

AN ABSTRACT OF THE THESIS OF

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Walt Whitman looked to the natural world, which he considered an original example of divine creation, for insights into the methods and patterns of the Creative Force; the poet then intuited connections between these divine natural patterns and human existence and spirituality. Convinced of the divinity of the human body, Whitman's faith in the reality revealed by human senses resulted in an appreciation, atypical among mystics and Romantic poets, for what technology and science could tell us of organic nature and thus the patterns of the Creative Force. The various scientific theories of evolution (biological, astronomical, and geological) which emerged from the enhanced understanding of nature provided by technology and science informed and expanded Whitman's view of what is natural to include human technologies among natural adaptations, and the divinity of the body intrinsic to Whitman's ideology necessitated an egalitarian social structure naturally resulting in the intellectual and economic freedom and competition fueling technological advance. For these reasons, Whitman addressed technology in his poetry to a greater extent than was common among Romantic poets. But, as a result of an evolving awareness of the social and spiritual problems caused by technology, due primarily to his experiences in the American Civil War and amid the economic stratification of American society, Whitman's poetic treatment of technology changes, and his early enthusiastic acceptance and confident meliorism on the topic shifts toward a more prescriptive and Modernistic later treatment of technology.

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Whitman and Technology: A Modern Romance

by

David N. Turner

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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David N. Turner, Author

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I would like to thank Dr. Kerry Ahearn for insisting that I look past appearances for more significant meaning. I chose poetry for my thesis topic hoping that, by working deeply with imagery, abstraction, and analogy, I could sharpen my interpretive skills, and I believe that this experience has truly helped me to do so, due in large part to Dr. Ahearn's deft combination of prodding and subtle guidance. Upon reflection, it is clear that the thinking and writing that I am most proud of came after (sometimes well after) I thought that I had already determined what I needed to know, but because I was encouraged to keep questioning, thinking, and writing, I received more intellectually and spiritually from Whitman's work than I would have imagined. I now have a better sense of the power of literature, which is perhaps the most invaluable tool in an aspiring English instructor's toolbox.

I'd like to thank my friends and family for their support of my work and for making me feel just guilty enough to know that I was missed when work got in the way of fun, and I would like to thank Dr. Vicki Tolar-Burton who helped me find a way to address two very different interests, the combination of which made for an enjoyable and meaningful journey.

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DEDICATION

To Jody Ann Lawrence-Turner.

“Swiftly arose and spread around me the peace and knowledge that
pass all the argument of the earth,”

-Walt Whitman

Whitman and Technology: A Modern Romance

Introduction

Walt Whitman (1819-1892) lived and worked in America at a time when, as Robert V. Bruce observes in *The Launching of Modern American Science: 1846-1876*, U.S. scientists and engineers were actively engaged in the research and development of an American technological juggernaut: 1847 brought the Kentuckian William Kelly's discovery of the first marketable process for making steel (142), and this innovation, combined with new steam-engine technology (156-57), fueled a frenzy of construction and rail projects extending from the Mississippi River to the Atlantic Seaboard. Likewise, the invention and manufacture of products and the establishment of American businesses entered what Bruce refers to as "the formative years of the corporate age," also known as the Age of Enterprise—a period of 30 years in which America's total population more than doubled, its area in square miles grew by 50 percent, and its net worth increased by 400 percent (4-5). Of this galvanizing (patented 1837) period in American technological and scientific development, Bruce writes:

By mid-century, in short, technology was riding high and carrying science with it. The professionals themselves verged on hubris. "Never was there such an age of progress," wrote a leading civil engineer in 1849, "and it has hardly commenced yet." From Pulkovo Observatory a young American astronomer wrote home in 1866 that "if we do not hitch onto the moon and quarry our granite there, it won't be the fault of the Yankees." (134)

The rampant industrialization of the 19th century was not a popular topic among most Romantic poets of the era; as Russel Noyes notes in *English Romantic Poetry and Prose*, "the belief that the natural, or earliest, conditions of man and human society are the best conditions" was a stance much more common to Romantic poets and philosophers (xxiv), who were generally resistant to the shift from an agrarian to an industrialized society and the domination of (and thus further separation from) the natural world, both of which the Romantics perceived as

precipitating a variety of spiritual, social, and environmental problems. In *The Evolution of Walt Whitman; The Creation of a Book*, Roger Asselineau observes that “The intrusion of factories and railroads in landscapes which had up till then been undisturbed and pastoral had been deplored or even cursed by the romantics. [...] The Past and Nature alone seemed to them worthy of being sung in verse” (193). And in the finest Romantic tradition, Whitman also deeply appreciated the natural world; indeed, the vast majority of his poetry incorporates imagery, analogy, patterns and sensations derived of organic nature. But as we will see, technology is a theme which figures prominently in Whitman’s work as well; as Martin S. Day insists in “Whitman’s Themes and Images,” “No other of the world’s poets matches Whitman in lyric tributes to this new economy” (79). Like the railroad survey crews of his day, boldly venturing into uncharted and often dangerous territory in search of new passages for westward expansion, Whitman himself was breaking new ground poetically and philosophically in an attempt to expand the traditionally primitive Romantic ideology to address the role of technology in our social and spiritual destiny.

While Whitman’s singular treatment of technology within an otherwise mystical Romantic philosophy and style is certainly the result of a complex combination of influences and intentions, my analysis of Whitman’s work on the topic has yielded three reasons which seem to be of particular note: First, Whitman looked to the natural world, which he and his Romantic counterparts considered an original example of divine creation, for insights into the methods and patterns of the Creative Force; the poet then intuited connections between these divine natural patterns and human existence and spirituality. Convinced of the divinity of the human body—a key theme in his philosophy and poetry—Whitman’s faith in the reality revealed by human senses resulted in an appreciation, atypical among mystics and Romantic poets, for what technology and science could tell us of organic nature and thus the patterns of the Creative Force. Second, some very influential theories which emerged from this enhanced understanding of nature—the scientific theories (biological, geological, and astronomical) of evolution—informed

and expanded Whitman's view of what is natural to include human technologies among natural adaptations, thus bringing them under the legitimate purview of the new American poets who, as Whitman insists in the "Preface, 1855," are "to enclose old and new [...] [America's] geography and natural life and rivers and lakes," but also "the essences of the real things" such as "the weatherbeaten vessels entering new ports," "the wharfmen'd cities," and "the factories and mercantile life and laborsaving machinery" (442-444). And third, the concept of the divine body necessitates an egalitarian social structure which naturally results in the intellectual and economic competition fueling technological advance; thus it is a necessary stage in the process of social and spiritual evolution.

Whitman's early enthusiastic acceptance and aggrandizement of technology was not to last however. As a result of his first-hand experiences amid the dehumanizing slaughter of a highly-modernized Civil War, his recognition of the class separation and individual alienation resulting of technology's role in the rapidly-stratifying capitalistic economy of the mid-to-late 19th century, and the popular resistance to (and, as he often charged, the general unavailability of) a literature capable of instilling a sense of the divine body and a mutual respect and love sufficient to safeguard us from the dehumanizing effects of technology, a postwar Whitman found himself scrambling to adapt his philosophy and work to contend with technology's heretofore underestimated power to distract us from a knowledge of ourselves, each other, and the divine laws of nature. His deep faith in the ameliorative process of social, intellectual, and spiritual evolution, a theme which infused his early work with a compelling sense of confidence and hope, was jeopardized by his inability to justify the negative elements of technology as he came to know them in his postwar years. As a result, Whitman began to use his poetry to guide his audience toward certain uses of technology and away from others, a prescriptivism that contrasts notably with the unqualified acceptance and celebration typical of his early technology-oriented poetry and suggests a shift toward a more Modernistic approach to the topic of technology.

Chapter One:
A Budding Romance

"Specimen Days" is an autobiographical journal of Whitman's experiences and impressions both as a nurse to the wounded during the American Civil War and afterwards as an American and poet, attempting to distance himself from what he had seen and reconcile the great loss of the war through a renewed and expanded acquaintanceship with the land, people, and products of the recently re-United States. The journal entries describing the "horrors of fratricidal war" (as Whitman refers to them in a postwar addition to "Song of Myself") constitute roughly the first one-third of "Specimen Days." There is a period of approximately five years after the war during which Whitman lived in Washington, D.C., but there are no entries regarding this period except to say, in an entry entitled "An Interregnum Paragraph," that:

I was stricken down by paralysis, gave up my desk [in the Attorney-General's Dept.], and migrated to Camden, New Jersey, where I lived during '74 and '75, quite unwell—but after that began to grow better; commenc'd going for weeks at a time, even months, down in the country, to a charming recluse and rural spot along Timber Creek. (636)

It is here, at Timber Creek, that we see the healer who had attended to so many during the war (eighty thousand to one-hundred thousand by his own estimation) begin to heal: "Dear, soothing, healthy, restoration-hours—after three confining years of paralysis—after the long strain of war, and its wounds and death" (637), and we get a sense of the extent to which Whitman felt attracted and connected to the natural world:

Away then to loosen, to unstring the divine bow, so tense, so long.
Away, from the curtain, carpet, sofa, book—from "society"—from city house, street, and modern improvements and luxuries—away to the primitive winding, aforementioned wooded creek, with its untrimm'd bushes and turfy banks [...] Away, thou soul, (let me pick thee out singly, reader dear, and talk in perfect freedom, negligently, confidentially,) for one day and night at least, returning to the naked source-life of us all—to the breast of the great silent savage all

acceptive Mother. (638)

A deep appreciation for organic nature is common quality among Romantic poets; as W.K. Wimsatt observes in "Organic Form; Some Questions about Metaphor," "Natural forms, in a very natural way, yielded moral reflections; nature was thought, and thought nature. [...] This might be illustrated by many passages of description and simile in the poetry of both Coleridge and Wordsworth or Shelley [and] Keats" (16), and Whitman's immersion in the natural world after the war and the regenerative effect that he experienced as a result are indicative of his Romantic ideology and disposition. As is evident throughout the body of his work, organic nature was Whitman's greatest comfort, resource, and inspiration, and "Song of Myself" is no exception.

Whitman foreshadows the key role that nature will play in "Song of Myself" with this introductory image from section one: "I loaf and invite my soul, / I lean and loaf at my ease observing a spear of summer grass" (1:4-5). The following line, by illustrating the commonalities between himself and the grass, both implies the validity of nature as an model and establishes one of the primary metaphors of the poem, "My tongue, every atom of my blood, form'd from this soil, this / air" (1:6-7). He too, like the spear of grass, is here as the result of "parents born here from parents the same;" he will be wary of that which may distract him from the lessons of the natural world and keep "creeds and schools in abeyance;" he will revel and marvel in his existence, just as he does in that of the perfect blade of grass, whether it might be perceived by another as "good or bad;" and in recognition of the importance of each individual spear in a healthy bed of grass, he will exercise his own individuality and "permit to speak at every hazard;" he will be, like the grass, "Nature without check with original energy" (1:8, 12, 14, 15). All of these lessons and insights are perceived by the attendant and intuitive Romantic from a single "spear of summer grass."

By section two of the poem, the somewhat relaxed and contemplative tone of section one has roused to the point of near-frenzy as the poet expresses his desire

to be in contact with nature. In juxtaposition to the suspicious affinity he feels toward the synthetic "Houses and rooms [...] full of perfumes" (2:1) in the opening line of section two, his subsequent embrace of organic nature is unreserved:

The atmosphere is not a perfume, it has no taste of the distillation,
it is odorless,
It is for my mouth forever, I am in love with it,
I will go to the bank by the wood and become undisguised and
naked,
I am mad for it to be in contact with me. (2:5-10)

This celebration of the similitude between the human body and the natural world is intensified through the course of the section with images of the interplay and fusion between the body and nature. "Echoes, ripples, buzz'd whispers, love-root, silk-thread, crotch and / vine" (2:12-13) are exchanged and compared in a sort of organic show-and-tell communicated in a primordial language in which only the soul of modern man is still fluent, and the depth of sensation and connection expressed between the body and the natural world again serves to convey the extent to which the two are related. As John B. Mason notes of the section in "Walt Whitman's Catalogues: Rhetorical Means for Two Journeys in 'Song of Myself,'" "The catalogue in section two illustrated the positive reward that will come with the poet's merging his physiognomy with nature" (39). The implication that what is good for nature is good for the body, and what is good for the body is good for the soul is confirmed in the final lines of the section, wherein the poet asks:

Have you reckon'd a thousand acres much? have you reckon'd
the earth much?
Have you practiced so long to learn to read?
Have you felt so proud to get to the meaning of poems?

Stop this day and night with me and you shall possess the origin
of all poems,
You shall possess the good of the earth and sun, (2:28-34)

Organic nature is not, however, Whitman's only source of inspiration, sensation, and metaphor in "Song of Myself." In "Some Lines from Whitman," Randall Jarrell asks (and answers): "in modern times what controlling, organizing, selecting poet has created a world with as much in it as Whitman's, a world that so

plainly *is* the world? Of all modern poets he has, quantitatively speaking, ‘the most comprehensive soul’ (131). Accordingly, we see a hint of an appreciation of technology and the modern from the very first lines of “Song of Myself.” As we have seen, by ruminating on the similarities between himself and a “spear of summer grass,” the poet effectively establishes the analogous relationship between himself as an individual physical and spiritual entity among a unity of similar entities, those who share his “atoms” and “shall assume” all that the poet assumes, and the unity of individual organisms of which organic nature is composed. But by adding an element of the technological, this metaphor becomes an even more effective example of unity vitalized by the autonomy and individualism demanded by the poet in the final lines of the first section.

In this introduction to the “myself” of which the poet is singing, the reader is informed that he or she is, like leaves in a bed of grass, equivalent to yet distinct from the “myself,” but the poet does not use, as he does in the title of his book, the term “leaf.” He chooses instead to compare himself, along with the rest of the individuals comprising the unity of which he is a member, to a “spear” of grass. The denotative and connotative differences between the noun chosen for the title of his book and that which he selected to describe by analogy the “myself” at the beginning of the poetic centerpiece of the work are extreme, as are the differences in tone that they impart to the work. Whereas the word “leaf” calls to mind a very organic and beneficial but passive and somewhat nondescript contributing element of a larger whole, “spear” readily suggests the dangerous manmade implement denoted by the term and an aggressiveness, certainly due part to its meaning as a verb, that implies a sense of power and assertiveness. The image of “spear” rather than a “leaf” of grass suggests a bold and self-determined group of individuals, each with an inherent strength that allows them to assert and protect their individuality and best interests, bound together within a healthy, growing unity, and the poet confirms and builds upon this theme in the following lines. Having expressed his affinity with the grass, the following description of numerous personal characteristics—references to his physical composition, lineage, age, desires, and

intellectual sensibilities—reaffirm the concept of individuality amid unity. By subtly combining technological and natural imagery, the poet is able to convey a sense of the fundamental unity of organic reality while emphasizing the importance of maintaining the power, independence, and self-determination that, as the poet advocates in the final lines of section one, allows one to maintain the independence required to keep “Creeds and schools in abeyance,” determine one’s own principles, and “Speak at every hazard” (1:12, 14), and thus contribute most substantially to the diversity, vitality, and evolution of the whole.

We see technology addressed very specifically and in great detail in section two of “Song of Myself,” which is particularly notable considering its early appearance in this seminal work. In the opening lines of the section, Whitman admits, “Houses and rooms are full of perfumes, the shelves are crowded / with perfumes, / I breathe the fragrance myself and know it and like it, / the distillation would intoxicate me also, but I shall not let it” (2:1-4). I have previously noted the reserve expressed by Whitman toward the products of modernity described in this passage, and the way in which he uses this reference as a foil to thrust powerfully into the natural element addressed throughout the rest of the section, but we must also acknowledge his interesting and aesthetically compelling treatment of the opening lines of this section. The symmetrical construction of the first clause—with syllables balanced on either side of verb—is uncommon for Whitman, who was a pioneer of free verse, and though the artificiality of the form may have been employed to accentuate the artificiality of the subject, the comparatively simplistic balanced construction, particularly in conjunction with the rhyme, strikes the reader as familiar and comforting. Had the poet continued with this atypical technique, a more cynical interpretation might be in order, but Whitman immediately reverts to free verse after the introductory clause, affording the reader what amounts to a momentary yet pleasant respite from the otherwise intense organic construction. The words that are chosen to describe the image—houses, rooms, perfumes, and fragrance—have attractive connotative and sonic qualities to most readers as well. Had the intent been to convey a more negative perception of the trappings of

modernity, the poet could certainly have chosen words with much less associative and aesthetic appeal, but perhaps most tellingly, the poet himself admits: "I breathe the fragrance myself and know it and like it" (2:3).

It is not his familiarity with the fragrance—the intellectual and physical accoutrements of modernity—that concerns Whitman in section two, it is that the "distillation would intoxicate [him] also" (2:4). There is, in his estimation, the potential for overindulgence in the pleasures of modernity to the extent that one renders oneself insensible to the "good of the earth and sun" (2:34). Consistent with traditional Romantic philosophy, Whitman acknowledges that modern thought and technology can distract us from the divine beauty, patterns, and lessons of organic nature, but he makes it clear very early in "Song of Myself" that he believes he is capable of moderation in the appreciation and application of the modern, and he conveys his confidence in the ability to imbibe responsibly with his insistence that, though it "would intoxicate" him, he "shall not let it" (2:4). Furthermore, we know that his confidence extends to us as well, as he has already insisted in section one that "what [he] assume[s] [we] shall assume" and "every atom belonging to [him] as well belongs to [us]" (1:2-3). And so, cognizant of the dangers but emboldened by a stout will, Whitman (and we along with him) begin to partake quite liberally in the modern and technological as well as the natural.

Even when most engaged with organic nature—as he is during the exhilarating expression of sensation and integration which make up the bulk of section two of "Song of Myself"—it is not uncommon for Whitman to interject a reference to human technology as well:

The sniff of green leaves and dry leaves, and of the shore and
 dark-color'd sea-rocks, and of hay in the barn,
 The sound of the belch'd words of my voice loos'd to the eddies
 of the wind,
 A few light kisses, a few embraces, a reaching around of arms,
 The play of shine and shade on the trees as the supple boughs
 wag,
 The delight alone or in the rush of streets, or along the fields
 and hill-sides,
 The feeling of health, the full-noon trill, the song of me rising from
 bed and meeting the sun. (2:16-26)

Note that Whitman finds "delight [...] in the rush of streets" just as readily as he does "along the fields / and hillsides." In "'Song of Myself' as Mysticism," James E. Miller, Jr. interprets section two as a stage of "mental and physical preparation" in the process of the union of body and soul occurring in section five (136). To this end, he insists of section two that "Surroundings congenial to the experience must be found [...] all manmade objects—houses, rooms, clothes—must be, at least for the moment, forsaken" (136), but all the manmade objects that Miller mentions (and many more) are certain to be found amid Whitman's "rush of streets," and while this phrase is positioned as an alternative to being "alone" and could thus be interpreted as merely emphasizing companionship, this reading assumes either that the poet was unaware of the metropolitan, technological imagery attached to the phrase or that he could not manage to fashion a more nature-oriented image symbolizing companionship. If we accept, however, that Whitman intended to stimulate all the images and connotations which come to mind when we read the phrase "rush of streets," then we must certainly wonder at its inclusion in a passage that is otherwise dedicated to promoting a relationship with the natural world and the transcendent understanding which will be ours if we avail ourselves of "the good of the earth and sun." Perhaps the "union of the body and soul" and the buildings, houses, factories, and markets that line our streets are not as mutually exclusive, in Whitman's estimation, as Miller would have us believe.

