant and indeed with time itself:

“What a time they take!” she [Isa] exclaimed irritably.

“Another interval,” Dodge read out, looking at the programme.

“And after that, what?” asked Lucy.

“Present Time. Ourselves,” he read.

“Let’s hope to God that’s the end,” said Giles gruffly. [...]

“What’s the object,” said Bartholomew, [...] “of this entertainment?”

(176-77).

They could be discussing the pageant, but they could also be speaking about their own lives; they are uncomfortable with the silence and the uncertainty of waiting—waiting for the pageant to continue, for the end of the pageant, for their dispersal, for the war, for death.

All their nerves were on edge. They sat exposed. The machine ticked. There was no music. The horns of cars on the high road were heard. And the swish of trees. They were neither one thing nor the other; neither Victorians nor themselves. They were suspended, without being, in limbo. Tick, tick, tick went the machine. ...

How long was she going to keep them waiting? “The Present Time. Ourselves.” They read it on the programme. ...

“What’s she keeping us waiting for?” Colonel Mayhew asked irritably. “They don’t need to dress up if it’s present time.” (178-179)

Even in her attempt to present them with “now,” Miss La Trobe is unsuccessful. “She wanted to expose them, as it were, to douche them, with present-time reality. But something was going wrong with the experiment. ‘Reality too strong,’ she muttered” (179). The word “douche” comes from the Latin *dūcere*, “to lead” (OED). La Trobe is attempting to lead them to a kind of rebirth in the denouement of the play, sending them out to see the world with “fresh eyes” after an afternoon of participatory revelry in her artistic endeavor. One might expect the portrayal of the “present” to be the easiest to depict, except that when the actors confront members of the audience with fragments of mirrors (fragmented in part to reflect life itself as well as humans’ piecemeal understanding of it), the actors find the members recoiling from their own images. It is as if all of the previous moments of the play and perhaps all the moments of their entire lives have culminated into this singular moment, and when Miss La Trobe’s method falls short, the cleansing comes from the sudden, brief, unexpected shower.

The hands of the clock had stopped at the present moment. It was now. Ourselves.

So that was her little game! To show us up, as we are, here and how. All shifted, preened, minced; hands were raised, legs shifted. Even Bart, even Lucy, turned away. All evaded or shaded themselves—save Mrs. Manresa who, facing herself in the glass, used it as a glass; had out her mirror; powdered her nose; and moved one curl, disturbed by the breeze, to its place. (186)

Once again the audience is restless. “‘The play’s over, I take it,’ muttered Colonel Mayhew, retrieving his hat. ‘It’s time ...’” (186). Only Mrs. Manresa is able to face herself, although even she is dissatisfied with her reflection and adjusts her appearance.

The question then arises about Woolf and her representation of her characters. Does she depict a world in which humans are capable of perceiving reality directly or is reality knowable only through interaction and/or measurement of it? A corollary to that question is whether human understanding of the universe’s laws appears possible in Between the Acts or whether the understanding is limited to probability and “irreducible uncertainty”? During Miss La Trobe’s initial phase of portraying the “now” of existence, she has audience members facing an empty stage. “Nothing whatever appeared on the stage” and “Nothing happened” (176). “The Present Time. Ourselves” the programme indicates. But they are impatient, restless, and La Trobe realizes that her attempt to present them to themselves is not working. “She wanted to expose them [...] with present-time reality” (179). But, she concludes, “‘Reality too strong’” (179). They do not grasp unfiltered reality. But she has a contingency plan in the pageant in the event that an empty stage and programme direction do not convey her intention. Or she could also be intimating that there is no one singularly correct approach to revealing such knowledge, and, in fact, she must necessarily offer more than one description because of the laws of probability. After the unscripted shower and the tableau of a man climbing a ladder, the musical tune changes abruptly. The swallows and trees respond—the swallows dance, and the trees, “the spaced pillars of some cathedral church.... barred the music, and massed and hoarded; and prevented

what was fluid from overflowing” (182). What exactly is fluid? The shower that just occurred unexpectedly? Or perhaps it is the flowing nature of existence. The swallows’ behavior of dancing “round and round, in and out they skimmed. Real swallows. Retreating and advancing. [...] The swallows—or martins were they?—The temple-haunting martins who come, have always come ... Yes, perched on the wall, they seemed to foretell what after all the Times was saying yesterday” (182). Nature knows well before humans—yesterday’s news. Nature participates freely and understands with a directness and spontaneity that the humans lack.

Immediately following the tune’s cacophonous outpouring (“something half known, half not,” suggesting a contradictory state and the possibility of only partial recognition—or an equal portion of knowing and not knowing on humans’ part) the actors emerge holding tin cans, bedroom candlesticks, old jars, the cheval glass from the Rectory, the mirror (“my mother’s”) (183), as well as hand glasses, scraps of scullery glass, harness room glass, and “heavily embossed” silver mirrors (185). Miss La Trobe has recreated various scenes from history for the audience before this, and now she uses mirrors with a nudge from the programme to encompass the audience with the present, all inclusive, for mirrors not only reveal the reflections of the people facing them, but mirrors also reveal the environment behind the audience members—the background that inhabits the space behind them but which they never see while visually gazing in one particular direction. This background or environs is necessarily always outside people’s “natural” range of vision. Mirrors help overcome this limitation. They inextricably register both time and space. “The hands of the clock

had stopped at the present moment. It was now. Ourselves” (186). “Ourselves” have become time.<sup>34</sup>

But as noted, even Miss La Trobe’s (in some respects) less direct method of confronting the members with their current existence through their own reflection fails, and they become resentful of what they see as a surprise attack. They are unable to tolerate the nothingness presented to them as well as the more interactive approach of facing themselves. Both attempts are measurements—the first a measurement of time as they perceive the empty stage; the second a measurement of space as seen by the bits and pieces included in the shiny scraps of reflective objects.