Indeed, as is evident throughout "Song of Myself" and the balance of Whitman's prewar verse and prose in general, the inclusion and acceptance of the manmade as well as the natural appear to be vital to Whitman's process of enlightenment. With a deep faith in the ultimate perfection of the process of human social evolution and modernization as it occurs through time—a faith that rivals his appreciation for the evolutionary process as it has manifested itself in the perfection of the natural world (a concept which will be treated in more detail later in this paper)—he proclaims in section 23 of "Song of Myself:"

Endless unfolding of words of ages!
And mine a word of the modern, the word En-Masse.

A word of the faith that never balks,
Hence or henceforward it is all the same to me, I accept Time abso-
lutely.

It alone is without flaw, it alone rounds and completes all,
That mystic baffling wonder alone completes all.

I accept Reality and dare not question it,
Materialism first and last imbuing. (23:1-9)

Whitman does not qualify the term "materialism" to exclude the manmade—in fact, the passage which immediately follows sings the praises of "positive science," "exact demonstration," and the work of chemists, mariners, geologists and doctors (23:10-17), all trades which both use and participate in the development of new technologies.

Whitman's expression of the validity and unity of both the natural and the manmade is perhaps nowhere more evident than in the content and context of the numerous and extensive catalogs which figure prominently in Whitman's prewar verse. As he builds into the first of two major catalogs in "Song of Myself," Whitman crafts a poetic expression of his proclamation in the "Preface, 1855" that "one part does not need to be thrust above another" in the search for beauty and truth (447). Rather, he insists in section 13 of "Song of Myself:"

In me the caresser of life wherever moving, backward as well as
forward sluing,
To niches aside and junior bending, not a person or object missing,
Absorbing all to myself and for this song. (13:14-17)

Again, this passage is striking—as it was certainly meant to be—as a result in part to the rhyming employed, but also because it is such a compressed expression of the imagery surrounding it: the poet enjoys the "repartee" and the "shuffle and break-down" of the "butcher-boy" in his "killing-clothes" (12:1-3); he is enamored of the blacksmiths gathered around the forge, and in a description suggestive of his notes from "Specimen Days" of the trees surrounding Timber Creek, he writes, "The lithe sheer of their waist plays even with their massive arms, / Overhand the hammers swing, overhand so slow, overhand so sure" (12:7-9). This masterful combination of

cyclical imagery and word choice both conveys the impression of the moving hands of "Time absolutely" and slows the pace of the passage so that the final line can be savored: "They do not hasten, each man hits in his place" (12:10), thus ending the verse with a clever metaphor that is not only itself derived of a technological process, but also implies that manmade material is, in Whitman's estimation, as valid and perfect in its place in time as is the material comprising the organic world—this is the foundation upon which the poet constructs the first major catalog of "Song of Myself."

Technology receives very high-profile treatment in the catalog beginning in section 15, which is primarily a list of modern occupations:

The [steamboat] pilot seizes the king-pin, he heaves down with a strong arm, [...] The spinning-girl retreats and advances to the hum of the big wheel, [...] The malform'd limbs are tied to the surgeon's table, / What is removed drops horribly in a pail; The machinist rolls up his sleeves, the policeman travels his beat [...] The clean-hair'd Yankee girl works with her sewing-machine or in / the factory or mill. (15:6, 11, 20-21, 24, 51-52)

While the early placement and length (over 100 lines) of this technologically-oriented list is certainly suggestive of the importance of the human technology to a poem which has thus far been predominantly naturalistic in focus, there are several additional aspects of this catalog and the context in which it occurs that suggest a correlation between the natural and the manmade: the form of the catalog—the image of a thriving whole comprised of diverse and autonomous individuals—readily brings to mind the bed of grass in which the poem itself germinates (or organic nature in general which operates under the same principle). In addition, in language very reminiscent of his relationship with nature as described in sections one and two, the poet ends the catalogue with an expression of unity heretofore reserved for the natural world: "And these [occupations] tend inward to me, and I tend outward to them, / And such as it is to be of these, more or less I am, / And of these one and all I weave the song of myself" (15:110-112). As we know from sections one and two, he is one with the grass and nature, and we learn here that he feels a commiserate bond with the technological; though this treatment seems to

suggests that both play a very important part in the unity comprising the poet's existence, this interpretation is supported by the final lines of the next section, which follow a similar list of occupations—"A farmer, mechanic, artist, gentleman, sailor, quaker, / Prisoner, fancy-man, rowdy, lawyer, physician, priest" (16:29-30)—with the passage, "(The moth and the fish-eggs are in their place, / The bright suns I see and the dark suns I cannot see are in their / place, / The palpable is in its place and the impalpable is in its place.)" (16:34-37). The poet's decision to summarize and conclude these catalogs, constructed primarily of technological occupations, with an analogy derived of the natural world strongly suggests his recognition of the necessity of both in his understanding of himself, reality, and the soul. The poet recognizes, as is consistent with Romantic ideology, the divinity of nature, but he refuses to "thrust [one part] above another," opting instead to be the "caresser of life wherever moving."

In "Passage to Modernity: *Leaves of Grass* and the 1853 Crystal Palace Exhibition in New York," Ed Cutler describes the presentation of the items on display at the industrial exhibition as follows:

To create a sense of global totality in the visual display, the exhibit "represented" the art and industry of the nations by means of a strategic metonymy, a representational device in which selected objects and images, gathered together into a common viewing space, are understood not simply as isolated objects, but as contiguous parts of the totality of historical and cultural "developments." (68)

Cutler quotes Whitman as having attended the exhibition "'days and nights' for nearly a year during the formative phase of his writing the first edition [of *Leaves of Grass*]" (66), and the poet's catalogs, insists Cutler, "function in similar fashion to the exhibition displays" (75). Whitman uses an assemblage of natural and technological images to convey to his audience the sense of the diverse unity of individuals, objects, and activities necessary for the evolution of the "developments" of the present and future, but this progression is not limited to "historical and cultural" developments. As Cutler further observes, the poet described himself as "a 'kosmos,' he references a distinctly exhibition-like sense of the poet as one who 'houses' modernity itself" (76), thus implying that all aspects of what he is—the

spiritual as well as the physical and intellectual—are the cumulative result of this vast metonymy of the elements of reality included in the catalogs. It is not the poet alone who is a “kosmos,” however; as he insists in “Song of Myself,” “all truths wait in all things” (30:1), so the metonymy presented in the catalogs suggests a unification of all elements and activities in reality through space and time, whether they be organic in nature or otherwise. When viewed as a metonymic structure, there is another aspect of the form of the catalogs which implies the equivalence of the organic and the manmade: The extensive constructions of isolated and undeveloped images mimic the abrupt cadence of the manufacturing process itself (Ahearn), and the scope of the catalogs, particularly the two longer catalogs in “Song on Myself,” present such a broad swath of the activities and elements of existence as to render the final form representative of an organic metonymy. The tone conveyed while reading the catalogs and that perceived upon reflection of the whole are thus very different, as different as are the natural and the manmade elements of existence, and the combination of the mechanical composition and organic function seem again to unify and equate the two.

We see this unity and parity of technology and the natural in the last major catalog of “Song of Myself” as well; in section 33, the poet relates the experience of what critics generally consider to be a mystical vision. In “Song of Myself” as *Inspired Prophecy*, Malcolm Cowley refers to this as a “vision that is both telescopic and spiritual. The poet sees far into space and time; ‘afoot with my vision’ he ranges over the continent and goes speeding through the heavens among tailed meteors” (184). The poet describes all that he observes on his journey in the form of a catalog which, as we would expect, includes multiple references to the natural world. He goes “Where the panther walks to and fro on a limb overhead, [...] Walking the path worn in the grass [...] where the bat flies in the Seven-month eve, [...] Where the brook puts out of the roots of the old tree and flows to / the meadow” (33:17, 37, 40, 42-43), but there are many references to human technology as well. His journey also takes him “By the city’s quadrangular houses [...] Where trip-hammers crash, where the press is whirling its cylinders, [...] Where the steam-ship

trails hind-ways its long pennant of smoke, [...] Approaching Manhattan up by the long-stretching island" (33:9, 49, 56, 61). The poet summarizes the catalog with the lines "All this I swallow, it tastes good, I like it well, it becomes mine," and "All these I feel or am" (33:188, 197). Cowley observes that the poet's "secret is in the power of identification. Since everything emanates from the universal soul, and since his own soul is of the same essence, he can identify himself with every object and with every person living or dead, heroic or criminal" (184). Each object—whether natural or manmade—is a leaf amid the grass representing the poet's unified reality, thus each plays a part in the growth, form and destiny of the whole both materially and spiritually, and in the context and content of the catalog of another early technology-oriented poem, "Song of the Broad Axe," we are provided with further insight into the poet's understanding of the relationship between the natural and the manmade.

Whitman creates a context for the catalog beginning in section two of "Song of the Broad Axe" with a description in section one of an axe:

Weapon shapely, naked, wan,
 Head from the mother's bowels drawn,
 Wooded flesh and metal bone, limb only one and lip only one,
 Grey-blue leaf by red-heat grown, helve produced from a little
 seed sown,
 Resting the grass amid and upon,
 To be lean'd and to lean on. (1:1-8)

This interesting combination of anthropomorphic terminology and organic metaphor may leave the reader with a somewhat conflicting impression of the axe as part human and part natural resource. The first descriptor, "weapon," suggests that the poet is describing something less-than-human—an implement or resource used for protection or conquest—but the following adjectives, "shapely, naked, wan" convey an impression of human characteristics and even, considering the poet's use of the term "wan," the potential for human emotion. In a birth-image that could be considered either humorous, fitting (considering the inanimate, mineral nature of the offspring) or both, the "flesh" and "bone," one-lipped, one-limbed infant is "from the mother's bowels drawn," but the axe-head is also referred to as a "leaf," and the

handle is "produced from a little seed sown." The axe—which can be seen as a metaphor for technology in general—thus appears to be a striking unification of humanity and natural resources which, upon consideration, is quite an apt and insightful description of both an axe and technology. The sixth line of the passage places the axe "amid" the grass, further supporting the interpretation of technology as a natural amalgam of humanity and organic nature equivalent to the grass itself, but the axe can also rest "upon" the grass—it can be used to dominate nature.

Rather than finding fault, as did most Romantics, with the application of technology in the domination of nature, the use of the two prepositions in conjunction in the phrase "Resting the grass amid and upon," suggests the equivalency of both meanings: the axe is as natural as the grass, as is the use of technology to harvest the grass. The following four lines ending section one and transitioning into the catalog in section two seem to support this reading. Whitman insists that the "masculine / trades, sights and sounds" surrounding the use of the axe are "dabs of music" played by the "Fingers of the organist skipping staccato over the keys / of the great organ" (1:9-12). This metaphor implies that both the grass and the technology which rests "amid and upon" it are equivalent in another way—they are both the result of something more than random chance. And while there is the hint of the hand of the Divine in this passage, music need not be pre-arranged and set in stone; it can be improvised to delightful effect. And there may certainly be more than one musician (you might find, after checking Whitman's program, that it is you playing the great bassoon in tonight's performance), but to achieve anything resembling what the poet—who was a great fan of the opera—would consider music, there must be an underlying structure, and as we see in the content and form of the following catalog, there are parts for both the natural and the technological in this unfolding arrangement.

The catalog comprising sections two and three of "Song of the Broad-Axe" begins with an expression of appreciation for the varied and fertile lands of the earth: "Welcome are the lands of pine and oak, / Welcome are the lands of lemon and fig, / Welcome are the lands of gold" (2:2-4). This early emphasis on nature in a

poem which claims to sing of technology is suggestive of Whitman's conception of the symbiosis between the two, and the poet emphasizes this relationship with the final line of section two: "Lands of iron—lands of the make of the axe" (2:19). This line also serves as a transition in the catalog; the focus shifts from the celebration of natural resources to images reflecting the way in which technology has facilitated the use of these resources, allowing us to shape our reality:

The sylvan hut, the vine over the doorway, the space clear'd / for a garden, [...] The remember'd print or narrative, the voyage at a / venture of men, families, goods, / The disembarkation, the founding of a new city, [...] The house builder at work in cities or anywhere, [...] Spar-makers in the sparyard, the swarming row of / well-grown apprentices [...] (3:2-3, 12-14, 38, 67-69)

And just as natural resources and technology allow us to shape our reality, our reality shapes us. The technologies that we have created often play a vital role in situations which define and redefine who we are:

The beauty of all adventurous and daring persons, [...] The beauty of independence, departure, actions that rely / on themselves, [...] The arriving engines, the hoarse shouts, the nimble stepping / and daring, / The strong command through the fire-trumpets, the falling in / line, the rise and fall of arms forcing the water, [...] The uplifted arm, the clatter of blows on the helmeted head, / The death-howl, the limpsy tumbling body, the rush / of friend and foe thither, / The siege of revolted lieges determin'd for liberty, [...] The hell of war, the cruelties of deeds, (3:20, 23-24, 80-83, 103-106, 116)

This catalog, like the other catalogs we have seen thus far, reflects the poet's conception of reality as an orchestra rather than a solo, and the successful performance is dependent upon the presence of every instrument. Just as there are those who would eschew or ignore technology, there are those who might be tempted to allow it to play a disproportionate part in the production, but Whitman warns—as he did in section two of "Song of Myself"—that technology and modernity alone will not lead us to greatness. In section four of "Song of the Broad-Axe" he asks, "Do you think a great city endures? / Or a teeming manufacturing state? or a prepared / constitution? or the best built steamships" (4:9-11)? These, he insists, can be done away with in "one flash of defiance" (4:17). Rather, "A great

city is that which has the greatest men and women" (4:18); it is the city that "stands with the brawniest breed of orators / and bards" (5:11-12)—those who help the people to maintain their connection with nature and the divinity within themselves. The greatest city is the city in which freedom prevails, and "the slave ceases, and master of the slaves ceases" (5:19); where there is equality, and "women walk in public processions in the streets / the same as men" (5:33-34); where fairness is the norm, and "equanimity is illustrated in affairs" (5:31); and "where the children are taught to be laws to themselves" (5:29). It is this city that will have *both* material and spiritual greatness and will be, as Whitman predicts in the final lines of the poem, the inspiration and standard-bearer for material and spiritual greatness throughout the balance of humanity: "Shapes ever projecting other shapes, / Shapes of turbulent manly cities, / Shapes of the friends and home-givers of the whole earth, Shapes bracing the earth and braced with the whole earth" (12:3-6). While Whitman was clearly very optimistic about the potential of technology in the right hands at this early stage of his career (1856), in "Crossing Brooklyn Ferry" he shows us, through a metaphor comparing the evolution of technology with that of the organic nature, that his interest in technology is based on more than just optimism and materialistic patriotism.

Like the ocean's "flood-tide" observed by Whitman in the opening line of "Crossing Brooklyn Ferry"—a force eternally engaged in the cyclical dance of erosion and deposit culminating in the natural perfection that so inspired the Romantics—the "crowds of men and women" (1:4) which Whitman next addresses in section one are also part of a "current rushing" toward destiny. Caught up in this current (or, as Whitman also refers to it throughout the poem, this "solution" or "necessary film") along with us are our technological creations, of which there are numerous examples mentioned and described throughout the poem. Indeed, the vantage point from which Whitman made his observations relevant to the poem is described by M. Wynn Thomas in *The Lunar Light of Whitman's Poetry* as "a commanding view of what at that time was probably the greatest area of concentrated commercial power in the world" (105). In "Crossing Brooklyn Ferry,"

Whitman takes us on a trip through time that attempts to bind peoples of the past and present with an expression of our shared human senses while offering us his insight into where this flood-tide of humanity—and the modern technologies that accompany it—may be carrying us.

Introducing the poem with references to both the "flood-tide" and "Clouds of the west—sun there half an hour high" (1:1-2) serves to establish in the reader a cognizance of both the processes and the procession of time. Well-informed in the studies of geology and biology, Whitman was aware of the effects of tidal action on the topography, flora, and fauna of seashores and rivers. The subsequent mention of the "hundreds and hundreds" of people that cross the ferry each day on their way to and from work—people whom Whitman tells us he has also seen "face to face" as he did the flood-tide and the sunset—encourages the reader to compare rather than contrast these two types of tides, which invite comparison in other ways as well: staying within the geographical context of the poem, both types of tides come to do their work on the island of Manhattan, one to facilitate the process of geological and biological evolution on the shorelines of Manhattan Island, the other to work toward its social, intellectual, and spiritual evolution in the most modern city in the world. Both types of tides, having done their days work, then return home to gain strength for the next day's push toward destiny.

As the poem develops, Whitman describes in some detail the products of human progress that inhabit the landscape of Manhattan and Brooklyn and the waters that surround them, but again with an eye toward comparison rather than contrast, he combines within his catalogs the products of man and nature, including within the same list his visions of "the Twelve-month sea-gulls" and "how the glistening yellow lit up parts of their bodies and left / the rest in strong shadow" along with "the white sails of schooners and sloops" (3:12, 14-15, 26). He goes on to describe "The scallop-edged waves in the twilight" along with "the gray walls of / the granite storehouses by the docks" and "the fires from the foundry chimneys / burning high and glaringly into the night" (3:35, 37-38, 41-42). The effect of Whitman's comparison of the tide of humanity through time and the flood-tide of

the Atlantic Ocean, combined with the comparison of modern human products and activities with those of nature, is to suggest that both are, in his estimation, valid manifestations of evolution—that the processes and products of both the human and natural "flood-tides" are capable of resulting in a beautiful and perfect end-result; notably, he makes no distinction between the creations of mankind and those of the Creative Force when he describes "The glories strung like beads on my smallest sights and hearings, / on the walk in the street and the passage over the river" (2:6-7), and again when he asks, "Ah, what can ever be more stately and admirable to me than mast- / hemm'd Manhattan? / River and sunset and scallop-edg'd waves of flood-tide? / The sea-gulls oscillating their bodies, the hay-boat in the twilight, / and the belated lighter" (8:1-5)? Both the human and the Atlantic tides are capable of producing "glories," and in another comparison resulting of the flood-tide metaphor combined with Whitman's extensive use of divine imagery throughout the poem, both can also be seen to do so as a result of a powerful heavenly force.

Just as tides are driven by the magnetic pull of the moon, Whitman appears to be suggesting that humankind's destiny, and the technologies which accompany it, may also be driven by the design of a Creative Force. The theme of a divine humankind and the rightness of its creations permeates "Crossing Brooklyn Ferry." In addition to Whitman's previously-mentioned description of the products of both man and nature as "glories," Whitman observes, as he looks into the water below the ferry "the fine centrifugal spokes of light round the shape of / my head in the sunlit water" (3:22-23). Later, as he revels in the climax of the poem, the poet again returns to this analogy which, by combining mechanical and divine imagery, further suggests the equivalence of the two: "Diverge, fine spokes of light, from the shape of my head, or any / one's head, in the sunlit water" (9:25-26)! In section eight, he asks, "What gods exceed these that clasp me by the hand, and with / voices I love call me promptly and loudly by my nighest name / as I approach" (8:6-8)? And in section nine, modes of transportation, production technologies, and political systems—as products of "spiritual" beings—are given Whitman's blessing:

Come on, ships from the lower bay! pass up or down, white-sail'd
schooners, sloops, lighters!

Flaunt away, flags of all nations! be duly lower'd a sunset,
 Burn high your fires, foundry chimneys! cast black shadows at
 nightfall! cast red and yellow light over the tops of houses!
 Appearances, now or henceforth, indicate what you are,
 You necessary film, continue to envelope the soul,
 About my body for me, and your body for you, be hung our di-
 vinest aromas,
 Thrive, cities—bring your freight, bring your shows, ample and
 sufficient rivers,
 Expand, being that which none else is perhaps more spiritual,
 Keep your places, objects than which none else is more lasting.
 (9:27-39)

As objects created by man have no real permanence, especially in the context of geological time, Whitman's description of them as "lasting" suggests that they play an important role in a less transient progression: just as the ocean's flood-tide carries vital elements and dynamics which propel nature, via geological and biological evolution, toward its destiny, the human flood-tide carries technological (among many other) "objects" which propel us, via physical, intellectual, and spiritual evolution, toward our destiny.

The ferry upon which the poet rides is itself an example of the inextricable and dynamic relationship between technology and those who create it. The effects produced upon the shore of Brooklyn by the tidal action of both the Atlantic Ocean and humanity are witnessed and described from the perspective of the ferry, thus the analogy occurring to the poet as a result of what he sees and any insight that this analogy may impart to the poet or his reader is representative of the mutually-dependent relationship by which technology participates in the intellectual and spiritual evolution of humankind. The journey of the passengers on the ferry from home to work and back again suggests to the poet the analogous passage "from shore to shore" (2:11-12) of life to death, but the shared sensations and physical closeness of his fellow passengers on the ferry impress upon the poet the emotional bonds that unite people rather than the temporal limitations that ultimately divide them. In an ambitious attempt to draw on our shared sensations and emotions to unify humanity not only in space but through time, Whitman revels in his

experiences and sensations at the rail of the ferry, imagines the multitude of others that will do so in the future, and thereby establishes a connection among people so fundamental that “time nor place [nor] distance avails not” (2:23). Here again, the human experiences and interactions occurring as a result of technology (in this case, the passage on the Brooklyn ferry) act as a catalyst that leads the poet to an insight that otherwise may never had occurred. Like the delicate geological and biological evolution occurring as a result of each tidal swell rolling upon the Brooklyn shore, Whitman’s passage on the ferry enacts a subtle change that moves us closer to our own destiny, and it is Whitman’s opinion that, if the former process is to be seen by Romantics as the divine product of a Creative Force, so must the latter.

The present is, in both the modern technological and natural worlds, a product of the past. What is old is, as Whitman says, “disintegrated / every one disintegrated yet part of a scheme” (2:3-4), and the new is built of the detritus—be it pieces of rock or bone, or be it fragments of human construct and understanding—tossed about in the flux, and Whitman celebrates each particle of this divine human flood-tide, prompting him to end the poem with the insistence regarding the material objects and intellectual artifacts bobbing about in the solution around us, that:

We use you, and do not cast you aside—we plant you permanently within us,
 We fathom you not—we love you—there is perfection in you also,
 you furnish your parts toward eternity,
 Great or small, you furnish your parts toward the soul. (9:45-49)

In these final lines of “Crossing Brooklyn Ferry,” the poet resolves the flood-tide metaphor, planting the “dumb real objects” of human intellect and construct “permanently within us” just as nature accepts and acclimates itself to the changes brought by the ocean’s flood tide, and he summarizes an approach to technology and modernity that we see echoing throughout Whitman’s early technologically-oriented work: the poet deems intellectual and material elements of human existence valid elements of the unity amid which human destiny unfolds. Moreover, the process through which this occurs is likened via analogy in “Crossing Brooklyn Ferry” to the process of change evident in the natural world—a process seen by the

Romantics as illustrative of the divine Creative Force. This is quite an evolutionary approach. Whitman broke from main-stream Romantic tradition to forward the notion that beauty, truth, and transcendence could be found at the rail of ferry while contemplating the cityscape, or from the window-seat of a Pullman car, or among the gadgetry and gawking of a world's exposition, but, as it turns out, Whitman's position is the result of the natural progression of a very fundamentally Romantic philosophy—turbocharged by technology and science.

Chapter Two: Let Me Count the Ways

Organic nature, as a perfect incarnation of the divine Creative Force, reveals to the intuitive Romantic poet and philosopher important insight into the methods and patterns of the Creative Force; in his description of this approach as it is evident in Whitman's work and philosophy, Gay Wilson Allen, in the *Walt Whitman Handbook*, quotes Goethe: "We know the soul only through the medium of the body, and God only through nature" (qtd. in Allen 259). The unity, for example, observable in organic nature—the interdependence of all organisms as they interrelate, grow, and evolve together, and the form of the organism resulting of its function and interaction—impressed upon the Romantics the power and beauty of unity as a ubiquitous, elemental, and divine method. This transcendent (or absolute and eternal) truth derived of nature became essential to the Romantic philosophy; as Richard Harter Fogel notes in "Romantic Writers See the World as an Organic Whole," "The center of Romanticism, [is] a new and different vision, in which everything is alive, related, and meaningful. This involves 'organicism,' according to which all reality is organically and vitally unified" (34-35). Having divined this truth of nature, Romantic poets could then attempt to express it through verse and, generally through analogy, show the personal, social, and spiritual manifestations and potential of unity as a fundamental and guiding force. We have already seen examples of this process in the analogous relationship between "leaves of grass" and Whitman's catalogs, both of which exemplify the unification of many into a healthy, and growing whole. This Romantic tendency to look to nature for understanding and inspiration is described by Norman Foerster in "Emerson on the Organic Principle in Art" as follows:

The vital source of this fusion [perfect beauty and truth both "inward and outward"] is ideal Nature. It is by taking a central position in the universe, by submitting to the guidance of Nature, and helping her, so to speak, to make herself known, that the poet attains his triumphs. (200)

And as Whitman observes in "A Song of the Rolling Earth:"

I swear there is no greatness or power that does not emulate those
of the earth,
There can be no theory of any account unless it corroborates the
theory of the earth,
No politics, song, religion, behavior, or what not, is of account, unless
it compare with the amplitude of the earth,
Unless it face the exactness, vitality, impartiality, rectitude of the
earth. (3:5-12)

Interestingly though, the understanding of organic unity that resulted in the Romantic concept of organicism was itself the result of the use of technology and science. As Fogle further observes, "Organicism is not a metaphysical or poetical idea alone; it rose as a distinct conception with the rise of the biological sciences in the latter part of the eighteenth century" (35). Though Fogle also concedes that "Full realization of organic unity and life does not, however, lie within the competence of science, which must still abstract and classify to obtain its results" (35), Whitman recognized the important contribution that technology and science had made and could continue to make toward his very Romantic goal of a more comprehensive understanding of the methods and patterns of nature—together, technology and science were being employed to great effect in the objective observation and investigation of the organic world, and the information which they revealed was being used to establish theories regarding fundamental natural processes—process which, Whitman believed, were intrinsic not only to nature, but to the force responsible for its creation as well, prompting him to insist in "Preface, 1855" that "Exact science and its practical movements are no checks on the greatest poet but always his encouragement and support" (450). In "Song of Myself," Whitman acknowledges that, while not a scientist, scientific knowledge of the natural world is valuable to his work and philosophy:

Hurrah for positive science! long live exact demonstration!
Fetch stoncrop mixt with cedar and branches of lilac,
This is the lexicographer, this the chemist, this made a grammar
of the old cartouches,
These mariners put the ship through dangerous unknown seas,
This is the geologist, this works with the scalpel, and this is a

mathematician.

Gentlemen, to you the first honors always!
Your facts are useful, and yet they are not my dwelling,
I but enter by them to an area of my dwelling. (23:10-19)

And technology is essential to the scientific process: the telescope, microscope, spectroscope, and innumerable other scientific instruments enhance the senses, providing an expanded perception and understanding of nature; new tools and modes of transportation facilitate exploration which further augments our understanding of the natural world; and technological innovations in communication and travel allow the exchange of information so vital to the scientific process. Clearly, technology and science work hand-in-hand to inform us of the natural world, but one may wonder how it was that a Romantic poet who, as key passages in his work show, gained his transcendent knowledge through subjective mystical experiences resulting of intuited connections with the Creative Force, found the objective knowledge provided by technology and science to be so important to his ideology.

Whitman believed that, at birth, every organism is infused with a germ of the Creative Force; it is at this moment that individuality occurs and the evolution of the soul begins. In "Crossing Brooklyn Ferry," he writes, "I too had been struck from the float forever held in solution, / I too had received identity by my body, / That I was I knew was of my body, and what I should be I knew / I should be of my body" (5:13-16). Consistent with mystical methodology, Whitman believed that transcendent truth resides in that essence of the Creative Force within each of us, and that the acquisition of this knowledge is attained through an intuited merging of the body and the soul. As Miller observes in "'Song of Myself' as Mysticism," "it is only through the intimate fusion of the physical and the spiritual, the ennobling of the physical through the spiritual, that one can come to know transcendent reality" (137). In section five of "Song of Myself," we are treated to an example of Whitman's experience of this phenomenon:

I believe in you my soul, the other I am must not abase itself to you,

And you must not abase to the other.

Loaf with me on the grass, loose the stop from your throat,
 Not words, not music or rhyme I want, not custom or lecture, not
 even the best,
 Only the lull I like, the hum of your valved voice.

I mind how once we lay such a transparent summer morning,
 How you settled your head athwart my hips and gently turn'd over
 upon me,
 And parted the shirt from my bosom-bone, and plunged your
 tongue to my bare-stript heart,
 And reach'd till you felt my beard, and reach'd till you held my feet.

Swiftly rose and spread around me the peace and knowledge that
 pass all the argument of the earth,
 And I know that the hand of God is the promise of my own,
 And I know that the spirit of God is the brother of my own,
 And that all the men ever born are also my brothers, and the women
 my sisters and lovers,
 And that the kelson of the creation is love,
 And limitless are the leaves stiff or drooping in the fields,
 And brown ants in the wells beneath them,
 And mossy scabs of the worm fence, heap'd stones, elder, mullein
 and poke-weed. (5:1-23)

The transcendent truth that is realized as a result of the merging of the poet's body and soul—the comprehension of a perfect equality between God, the poet, and all his “brothers” and “sisters” resulting in an acceptance so complete that it becomes a loving union of individuals (reminiscent of the perfection evident to Whitman in the union of individual leaves comprising a balanced and healthy bed of grass)— appears to have little to do with technology or science. What does seem to contribute significantly to this mystical experience is sensation: sound is perceived in the “the hum of [the soul's] valved voice;” touch is described in the act of the body and the soul lying together, the sexual imagery, the vital connection of the soul embracing the entire being of the poet and speaking its truths to the poet's heart; and we see the organic union in the natural imagery concluding the passage.

In an effort reminiscent of “Crossing Brooklyn Ferry,” Whitman attempts, in the description of this mystical experience, to unify through the shared senses. The

transcendence moment which he knows every member of his audience has experienced—that moment in which our senses reveal to us something of such beauty and truth that it takes us to a level of emotion or insight beyond our normal range of experience (the moment which was in fact seen by Whitman as compelling support for the existence of the Creative Force and its essence within each of us)—is used as a unifying force in this passage. As we move across the fulcrum of the passage and Whitman concludes with support for his revelation that “the kelson of the creation is love,” it is to the sense of sight and what it reveals to us of nature that both confirms and informs his mystical vision. It is in the natural example of the divine essence, equality, and unity of the “leaves stiff or drooping in the fields,” the “brown ants in the wells,” and the “mossy scabs of the worm fence, heap’d stones, elder, mullein / and poke-weed” that the truth of our own divinity and equality and the necessity—if we are ever to attain the perfection seen in organic nature—is proven. This incorporation of sensation in the mystical process is a key difference that, as many critics have noted, separates Whitman’s mystical experience from that of more conventional practitioners.

As Miller observes, “In “Song of Myself” the self is not, as in the traditional mystical experience, submerged or annihilated, but rather celebrated, the senses are not humbled, but glorified” (137). And in “Nature and Materialism: Fundamentals in Whitman’s Epistemology,” Marion Harris agrees: “These truths are perceived through affective experience, a kind of intuition that leads to ecstasy. This level of cognition, however, is prompted by sensory experience” (86). We see Whitman’s inclusion of sensory experience in his declaration in section 24 of “Song of Myself” that:

I believe in the flesh and the appetites,
 Seeing, hearing, feeling, are miracles, and each part and tag of me
 is a miracle.
 Divine I am inside and out, and I make holy whatever I touch or
 am touch’d from,
 The scent of these arm-pits aroma finer than prayer. (24:30-35)

Sensory experience is also apparent in sections 26 through 30 in which he celebrates the transcendence of the senses of hearing and touch, insisting “Now I will do

nothing but listen [...] The orchestra whirls me wider than Uranus flies” (26:1, 33) and asking “Is this then touch? quivering me to a new identity” (28:1) for “(What is less or more than touch?)” (30:5); and in the visual imagery of natural and manmade objects described throughout his work, employed perhaps most notably in the imagery of the grass and the extraordinary mystical journey Whitman describes in section 33—the moment in which he confirms the truth of “What [he] guess’d when [he] loaf’d on the grass”(33:2)—in which he is “afoot with his vision” (33:8) of the unity of a vast catalog of individual real objects both natural and manmade. It is Whitman’s contention that “All truths wait in all things” (30:1) and that, as material objects occurring in “reality first and last imbuing,” these truths are perceived through a transcendent connection instigated by the senses. It was in the singular way that Whitman used the senses in his mystical experiences that made technology and science so important and useful to this particular mystic: Whitman trusted his senses to reveal truths—as does the scientist—and technology enhances and expands the senses. The way was now clear for Whitman to use technology and science to enter into “an area of [his] dwelling” and inform his mystical experiences, justifying his assurance in the “Preface, 1855” that the “chemist astronomer geologist phrenologist spiritualist mathematician historian and lexicographer are not poets, but they are the lawgivers of poets and their construction underlies the structure of every perfect poem” (450). As we see in “Passage to India” however, the poet must still be relied upon to make the transcendent connection between what the senses and technology reveal to us about nature and the insight into the Creative Force that this information provides.

The “Passage to India,” as Whitman refers to it in the poem of the same name, is much more than just a sea-route to that rich and mysterious continent long searched for by generations of mariners, it is a metaphor representing the human journey to understand the reason for our existence and answer the questions posed by Whitman in the poem: “*Wherefore unsatisfied soul? and / Whither O mocking life*” (5:14-15)? It is a metaphor for a journey that will end with a complete understanding of the natural world in which we live and the universe that sustains it.

As Whitman observes in section nine of the poem:

Passage to more than India!
 O secret of the earth and sky!
 Of you O waters of the sea! O winding creeks and rivers!
 Of you O woods and fields! of you strong mountains of my land!
 Of you O prairies! of you gray rocks!
 O morning red! O clouds! O rain and snows!
 O day and night, passage to you!

O sun and moon and all you stars! Sirius and Jupiter!
 Passage to you! (9: 11-19)

With a more complete understanding of these natural incarnations of the Creative Force, insists Whitman, we can begin to divine the answers to the questions of our own existence and to replicate and incorporate into our lives, societies, and souls the perfect patterns of existence and interaction observable in organic nature. As Gay Wilson Allen notes in *The Solitary Singer: A Critical Biography of Walt Whitman*, "India is not only a continent, the historical cradle of humanity and of religion and of all the great dreams for the race; it is a symbol of spirituality and the ultimate meaning of existence" (429), and the passage to this metaphorical India, insists Whitman, will be realized—like the discovery of the physical passage to India—through the acquisition and application of knowledge acquired via the use of technology. But the spiritual journey is different in an important way: it is the poet rather than the scientist or explorer who must finally use this enhanced knowledge of reality gained through the senses to guide us to our spiritual India.

Whitman begins "Passage to India" singing of the "Strong light works of engineers," (1:3). He specifically addresses three of the greatest technological achievements of his day: the Suez Canal which greatly reduced shipping times between Europe and Asia, the vast and expanding American railway system, and the Atlantic telegraph cable—a rope of twisted copper and gutta-percha coated with beeswax and strung across the breadth of an ocean, allowing real-time communication between the Old World and the New. Recognizing the potential of technology to facilitate exploration, communication, and the intellectual and social growth and unity that results of the enhanced exchange of information, Whitman

predicts: "The earth to be spann'd, connected by network, / The races, neighbors, to marry and be given in marriage, / The oceans to be cross'd, the distance brought near, / The lands to be welded together" (2:19-22). Continuing with this theme, he then engages in an extended analogy, using steamship and rail travel as a metaphor for the potential of technology to inform our understanding of the natural world. He takes us on a guided tour through the Suez Canal; from the deck of the steamship *Empress Eugenie*, Whitman describes "the strange landscape, the pure sky, the / level sand in the distance" (3:6-7). Next on Whitman's itinerary is a passage by locomotive through the American West; observations of note include the Wind River and the Wasatch Mountains, the Humboldt Range and Lake Tahoe. But after we have used technology to inform our senses and enhance our understanding of nature and reality, Whitman makes it clear that it is the poet who must then use this information provided by technology and the senses to make the transcendent connection between reality and what it reveals to us about the Creative Force:

After the seas are all cross'd, (as they seem already cross'd,)
 After the great captains and engineers have accomplish'd their work,
 After the noble inventors, after the scientists, the chemists, the
 geologists, ethnologist,
 Finally shall come the poet worthy that name,
 The true son of God shall come singing his songs.