One of the most profound differences between the Theory of Relativity and quantum mechanics is that which involves the subject/object dichotomy. Whereas the subject and object are related in Einstein’s theory in terms of place, and two different subjects in different places will not witness the same events simultaneously, the subject and object are more deeply embedded with one another in quantum mechanics. Friedman and Donley explain:

In relativity, the particular datum observed depended upon the reference frame, or perspective, of the observer. But that dependence was determined by the relation between the reference frames of the observer and of the object, and not by the act of observation. In quantum theory, each act of observation itself changes the nature of the observed, regardless of the observer’s point of view. Subject and object are separable

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<sup>34</sup>The images in the mirrors could also be construed as metaphors for the past—a person facing forward but unable not to be without the past. In addition, even a mirror does not reflect the present because of the amount of time it takes for the image to travel back to the individual. The reflection is already old news, so to speak.

in relativity; they are inextricably joined by every act of observation in quantum theory. (140)

Bohnenkamp further differentiates relativity from quantum mechanics: “things are not composites in the relativistic view. Instead they are processes, interactions, particles in constant flux engaged in a cosmic dance or in unceasing, instantaneous interpenetration and transformation that we perceive as reality” (22). Confronting the uncertainties propagated by quantum theory (including the Uncertainty Principle), Woolf explores language and the illusive, layered meaning of words in her essay “Craftsmanship.” “[I]t is their [words’] nature not to express one simple statement but a thousand possibilities” (Death of the Moth 200). Woolf regarded words as living entities, placing them next to one another at times in unpredictable order. Words, like subatomic particles, can perhaps only be “seen” in a transitive state—in motion from one place to another. They cannot be pinned down, for as soon as one makes such an attempt, one loses a substantial element of their essence. Words, like subatomic particles, are constantly in flux. Woolf continues in “Craftsmanship”:

Words, English words, are full of echoes, of memories of associations—naturally. They have been out and about, on people’s lips, in their houses, in the streets, in the fields, for so many centuries. And that is one of the chief difficulties in writing them today—that they are so stored with meanings, memories, that they have contracted so many famous marriages. (Death 203)

She weaves her exploration of words’ relationships with one another and with their own history throughout Between the Acts on a quest to recover their past and

current lives. This is not an uncomplicated task. Indeed, like trying to measure both position and momentum simultaneously, this may be impossible. She places the onus on the nature of words themselves.

They are the wildest, freest, most irresponsible, most unteachable of all things. Of course, you can catch them and sort them and place them in alphabetical order in dictionaries. But words do not live in dictionaries; they live in the mind. [...] And how do they live in the mind? Various and strangely, much as human beings live, by ranging hither and thither, by falling in love, and mating. (Death 204-205)

Recall Miss La Trobe's endeavor when she is sitting in the pub after the pageant and she is once more searching for the words, which begin to rise "above the intolerably laden dumb oxen plodding through the mud. Words without meaning—wonderful words" (212). She consults no dictionary, and, in fact, a dictionary would be superfluous here since the words have no meaning.

Early in the novel Isa mentally runs down a list of books in the library of Pointz Hall:

The Faerie Queene and Kinglake's Crimea; Keats and the Kreutzer Sonata. There they were, reflecting. What? What remedy was there for her at her age—the age of the century, thirty-nine—in books? Book-shy she was, like the rest of her generation; and gun-shy too. Yet as a person with a raging tooth runs her eye in a chemist shop over green bottles with gilt scrolls on them lest one of them may contain a cure, she considered: Keats and Shelley; Yeats and Donne. Or perhaps not a poem; a life. The life of

Garibaldi. The life of Lord Palmerston. Or perhaps not a person's life; a county's. The Antiquities of Durham; The Proceedings of the Archaeological Society of Nottingham. Or not a life at all, but science—Eddington, Darwin, or Jeans. (19-20)

Edward Barnaby interprets this list in two ways. Nineteenth-century understanding, he asserts, would see this as the art/science dichotomy. Consequently, the list moves from “the subjectivity of poetry to the objectivity of science” (313). Barnaby's second interpretation is even more revealing:

Woolf, however, would have us read the list from a metahistorical perspective through which each of these genres are revealed as ideas mediated by a certain use of language that can lay no greater claim to objectivity or subjectivity than the others. Biography is the poem of a life, history the poem of a county, and science the poem of the universe. Like the trifold mirror in Isa's bedroom, no single perspective achieves a totality of representation. Instead, each one makes visible its particular representations of the real. (313)

As with the Theory of Relativity, this has an equalizing effect. The reader can know that words (subatomic particles) relate to one another, but he or she is unable to define the word at rest alone, without taking into account its interaction with the words around it. The physicist can follow the movement from one orbit to another, but not the actual state in itself. The process necessarily becomes the focus, as a result. In some way Miss La Trobe's “glory” manifests itself, albeit fleetingly, in the moment when she believes that the audience comprehends the pageant's meaning.

And this fleeting quality is necessitated because of the transient nature of language itself and its fluid nature.<sup>35</sup>

Whereas Einstein believed that the universe is ultimately knowable, advocates of quantum theory describe an entirely different universe. As Bohnenkamp explains, “Quantum Theory, in contrast [to Relativity Theory] exhibits much more patience with random statistical and indeterminate realities. Our ideas are less logical, less commonsensical, more paradoxical, but they appear also to be more accurate in their depiction of reality” (21). He continues, “In quantum mechanics the world is not composed of dead or inanimate objects but is alive, in constant movement, ruled only by laws of chance and probability” (22). So that, for example, the gramophone plays recorded music, but its ability goes beyond that of a supposedly inanimate object. The gramophone is able to state “certain facts” through the tune it is playing, including a description of evening or “Eve.” “The tune said, more or less, how Eve, gathering her robes about her, stands reluctant still to let her dewy mantle fall” (133-34). While Eve is gathering, a poor man returns to his wife and child after herding flocks, and eventually Eve “lets down her somber tresses brown and spreads her lucent veil o’er hamlet, spire, and mead, etc. etc. And the tune repeated itself once more” (134). Not only does the gramophone broadcast more than music, but also evening itself (a transitional period of time) is a living, interactive force. The view then continues what the tune on the gramophone is playing, according to the narrator.

Space is the repository of all matter and all time. At one point Mrs. Manresa,

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<sup>35</sup> As noted previously, Woolf echoes Emerson’s words in her essay “Craftsmanship”: words are “highly democratic, too; they believe that one word is as good as another; uneducated words are as good as educated words, uncultivated words as cultivated words, there are no ranks or titles in their society.” She goes on, saying that words “hate anything that stamps them with one meaning or confines them to one attitude, for it is their nature to change” (Death 206).

while taking her coffee with Lucy, Bart and Giles before the pageant begins, glances at Giles.