Then not your deeds only O voyagers, O scientists and inventors,
 shall be justified,
 All these hearts as of fretted children shall be sooth'd,
 All affection shall be fully responded to, the secret shall be told,
 All these separations and gaps shall be taken up an hook'd and
 link'd together,
 The whole earth, this cold, impassive, voiceless earth, shall be com-
 pletely justified,
 Trinitas divine shall be gloriously accomplish'd and compacted by
 the true son of God, the poet,
 (He shall indeed pass the straights and conquer the mountains,
 He shall double the cape of Good Hope to some purpose,)
 Nature and Man shall be disjoin'd and diffused no more,
 The true son of God shall absolutely fuse them. (5:25-44)

In this verse from "Passage to India," we see clear confirmation of Whitman's numerous pronouncements that the knowledge of reality revealed by the senses—

knowledge provided and enhanced by technology and incorporated within the sciences—does and will inform the transcendent experiences of the mystic who trusts the senses to interpret the patterns and methods of the Creative Force as they exist in reality. We see how poetry can become, as Whitman insists in the “Preface, 1855,” “the tuft and final applause of science” (450), but without the technologies which enable the successful pursuit of knowledge regarding the natural world, the sensual mystic cannot attain the information necessary to properly commence his metaphysical voyage, and his ultimate goal—the “Passage to India”—will remain undiscovered. Alternatively, the information provided of the natural world by technology and science is, without the sensual mystic to interpret it, equally ineffectual in the search for the meaning of existence, as is evident in the poem “When I heard the Learn’d Astronomer.”

The mere fact that the poet attends the lecture of the “learn’d astronomer” suggests the importance of the science to the poet, and his attendance becomes even more significant when considered within the context of Whitman’s broader use and treatment of technology and science, but that he quickly becomes “tired and sick” of the “proofs, the figures” and “charts and diagrams” and must leave the lecture room for the restorative qualities of the “mystical, moist night air” also provides insight into the complicated nature of the poet’s relationship with science (1-3, 7, 9). As Lenny Emmanuel notes in “Whitman’s Fusion of Science and Poetry,” it was not the abstracted objective data regarding the patterns of nature that Whitman found so relevant; rather, it was the larger theories that could be extrapolated of this information and used to intuit methods of social and spiritual progress that appealed to the poet:

Whitman, and rightly so, did not especially want to simply know the facts and mathematical representation; but instead, he wanted to know what the facts, figures, charts and diagrams meant, let us say, philosophically—how, in other words, do the facts suggest insight into the human situation. (76)

That abstracted data was all the lecturer had to offer, and that this data seemed to satisfy those in attendance, who received it with “much applause,” was a frustration

to the poet who, “rising and gliding” from the lecture room in a very mystical fashion, finds his satisfaction amid the unity of nature, gazing “in perfect silence at the stars” (5-6, 8,10). Here he was not restricted to the consideration of scientific data but could reflect freely upon the larger implications of the characteristics and patterns of astronomical objects and the transcendent truths regarding human interaction and the journey of the soul that might be intuited from these natural patterns. Again, we see the information provided of the natural world by the scientist—and the information provided the scientist by technology—used to forward the poet’s purposes, which explains his presence at the lecture, but the abstracted scientific data itself is unsatisfying to the poet. Moreover, he finds it disconcerting that there are those satisfied by the purely objective findings of the astronomer, those content to ignore what the poet feels are the most important lessons to be learned of nature, the patterns intrinsic to the Creative Force and how they might be interpreted and applied to our personal, social, and spiritual benefit.

In addition to the organic unity revealed by biologists and other scientists as fundamental to organic nature, there is another important example of a natural method revealed by technology and the senses, interpreted by scientists, and used by Whitman to “absolutely fuse” “Nature and Man:” evolution. Indeed, as Whitman expresses in “Preface, 1872,” he was convinced that the organic patterns which technology had helped science to reveal of nature, patterns such as unity and evolution, could, when interpreted and applied by the poet, substitute for the religious beliefs that science had begun to challenge:

I will see, (said I to myself,) whether there is not, for my purposes as poet, a religion, and a sound religious germenancy in the average human race, at least in their modern development in the United States, and in the hardy common fibre and native yearnings and elements, deeper and larger, and affording more profitable returns, than all mere sects and churches—as boundless, joyous, and vital as Nature itself—a germenancy that has too long been unencouraged, unsung, almost unknown. With science, the old theology of the East, long in its dotage, begins evidently to die and disappear. But (to my mind) science—and may be such will prove its principle service—as evidently prepares the way for One indescribably grander—Time’s young but perfect offspring—the new theology—heir of the West—

lust and loving, and wondrously beautiful. For America, and for today, just the same as any day, the supreme and final science is the science of God—what we call science being only its minister—as Democracy is, or shall be also. And a poet of America (I said) must fill himself with such thoughts, and chant his best out of them. (520)

With the assistance of technology, science could provide insights into the laws of “Nature itself,” thus become a “science of God” and participate substantially in the establishment of a “new theology” promoting organic patterns such as unity and evolution. While the incorporation of these natural patterns was typical of Romantics, who generally rejected what they perceived as the social and spiritual isolation and stagnation of orthodox theology and the Neoclassical concept of a perfect, complete, and thus unimprovable Divine plan, Whitman relied heavily upon what technology and science had revealed, particularly of the evolutionary process, to inform and confirm his beliefs. In “This Old Theory Broach’d Anew,” Hertha Wong notes that Whitman—while admitting the limitations of a purely scientific approach in attending to all the mysteries of existence—recognizes the contributions that science can make toward the understanding of organic patterns and thus the Creative Force:

I assume that Spencer, Huxley, Darwin, the greatest evolutionists everywhere, take the ground that evolution is a process: do not pretend that it gives a why for existence: no: only that it expresses a method of nature...I have felt from the first that my own work must assume the essential truths of evolution, or something like them.
(qtd. in Wong 30)

And evolution was the foundation upon which the poet’s spiritual core-beliefs were constructed.

Whitman is generally considered to be, like many of his Romantic counterparts, a pantheist, defined in the *Compact Edition of the Oxford English Dictionary* either as “The religious belief or philosophical theory that God and the universe are identical (implying the denial of the personality and transcendence of God); the doctrine that God is everything and everything is God,” or “The heathen worship of all Gods.” Neither definition describes Whitman’s position exactly as his

spiritual beliefs were very complex and appear to have changed somewhat over time, but both of these definitions, if taken together, do seem a much more accurate description than the alternatives. Again, keeping in mind that Whitman looked to organic nature for insight into divine methods, the concept of a single, autonomous, omnipotent Creator did not resonate with Whitman; this was not a dynamic exemplified in nature, but rather an idea more representative of human politics and desire. As he maintains in “Song of the Open Road,” “Now I re-examine philosophies and religions / they may prove well in lecture-rooms, yet not prove at all under / the spacious clouds and along the landscape and flowing / currents” (6:21-24), but the alternative offered in “By Blue Ontario’s Shore” is, as Whitman notes, consistent with natural reality: “Have you thought there could be but one supreme? / There can be any number of supremes—one does not counter- / vail another any more than one eyesight countervails another, / or one life countervails another” (3:1-4). In the most perfectly-functioning, balanced, and beautiful systems in nature (a healthy bed of grass may again come to mind) there is a unity of individual, equal, and evolving organisms—this is the pattern upon which Whitman modeled his concept of spirituality. The Creative Force was thus conceived by Whitman to be an “eternal float” of independent, united, and evolving souls. Noting the difference between the more traditional pantheistic conception of a single Oversoul and Whitman’s notion of a multitude of united souls, Allen, in the *Walt Whitman Handbook*, refers to the latter as “panpsychism,” but insists that the difference was negligible to Whitman (257).

Whitman believed that each soul would eventually evolve as a result of life experiences to the point of perfection; in section 41 of “Song of Myself” he predicts that “The supernatural of no account, myself waiting my time to be one / of those supremes, / The day getting ready for me when I shall do as much good as the best, and be as prodigious; / By my life lumps! becoming already a creator” (41:43-47). But spiritual evolution is an ancient idea, and many Eastern mystics had incorporated spiritual evolution into their ideologies long before technology and science had been used to establish physical theories of evolution. Cowley, in “Song

of Myself' and Indian Philosophy" notes Whitman's extensive use of spiritual concepts generally associated with the Eastern philosophy, but also observes that "Whitman, when he was writing the poems of the first edition, seems to have known little or nothing about Indian philosophy" (233). But Cowley admits that "It is true that they [Indian philosophical ideas] were vaguely in the air at the time and that Whitman may have breathed them in from the Transcendentalists or even from some of the English quarterly reviewers" (233). So it is possible that evolution was a key element of Whitman's developing ideology (as it was for many Romantics and mystics) before or irrespective of the influence of Kant, Lamarck, and Darwin, but what sets Whitman apart from other Romantics and mystics in this regard is the extent to which he was informed in not only the biological theory of evolution, but in the evolutionary theories of various studies of physical science and the extent to which he used this knowledge gained of the senses and technology, just as he describes in section five of "Passage to India," to "absolutely fuse" and "justify" his notion of the evolving spirit of man by showing evolution as a fundamental method of the Creative Force evident throughout nature.

We see evidence of Whitman's application of the biological theory of evolution in section 32 of "Song of Myself," in which he describes how he could "turn and live with the animals" because "They do not sweat and whine about their condition, they do not lie awake in the dark and weep for their sins, / they do not make [him] sick discussing their duty to God, / Not one is dissatisfied, not one is demented with the mania of / owning things" (32:1, 4-8), and Whitman acknowledges the characteristics that he shares with the animals using a clear reference to biological evolution supported by information revealed to him by his senses: "So they show their relations to me and I accept them, / They bring me tokens of myself, they evince them plainly in their possession" (32:12-14). But as Allen observes, Whitman was aware and interested in the evolutionary patterns which had been revealed not just among biological organisms but throughout the natural world well-before Darwin published *Origin of Species* in 1859:

Walt Whitman got his ideas of evolution not directly from biologists,
but indirectly from lectures and books on geology and astronomy

[...] To judge from the nature of his ideas on the subject, they came indirectly from Jean Baptiste Lamarck (1744-1829). (178)

Robert J. Scholnick, in "'The Password Primeval: Whitman's Use of Science in 'Song of Myself,'" notes the application of astronomy and geology as well as biology—studies which, as Bruce notes, benefited greatly from the technological innovations of the 19th century—throughout "Song of Myself." Scholnick refers to section 44 of "Song of Myself" as "a creation story told from the perspective of cosmic evolution (what has been observed of 'the assembly and composition of energy, matter, and life in the thinning and cooling Universe' [Cosmic Evolution])" (397), noting that Whitman introduces section 44 with the passage "It is time to explain myself—let us stand up" (44:1); Scholnick then proceeds to show how Whitman uses the evolutionary theories of astronomy, geology, and biology in the section to "explain both the mystery of his own existence and the even more fundamental question of human existence in space and time" (398), culminating in the final stanza of the section, where "Whitman brings together his earlier references to the separate sciences and shows how, working together, the manifold 'forces' of the universe, have contributed to the creation of the speaker himself" (400):

Before I was born out of my mother generations guided me,
My embryo has never been torpid, nothing could overlay it.

For it the nebula cohered to an orb,
The long slow strata piled to rest it on,
Vast vegetables gave it sustenance,
Monstrous sauroids transported it in their mouths and deposited
it with care.

All forces have been steadily employ'd to complete and delight me,
Now on this spot I stand with my robust soul. (44:32-40)

Scholnick specifically notes the reference to biological evolution apparent in the image of an embryo with a form dictated by the "generations" proceeding it. That the "embryo has never been torpid" is an example, he further notes, "that ontogeny recapitulates phylogeny" (401), or that the embryo as it develops appears to

resemble the various stages of the evolution of the species. But the poet also acknowledges the vital role that the “Monstrous sauroids,” “vast vegetables,” and, by analogy, all other forms of flora and fauna have played in the biological process of human evolution. Whitman’s observation that the “nebula cohered to an orb” suggests an understanding of the nebular hypothesis, a theory of the evolutionary formation of planets and solar systems first posited by Kant and Laplace in the 18th century (*The Origin of the Solar System*), and the “long slow strata piled to rest [the embryo] on” indicates a knowledge and appreciation of geological evolution. The poet recognizes that each of these evolutionary “forces have been steadily employ’d to complete and delight [him],” that they have not only contributed to his physical existence, but that the divine body which has evolved as a result of the contributions of these “forces” has, through transcendent exchange with the spirit, resulted in the evolution and “delight” of his “robust soul” as well.

In “Whitman’s Indebtedness to the Scientific Thought of His Day,” Alice Lovelace Cooke also explores and addresses Whitman’s knowledge of these scientific “forces” and their role in cosmic evolution. Regarding Whitman’s knowledge and use of astronomy, Cooke observes that he “gives evidence, in drawing upon the science for a figure of speech, of having pondered over the laws of astronomy until he had assimilated their larger import” (94). She shows his use of the nebular hypothesis in the poems “Eidolons” and “A Thought of Columbus” (96), and she cites the following lines from each respectively: “All space, all time, / The stars, the terrible perturbations of the suns, / Swelling, collapsing, ending, serving their longer shorter / use” (49-51); and

The mystery of mysteries, the crude and hurried ceaseless
flame, spontaneous, bearing on itself,
The bubble and the huge, round, concrete orb!
A breath of Deity, as thence the bulging universe unfolding!
The many issuing cycles from their precedent minute!
The eras of the soul incepting in an hour,
Haply the widest, farthest evolutions of the world and
man. (1-8)

Cooke also notes Whitman's familiarity with geology and biology (102-106), and she cites his use of the evolutionary patterns observed of reality, interpreted by these sciences, and incorporated within many of his poems, including the following lines from "Thou Mother with Thy Equal Brood," "Eidolons," and "Song of Myself" respectively: "Thou globe of globes! thou wonder nebulous! / By many a throe of heat and cold convuls'd, (by these thyself / solidifying)" (6:40-40); "Strata of mountains, soils, rocks, giant trees, / Far-born, far-dying, living long" (42-43); "I find I incorporate gneiss, coal, long-threaded moss, fruits, / grains, esculent roots, / And am stucco'd with quadrupeds and birds all over, / And have distanced what is behind me for good reasons, / But call anything back again when I desire it" (31:9-13).

To the poet who trusts the divine body and reality, what the senses, technology, and science reveal to us of nature is equivalent to divine revelation; each observation and theory confirming evolution as a method of the Creative Force existing in reality informed and confirmed Whitman's conception of the evolution of the spirit. He was thus able to use technology and science to enter into "an area of [his] dwelling" and pursue his greatest ambition, to "absolutely fuse" "Nature and Man." Indeed, as Cooke and others have noted, the potential of technology and science to enhance the poet's understanding of the Creative Force suggested to Whitman that they—in conjunction with the poet's ability to intuit the transcendent connections between a knowledge of reality, what this knowledge reveals to us of the Creative Force, and how we should best incorporate this knowledge within our spiritual and social development—could substitute for the religious beliefs that observation of the natural world and science had stripped away. But none of this could happen without an embrace and advance of technology equaling that of science. Without scientific tools and instruments and without the technologies that facilitate communication and exploration, science would have nothing further to say of nature, reality, and the Creative Force. This is one way that these "dumb, beautiful ministers," as Whitman refers to modern "objects" in "Crossing Brooklyn

Ferry," could "furnish [their] parts toward the soul" (9:41, 50); it appears that there is another.

Whitman believed that the body is as divine as the soul. As he asks in "Song of Myself," "Why should I pray? why should I venerate and be ceremonious? [...] I find no sweeter fat than sticks to my own bones" (20:11, 14), and later in the poem he insists, "I have said that the soul is not more than the body, / And I have said that the body is not more than the soul, / And nothing, not God, is greater to one than one's self is" (24:35-37). As Russell Blankenship in "Whitman's Transcendentalism" observes, "In short, Whitman had the transcendental view of human nature. He considered it divine, and he went one step beyond the New Englanders in insisting that the body, the home of the soul, is equally divine with the spirit" (112). Whitman trusts the bodily senses and what they can tell us about reality; and, as we have seen, the evolution of the soul occurs as the result of a transcendent union of reality, the senses, and the soul—it is through his "life lumps" that Whitman is "becoming already a creator." What sustains the body then facilitates the evolution of the soul—in "To Think of Time," he writes "And I have dream'd that the purpose and essence of the known / life, the transient, / Is to form and decide identity for the unknown life, the permanent" (8:24-26)—and evolutionary theory shows that adaptation is vital for the body. Without adaptation, the divine body would not exist, let alone the senses and the intellect necessary for Whitman's particular method of mysticism and spiritual growth. Whitman regarded technology as a natural adaptation that benefits and perpetuates the body, allowing it to continue along its evolutionary path. As Darwin maintains in the "Introduction" to *Origin of Species-6th Edition*:

As many more individuals of each species are born than can possibly survive; and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary however slightly in any manner profitable to itself, under the complex and sometimes varying conditions of life, will have a better chance of surviving, and thus be NATURALLY SELECTED. From the strong principle of inheritance, any selected variety will tend to propagate its new and modified form. (Darwin)

Whitman recognized the correlation between the physical adaptations in organic nature and the technological and intellectual adaptations which humankind has made in a “manner profitable to itself” along its evolutionary journey; technology, when seen from the standpoint of evolutionary theory, is just as vital to our process of evolution as is the hive to the bee or the web to the spider. In “A Song for Occupations,” Whitman follows an extensive catalog of technological achievements—all of which play a part in the sustenance and perpetuation of the species—with an acknowledgment of the vital part that these technologies play in the human evolutionary process: “In them realities for you and me, in them poems for you and me, / In them, not yourself—you and your soul enclose all things, regard- / less of estimation, / In them the developing good—in them all themes, hints, possi- / bilities” (5:67-71). And in “Song of the Exposition,” Whitman makes a direct correlation between human technological adaptation and the adaptation that occurs in organic nature as a fundamental method of the Creative Force.

The 40th National Industrial Exhibition was held in the fall of 1871 in New York, and the American Institute asked Whitman to write and deliver a poem honoring the event. Gay Wilson Allen, in *The Solitary Singer: A Critical Biography of Walt Whitman*, describes Whitman’s reaction:

Whitman received an invitation that for a few weeks exhilarated him. [...] [His] imagination glowed with visions of the great industrial palace that would house models of every American machine invented or in use with skilled men and women demonstrating their operations. (432-433)

Whitman begins the poem that he wrote for the occasion (originally titled “After All, Not to Create Only” and later included in *Leaves of Grass* under the title “Song of the Exposition”) with a vindication—or perhaps more accurately, a sanctification—of the evolutionary process of the human intellect which has led to the technological developments celebrated at the exhibition. He accomplishes this by showing the similarities between the way humans learn from one-another and from their predecessors with evolution as it occurs in nature. Whitman notes “How near his [man’s] work is holding him to God” (1:2), who is “The Loving Laborer

through space and time" (1:3). The comparison alone is enough to convince one of the regard in which Whitman holds the products of humankind's labors; technology being among them (and arguably foremost in Whitman's mind at the time, considering the context of this poem), but the second stanza makes it clear that he is addressing the process as well as the technological products of evolution.

Whitman observes that we, in our unceasing drive to understand, invent, produce, and expand, do not "create only, or found only," but that we "bring perhaps from afar what is already founded" (1:4-5). He is referring here to a process of intellectual and social evolution whereby we "accept, fuse," and "rehabilitate" the lessons learned in the "Old World" and apply them to the New. All the technological wonders that we create and exhibit here in the New World, then, have evolved from the Old; the adaptations acquired by our predecessors are embodied in and applied by succeeding generations. And with every venture into the forests and meadows of Long Island, Whitman sees this process of evolution at work in organic nature as well. Be it a freshly-pollinated seedling or a new invention, both the inception and growth of each is reliant on the heartiness and productivity of its predecessors, and as Whitman's comparison implies, one is just as necessary and divine in its respective environment as the other. Whitman conveys the beauty, balance, and permanence of the process of evolution, observing, "Long and long has the grass been growing, / Long and long has the rain been falling, / Long has the globe been rolling round" (1:13-15). Whitman's poetic treatment of evolutionary theory is not limited to the technological products of the exhibition however. He describes the migration of artistic inspiration—the "Muse"—from the Old World to the New with familiar evolutionary verbiage and schemes: "Out from her evolutions hither come, ended the strata of her / former themes" (3:18-19). He refers to the Old World from which the Muse is drawn in like terms: "Jerusalem a handful of ashes blown by the wind, extinct" (3:29). And although the inhabitants of the New World have evolved from their Old World predecessors into a "queer, queer race, of novel fashion" (4:7), Whitman, recognizing the dependent and progressive dynamic that occurs among evolving incarnations of a species, insists:

We do not blame thee elder World, nor really separate ourselves
 from thee,
 (Would the son separate himself from the father?)
 Looking back on thee, seeing thee to thy duties, grandeurs, through
 past ages bending, building,
 We build to ours to-day. (5:1-6)

In accordance with evolutionary theory, Whitman acknowledges the debt that any robust species owes to the evolutionary advances of its predecessors, and these advances have manifested themselves in not only the products of the “Loving Laborer”—the grass and rain and the rolling globe—but in the technological products of mankind on view at the 40th National Industrial Exhibition.

One of the primary reasons Whitman the Romantic naturalist used technology to such an extent in his work was because, to a poet well-versed in evolutionary theory, it was as natural as anything in organic nature—he saw technology as an adaptation that provides for the divine body and thus allows us to evolve in the same way that the process of adaptation has resulted in the perfection of a leaf of grass. In “Whitman's 'Song of Myself,’” Robert C. Sickles also notes Whitman’s novel treatment of technology:

Humans and their constructs are thought to breed artificiality and move people away from the divinity of the natural world. Were Walt Whitman, one of the forefathers of American nature writing, alive today, this line of thinking would undoubtedly disturb him, for he saw humans and their creations as inextricable components of the natural world. (19)

In his short essay, Sickles offers little support for his conclusion, but his hint that “The rhythms of the human condition parallel those of nature, constantly evolving, changing and moving” (19) is telling. When considered in the context of Whitman’s faith in reality and the senses and his resulting confidence in the ability of technology and science to provide us with evidence of evolution as a fundamental method of the Creative Force extant in nature, the motives for Whitman’s treatment of technology as a natural adaptation equivalent to the products of organic nature become more apparent.

In the same way that the process of adaptation has resulted in the perfection evident in organic nature, Whitman believed that technology, as a natural human adaptation, plays an essential role in the realization of our spiritual and social destiny. He believed that technology could not only protect us from a variety of environmental threats, extending our lives and increasing our opportunities for the intellectual, physical, and artistic exchanges between the body and soul that lead to transcendent truth and spiritual development, but that technology could facilitate these pursuits through enhanced information exchange, creation and dispersion of art, and reduced work-loads. In "Our Old Feuillage," he foresees "Factories, machinery, the mechanical forces, the windlass, lever, / pulley, all certainties, / The certainties of space, increase, freedom, futurity (35-37). Nature showed him that equality and unity could only be maintained in an environment with sufficient resources, and technology could allow us to exploit natural resources as efficiently as possible, and it was one of Whitman's great hopes that technology would increase the quality of life among Americans to such an extent that it would encourage the spread of freedom, equality, and unity throughout the world, providing people everywhere with an environment conducive to social and spiritual evolution. In "By Blue Ontario's Shore," he writes: "(Democracy, while weapons were everywhere aimed at your breast, / I saw you serenely give birth to immortal children, saw in dreams / your dilating form, / Saw you with spreading mantle covering the world)" (17:28-31).

Whitman was convinced that the "great average bulk" of humanity—being as intrinsically divine as any natural organism—would evolve toward a destiny comparable in its perfection to that of any other organism in nature. In "Song of the Rolling Earth," he expresses his faith in the evolutionary process of organic nature: "Amelioration is one of the earth's words, / The earth neither lags nor hastens, / It has all attributes, growths, effects, latent in itself from the jump, / It is not half beautiful only, defects and excrescences show just as / much as perfections show" (1:28-32). And in "Starting from Paumanok," Whitman's confidence in the evolutionary process of a divine humankind is just as evident: "Victory, union, faith,

identity, time, / The indissoluble compacts, riches, mystery, / eternal progress, the kosmos, and the modern reports. / This then is life, Here is what has come to the surface after so many throes and / convulsions" (2:1-6), and later in the poem, he insists "None has begun to think how divine he himself is, and how cer- / tain the future is" (7:20-21). In "Specimen Days," Whitman provides us with further insight into the philosophies which had been instrumental in his conception of human social and spiritual evolution:

According to Hegel the whole earth, (an old nucleus-thought, as in the Vedas, and no doubt before, but never hitherto brought so absolutely to the front, fully surcharged with modern scientism and facts, and made the sole entrance to each and all,) with its infinite variety, the past, the surroundings of to-day, or what may happen in the future, the contrarieties of material with spiritual, and of natural with artificial, are all, to the eye of the *ensemblist*, but necessary sides and unfoldings, different steps or links, in the endless process of Creative thought, which, amid numberless apparent failures and contradictions, is held together by central and never-broken unity—not contradictions or failures at all, but radiations of one consistent and eternal purpose; the whole mass of everything steadily, unerringly tending and flowing toward the permanent *utile* and *morale*, as rivers to oceans. (735)

But to realize our *utile* we must be free—as is organic nature—to adapt to our environment as effectively as we are able, and this includes the use of technologies. As Betsy Erkkila observes in *Whitman the Political Poet*, Whitman believed that technology in conjunction with democracy would move us ever-closer, ever more quickly toward our *utile*. "Perhaps under the influence of Hegel," Erkkila writes, "he [Whitman] came to see American history as a sequence of stages, moving from the political founding through a stage of material development to a higher stage of spiritual realization" (253). This progression is consistent with Whitman's conception of technology as a "material development" necessary for our spiritual evolution, but these stages are evident not only in Hegel's philosophy but, as Whitman often notes, in nature itself. Each stage of this sequence is also addressed in "Song of the Exposition."

Paralleling Erkkila's dynamic, organisms in nature are first free to evolve,

and in the opening lines of "Democratic Vistas," Whitman informs us of the importance of freedom to the human process of intellectual evolution: "As the greatest lessons of Nature through the universe are perhaps the lessons of variety and freedom, the same present the greatest lessons also in New World politics and progress" (460). Whitman was thus a great advocate of democracy. In "The Poetry of Democracy: Walt Whitman," Edward Dowden describes how Whitman's commitment to democracy was the result of what nature had revealed to him through science:

Science and democracy appear before Whitman as twin powers which bend over the modern world hand in hand, great and beneficent. Democracy seems to him that form of society which alone is scientifically justifiable; founded upon a recognition of the facts of nature and a resolute denial of social fables, superstitions, and uninvestigated traditions. (42)

Whitman had discovered in nature another transcendent truth: to reach the power, beauty, and balance of nature, "variety and freedom" must be attained, and he believed the great American experiment of democracy could provide an environment of egalitarian equality sufficient to allow the diversity and unfettered social and spiritual evolution required to reach our divine destiny. In "Song of the Exposition," Whitman makes it clear that without the freedom and protection afforded by the "Protectress absolute"—a democratic Union—the intellectual and economic advance that will propel America toward her social and spiritual destiny will be stymied. Observing the propensity of egalitarian democracy to promote evolutionary principles, Whitman describes the incarnation of democracy in America as "Thou Union holding all, fusing, absorbing, tolerating all" (8:5), and it is this equality, acceptance, and unity that must be maintained if America is to succeed in its role as humanity's standard-bearer and lead the balance of humankind to Whitman's anticipated "common indivisible destiny for All" (8:10).

Being free to evolve, organisms in nature adapt to a form that best uses available resources in an effort to perpetuate the species, and, as Bruce notes, a larger and more diverse pool of scientist (330) and increased investment in science and technology (73) are conditions typical of democratic societies. This corresponds

with Erkkila's second stage of "material development" and Whitman's contention that technology—which, as we have seen, was considered by him to be a natural adaptation that allows humans to best use resources and perpetuate the species—is vital to the evolutionary process. In "Song of the Exposition," Whitman insists that it is in the wealthy, modern American "palace, loftier, faire, ampler than any yet" (5:17) in which he anticipates "all that forwards perfect human / life [will] be started" (5:25-26), and the adaptations that allow us to best use the resources available to us are—just as they are in nature—essential to the process of evolution toward perfection. In Whitman's utopia:

Here shall you trace in flowing operation,
 In every state of practical, busy movement, the rills of civilization,
 Materials here under your eye shall change their shape as if by
 magic,
 The cotton shall be pick'd almost in the very field,
 Shall be dried, clean'd, ginn'd, baled, spun into thread and cloth
 before you,
 You shall see hands at work at all the old processes and all the
 new ones,
 You shall see the various grains and how flour is made and then
 bread baked by the bakers,
 You shall see the crude ores of California and Nevada passing on
 and on until they become bullion,
 You shall watch how the printer sets type, and learn what a com-
 posing-stick is,
 You shall mark in amazement the Hoe press whirling its cylinders,
 shedding the printed leaves steady and fast,
 The photograph, model, watch, pin, nail shall be created before
 you. (5:32-51)

Organic nature, being free to adapt and evolve through the effective use of resources, then reaches its *utile*—its homeostasis—a healthy, unified and perfect existence. And humanity, Whitman believed, would achieve its *utile* in the same way. As he shows us in "Song of the Exposition," this progression of freedom and materialism will result in a world in which nature, science, and the arts combine to provide us with an understanding of reality, spirituality, and the force responsible for them both sufficient to supplant the religious relics of the past:

In large calm halls, a stately museum shall teach you the infinite

lessons of minerals,
 In another, woods, plants, vegetation shall be illustrated—in
 another animals, animal life and development.
 One stately house shall be the music house,
 Others for the arts—learning, the science, shall all be here,
 None shall be slighted, none but shall be honor'd, help'd,
 example'd.

(This, this and these, America, shall be *your* pyramids and obelisks,
 Your Alexandrian Pharos, gardens of Babylon,
 Your temple at Olympia.) (5:49-6:3)

And the freedom that results of equality and the unity facilitated by plentiful resources will bring about a perfect social destiny in which we enjoy: "Practical, peaceful life, the people's life, the People themselves, / Lifted, illumin'd, bathed in peace—elate, secure in peace" (6:12-13). In this environment of peace and plenty, our struggles will be limited to the acquisition of knowledge, the creation and appreciation of art, and the understanding and progression of the soul.

It was a fusion between the senses and intellect of the divine body and the essence of the Creative Force comprising the soul that resulted in Whitman's mystical insight into transcendent truth. This faith in the faculties of the body to perceive and interpret reality resulted in his confidence in technology and science to reveal the methods intrinsic to nature and thus the Creative Force. One of the fundamental methods being evolution, technology can then be seen as a natural adaptation essential to the perpetuation of the species. Whitman saw that the freedom to adapt evident in organic nature had resulted in its perfection, and he believed that it would in the analogous human social and spiritual process as well. But just as it can be difficult, in the thick of a play, to tell the difference between a tragedy and a comedy, the difference between an adaptation and an aberration may not be readily apparent until the final scene.

Chapter Three: The Honeymoon is Over

Rather than leading us to a divine social and spiritual destiny however, Whitman came to realize that technology was contributing significantly to some of what he saw were the most serious social problems of the latter 19th century, specifically: the dehumanization and destruction of the American Civil War (and modern warfare in general), the social stratification and physical and spiritual isolation occurring amid a rapidly-industrializing American society, an increased isolation from the natural world and its guiding laws and patterns, and a general disinterest in what Whitman considered an authentic American literature. As a result of the poet's developing awareness of technology's role amid these pressing problems, we see a change in his poetic treatment of technology so significant that it denotes a fundamental shift in his ameliorative philosophy of evolutionary pantheism, but the problems associated with technology were not altogether unfamiliar to the poet.

Whitman's early work shows an awareness of the social and spiritual problems that often accompany the technological pursuits he promoted. As we have seen, he warns us in section two of "Song of Myself" of the "houses and rooms [...] full of perfumes" (2:1)—those manmade artifacts (both physical and intellectual) of safety, comfort, and convenience—which are tempting, dangerous, and have the power to "intoxicate" us, rendering us insensible to the laws of nature, "the good of the earth and the sun" (2:34), but these warnings are interwoven throughout Whitman's early verse. In section 42 of "Song of Myself," the poet's image of the walking dead hauntingly conveys the spiritual malaise which results of the distraction and obsession common to a technologically-fueled, market-based economy, and the way in which greed can blind us to the natural laws of equality and freedom, resulting in social stratification and oppression:

Here and there with dimes on their eyes walking,
To feed the greed of the belly the brains liberally spooning,
Tickets buying, taking, selling, but to the feast never once going,

Many sweating, ploughing, thrashing, and then the chaff for pay-
 ment receiving,
 A few idly owning, and they the wheat continually claiming. (42:22,
 27)

As Whitman notes in "Preface, 1855," America, with its vast natural resources, is especially susceptible to the unhealthy diversion of rampant materialism, and is thus in particular need of the spiritual guidance of the poet, lest we allow greed to so distract us from natural laws that we become something unnatural: "The largeness of nature of the nation were monstrous without a corresponding largeness and generosity of the spirit of the citizen" (442). As he later attests, the "greatest poet" will act as a liaison between the temporal and the spiritual, maintaining a healthy familiarity with natural laws by "indicate[ing] the path between reality and [our] souls" (446) and allowing us to reap the benefits of modernity while avoiding the pitfalls. In "Song of the Broad-Axe" he insists that the "greatest city" is not "the place where / money is the plentiest, / Nor the place of the most numerous population / Where the city stands with the brawniest breed of orators and / bards, / Where the city stands that is belov'd by these and loves them, / in return" (5:7-13), there is the greatest city.

Throughout the majority of his prewar work, we see a very confident Whitman. As a result of the influence of evolutionary theory and evolutionary pantheism, he was convinced that the average American embodied the intellectual, cultural, and spiritual culmination of the entire history of an evolving human race; in "Preface, 1855," he notes that, "The American poets are to enclose old and new for America is the race of races" (442), but that "no result exists now without being from its long antecedent result, and that from its antecedent" (456). The egalitarian union of a diverse and independent American populace was evidence of this evolution, and it was also representative of an innate American appreciation of natural law and poetic nature, prompting Whitman to note in the beginning lines of "Preface 1855" that "The Americans of all nations at any time upon the earth have probably the fullest poetical nature" (441) and were thus "half-way" toward a

complete appreciation of their own divinity. All that was needed to bring them the rest of the way and ensure a healthy resistance to the social and spiritual ills of modernity was a close relationship with nature, one-another, and a naturopathic regimen of great American literature. As Whitman observes in "Democratic Vistas," technology and science would play an important part as well; what they could reveal to us of natural laws, in conjunction with the emotive and transcendent potential of literature, were to provide insight into the Creative Force as it is evident in nature, reality, and ourselves:

I say there must, for future and democratic purposes, appear poets (dare I say so?) of higher class even than any of those—poets not only possessed of the religious fire and abandon of Isaiah, luxuriant in the epic talent of Homer, or for proud characters as in Shakespeare, but consistent with the Hegelian formulas, and consistent with modern science. [...] Faith, very old, now scared away by science, must be restored, brought back by the same power that caused her departure—restored with new sway, deeper, wider, higher than ever. (511)

This new faith in our own divinity would render any act of oppression a blasphemy, thus allowing us to effectively resist the ethical pitfalls of the materialistic society evolving amid the unprecedented freedoms and resources available in America. Without this new faith "our modern civilization, with all its improvements, is in vain, and we are on the road to a destiny, a status, equivalent, in its real world, to that of the fabled damned" (514). Simply put, the great poet would use science and literature to fortify our relationships with nature and each other, thus helping us to see why we must love and revere ourselves and, by doing so, keep the dehumanizing forces of technology in check. As we see in his early work, Whitman was confident that his message would be heard and appreciated, and that, as he portends in "Preface, 1855," "the country [would] absorb him as affectionately as he [had] absorbed it" but, instead of a popular embrace of Whitman and his message, there was the technology-fueled slaughter of the Civil War and increasingly dehumanizing social behaviors resulting, to a large extent, from a technologically-based materialism.

"Specimen Days" offers us insight into Whitman's thinking over an

approximately twenty-year span from the early 1860s (the early days of the American Civil War) to the early 1880s when "Specimen Days" was first published; as such, it is a very revealing resource for tracing the evolution of Whitman's thinking from the mid-to-late portion of his career. He begins the collection of journal entries with a few pages describing his personal background including family genealogy, childhood memories, and employment history. He then moves abruptly into his experiences during the war years. Whitman supported the war unreservedly at the outset; he considering the act of secession in direct conflict with the fundamental principle of unity and a jeopardization of the future of equality and democracy—two of the fundamental lessons of nature which Whitman held dear. As is evident in this passage from "Specimen Days," he often observes with a tender admiration the great and terrible sacrifices made by the Union soldiers in an effort to protect and perpetuate such "abstractions" as unity, freedom, and equality:

But what can I say of that prompt and splendid wrestling with secession slavery, the arch-enemy personified, the instant he unmistakably show'd his face? The volcanic upheaval of the nation, after that firing on the flag at Charleston, proved for certain something that had previously been in great doubt, and at once substantially settled the question of disunion. In my judgment it will remain as the grandest and most encouraging spectacle yet vouchsafed at any age, old or new, to political progress and democracy. It was not for what came to the surface merely—though that was important—but what it indicated below, which was of eternal importance. Down in the abysses of New World humanity there had form'd and harden'd a primal hard-pan of national Union will, determin'd and in the majority, refusing to be tamper'd with or argued against, confronting all emergencies, and capable at any time of busting all surface bonds, and breaking out like an earthquake. It is, indeed, the best lesson of the century, or of America, and it is a mighty privilege to have been a part of it. (574)

This willingness of the members of the Union to make such sacrifices for the abstraction of the natural laws of equality and unity was further evidence to Whitman of the evolution and inherent poetic nature of the average American. But very shortly after Whitman begins visiting the camps and field hospitals to help tend to the wounded, his language becomes much less abstract. He finds that modern

warfare with its devastatingly-efficient new artillery shells, musket-balls, gatling-guns, and repeating rifles is an impersonal abattoir in which the divine human body is rendered no more than chattel. The negative aspects of warfare—already an inherently divisive and undemocratic process that dehumanizes each side in the eyes of the other and, as Whitman notes, substitutes an unchallengeable and homogenizing feudal chain-of-command for freedom, equality, and diversity (605-606)—is compounded by technologies which further separate the participants. As Katherine Kinney observes in “Whitman’s ‘Word of the Modern’ and the First Modern War,” “The first modern war had amply demonstrated that the mechanical, social, and political forces of modernity could be marshaled to destroy the power and life of the individual as easily as to protect them” (13).