A thread united them—visible, invisible, like those threads, now seen, now not, that unite trembling grass blades in autumn before the sun rises. [...] She looked before she drank. Looking was part of drinking. Why waste sensation, she seemed to ask, why waste a single drop that can be pressed out of this ripe, this melting, this adorable world? Then she drank. And the air round her became threaded with sensation. Bartholomew felt it; Giles felt it. (55-56)

This description contains polarities as well as the overlapping of seemingly separate senses, so much so that the senses blur with and fill the space within which the looking and drinking occur, as if Mrs. Manresa's actions affect the atmosphere—space—*itself*. Nor is the effect limited to Mrs. Manresa—Bart and Giles are aware of the change, as is Isa. “Isabella twitched too. Jealousy, anger, pierced her skin” (56).

Other inanimate objects are full of life as well—a room in Pointz Hall is “singing,” the voices in the library encounter “an obstacle evidently; a rock” when Bart, Lucy and Isa realize that they have visitors before the pageant. “Utterly impossible was it, even in the heart of the country, to be alone? That was the shock. After that, the rock was raced round, embraced” (37). The pageant is another organism. Whitehead defines a “primary organism” as

the emergence of some particular pattern as grasped in the unity of a real event. Such a pattern will also include the aspects of the event in question as grasped in other events, whereby those other events receive a

modification, or partial determination. There is thus an intrinsic and an extrinsic reality of an event, namely, the event as in its own prehension, and the event as in the prehension of other events. The concept of an organism includes, therefore, the concept of the interaction of organisms. (Science and the Modern World 103)

“‘And now,’ said Mrs. Manresa, [...] ‘about this entertainment—this pageant, into which we’ve gone and butted’—she made it, too, seem ripe like the apricot into which the wasps were burrowing” (56). The music takes part with the natural surroundings and the natural surroundings respond to the music in a passage mentioned earlier when the swallows dance to the music and the trees prevent “what was fluid from overflowing” (183).

One of the keenest moments of Woolf’s deference to the issue of the observer affecting that which is observed is explored in Miss La Trobe’s rage at the audience at various points. She blames the audience for her having to cut the play in order to satisfy the need for an interval. “‘Curse! Blast! Damn ’em!’ Miss La Trobe in her rage stubbed her toe against a root” (94).<sup>36</sup> She needs the audience in order to attain her glory. As she watches them dispersing for an interval, she savors her success: “still for one moment she held them together—the dispersing company. Hadn’t she, for twenty-five minutes, made them see? A vision imparted was relief from agony ... for one moment ... one moment” (98). But she berates them as well as herself for needing them. “‘Curse ’em!’ She felt everything they felt. Audiences were the devil. O to write a play without an audience—the play” (180). And perhaps it is no

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<sup>36</sup>Root has significant meanings in biology, linguistics, mathematics and music—each signifying a rudimentary essence, elements Miss La Trobe is calling upon to create her masterpiece.

coincidence that nature has rescued her when the actors fail, for once the pageant is over, she acknowledges a much grander spectator:

At last, Miss La Trobe could raise herself from her stooping position. It had been prolonged to avoid attention. The bells had stopped; the audience had gone; also the actors. She could straighten her back. She could open her arms. She could say to the world, You have taken my gift! Glory possessed her—for one moment. But what had she given? A cloud that melted into the other clouds on the horizon. It was in the giving that the triumph was. And the triumph faded. Her gift meant nothing. If they had understood her meaning; if they had known their parts; if the pearls had been real and the funds illimitable—it would have been a better gift. Now it had gone to join the others.

“A failure,” she groaned, and stooped to put away the records. (208-209)

Miss La Trobe knows that the observer alters that which is being observed. Furthermore, the audience members misinterpret, misconstrue, misread and misinform those around them. Is there space/time where a play could be written without an audience? At the moment that she revels in her gift to the world, the human spectators appear inconsequential. But then her moment passes and the “triumph” fades. Even without an audience the tangible—the pageant’s performance—becomes intangible—a cloud melting into other clouds.

But then the starlings attack the very tree behind which she has been hiding. Utter failure is juxtaposed with unlimited rapture:

In one flock they pelted it like so many winged stones. The whole tree hummed with the whiz they made, as if each bird plucked a wire. A whiz, a buzz rose from the bird-buzzing, bird-vibrant, bird-blackened tree. The tree became a rhapsody, a quivering cacophony, a whiz and vibrant rapture, branches, leaves, birds syllabbling discordantly life, life, life, without measure, without stop devouring the tree. Then up! Then off!” (209).

The birds burst through with a rhapsody, which is a work that contains various disconnected elements—a work of art that has no plan. Granted that the rhapsody is a discordant one, but it overflows—albeit discordantly—with life that cannot be measured, suggesting that science may lack the capacity to measure all universe. Folk songs remain collective musical artifacts that have no single identifiable source.

And, of course, La Trobe herself is an observer, one of her own work at times. The audience is not the only impediment to the performance; so is Miss La Trobe. Friedman and Donley discuss the views of the physicists—including Bohr, Born, Heisenberg, Pauli, and Dirac—who argue against the notion of determinism:

They held that man cannot discover all characteristics of a particle in order to determine its behavior—not because of any human error or ignorance but because the nature of the physical world is such that “we cannot describe what ‘happens’ between this observation and the next.”

Heisenberg expresses this idea as follows: “The term ‘happens’ is restricted to the observation. Now this is a very strange result, since it seems to indicate that observation plays a decisive role in the event and

that the reality varies, depending on whether we observe it or not.... We have to remember that what we observe is not nature in itself but nature exposed to our questioning.” (Einstein as Myth and Muse 127)

Einstein, Planck, de Broglie and Schrodinger supported the idea of determinism and refused to recognize the “possibility of ‘causeless’ events” (127). With the manner in which Woolf subverts the narrator in particular scenes, such as in the elaborate description of the Barn (99-100), and the manner in which Isa longs for a space where no humans exist or where the “eyeless wind blows” and in a “harvestless dim field where no evening lets fall her mantle; nor sun rises” (154, 155), I would suggest that Woolf is attempting to come to terms with a reality in which humans are superfluous and that the world or universe would subsist quite nicely without the need for any human questioning or filtering.