The human senses upon which Whitman relied to inform the soul are almost completely insulated by distance, noise, smoke, and the methodical operation of the killing-machines; any sense of the humanity and individuality (let alone divinity) of the opponent is lost, and without this, there is no hope of maintaining the unity, equality, freedom, and diversity that Whitman insists are the "greatest lessons of nature." Even the modern medical practices and technologies used to save the wounded are conveyed in images that reflect the dehumanization of modern warfare: "Out doors, at the foot of a tree, within ten yards of the front of the house, I notice a heap of amputated feet, legs, arms, hands, &c., a full load for a one-horse cart" (579), and Whitman's repeated observations throughout "Specimen Days" of the large numbers of unknown dead suggests an evolving realization of the disintegration and negation of the individual once it has been assimilated within the mechanized war-machine. In what would seem to be an effort to resist this process and restore the humanity of the individual soldier, much of the balance of the "Specimen Days" war entries are very concrete and personal descriptions of many of the soldiers to whom Whitman tended; his resistance to this dehumanizing force is apparent throughout the work, and often includes uncharacteristically stark observations of technology's role in the wholesale slaughter of modern warfare.

Not far into the war-years entries in "Specimen Days," we begin to see

evidence of new complications regarding modern technology appear in Whitman's work. He tells us of the use of the U.S. Patent Office as a hospital for Union troops. He describes the wounded, dying, and dead filling the walkways between "ponderous glass cases, crowded with models in miniature of every kind of utensil, machine or invention, it ever entered into the mind of man to conceive" (583). Klaus Benesch, in *Romantic Cyborgs; Authorship and Technology in the American Renaissance*, also notes this entry as indicative of a key transitional moment in the evolution of Whitman's attitude toward technology (175), and while the irony of men ravaged by technology and hospitalized among the technological products that were intended to increase their quality of life is certainly of note—especially considering Whitman's recognition and depiction of this irony—it is the consistent juxtaposition throughout "Specimen Days" of technology (particularly the technology of warfare) and organic nature that most effectively and convincingly conveys Whitman's changing attitude toward technology. He recognizes, as he works his way through the work and the war, the extent to which technological warfare is distracting his countrymen from the natural world and the fundamental and healthy patterns therein. In his depiction of the battle of Chancellorsville, the juxtaposition of the natural imagery of the battlefield with the battle itself effectively conveys this disconnect:

But it was the tug of Saturday evening, and through the night and Sunday morning, I wanted to make a special note of. It was largely in the woods, and quite a general engagement. The night was very pleasant, at times the moon shining out full and clear, all Nature so calm in itself, the early summer grass so rich, and the foliage of the trees—yet there the battle raging, and many good fellows lying helpless, with new accessions to them, and every minute amid the rattle of muskets and crash of cannon, (for there was an artillery contest too,) the red life-blood oozing out from their heads or trunks or limbs upon that green and dew-cool grass. [...] the cries, the din, the cracking guns and pistols—the distant cannon—the cheers and calls and threats and awful music of oaths—the indescribable mix—the officer's orders, persuasions, encouragements—**the devils fully rous'd in human hearts**—the strong shout *Charge, men, charge*—the flash of the naked sword, and rolling flame and smoke? And still the broken, clear and clouded heaven—and still again the moonlight pouring silvery soft its radiant patches over all. (587-589)

The verbiage used to describe the state of nature verses that of the men involved in the battle compound the division suggested by the alternating images of the two. The night is "pleasant;" the moon is "full" and "clear;" nature is "calm;" and the grass is "rich," while the soldiers are "raging," and "helpless" with "life-blood oozing" and "devils fully roused." The repeated reference to the technologies of warfare—the muskets, cannons, guns, artillery, and pistols—and the hellish flame, smoke, and noise that they create contrast distinctly with the nature's "clear and clouded heaven" further suggesting the writer's perception of the way in which technology exacerbates the disconnect from nature inherent to warfare, rendering it even more disintegrating and dehumanizing. I've added the bold in the above quote to highlight Whitman's description of the transformation undergone by the soldiers as a result of this disconnect. In addition to this instance, Whitman refers to the soldiers engaged in this battle as "demons" on two other occasions in this entry; this is remarkable as it is extremely uncharacteristic of Whitman to refer to the otherwise divine in such terms. In paragraph two of this section, I quote another example of this treatment, and the similarities are notable: when, in "Specimen Days," we allow warfare, with its powerful technological element, to separate us from nature, we become "devils" and "demons," and when, in "Democratic Vistas," we allow modern materialism, with its powerful technological element, to come between us and nature, we are "damned."

Throughout the balance of "Specimen Days," there are many more entries describing events and conditions which either symbolically or literally serve to convey this sense of technology separating us from both one-another and nature: There is the entry titled "A Secesh Brave" which describes, in terms more complimentary than those used by Whitman in previous descriptions of the secessionists, a "grand" young Southern soldier who was killed while attempting to "stop the muzzle of [a Northern] gun with fence-rails" (586); symbolic of a sadly-futile attempt to negate the deadly influence of the manmade and reassert the dominance of the natural, Whitman's inclusion and dedication of an entire entry to this strange occurrence, coupled with the fondness and respect with which he

describes the Southern soldier suggests that, to Whitman, this event is more than just an oddity—it is representative of the conflict regarding technology, warfare, and nature in which he himself is engaged. Amid such a wide-spread and extreme disconnect with nature, nature itself, observes Whitman, appears to be acting unnaturally:

[...] it is certain that there is now, and has been for twenty months or more, on this American continent north, many a remarkable, many an unprecedented expression of the subtle world of air above us and around us. There, since this war, and the wide and deep national agitation, strange analogies, different combinations, a different sunlight, or absence of it; different products even out of the ground. After every great battle, a great storm. (619)

Whitman notes that the landscape too has been commissioned in the war effort, that amid "the rich August verdure of the trees" buildings can be seen, and more "half a mile to the left of the first," and more "a mile to the right," and more "a mile beyond." "Indeed," he writes, "we can hardly look in any direction but these clusters are dotting the landscape and environs." He draws the reader's attention to a group of buildings "off there on the brow of a hill" which may look like a town, he suggests, and it is "indeed a town, but of wounds sickness, and death." He tells us that it is Finley hospital, and, with a subtle air of sadness, informs us that in better times it had been known as Kendall green (600). Technology had however yielded what Whitman refers to as "one useful result, at any rate, out of the war:" "A great recreation, the past three years, has been taking long walks out of Washington, five, seven, perhaps ten miles and back [...] fine moonlight nights, over perfect military roads, hard and smooth" (631). Here was one instance in which technology had facilitated rather than severed the connection between man and nature.

Whitman's work in the hospitals during the war also offered him close proximity to nature in the form of humanity compressed, the un-rush of human interaction and affection that so enamored him of the city. As he moved methodically through the close, heavily populated hospital wards, from one wounded soldier to the next, distributing candy, fruit, writing supplies, changing bandages, and accompanying many in their final moments of human

companionship, all the sensory stimulation that Whitman craved—the touches, sights, sounds, smells, and tastes that connect one person to another (the senses so efficiently short-circuited by war and technology on the battlefield)—were present in abundance. Of Whitman's early version of Civil War reconstruction, Kinney writes, "His most famous challenge to the war's dehumanizing power comes in his personal and poetic role as nurse and comforter to the wounded" (8). In this environment of shared sensation, it was impossible for Whitman to have resisted loving the Southern soldier any less than the Northern; all were re-humanized, again divine, and thus equal and unified:

Those three years I consider the greatest privilege and satisfaction, (with all their feverish excitements and physical deprivations and lamentable sighs,) and, of course, the most profound lesson of my life. I can say that in my ministerings I comprehended all, whoever came my way, northern or southern, and slighted none, It arous'd and brought out and decided undream'd-of depths of emotion. It has given me my most fervent views of the true *ensemble* and extent of the States. (632-633)

But the war's general effect on Whitman and the body of the American Union could, as Whitman analogizes in a late wartime entry entitled "Convulsiveness," be likened to that of an organism in an extreme state of distress, its vital elements out of balance, and its parts disjoined and acting unnaturally. Expressing his concern that the wartime entries which comprise the bulk of the first half of "Specimen Days" are "a batch of convulsively written reminiscences," he allows, "Well, be it so. They are but parts of the actual distraction, heat, smoke and excitement of those times. The war itself, with the temper of society preceding it, can indeed be best described by that very word *convulsiveness*" (632). Shortly after this entry, Whitman's wartime observations come to an end, and he immediately begins the healing process, sweeping us out to Timber Creek to bask in the "Nature-element" for the next 40-odd pages of entries.

Whitman's abrupt transition in topic from the war to the undisturbed natural grandeur of Timber Creek suggests that "Specimen Days" is organic in form—that the "distraction" of modern, technological warfare described in the first half of the

work had so separated us from rational and guiding forces of nature that only an abrupt and extensive immersion in nature could mend the break. As mentioned earlier, Whitman did not relocate to Timber Creek immediately after the war; he tells us in "An Interregnum Paragraph" that there is a gap of approximately ten years between his last wartime entry and his first describing Timber Creek, so "Specimen Days" does not represent exactly what Whitman did during the time period between his first entries in the early 1860s and his last in the early 1880s. Instead, what he included and the order in which it was included were the result of conscious decisions made when he compiled the book in 1882: the first section of the book was derived of letters to a friend regarding his family and work history, the second section includes "war-memoranda," the third "Nature-notes," and the fourth "Western and Canadian observations" (or, as he refers to this section in footnotes, "the Collect" which "gathers up odds and ends of whatever pieces I can now lay my hands on, written at various times past" (559-560). The structure of "Specimen Days" then is not linear, but was assembled selectively—with the entries describing Timber Creek directly and immediately following the last of the wartime entries—in a way that further suggests an intentional organic construction designed to both show by stark juxtaposition the unnatural and unhealthy effects of technological warfare and provide the reader with immediate respite from the "convulsiveness" of the war. In a footnote, Whitman acknowledges not only the rough transition, but the desperation that necessitated it. He tells us how vitally important it is for us to maintain a close relationship with nature and that technology has the potential to hinder this relationship:

Without apology for the abrupt change of field and atmosphere—after what I have put in the preceding fifty or sixty pages [the wartime entries]—temporary episodes, thank heaven!—I restore my book to the bracing and buoyant equilibrium of concrete outdoor Nature, the only permanent reliance for sanity of book or human life. Who knows, (I have it in my fancy, my ambition,) but the pages now ensuing may carry a ray of sun, or smell of grass or corn, or call of bird, or gleam of stars by night, or snow-flakes falling fresh and mystic, to denizens of heated city house, or tired workman or workwoman?—or may-be in sick-rooms or prison—to serve as cooling breeze, or Nature's aroma, to some fever'd mouth or latent

pulse. (636)

The placement of this clearly-stated recognition of the potential for technology—exemplified and symbolized by the "heated city house," the occupations of working people, and "sick-rooms" and "prisons"—to separate us from the sensory and spiritual stimuli of nature is no coincidence; it is, along with the transition from modern warfare to the woods of New Jersey, a recognition of and response to a newly-evolving understanding, acknowledged by the poet before the war but confirmed by the isolation, dehumanization, disunity, and depravity resulting of technological warfare, of the terrible efficacy with which technology can separate us from each other and the "bracing and buoyant equilibrium of concrete outdoor Nature."

At Timber Creek, Whitman, and the reader along with him, are reacquainted with the natural laws and lessons from which the war had isolated and distracted us: we may once again revel in senses uninhibited and what they reveal to us of the divine perfection evident in life in general and in a Northeastern meadow in the springtime in particular. We see, in contrast to the drab sameness and lock-step mentality of wartime, a healthy, diverse assortment of flora, the "white cherry and pear-blows—the wild violets [...] the rosy blush of budding apple-trees [...] the cedar-bushes profusely deck'd with their little brown apples" (639), each individual flower unified in the perfectly-balanced arrangement; we see the "blue birds, grass birds and robins, in every direction" and, as opposed to an artificial military hierarchy, all equal and free to fly and sing at their own discretion and to benefit from their efforts as they are able; we see the robust swarm of bumble-bees marching through nature "like the corps of an army" (639), but unlike the ragged, frail, unbalanced, and often sub-human armies of the Civil War, the independent yet unified, free-ranging army of bumble-bees conveys to Whitman a "pronounce'd sense of strength, beauty, vitality and movement" (640). This is an army of life, of senses fully engaged rather than insulated, of unity rather than disunion, and, as Whitman insists in the final paragraph of "Specimen Days," it is the poet's duty to

reintroduce us to the strategies and movements of this army of life, particularly after the "persistent strayings and sickly abstractions" of technological warfare:

Finally, the morality: "Virtue," said Marcus Aurelius, "what is it, only a living and enthusiastic sympathy with Nature?" Perhaps indeed the efforts of the true poets, founders, religions, literatures, all ages, have been, and ever will be, our time and time to come, essentially the same—to bring people back from their persistent strayings and sickly abstractions, to the costless average, divine, original concrete. (760)

The machines of modern warfare were not, however, the only technologies that Whitman recognized as having the ability to isolate us from both the wisdom of nature's laws and the interpersonal sensory connections that foster equality, unity, and love and discourage the dehumanizing behaviors that result of divisiveness and marginalization. As we have seen in Whitman's prewar work, the technological advance and general industrialization occurring throughout American society could also contribute significantly to the socially and spiritually unhealthy disconnects that often accompany modernization; as he warns us in section two of "Song of Myself," technology and industrialism, along with other social and intellectual trappings of modernity, have the dangerous potential to "intoxicate" us to "the good of the earth and the sun" (2:34), but with the help of a great American literature to keep us grounded in natural law, aware of the divinity and greatness of the "grand, common stock" of Americans, and thus instill love and respect for all—not just the aristocracy—Whitman felt sure, as this excerpt from "Democratic Vistas" indicates, that the dangers of a modern, technological society could in large part be avoided:

It is to the development, identification, and general prevalence of that fervid comradeship, (the adhesive love, at least rivaling the amative love hitherto possessing imaginative literature, if not going beyond it,) that I look for the counterbalance and offset of our materialistic and vulgar American democracy, and for the spiritualization thereof. (505)

Unfortunately, by the publication of "Democratic Vistas" in the early 1870s the country had not, as Whitman anticipated in the "Preface, 1855," "absorb[ed] him as affectionately as he [had] absorbed it" (459), and as the following passage from

“Democratic Vistas” shows, Whitman was of the opinion that the vast majority of the literature available to the American public was an aristocratic commemoration of the exceptional rather than an egalitarian American literature dedicated to singing the praises of a divine average:

The great poems, Shakespeare included, are poisonous to the idea of the pride and dignity of the common people, the life-blood of democracy. The models of our literature, as we get it from other lands, ultramarine, have had their birth in courts, and bask'd in castle sunshine; all smells of princes' favors. Of workers of a certain sort, we have, indeed plenty, contributing after their kind; many elegant, many learn'd, all complacent. But touch'd by the national test, or tried by the standards of democracy, they wither to ashes. I say I have not seen a single writer, artist, lecturer, or what not, that has confronted the voiceless but ever erect and active, pervading, underlying will and typic aspiration of the land, in a spirit kindred to itself. (483)

Whitman believed that the lack of an American literature could be attributed to the shortsightedness of the majority of the writers of the period and their continued preference for dated themes, but many of these writers were better-received than was Whitman; this he attributed in part to the general distraction and obsession among his target audience (the democratically-minded bulk of Americans) with the industrialism and commerce stimulated by technological advance, but it was also the consequence of a “prevailing delusion” that prosperity and the rule of law alone would insure the perpetuation and success of the American Union (467). The result of the rampant materialism of the late 19th century unchecked by the moderating qualities of an American literature were becoming disastrously apparent to Whitman, who perceived that “with unprecedented materialistic advancement—society, in these States, is canker'd, crude, superstitious, and rotten” (467), later speculating that “It is as if we were somehow being endowed with a vast and more and more thoroughly appointed body, and then left with little or no soul”(468). In “Passage to Modernity: *Leaves of Grass* and the 1853 Crystal Palace Exhibition in New York,” Cutler also addresses Whitman’s changing attitude regarding technology and industry, noting his fear that “without a firm grounding for social promise and spiritual identity, modern industry might reduce all social promise to

sheer material motives, obliterating cosmic purposes for both nation and individual” (86). America, believed Whitman, had become a land of hypocrisy in which the “underlying principles of the States are not honestly believ’d in” (467); class separation resulting of wealth generated by technology, industry, and abundant natural resources had resulted in the social stratification typical of feudalism; and “the depravity of the business classes,” the “corruption, bribery, falsehood, mal-administration” of the “official services,” and the general “robbery and scoundrelism” permeating “respectable as much as non-respectable” society had subverted natural laws and the fundamental principles of the Union by denying equality and suppressing personal freedoms, diversity, and unity (467).

The technologies used in the Civil War had impressed upon Whitman the extent to which the manmade can separate us physically from nature and one-another and the disintegration and dehumanization that can result of that sensory isolation. He was aware that this dynamic exists amid the products and confines of industrialized society as well, and that without the guiding force of a popularly-accepted American literature to instill an awareness of the laws of nature and the divinity of every individual there was nothing to counteract the negative forces of technology. Unable to effectively convey his message to an American public preoccupied with materialism, (and convinced that no other writer was addressing the issue appropriately) we see a change in Whitman’s poetic treatment of technology during and after the war. Though not a primary topic of his essay and thus addressed only summarily in his conclusion, Cutler also notes the transformation of Whitman’s treatment of technology and industry, observing that “Whitman’s aesthetic evolution in the later period of his poetry followed this course of increasing skepticism toward the prospects of industrial modernity” and that the later technologically-oriented poems were “notably more passive and circumspect in their tone” (86). But technology was a necessary element and outgrowth of Whitman’s philosophy in too many fundamental ways for him to have abandoned it altogether. As we have seen, he believed that technology was essential to a scientific understanding of reality and thus the Creative Force and a natural adaptation and

inclination of a divine, free, and evolving people—to reject technology would be to undercut his entire philosophy. As he maintains even into the postwar “Democratic Vistas:”

I perceive clearly that the extreme business energy, and this almost maniacal appetite for wealth prevalent in the United States, are parts of amelioration and progress, indispensably needed to prepare the very results I demand. My theory includes riches, and the getting of riches, and the amplest products, power, activity, inventions, movements, &c. (479)

And Whitman wrote several poems later in his career that celebrate and promote technology and industry. Though, as Cutler observes, we do not see in his later poetry the unqualified technological boosterism typical of his early work, this is not representative of an emerging renunciation of technology but of an evolving approach to the topic necessitated by human behavioral shortcomings. In his prewar work, Whitman acknowledges the dangerous potential of technology but continues to promote it, and while the war and social conditions in America in the late 19th century confirm these dangers, it is not technology that he denounces in “Democratic Vistas” but the human behaviors that lead to the misuse of technology and the lack of (or resistance to) an American literature capable of helping us avoid these behaviors. Unable to rely on a self-regulating American populace, there appears in Whitman’s later technology-oriented poetry a didactic and prescriptive approach to the topic of technology heretofore unseen in his verse.