So Miss La Trobe endeavors in her own way to remove herself from the play by remaining offstage. She does not appear for the curtain call. Nor does she identify herself as the voice speaking through the megaphone, and, in fact, the reader is never explicitly informed of the speaker’s identity. It is as if Miss La Trobe is attempting to remain as anonymous or ephemeral as the cloud that fades into “the other clouds on the horizon.”

In Proust’s À la recherche du temps perdu, the [hero] can be seen dashing back and forth between two opposite windows of a railroad car traveling through the countryside at sunrise, ““running from one window to the other to reassemble, to collect on a single canvas the intermittent, antipodean fragments of [his] fine, scarlet, ever-changing morning, and to obtain a comprehensive view of it and a continuous

picture” (qtd. in Genette 105). The fact that the train is moving while the characters is running adds an Einsteinian element of the futility of this task in terms of being able to capture one such all-inclusive moment. Miss La Trobe attempts to find this common ground of existence among all present on this one particular summer afternoon in 1938, and even though such a moment may prove constitutionally unattainable, similar to the inability of measuring both momentum and location of a quantum object simultaneously. “Then up! Then off!”

### Conclusion: Woolf Play

In recent decades there has been discussion of the world as a “web,” and particle physics has led the way to the concept of field studies. Indeed, scientists in recent decades have continued searching for a link between Einstein’s theory of relativity and that of quantum mechanics, unsuccessfully struggling to join the laws of electromagnetism and gravity into one single, all-encompassing “unified field theory.” This notion of field theory dates back to Maxwell and his resolution of the mystery of magnetism and electricity into that of the electromagnetic field.

Before Maxwell people conceived of physical reality—in so far as it is supposed to represent events in nature—as material points, whose changes consist exclusively of motions, which are subject to total differential equations. After Maxwell they conceived physical reality as represented by continuous fields, which are subject to partial differential equations.

(Einstein, Ideas and Opinions 269)

Just as the concept of field theory has its origins in a previous century, so does the contemporary view that the characteristics of the most basic particles of the universe can only be defined in terms of their relationships and interactions with the universe around them, in particular from the German mathematician and philosopher Gottfried Wilhelm Leibniz (1646-1716).<sup>37</sup> In his book The Life of the Cosmos, Lee Smolin delineates the contradictory philosophies of Newton and Leibniz in regard to the nature of space. Smolin describes Newton’s system and its continued persistent attraction:

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<sup>37</sup>Leibniz contributed to numerous areas of study, including geology, historiography, linguistics, mathematics, philosophy and physics.

the desire to understand the world in terms of a naïve and radical atomism in which elementary particles carry forever fixed properties, independent of the history or shape of the universe, perpetuates a now archaic view of the world. It suggests a kind of nostalgia for the absolute point of view, a way of seeing the world that was lost when the Newtonian conception of space and time was overthrown. (18)

Newton observes in Principia, ““Absolute space, in its own nature, without relation to anything external, remains always similar and immovable”” (qtd. in Smolin 215). One of Leibniz’s principles, the identity of the indiscernible, counters Newton:

any two particles which have the same relationships with the other things in the universe, must be in fact the same. For if things are only distinguished by their relations, then there is no way to tell them apart. A world constructed according to these principles must be complex enough to allow observers to distinguish each particle uniquely, by talking about their relationships with the other particles in the universe. (Smolin 218)

Smolin underscores one of Leibniz’s favorite words. “To use a word favored by Leibniz, the universe must have so much variety that no two observers experience the same thing, and no moment ever repeats itself” (219). (Darwin will make his own discovery about the depth of variety in the natural world some one hundred and fifty years later.)

In the 1960’s and 1970’s particle physicists determined that two forces, the strong force and the weak force, help bind together the two basic components of all matter—particles called quarks and leptons. The quantum field theory for the strong force,

quantum chromodynamics (QCD), describes the behavior of the quark. The fundamental theory of particle physics is called the standard model, which unifies three of the four forces—the strong force, the weak force and electromagnetism. Only gravity remains elusive. The standard model proposes that “all physical properties of elementary particles are defined in terms of interactions between them,” and this is, according to Lee Smolin, a contemporary version of Leibniz’s principle of the identity of the indiscernible (343).

Dr. Frank Wilczek and other contemporary physicists contend that particle physics is no longer about individual particles “but about their mathematical relationships” (Overbye F1+). Along these lines the nineteenth century physicist Ernst Mach suggested that because of the relativity of motion, the immobility of any particular object is ascertained by its relationship to every other object in the universe. Wilczek, who, along with Gross and Politzer, won the 2004 Nobel Prize for Physics, explains a phenomenon he calls ““mass without mass,”” which involves quantum chromodynamics and a situation in which mass “seems to conjure itself out of this mathematical air” (Overbye F1+). As it turned out, Overbye reports, when trying to figure the masses of a proton and a neutron, Wilczek was able to come up with the correct numbers “even if the quarks inside them had no mass at all.” It is the quarks’ kinetic energy of travel (movement) inside the proton that creates the mass, not the internal nature of the quarks themselves. Wilczek refers to his calculation as ““it from bit,”” a phrase coined by the Princeton theorist John Wheeler. In other words, it is the arrangement of the “bits,” and not bits themselves that create the mass.

In The Cosmic Web: Scientific Field Models and Literary Strategies in the Twentieth Century, a study of field theory and its relationship to literature, N. Katherine Hayles defines field theory as “a reality that has no detachable parts, indeed no enduring, unchanging parts at all. Composed not of particles but of ‘events,’ it is in constant motion rendered dynamic by interactions that are simultaneously affecting each other” (15). Hayles takes the notion of the field model in physics but broadens the definition of a field model to include “its various manifestations in the models of physics and mathematics, the theories of the philosophy of science and linguistics and the structure and strategies of literary texts” (9). The interconnectedness of all objects and events, she explains, is key: “a field view of reality pictures objects, events, and observer as belonging inextricably to the same field; the disposition of each, in this view, is influenced—sometimes dramatically, but in every instance—by the disposition of the others,” and she describes such a world as a “cosmic web” (10).

The past decade has brought the discovery of dark energy, which Lisa Randall explains in Warped Passages is energy that is not carried by any matter (271), and dark matter, which is “the nonluminous matter that pervades the universe and has been discovered through its gravitational influence” (270). Randall describes how we are able to see dark matter in the “form of small, burnt out stars” (102). Normally light would travel in a straight path if there were no dark star in its path. But, as Randall goes on to say, the bright stars behind the burnt out stars cause the light to bend as it passes by the dark star, thus allowing us to see the dark matter which we would not otherwise witness. In other words, we cannot see the matter by looking directly at it, but only through the interaction between the still-brilliant star and the burnt out star.

In a diary passage from April 1938, Virginia Woolf noted her burgeoning ideas for Between the Acts, begging that she not be encumbered by the new book as she had been with her most recent novel, The Years, as well as previous works. Rather, she beseeched that the new novel be

random and tentative; [...] don't, I implore, lay down a scheme; call in all the cosmic entities; & force my tired & diffident brain to embrace another whole—all parts contributing—not yet awhile. But to amuse myself, let me note: why not Poyntzet Hall: a centre: all lit. discussed in connection with real little incongruous living humour; & anything that comes into my head; but "I" rejected: 'We' substituted: to whom at the end there shall be an invocation? "We" ... composed of many different things ... we all life, all art, all waifs & strays—a rambling capricious but somehow unified whole—the present state of my mind? And English country; & a scenic old house--& a terrace where nursemaids walk? & people passing—& perpetual variety & change from intensity to prose, & facts—& notes; &—but eno'. (Diary V 135)<sup>38</sup>

On the one hand, she asked not to have to “embrace another whole,” but on the other hand, she wanted “all” included—“we all life, all art, all waifs and strays,” a “somehow unified whole.” She echoes Leibniz and Darwin with her notion of “perpetual variety.” While in the process of completing Between the Acts in September of 1940, Woolf embarked on what would be the idea of her final collection of essays with the intention of creating a “Common History book”—a history of English literature. She planned to undertake this by reading through all of the centuries of English literature. Brenda

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<sup>38</sup> It is well-known that Virginia Woolf associated the “I” with patriarchy.

Silver reports that when Woolf began reading and taking notes for this new project, her “emphasis was less on discrete essays than on devising a format that would depict the history of English literature as a continuum” (357). Beginning in October 1940 for the next eight weeks, “Woolf’s diary records side by side with the progress of Pointz Hall “a steady stream of reading for the book she now described as threading a necklace through English life and literature” (Silver 357). She finished (though had not thoroughly revised) what was to be called “Anon,” the first chapter of the collection. As she was reading medieval and Elizabethan works, Woolf was revising Between the Acts, and just as she notes how Trevelyan’s History of England begins with the author describing the prehistoric country as a forest full of singing birds, she ponders in “Anon” whether “the origins of literature—‘the desire to sing’ or to create—came from a self-conscious awareness of birdsong” (358), asking if it was initially a huntsman who heard the birds and “so rested his axe against the tree for a moment” in order to create his own version of the bird’s message. Woolf then underscores this observation by quoting an early English lyric:

By a bank as I lay  
 Musing myself alone, hey ho!  
 A birdes voice  
 Did me rejoice,  
 Singing before the day;  
 And me thought in her lay  
 She said, winter was past, hey ho!<sup>39</sup>

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<sup>39</sup> No. XXXIII of E.K. Chambers and F. Sidgwick’s Early English Lyrics, qtd. in Silver 382.

This lyric connects narrator with bird in the play of the word “lay.” In musical terminology, the word “lai” hearkens back to the late 1100’s and 1200’s as a narrative form of poetry in song. Both the huntsman and the bird “lai.” Both are “singing before the day.” Woolf continues: “The voice that broke the silence of the forest was the voice of Anon” (382). And though the song was written down at some point, “the singer had his audience, but the audience was so little interested in his name that he never thought to give it. The audience was itself the singer” (382). And, she observes in “Anon,” the audience members included themselves in the making of the song by “filling in the pauses, helping out with a chorus. Every body shared in the emotion of Anons song, and supplied the story” (382). Nor does she restrict the singer’s identity: “Anon is sometimes man; sometimes woman. He is the common voice singing out of doors. He has no house. He lives a roaming life crossing the fields, mounting the hills, lying under the hawthorn to listen to the nightingale” (382). Woolf’s use of the present tense “is” suggests that such a construct—Anon—may still exist, perhaps in the form of a writer of ephemeral village pageants, or an older woman in her seventies who is awakened by birds in the early morning and follows the movement of swallows throughout the day.

Woolf believes that song has “the same power over the reader in the 20<sup>th</sup> century as over the hearer in the 11<sup>th</sup>” (403). She concludes, “To enjoy singing, to enjoy hearing the song, must be the most deep rooted, the toughest of human instincts comparable for persistency with the instinct of self preservation. It is indeed the instinct of self preservation” (403). Once the printing press was invented in 1477, however, other “forces” came into play which obscured the “original song” (403). In fact, the printing press, according to Woolf, was the beginning of the end of “Anon.” Furthermore, it

introduced other variables too numerous to enunciate precisely. She explains in “Anon”:

If science were so advanced that we could at this moment X ray the singers mind we should find a nimbus surrounding the song; a stream of influences. Some we can name—education; class; the pressure of society. But they are so many, and so [A5, 4] interwoven and so obscure that it is simpler to invent for them nonsense names—say Nin Crot and Pully. Nin Crot and Pully are always at their work, tugging, obscuring, distorting. Some are visible only to the writer. Others only to the reader. More and more complex do they become as time passes. The song beneath is only to be discovered in a flash of recognition;...But the song is there still. (403-404)

(It is as if the only manner in which one might be able to observe the particular point on which one stands, if such a feat is possible at all, is through art, and then only momentarily—never to be repeated—through this “flash of recognition.”)

Woolf’s own “borrowing” in Between the Acts of earlier literature creates a field in which the elements are so intertwined,[much like those deceased souls buried in the nameless village, “the old families who had all intermarried, and lay in their deaths intertwined, like the very roots, beneath the churchyard wall” (7) that they cannot be undifferentiated. It is Lucy’s comment to Isa about how England was once connected to the continent with no sea separating the two (29). It is George grubbing—the tree, the flower and the grass “entire” (11), the light that fills “the cavern behind the eyes” (11). George, in his grubbing, becomes anonymous in a sense, becomes synonymous with the light. “Light is life,” Smolin observes in The Life of the Cosmos. And it is the

purpose behind the money collection at the pageant—to install electric lights at the Church, and it is Lucy’s name. George searches for and recognizes the “song beneath” in a “flash of recognition,” becoming part of the song itself, just as his mother Isa is able to transcend human/physical existence and merge with the complexity, the “stream of influences” to that which lies underneath—an ethereal, boundless space.