Just as the Romantic’s conception of the perfect state of organic nature is the result of divine and free organisms expanding into new territories whenever possible to utilize the resources available to them, technology, industry, business, and war are, in Whitman’s prewar verse, treated as a natural adaptation of a divine, free, and evolving species in a plentiful environment attempting to make the most of the natural resources available to it. When portraying scenes of war in “Song of Myself,” there is a sense of naturalness conveyed as though battles for resources go on everyday in nature and that they are just as integral to social and spiritual evolution as any other aspect of human culture and history:

Have you heard that it was good to gain the day?

I also say it is good to fall, battles are lost in the same spirit in
which they are won.

I beat and pound for the dead,
I blow through my embouchures my loudest and gayest for them,

Vivas to those who have fail'd!
And to those whose war-vessels sank in the sea!
And those themselves who sank in the sea!
And to all generals that lost engagements, and all overcome heroes!
And the numberless unknown heroes equal to the greatest heroes
known!

This is the meal equally set, this the meat for natural hunger, (18:4-
15)

In the prewar "Song of the Broad Axe," we see a similar treatment of warfare as an essential part of the unity that makes up reality:

Roar, flames, blood, drunkenness, madness,
Goods freely rifled from houses and temples, screams of women in
the grip of brigands,
Craft and thievery of camp-followers, men running, old persons
despairing,
The hell of war, the cruelties of creeds,
The list of all executive deeds just or unjust,
The power of personality just or unjust.

Muscle and pluck forever!
What invigorates life invigorates death, (3:106-113, 4:1,2)

The struggle for survival at its most elemental—the acquisition and protection of resources—is a battle fought constantly in nature, and Whitman uses his poetry, the “embouchures” through which he sings his songs, to celebrate the will to survive and flourish that drives both winners and losers (both human and nonhuman) toward the perfect destiny guaranteed by the divinity of each. But the significance suggested by the repeated and emphatic reference to the heroic in the first passage and the assemblage of concrete images of warfare which build to the abstract “power of personality just or unjust” (3:113) placed just before the caesura of the second passage suggests that there are more than just physical resources at stake in

the struggle. Analogous to the organic process by which species in nature, when overcome, provide the nutrients necessary for the healthy growth of the next generation, the memories of great struggle, heroic effort, and “muscle and pluck” sustain the human will and spirit through time, becoming “the meat for natural hunger” (18:15) that “invigorates” life and, because the divine body informs the soul, the spirit as well. The part that behavior and emotion play in social and spiritual evolution through time—particularly when combined with the water imagery denoted by the reference to the sea and embouchures in the first passage—calls to mind the combination of shared behaviors, emotions, and physical and intellectual artifacts that comprise the “eternal float” towards divine destiny described in “Crossing Brooklyn Ferry,” and in this quote from “Song of Myself,” we see that, as in “Crossing Brooklyn Ferry,” technology, the “war-vessels,” joins the heroes in their eternal float toward that social and spiritual destiny.

The contexts as well as the contents of these and other early passages addressing warfare also serve to convey Whitman’s prewar conception of the validity of war amid the ameliorative process of human social and spiritual development. The above passage from “Song of Myself” comes in the conclusion of the first major catalog; in this conclusion, Whitman reaffirms his inclusion of all elements of reality—even those generally considered to be negative such as defeat in battle, thievery, and sickness—in the unity of diverse human activities and characteristics required to propel us toward our destiny. Whether they be a canal boy, prostitute, president, or warrior conquered in battle, “I will not have a single person slighted or left away” (19:4) insists Whitman at the end of his catalog. Two other key war scenes included in “Song of Myself,” the massacre of the rangers described in section 34 and the sea battle beginning in section 35, are narrative extensions of the second major catalog in which the poet shows, during his mystical journey, that Walt Whitman the “kosmos,” and every other entity and action in reality—and the universal soul evolving as a result of the transcendent experiences of the divine body in reality—are the cumulative result of every entity and action near or far, past or present proceeding them. The poet, indicating his intent,

observes in a summary connecting two sections of the catalog that the “Distant and dead resuscitate, / they show as the dial or move as the hands of me, I am the clock / myself” (33:22-24). Whitman’s use of mechanical imagery conveys his notion of the present and immediate as a construct of the “distant and dead.” The actions and sacrifices of the slain seamen and rangers live on in the consciousness and spirit of those in the present, thus the artifacts of the past dictate the evolving form of the physical, social, and spiritual present and future. As the “dial,” the “distant and dead” give meaning to the movement of the hands, suggesting the relevancy of the present only when considered in the context of the past—the present has meaning only if the past has meaning. The “distant and dead” as “hands” suggest the extent to which the past is embodied in the present; the poet is “the clock [him]self,” but what the clock does and what it means is dictated by its components. The metaphor shows not only the role of time in the procession to our destiny, but that the present, like the poet, is a construct made up of the past—he is part hunter and part humming-bird, part meteor, part militant, and, as we already know, all divine.

Consistent with Whitman’s prewar ameliorative philosophy, war, technology, and all other products and activities of a free and divine entity are not to be judged and regulated (to do so would be akin to attempting the repair of a perfectly functioning timepiece) but his experiences amid the mechanized destruction of the Civil War and his realization that the reliance on the guiding force of literature was, for the time-being anyway, in vain prompted him to take tools in hand, particularly as regards the deadly and dehumanizing combination of warfare and technology. The following is a passage addressing war from the postwar “Song of the Exposition.” The difference in tone between this passage and Whitman’s antebellum treatment of war is striking:

Away with themes of war! Away with war itself!
 Hence from my shuddering sight to never more return that show
 of blacken'd, mutilated corpses!
 That hell unpent and raid of blood, fit for wild tigers or for lop-
 tongued wolves, not reasoning men,
 And in its stead speed industry's campaigns,
 With thy undaunted armies, engineering,
 Thy pennants labor, loosen'd to the breeze,

Thy bugles sounding loud and clear. (7:1-9)

The moralizing apparent here contrasts distinctively with Whitman's prewar ambivalent meliorism, and while others such as Kinney and Cutler have noted Whitman's evolving treatment of war itself as a result of his experiences in the Civil War, the fact that this change is so adamantly and repeatedly exhibited within the context of this and other postwar technologically-oriented poems and passages suggests Whitman's evolving recognition of a definite and very dangerous connection between technology and modern warfare, but this new treatment also presents a remarkable and unprecedented attempt by Whitman to guide us in our use of technology. Whitman does not begin this passage with a general repudiation of war itself, but with a call to reject "themes of war," war being the subject within the context of the larger discussion regarding technology; his comments regarding war itself are a digression from the primary argument made in the passage. Whitman's chief concern as expressed in this passage is that we might apply our technological prowess toward the advancement of military applications. This, he insists, should not even be a consideration. We must instead think about how we might use technology to advance industry so that we can engage our "undaunted armies" in constructive rather than destructive purposes.

The second passage addressing war in "Song of the Exposition" continues upon this theme and adds another line of argument in opposition to the application of technology for military purposes. The valuable products and great plenty enjoyed by Americans, the "barns all fill'd, the endless freight-train and the bulging store- / house" (8:41-42), are the result of the equality, freedom, and peace provided by the democratic American Union; "For well we know that while thou givest each and all, (generous / as God,) / Without thee neither all nor each, nor land, home, / Nor ship, nor mine, nor any here this day secure, / nor aught, nor any day secure" (8:52-56). Whitman then reminds the reader of a time when the Union was not so "comfortably ensovereign'd," when America's young men were not at home participating in the harvest or developing new inventions to be displayed at an industrial exposition, but were dying on battlefields "Mid cannons' thunder-crash and many a curse and

groan and yell, / and rifle-volleys cracking sharp” (9:11-12) in an attempt to maintain the free and democratic American Union and the prosperity that it has enjoyed. Having reminded us of our obligation, Whitman instructs us as to how we must repay our debt: rather than harvesting America’s physical and intellectual resources “merely for products gross or lucre” (9:30), we must rededicate our bounty to the perpetuation of the abstract ideals of democracy for which the soldiers died, for “the soul [of the Union], electric, spiritual” (9:31). To facilitate the spread of freedom, equality, and union throughout humanity (and, through the divine body, to the evolving soul), the American Union must be a prosperous, peaceful, generous, and equitable bastion of hope and inspiration. This, Whitman declares, is best accomplished in peacetime: “Now here and these and hence in peace, all thine O Flag” (9:20)! Whitman thus ends his poem celebrating an industrial exhibition with an appeal to our sense of honor. To risk the health of the Union and the spread of the ideals of democracy by using technology for war, greed, and oppression would be to dishonor the sacrifices made by the soldiers who died in an effort to maintain the Union. Here again we see a judgmentalism as regards the use of technology uncharacteristic of Whitman’s prewar work, and this moral prodding away from the use of technology for war and toward comparatively more benign and potentially beneficial business and industrial applications is a reoccurring theme throughout his postwar work.

Like “Crossing Brooklyn Ferry, the postwar poem “As I Walk These Broad Majestic Days” celebrates modern products and thought and insists on their temporal and spiritual value. Assessing the “broad majestic days of peace” following the Civil War, Whitman revels in the “eclat of the world, politics, produce, / The announcements of recognized things, science, / The approved growth of cities and the spread of inventions” (1, 8-10) and insists that “I too announce solid things, / Science, ships, politics, cities, factories, are not nothing, [...] They stand for realities—all is as it should be” (14-15, 18). Examples of the “realities” of which these technological and intellectual products are emblematic are provided in the following verse. The intellectual advance and material prosperity of postwar

America can be attributed to democratic ideals—the “Libertad and the divine average, freedom to every slave on the / face of the earth” (21-22)—that Whitman perceived as combating oppression and encouraging self-actualization, innovation, and progress both of the body and the soul. The products of the American Union are not only symbolic of these ideals, but they can facilitate them. Whitman portends a “grander heaving in sight” (17), a destiny in which the material prosperity and social justice enjoyed by Americans fosters the spread of democratic ideals throughout humanity, but though “As I walk These Broad Majestic Days” shares many of the themes of its prewar technology-oriented counterparts, it differs in a significant way common to Whitman’s postwar verse on the topic.

Contrary to his early faith in the ability of the “divine average” to utilize the material resources available to them without any moral guiding on his part, Whitman again uses a postwar poem in which technology is a key element as an opportunity to guide the reader—to encourage the application of technology toward the spread of the democratic ideal and discourage its use for military purposes. In the first verse, book-ended by Whitman’s self-satisfied ruminations on the material, intellectual, and social successes of the Union, we find a parenthetical passage in which the poet reminds us of the “struggle of blood” for the “terrific Ideal” of democracy which made such advances possible and of the “vast odds” against our success (2-4). The juxtaposition of the joy and comfort of peace and the pain and uncertainty of war in the first verse is enhanced by Whitman’s speculation that time may yield even more “dreadful contests, dangers, / Longer campaigns and crises, labors beyond all others” (6-7). Both the implied choice and the author’s bias as revealed by the language and imagery are clear: we can apply our efforts and technologies toward the perpetuation of the “broad majestic days of peace,” the pleasures they bring, and the spread of the democratic ideals that they promise, or we can jeopardize these goals and allow ourselves to be immersed in another modern, technological war that may prove to be even more destructive and dehumanizing than the last.

Rather than a commemoration of the deeds of war, as the title of the poem

“The Return of the Heroes” might suggest, the poem (in keeping with Whitman’s postwar theme) again sings of the plenty enjoyed by Americans and the even greater prosperity due them if they “give up for good [their] deadly arms” (6:21) and instead apply their technological ingenuity and productive efforts to the development and use of the “better weapons,” “The human-divine inventions, the labor saving implements” such as the “revolving / hay-rakes, / The steam-power reaping machines and the horse power machines, / The engines, thrashers of grain and cleaners of grain, well separating / the straw, the nimble work of the patent pitchfork” (8:7-12). The “unnatural shows of war” (4:9), Whitman instructs, have only served to deplete America’s greatest resource, its divine, diverse, and evolved populace, turning “proud brigades” with “sinewy legs” and “shoulders young and strong” into “regiments so piteous” with “mortal diarrhea,” “fever,” and “the plenteous bloody bandage / and the crutch” (4:13-14, 20-23). While Whitman acknowledges the heroics that occurred during the Civil War and the “heroes never surpass’d” that did not return, he insists that the greatest victories cannot be won on the battlefield; the greatest victories will come in the “saner wars, sweet wars, life-giving wars” (6:21) fought for the material prosperity of the Union and the resulting success and spread of the democratic ideals upon which it was founded. With the line “Toil on heroes! harvest the products!” (8:1), Whitman encourages the soldiers engaged in this even more heroic and important struggle, and it becomes apparent that the title of the poem, while certainly a recognition of the heroic actions of the soldiers returning from the Civil War, refers less to soldiers returning *from* heroic engagements in battle than it does to soldiers returning *to* them in the fields, factories, workshops, and schools. In contrast to the tolerance and acceptance characteristic of his prewar poetic treatment of warfare, Whitman, in this postwar poem, again guides us away from war and the wasteful and dangerous use of technology for military purposes and implores us to direct our energies and inventiveness toward pursuits which are, as his language and imagery show, comparatively much more important, toward the “true arenas” of heroic battle, “Mans innocent and strong arenas” (7:6) in which the struggle for the material and

intellectual resources that will secure the place of the American Union at the pinnacle of world politics and economics is engaged. Victory in this war, believes Whitman, will insure that the Union's fundamental principles (and, as he insisted, the vital natural laws) of equality, unity, diversity, and freedom are the envy and inspiration of humankind. But, in addition to his new-found prescriptivism on the topic of technology, this postwar poem diverges from Whitman's prewar treatment of the subject in another key way as well.

The final sections of "The Return of the Heroes" include another recurring theme in Whitman's postwar treatment of technology. Just as he did in "Song of the Exposition," Whitman ends "Return of the Heroes" with a reminder that the prosperity enjoyed by Americans is due to the strength and productivity inherent in the ideals of the democratic American Union; as he insists in section eight, "Under [the Union] only they harvest, even but a wisp of hay under thy great / face only" (8:23-24). While crafting these postwar poems promoting technology and industrialization in support of the American democratic experiment, Whitman was becoming increasingly concerned by the social stratification occurring in American society as a result of the economics of industrialism. As David S. Reynolds, in *Walt Whitman's America; A Cultural Biography*, observes:

There was a part of Whitman that was repelled by the new America. [...] Like the reformers Henry George and Edward Bellamy, he was alarmed by the class divisions and poverty. Particularly in the devastating years after the panic of 1873, he bore painful witness to the working-class miseries that contributed to burgeoning labor organizations and such protest movements as socialism and anarchism. (495)

In "Democratic Vistas," Whitman himself provides us with insight into the extent of the problem: "Of all dangers to a nation, as things exist in our day, there can be no greater one than having certain portions of the people set off from the rest by a line drawn—they not privileged as others, but degraded, humiliated, made of no account" (477). The fact that Whitman repeatedly addresses the inequalities and infringements upon personal freedoms occurring in American society within his postwar technologically and industrially-oriented poetry suggests his recognition of

the principle role that these forces play in both the material success of American capitalism and the class divisions resulting of this success. As we see in both “Song of the Exposition” and “The Return of the Heroes,” Whitman not only includes within these poems but, emphasizing the importance of this relationship, concludes the poems with a stern reminder that, without the equality and freedom of democracy to maintain a strong, peaceful unity and promote competition, America would not continue to be as prosperous as it had been.

This postwar guidance—or perhaps more accurately, this threat thinly-veiled in patriotic rhetoric found at the conclusion of both “Song of the Exposition” and “The Return of the Heroes”—is intended to remind us of what America stands to lose should it not, while enjoying the benefits of technology and industry, adhere to the principles of equality and freedom for people of all classes. This tone again contrasts distinctively with Whitman’s prewar passive acceptance and unqualified boosting of the various applications and incarnations of American technology and industry. As previously addressed, in the prewar “Song of Myself” Whitman summarizes his first major catalog celebrating a wide variety of inventions and their use with the observation that “(The moth and the fish-eggs are in their place, / The bright suns I see and the dark suns I cannot see are in their / place, / The palpable is in its place and the impalpable is in its place.)” (16:34-37). This analogy implies a perfection of the manmade equal to that of the organic—a fitting comparison considering Whitman’s conception of technology as a natural adaptation of a divine body and thus a necessary and perfect element of physical, social, and spiritual evolution—but in “The Return of the Heroes” Whitman’s list of technologies is followed by a concluding passage implying that not every thing “is in its place;” in fact, due to the misapplication of the benefits of technology and industry, entire segments of American society are not in their rightful, equal, and divine place. This change in tone and imagery signifying Whitman’s evolving understanding of the role of technology and industry in the process of social stratification is evident when comparing other pre and postwar technologically-oriented poems as well.

Like “Song of Myself,” the prewar “Crossing Brooklyn Ferry” and “Starting

from Paumanok” also maintain a very non-judgmental approach to technology. In “Crossing Brooklyn Ferry” the manmade accompanies the organic within the catalogs of “dumb, beautiful ministers” which, along with us, compose the “eternal float” through time and contribute toward the perfect destiny of the evolving soul. Of these manmade elements of reality, Whitman insists, “there is perfection in you also, / You furnish your parts toward eternity, / Great or small, you furnish your parts toward the soul” (9:47-48). This theme is evident in the prewar “Starting from Paumanok” as well. The poem explores the parallels between the growth and evolution of the poet and that of the American Union, both of which expand physically, intellectually, and spiritually away from their birth-place on the East Coast. Whitman guarantees the “eternal progress” of this developmental process with his promise to America in the conclusion of the poem that “I triumph—and you shall also” (19:4). This American success, he insists, must include the freedom to adapt technologically, for it is this same freedom to adapt and evolve that has resulted in the poet’s own physical, intellectual, and spiritual triumph. Indeed, as Whitman insists in the final lines of the very technologically-oriented catalog proceeding the conclusion of “Starting from Paumanok,” it is in these technological and industrial innovations and the benefits they bring that Whitman hears the “loud echoes of [his] songs” (18:27), echoes that reaffirm the promise of the perfect social and spiritual destiny achieved via the free adaptive process of a divine humankind. But in contrast to Whitman’s confident and celebratory prewar poetic treatment of technology, the supplicating, sometimes foreboding, and not-so-subtly prescriptive tone and treatment that we have seen employed in the conclusions of the postwar “Song of the Exposition” and “The Return of the Heroes” suggests that technology and industry have begun to resonate with Whitman in a different way. Rather than hearing in technology and industry the echoes of the ultimately triumphant physical, social, and spiritual evolutionary process of a free and divine being, these elements of modernization had begun to reverberate with the din of social inequality, injustice, and oppression, and the poet takes it upon himself to guide the reader, within the context of his postwar technologically-oriented work, away from using

technology and industry in such a way as to counter the natural laws of union, equality, freedom, and diversity—and in other postwar pieces, we see Whitman guiding the reader toward specific technologies that promote these natural laws.