“Where do I wander?” she mused. “Down what draughty tunnels?  
Where the eyeless wind blows? And there grows nothing for the eye. To  
issue where? In some harvestless dim field where no evening lets fall her  
mantle; nor sun rises. All’s equal there. Unblowing, ungrowing are the roses  
there. Change is not; nor the mutable and lovable; nor greetings nor  
partings; nor furtive findings and feelings, where hand seeks hand and eye  
seeks shelter from the eye.” (154-155)

And a bit further on she reflects, “How I am burdened with what they drew from the earth; memories; possessions. This is the burden that the past laid on me, last little donkey in the long caravanserai crossing the desert” (155). Isa’s internal perambulations throughout the novel are indeed “anonymous,” as they are unshared with those around her, as though in this increasingly public, frenzied, and fragmented world, the only way one can recover the song and one’s connection with the past is through a disembodied, dreamlike reverie. Isa writes poetry, but she hides it in a record book to keep Giles from discovering her art, fearful of his disapproval or outright disdain. And whether or not she actually signs her own name to her creations is not revealed.

Similar to the manner in which she celebrates the nondescript bird(s) in the opening scene of the novel (“not a nightingale”), Woolf praises the early singer’s anonymity, explaining that “it gave the early writing an impersonality, a generality” (“Anon” 397). Because people did not know the writer, they were able “to concentrate upon his song” (397). “He was not self-conscious. He is not self-conscious. He can borrow. He can repeat. He can say what every one feels. No one tries to stamp his own name, to discover his own experience, in his work. He keeps at a distance from the present moment” (397). By not being bound by the present moment, he (or she) is timeless, and linearity is itself confounded. Woolf equates the anonymous playwright to the singer, saying that they both have “this nameless vitality, something drawn from the crowd in the penny seats and not yet dead in ourselves. We can still become anonymous and forget something that we have learnt when we read the plays to which no one has troubled to set a name” (398). It is only when we can forget ourselves that we can break through the boundary that separates the individual from the song.

Not only does Isa seek this unnamed, timeless space, but Miss La Trobe grapples with this issue as well of the anonymous playwright and her own relationship with the audience throughout Between the Acts. She remains outside the actors and the audience, greatly suspicious of both. ““Curse! Blast! Damn ‘em!”” she refers to the audience (and perhaps the actors) (183), and “Audiences were the devil. O to write a play without an audience—the play” (179-180). And yet there remains this inscrutable connection, for between her curse and her devil, she acknowledges, “She felt everything they [the audience] felt” (180), which harkens back to that time Woolf recalls when the boundaries between story-teller and audience were fluid,

when the field, as it were, consisted of seemingly undefined borders and limitless possibility.

Much of the time Miss La Trobe is hiding behind a tree during the performance, and she remains “Miss Whatsername” to Page, the reporter (150), to the narrator (184), and to an unidentified soul. “‘I do think,’ someone was saying, ‘Miss Whatsername should have come forward and not left it to the rector. After all, she wrote it’” (197). Not only does “Miss Whatsername” remain out of sight—so does the identity of the speaker. The rector himself wants to acknowledge Miss La Trobe’s effort at the end of his words, but again she remains hidden. “‘And now,’ he resumed, [...] ‘To propose a vote of thanks to the gifted lady...’ He looked round for an object corresponding to this description. None such was visible. ‘... who wishes it seems to remain anonymous’” (194). By remaining silent, Miss La Trobe not only underplays her own role as playwright; she also, in a sense, throws the mantel of the play’s designer out into the surrounding space/time of the natural world: “It was an awkward moment. How to make an end? Whom to thank? Every sound in nature was painfully audible; the swish of the trees; the gulp of a cow; even the skim of the swallows over the grass could be heard. But no one spoke” (194-195). Nature appears to be taking a bow for its part in the play. And by Miss La Trobe not emerging to acknowledge the end of the play, she prolongs the “dance” and prolongs the play, blurring the boundary that separates the performance from “real life,” although Bart, for one, creates his own transition: “On with the hobble, on with the limp, since the dance was over” (202).<sup>40</sup>

Bart alone seems to appreciate Miss La Trobe’s desire for anonymity. When Lucy suggests that they thank the playwright, Bart ponders how “La Trobe had been

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<sup>40</sup> Once again Beckett’s writing comes to mind.

excruciated by the Rector's interpretation, by the maulings and the manglings of the actors ... 'She don't want our thanks, Lucy,' he said gruffly.'" And, he adds, "'Thank the actors, not the author. [...] Or ourselves the audience'" (203). On the one hand, Bart appreciates La Trobe's need for separation and retreat, and on the other hand, he is acknowledging the collective endeavor of the performance (which is also Woolf's nod to the reader). By excusing herself without fanfare, Miss La Trobe has also united herself with the actors and audience by letting them determine when the play is "finished," for it is, after all, their story, not hers, her having bestowed it upon them, and offered her gift to the gods, so to speak. Her play has joined the other stories—not only her (or their)—previous pageants but all the stories of others which she has venerably mimicked, mocked and misconstrued; Miss La Trobe is on to the next "song" as she retreats to the pub and ponders the words for the next pageant that are already beginning to take shape in her imagination.

As if to emphasize the process—the field—rather than the denouement, various unidentified, unnamed audience members talk to one another after they have begun dispersing (as mentioned previously), and though some of the comments are mundane, "But you must remember [...] they had to do it on the cheap" and "The Brookes have gone to Italy, in spite of everything" (198), other comments are more revealing: "It's odd that science, so they tell me, is making things (so to speak) more spiritual ... The very latest notion, so I'm told is, nothing's solid ... There, you can get a glimpse of the church through the trees ... " (199). Part of the rationale behind having the village pageant is to raise money for lighting in the church. Art leads to church leads to light, which enable there to be art—and life. The system is self-sustaining. Science, rather

than reducing objects to any constant fixture or combinations of definitive elements, flows to spirituality to ethereality to the church by way of trees—trees which have been previously addressed reverently during one of the abrupt changes in music: “And the tree, O the trees, how gravely and sedately like senators in council, or the spaced pillars of some cathedral church. . . . Yes, they barred the music, and massed and hoarded; and prevented what was fluid from overflowing” (182). The trees act as majestic sentinels, both protecting what is taking place and containing it. Although porous, the trees embrace all that which resides within their boundaries. The “energy patterns” may be dispersing, but the urge to remain lingers. The last “words” of the gramophone maintain this tension. “The gramophone gurgled Unity-Disparity. It gurgled Un . . . dis . . . And ceased” (201).

Woolf is arguing against the notion that existence consists of prepackaged, discrete moments or collections of separate moments—hence the lingering chants of “Dispersed are we” permeating the atmosphere. The audience continues the play, carrying it with them, and in fact, it lingers beyond the people themselves. “Still the play hung in the sky of the mind—moving, diminishing, but still there,” as though within the mind there is a landscape not unlike that outside the mind (212). “They all looked at the play; Isa, Giles and Mr. Oliver. Each of course saw something different. In another moment it would be beneath the horizon, gone to join the other plays” (213). And then it dissipates. “It was drifting away to join the other clouds: becoming invisible. Through the smoke Isa saw not the play but the audience dispersing” (213).

Woolf both anticipated and simultaneously lamented the atomization that was occurring as the world became fragmented into disparate particles—particles that could

divide and destroy—as opposed to a world of waves, which suggest continuity, such as the movement of the ceaselessly soaring swallows. A tension exists between the mournful, limitless—and timeless—“dumb yearning” of cows for a lost calf and the human counterparts’ unimaginative decision about where to build Pointz Hall: “Nature had provided a site for a house; man had built his house in a hollow” (10). Woolf uses the generic word “man,” as if this is the story not only of the inappropriateness of Pointz Hall’s place of birth but that of all of “man-made” repositories of human habitation. The printing press, another man-made production, also halted the flow, as does the rector when he attempts to “fix” the pageant’s meaning. The village pageant by its nature is ineffable, never to be repeated, and in that sense resembles jazz—represented by the cacophony of “mistakenly” mixed musical records highlighted near the end of the pageant. As the audience disperses, the members leave the boundless collective consciousness to return to the world of the mundane, earthly objects—eyeglasses, automobiles, the “old dinosaur” being wheeled away in her chair—and yet the desire to commingle remains. Separation has not yet rendered the limited but simultaneously finely exquisite “common ground” obsolete. Nor has Miss La Trobe totally relinquished the sensation, for she is already contemplating the next pageant—something which she has begun to do, as mentioned previously, while immersed in the play at hand. In that sense there is no single creation that is differentiated from all the others—the next creation indeed arises from the current one before the latter’s denouement. Consider Mach’s notion that “it makes no sense to think of a single particle alone in the universe” (Overbye F1+). Miss La Trobe’s physical presence is

behind the tree, directing the actors, whereas her mental presence is both present and future.<sup>41</sup>

Woolf's close friend Roger Fry, an art critic who had extensive background in science, was exquisitely attuned to the connections between art and science. In her biography Roger Fry, which she was writing at the same time as Between the Acts, Woolf commented on Fry's predilection of "always making raids across the boundaries" (239-240). He seemed to have anticipated physics' emphasis on the interrelationship of all matter, and he wrote about the nature of the "field" and its unhierarchical politics: "The texture of the whole field of vision becomes so close that the coherence of the separate patches of tone and colour within each object is no stronger than the coherence with every other tone and colour throughout the field" (Vision and Design 36). In his essay entitled "Art and Science," first published in 1919, he equates the two, and he suggests that in art the "recognition of relations [...]" as curiously akin to those cases of mathematical geniuses who have immediate intuition of mathematical relations which it is beyond their powers to prove" (Vision and Design 56). He blends science and art, observing that "in both the mind is held in delighted equilibrium by the contemplation of the inevitable relations of all the parts in the whole, so that no need exists to make reference to what is outside the unity, and this becomes for the time being a universe" (56-57). Fry believed that it was the combination of "unity of texture" and "unity of design" which created the most satisfying work of art.

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<sup>41</sup> See Leaska's analysis on "Trobe" and "trope"—troubadour and invention—qtd. in Beer, Virginia Woolf 146.

It is when the composition of a picture, adequately supported as it must be by significance of texture, reveals to us the most surprising and yet inevitable relationships that we get most strongly the final unity-emotion of a work of art. It is these pictures that are [...] the most significant for contemplation. Nor before such works can we help implicitly attributing to their authors the same kind of power which in science we should call 'great intellect', though perhaps in both the term 'great imaginative organisation' would be better. (58-59)

In her endeavor to describe the world as an interconnected whole, Hayles proposes the following visualization of someone sitting in a diner, observing the table setting: "the plate knife, fork and ketchup bottle are 'real,' while the pattern they form is a transitory artifact of their relative positions" (19). But then she suggests that we alter our perspective and consider instead that the pattern is the reality and that the objects are "merely temporary manifestations of that particular pattern" (19).

According to Hayles, the physicist Fritjof Capra has this template in mind when he states that "the whole universe appears as a dynamic web of inseparable energy patterns" [The Tao of Physics 69, qtd. in Hayles, Cosmic Web 19]. Expanding on Capra's "dynamic web," Hayles observes that the description:

must proceed from a point within the "dynamic web," for if the dance is the universe, there is no point outside it. Imagine, then, attempting an internal, causal description of these "events." As one configuration shifts to another and as "particles" appear or disappear in response to the field as a whole, the usual distinction between cause and effect breaks down

because linear sequences of causality depend upon being able to define a one-way interaction between the event regarded as a “cause” and that considered as an “effect.” But when the interaction is multidirectional—when every cause is simultaneously an effect, and every effect is also a cause—the language of cause and effect is inadequate to convey the mutuality of the interaction. Causal descriptions will not do because causal terminology implies a one-way interaction that falsifies the essence of what we want to convey. (Cosmic Web 19-20)

Hayles goes on to use the metaphor of a “constantly turning kaleidoscope whose shifting patterns arise from the continuing, mutual interaction of all its parts,” explaining the inability of describing the “totality of the dance, which is incessant and infinite” (20). Consequently, we must “stop the kaleidoscope in our imaginations, calling each slice-of-time configuration a ‘pattern.’ But by stopping the kaleidoscope we have lost the dynamic essence of the dance, for the static ‘patterns’ never in fact existed as discrete entities” (20). In this depiction of the universe, in other words, it is not a matter of being able to measure two aspects of an object simultaneously without affecting the other.

These “inseparable energy patterns” suggest the dancing chorus members of Miss La Trobe’s play and how their words are often lost, while the dance becomes the medium, or the actual physical movement—parade—of all of those gathered for the pageant, including the elusive but ever-present swallows, is the energy pattern rather than any of the words that are exchanged. The physical congregation of people and nature that day toward a “common ground” is the composition, not the “plot,” as Isa

easily dismisses the plot's relative impact. This interpretation is supported by the repetitive threnodic lamentation after the play's end, "Dispersed are we." The dance—the pageantry and all its accoutrements—is the pattern that is "real," whereas the objects—the people, in this instance, are "merely temporary manifestations of that particular pattern." And though the playwright—and the reader—can attempt to capture the transitory moment, Hayles indicates that such an attempt is equivalent to trying to stop a moving kaleidoscope.

Furthermore, Hayles indicates the paradox of the observer within such a kaleidoscope:

No matter where we stand we are within the kaleidoscope, turning with it, so that what we see depends on where we stand. To change positions does not solve the problem, because the patterns are constantly changing: what we see when we change positions is not what we would have seen, for in the intervening time the patterns will have changed, and our shift in position will be part of that change. Moreover, there will always be one place we can never see at all—the spot we are standing on. (20)

What if the creative act itself is the pattern, so that one cannot separate the act of creation from the art produced—not in the sense that the artist ("Anon") is the pattern or that the artistic "product" itself has "mass," but that the energy patterns set up by Anon's (the writer's) imagination become incorporated into the work of art? And if the art work "succeeds," the pattern set up to achieve it not only affects the reader and her or his imagination, but the reader's process of reading affects the work as well—a mutual exchange ensues. Cause and effect travel back and forth. Recall Emerson and

his engaging the reader with his words and Proust and his image of the character running back and forth on either side of train's windows.) As William James would suggest, the pattern lies not in what the mind is thinking—the content—but rather that it is thinking. The reader can affect the art as a critic, one might argue, but the reader also affects the story in the act of reading. It could be argued that the world of Between the Acts exists as much as any other story/day from 1938. In writing about allegory in The Language of Allegory, Maureen Quilligan suggests that the reader of allegory “gradually becomes aware, as he reads, of the way he creates the meaning of the text.” She continues: “Out of this awareness comes a consciousness not only of how he is reading, but of his human response to the narrative, and finally his relation to the only ‘other’ which allegory aims to lead him to, a sense of the sacred” (28-29). When discussing metaphor in his book Metaphoric Worlds, Samuel Levin argues that metaphors should be taken literally and that interaction between humans and so-called objects passes freely back and forth between them. Just as Lyell continued revisions of Principles of Geology for years, as did Proust his masterpiece, as readers we continue the rewriting of the text over time. Woolf's inclusion of so many voices in Between the Acts invites us in as witnesses and participants of the making of the pageant. Miss La Trobe retires to the pub by herself, and she takes the reader with her. The reader is embedded into the text.

In an early essay “The Memoirs of Sarah Bernhardt,” Woolf explores such a world, asking how the reader differentiates between that “book world” with the so-called “real world.” She concludes:

But where after all does dream end, and where does life begin? For when the buoyant armchair grounds itself at the end of the chapter with a gentle shock that wakes you and the clouds spin round you and disappear, does not the solid room which is suddenly presented with all its furniture expectant appear too large and gaunt to be submerged again by the thin stream of interest which is all that is left you after your prodigal expense? (Essays 1: 169)

She acknowledges the mundane events that make up a life, just as she recognizes them in Between the Acts.

Yes—one must dine and sleep and register one’s life by the dial of the clock, in a pale light, attended only by the irrelevant uproar of cart and carriage, and observed by the universal eye of sun and moon which looks upon us all, we are told, impartially. But is not this a gigantic falsehood? Are we not each in truth the centre of innumerable rays which so strike upon one figure only, and is it not our business to flash them straight and completely back again, and never suffer a single shaft to blunt itself on the far side of us? (Essays I: 169-70)

Energy patterns then are never static, never still, nor can the work of art be measured in any kind of definitive manner. “They all looked at the play. [...] Each of course saw something different” (213). Miss La Trobe herself is never still in Between the Acts, even while the current play is being performed. Rather, her mind is forming new patterns, new kaleidoscopic images which she is herself forming and

changing even as she attempts to capture the moment and hold the audience for that “moment of glory.”

But she cannot stop the kaleidoscope, nor can she observe the spot on which she is standing, just as the reader cannot see his or her own “place.” And as “Anon” the writer, Miss La Trobe’s particular ego in such a configuration remains inconsequential compared to the energy patterns released by her art, Woolf appears to be saying, in a world in which humans continue into the twenty-first century to reinforce a culture of atomization. In Three Guineas Woolf urges her readers to reflect back on “a very old cry. Let us shut off the wireless and listen to the past” (qtd. in Lee 713-714). And what would that past say to so-called modern readers? Dr. Wilczek, who co-authored Longing for the Harmonies with Betsy Devine, says that ““If you have the idea that everything is connected and related, it might make you take everything more seriously. [...] Many conflicts and concerns might seem very petty”” (Overbye F1+). Woolf reveals some of those petty conflicts and concerns in Between the Acts, as well as power of communal and artistic effort—as limited and thereby doomed as such endeavor may be by one solitary voice. Overbye explains:

According to relativity, each place in the universe is unique and thus yields a unique viewpoint. As a result, he [Smolin] suggests, we have to abandon the idea that any single observer can compile a complete description of the universe. It may be that cosmological knowledge is a community effort, with each individual only able to attain a piece of the truth. “I accept that I cannot know everything,” Dr. Smolin has written.

“But perhaps, at least in principle, we can know everything.” (Overbye F1+)

As Lucy ponders in one of her expansive sweeps of the mind: “Sheep, cows, grass, trees, ourselves—all are one. If discordant, producing harmony—if not to us, to a gigantic ear attached to a gigantic head. And thus, we reach the conclusion that all is harmony, could we hear it. And we shall” (175). Certainly in Between the Acts Virginia Woolf contributes her own singular rendering of kaleidoscopic truth—the ethereality of human existence, of language, substance, space, and time, and the orts, scraps and fragments of the every day.

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