Rather than celebrating equally and often simultaneously every aspect and application of industrialism and technology as he does in his early work, Whitman reiterates and emphasizes within the context of his later technologically-oriented poems the themes of communication, information exchange, and unification among the countries, cultures, and races of the world. Being a firm believer in the power of sensory connection and intellectual exchange to promote love and understanding among people, Whitman thought that technology, if applied toward this end, could do much to encourage the spread of unity, equality, diversity, and freedom around the world, and in another example of the poet using his later work to guide the reader toward specific uses of technology, Whitman promotes this application vigorously and repeatedly. “Passage to India” begins with the poet “Singing the great achievements of the present” (1:2), and, of all the technological and industrial achievements realized in the mid-to-late 19th Century, Whitman chooses the Suez Canal, the American railroad system, and the Atlantic Cable—three “modern wonders” with the shared purpose of facilitating human connection and interaction—as primary representatives of the “great achievements” of his era and thus worthy of mention in the opening lines of the poem. But in an approach which contrasts even more conspicuously with his earlier passive evolutionary pantheism, Whitman insists that the application of technology and industry toward those endeavors which encourage travel and information sharing is in fact God’s will:

Lo soul, seest thou not God’s purpose from the first?
 The earth to be spann’d, connected by network,
 The races, neighbors, to marry and be given in marriage,
 The oceans to be cross’d, the distant brought near,
 The lands to be welded together. (2:18-22)

While the poet’s interpretation of the will of God in this passage could be easily (and perhaps most accurately) understood as representative of the ameliorative process of evolutionary pantheism—a key theme in both this poem and his work in

general—many critics such as Allen have noted Whitman’s move to a more “conservative” pantheism as he grew older (259), and these lines from “Passage to India” seem to lend themselves to a more orthodox religious interpretation.

The poet’s observation of “God’s purpose” strongly suggests that the vision of interconnection and unification among peoples via technology as described in the above passage from “Passage to India” is not merely a glimpse into our future courtesy of a poet enlightened by evolutionary pantheism, but that this use of technology is to be actively pursued for the sake of morality, a moot point if the evolutionary pantheism to which Whitman’s earlier poetry prescribed guaranteed the intrinsically divine but evolving body and soul a likewise perfect destiny regardless of any adherence to a perceived morality. This is after all the poet who, recognizing the inevitability of unhealthy mutations amid the essential diversity of the evolutionary process (and the just as inevitable progression by which the unhealthy mutations are eventually selected out), asks in the early “Song of Myself,” “What blurt is this about virtue and vice? / Evil propels me and reform of evil propels me, I stand indifferent, / My gait is no fault-finders gait, / I moisten the roots of all that has grown” (22:20-23), but the poet’s invocation of “God’s purpose” in the verse quoted from “Passage to India” seems to suggest that Whitman’s position—at least as far as technology is concerned—has changed, and that some roots should receive more water than others. Evidence for the poet’s late prescriptivism on the topic of our application of technology is not limited to his observations in “Passage to India” however; the promotion of the use of technology for information sharing, travel, and interpersonal connection is another recurring theme in his later technologically-oriented work.

In section seven of “Song of the Exposition,” the poet elaborates on the activities that will precipitate the grand social and spiritual destiny, the life “Lifted, illumin’d, bathed in peace” (6:13), described at the end of section six. We must first eschew war and “in its stead speed industry’s campaigns;” we must avoid the “novels, plots and plays of foreign courts” and the “unhealthy pleasures” and “extravagant dissipations” of the aristocratic and revel in “the glory of [the average

man's] daily walk and trade" (7:6, 11, 16, 21): the work in the field and garden, the carpentering, tailoring, nursing, inventing, cleaning, and child rearing. Each of these activities, insist the poet, brings about the practitioner's "health and happiness, and shapes its soul, / For the eternal life to come" (7:43-44). Productive participation in the democratic American Union helps assure the equality, freedom, and peace that the poet believes are necessary for physical and spiritual evolution, but to maintain the sensory and intellectual connections that promote equality and freedom—and to encourage their spread throughout the world—communication, connection, and understanding among peoples must be established and maintained, and it is with images of the endeavors toward this end and the technologies that make them possible (the Atlantic Cable, the Suez Canal, and the American railroad system are again conspicuously included) that section seven, having progressed from the activities to be avoided to those to be encouraged, culminates:

With the latest connections, works, the inter-transportation of the world,
 Steam-power, the great express lines, gas, petroleum,
 These triumphs of our time, the Atlantic's delicate cable,
 The Pacific railroad, the Suez canal, the Mont Cenis and Gothard
 and Hoosac tunnels, the Brooklyn bridge,
 This earth all spann'd with iron rails, the lines of steamships
 threading every sea,
 Our own rondure, the current globe I bring. (7:45-52)

Whitman dreams of a "rondure"—a completed circle of interpersonal connections among all people which promotes understanding, equality, and unity around the world—and the technologies capable of helping humanity realize that dream are, just as in "Passage to India," deemed by the poet "triumphs" above the numerous other technological and industrial accomplishments of the day. The poet's preferential treatment of these applications of technology is evident in the postwar "Years of the Modern" as well.

Whitman begins "Years of the Modern" with hopeful visions of the future and the adaptive process of modernization. He "sees" equality and unity thrive not only in America but amid and among all nations and races of the earth, resulting in a "solidarity of races," and he tempts the reader with the promise that such adherence

to the natural laws of unity, equality, and diversity will result in a free and peaceful society highly conducive to the material, social, and spiritual evolution of everyone, not just an elite class: “I see Freedom, completely arm’d and victorious and very haughty, / with Law on one side and Peace on the other, / A stupendous trio all issuing forth against the idea of caste” (10-12). This interconnective and equalizing process is facilitated by technology:

With the steamship, the electric telegraph, the newspaper, the
wholesale engines of war,
With these and the world-spreading factories he interlinks all geog-
raghy, all lands;
What whispers are these O lands, running ahead of you, passing
under the seas?
Are all nations communing? Is there going to be but one heart to
the globe?
Is humanity forming en-masse? for lo, tyrants tremble, crowns
grow dim, (25-34)

Though the poet allows that—by facilitating interaction through commerce, providing the plentiful resources necessary to foster and maintain peace, and supplying the tools required to challenge aristocracy and tyranny—even factories and the technologies of warfare have a role to play in the pursuit of worldwide equality and unity, the “steamship, the electric telegraph, [and] the newspaper,” the technologies of travel, communication, and information exchange, again merit primary and specific mention. These are the technologies that allow the sensory and intellectual interaction and familiarity among people that can bring about the mutual understanding and respect necessary for true equality and a unity of the free and diverse.

Whitman saw that, lacking the popular acceptance of his message promoting the divinity and equality of the “great average” of humanity, a message which reflected the poet’s own resolute love for humankind, inequity and oppression were not only common in American democracy but were becoming more so. The poet’s experiences in the Civil War and his observations of the social stratification and oppression occurring in America during the mid-to-late 19th century convinced him that technology was playing a major role in this undemocratic progression—that

technology has the dangerous potential to distract and isolate us from nature, its healthy laws and patterns, one-another, and the sensory and intellectual interaction that sustain mutual understanding and acceptance. Once these isolating and dehumanizing behaviors occur, they become self-propagating and the misapplication of an otherwise useful adaptation intensifies. Whitman's response is not to forsake technology altogether—to do so would be to obstruct what he perceived as the physical, social, and spiritual evolutionary process of a free and divine being—but his newly-informed understanding of the dangers of technology, combined with his recognition of the general lack of interest in and unavailability of an ample and diverse American literature capable of mitigating these dangers (also due in part, he believed, to the distraction of technology and industrialism), necessitated a change in approach, and Whitman begins to guide the reader in the use of technology in a way that contrasts distinctly with his prewar treatment of the topic. Rather than relying primarily on the message of human divinity to ensure mutual respect and equitable treatment, we see in his postwar technologically-oriented poems and poetic passages a shift away from the all-inclusiveness, extreme optimism, and abstraction of this message to the comparatively more concrete and prescriptive postwar approach evident in his later technologically-oriented work. Whitman addresses the problems that he sees resulting of technology in a more direct way; he does this by reminding, sometimes threatening, often guiding the reader in his later technologically-oriented work away from the abuses of technology that result in inequality, infringements on personal freedoms, and disunion and toward those applications that promote healthy natural patterns of interaction—patterns which, had his earlier message of the inherent divinity and equality of all humankind been accepted, would have occurred without the prodding of the poet.

Conclusion

While the poem “Years of the Modern” is an enlightening example of Whitman’s postwar tendency to guide the reader toward the technologies of unification, there is much more to be learned about the poet’s evolving attitude toward technology in this peculiar and seemingly incongruous poem. Whitman begins the poem with confident premonitions of the modernization process; he foresees humankind enjoying “Freedom, completely arm’d and victorious and very / haughty, with Law on one side and Peace on the other” (10-11), but by the end of the poem, the self-assured visions with which the poem was introduced have deconstructed into disconcerting images of helplessness, uncertainty, and foreboding, ending with the uncertain admission that “No one knows what will happen next, such portents fill the / days and nights; / Years prophetic! the space ahead as I walk, as I vainly / try to pierce it, is full of phantoms” (36-39). The images and tones employed within the poem are not as contradictory as they might first appear, however, and can be seen as a microcosm of Whitman’s treatment of technology, a key element of the modernity the poem proposes to address, as his understanding of the topic progresses through the course of his career.

In the first several lines of the poem, Whitman “sees” a future in which “not America only” but “other nations” are enjoying freedom, justice, and peace—a world in which there is a “solidarity of races” and the “frontiers and boundaries of the old aristocracies [are] broken,” but the poet makes it clear with his observation that America is no longer alone in this progression that “Liberty’s nation” has led the way (3, 5-6, 15). We see in these opening lines a theme common to Whitman’s earlier poetry—that the natural laws of unity, equality, freedom, and diversity incorporated within American democracy will deliver a material, social, and spiritual success so stunning as to act as an inspiration to the balance of humankind. Whitman’s interest in science and the scientific advances made as a result of technology helped reveal to him the vital role that the patterns evident in organic

nature, and thus intrinsic to the Creative Force, play in a healthy and successful environment, and it is clear from the utopian visions described in these introductory lines of “Years of the Modern” that the poet maintains a steadfast faith in the potential of America to prosper and propagate the ideals of democracy by maintaining its allegiance to these natural patterns. The successes envisioned by the poet in the opening lines, “the landmarks of the European kings removed,” the “People beginning their landmarks,” and the “more august dramas” (16, 17, 2) resulting of the unprecedented unleashing of human potential freed from the oppression of kings and tyrants are all part of the evolution and ultimately perfect destiny due those beings loyal to the patterns of the Creative Force as they are evident in nature.

There is a faith apparent in the opening lines of “Years of the Modern” that rivals the guarantee of the ultimate “triumph” of the prewar “Starting from Paumanok” or the “form, union, [and] plan” promised in “Song of Myself,” but approximately one-third of the way through the poem (a proportion that correlates interestingly with the occurrence of the Civil War within the course Whitman’s literary career) Whitman’s confident prognostication ends, he returns to present reality, and the tone of the work abruptly changes to one of uncertainty, weariness, and ultimately fear: “Never were such sharp questions ask’d as this day, / Never was average man, his soul, more energetic, more like a God, / Lo, how he urges and urges, leaving the masses no rest” (19-21)! The line in which Whitman acknowledges the “sharp questions ask’d” acts not only as a transition from the future to the poet’s present but it introduces a new and much less confident and unifying tone than that employed in the introduction. The connotation of the adverb “sharp” suggests a divisiveness surrounding the topic of modernization that belies the utopian visions of solidarity with which the poem begins; the term also implies Whitman’s appreciation of the validity and acumen of the challenges posed to the process of modernization, and, despite the early optimism of the poem, it is clear from the language and tone of the following lines that Whitman himself has developed some doubts and “sharp questions” of his own.

While the egalitarian democracy celebrated in the introduction of the poem has allowed the “average man” in America more freedom to engage in a wider range of experiences, pursue personal potential, and thus evolve socially and spiritually to become (in accordance with the poet’s philosophy of spiritual evolution via life experiences) “more like a God,” Whitman describes the results of this process as he sees them in the postwar years in less than celebratory terms. The godlike creative force that has arisen of the personal freedom, invention, and competition of modern democracy and capitalism appears to now be interpreted by the poet as posing a threat to that which created it. Whitman fears that humanity is on the verge of being overwhelmed by its own resource-gathering “urges” which, when exacerbated by the desensitizing and dehumanizing potential of technology, result in a dangerous modernizing force beyond human control—a combination of human “urges” and self-perpetuating technological isolation that will not allow time for “rest,” recuperation, or contemplation. Modernity, industry, and technology spread almost uncontrollably “on land and sea everywhere” (22). As previously mentioned, the poet’s choice of technologies—the “steamship, the electric telegraph, the newspaper [and the] factories” (24, 26)—indicate his recognition of the propagation of communication, information, and economic success which Whitman hoped would encourage the spread of freedom, equality, and unity around the globe, but his reference to the “world-spreading factories” and “engines of war” (25-26) again suggests the propensity of technology to become a self-perpetuating and unmanageable force.

The battlefields of the Civil War had shown Whitman how effectively the technologies of warfare could desensitize and isolate the participants, thereby creating a sensory disconnect between the warring parties that helped to perpetuate the conflict, and Whitman had seen this dynamic at work in private industry and American society as well. The phrase “world-spreading factories” suggests not only the subordination of the natural world, as if the modern mindset tends to recognize only the industrialized world as a relevant part of reality, but the phrase also suggests that technology has achieved a dangerous level of autonomy, that the factories

themselves are somehow capable of spreading industrialization. Whitman realized that, just as it had during the war, technology in American society had the propensity to bring about unhealthy social and psychological conditions: it could lead to physical, psychological, and social isolation and a detachment from the human contact that promotes mutual understanding, respect, and love; and it could similarly isolate humanity from nature and the fundamental natural laws of equality, freedom, unity, and diversity. Whitman recognized that these negative attributes of technology render it a very unstable and dangerous force—the human urge to use technology to protect the body and accumulate resources can, because of technology’s potential to isolate and desensitize, metamorphose very quickly into the social-stratification, avarice, inequality, and oppression common throughout the industrialized world of the 19th century. And once these dehumanizing behaviors occur and one group is valued less than another, isolation, desensitization, and the misapplication of technology begins to perpetuate itself; in this sense, factories could spread themselves and technology could become an “engine,” “leaving the masses no rest” (21).

Whitman saw that the democratic freedom to create and use technology, combined with the success with which it allows us to accumulate resources, the human evolutionary urge to do so, and the negative attributes of technology which can turn this urge into a divisive, dehumanizing, and self-perpetuating force had coalesced to help create a condition whereby Whitman’s beloved American democracy was actually becoming less democratic. Class separation, due in large part to these negative attributes and the misuse of technology, was resulting in an economic aristocracy, and in what must have appeared to Whitman to be an irony of cosmic proportions, the adherence to natural laws that had allowed the “divine average” in America to become such a prolific creator had resulted not in the continued evolution toward a divine destiny, but in a disconcerting and dangerous increase in inequality and disunity and a decrease in personal freedom and diversity. As we compare the similarities between the evolution of Whitman’s treatment of technology through the course of his career and the progression of the tone and

imagery of “Years of the Modern,” the “sharp questions” following the optimistic introduction of the poem can be seen to correlate with Whitman’s evolving awareness of the social problems in which technology was a key factor, problems that were so acute and potentially threatening as to challenge the most fundamental principle of his concept of evolutionary pantheism—that an adherence to natural laws would allow the divine being to evolve unerringly, just as in organic nature, toward a divine physical, social, and spiritual destiny. His faith and confidence profoundly shaken, the certainty apparent in the introduction of “Years of the Modern” devolves into the confusion and apprehension evident in the final lines, just as the inspiring optimism and all-inclusiveness evident in Whitman’s early poetic treatment of technology is displaced by a late prescriptivism on the topic, a prescriptivism that is indicative of a desperate effort to offer some sort of guidance in lieu of a quickly-diminishing faith but is, in reality, little more than an ill-fitting cloak incompletely concealing the poet’s confusion.

In “The Name and Nature of Modernism,” Malcolm Bradley and James McFarlane describe the shift from Romanticism to Modernism as follows:

Indeed Modernism would seem to be the point at which the idea of the radical and innovating arts, the experimental, technical, aesthetic ideal that had been growing forward from Romanticism, reaches formal crisis—in which myth, structure and organization in a traditional sense collapse [...] (26)

In technology, Whitman saw a force that thrives in an environment of personal freedom, equality, unity, and diversity and can be used to protect and perpetuate these conditions, but though technology appeared to him a natural human adaptation consistent with these laws of nature, he realized that it had a commiserate potential to foster disunity and restrict personal freedoms and diversity. While technology could be used in conjunction with science to inform us of the patterns of nature and thus of the Creative Force, it clearly had the potential to disconnect us from nature and its vital laws as well. And though technology could provide connections among peoples and facilitate the sensory and intellectual exchanges that promotes mutual understanding, it could also be use to isolate and dehumanize. The potential of

technology to bring about both positive and negative outcomes challenged Whitman's evolutionary pantheism. Rather than helping to propel humankind toward its divine destiny as the evolutionary pantheist would expect of a force resulting of freedom, equality, unity, and diversity, technology seemed quite capable of accompanying us to extinction. Technology's mercurial quality did however seem to be an accurate indicator of what resides in the souls of its creators and the extent to which they had truly evolved, and we get some sense of Whitman's assessment of what the technologies of his era revealed about his countrymen from the primarily anxious and bewildered tone evident in the final lines of "Years of the Modern:" In the moments between sleep and wakefulness, the poet's dreams and reality have yet to resolve themselves in a "new era," and images are yet indistinct. He senses that "phantoms" lurk among these images, and he can feel an "incredible rush and heat," perhaps of the engines that drive them (41). They loom "more gigantic than ever" (47) above him, threatening to deconstruct the once-confident poet who, in "Song of Myself," shouted his "barbaric yawp over the roofs of the world" (52:4) and reassemble the parts into an ineffectual poetic monstrosity half faithful Romantic and half uncertain Modernist. But, sensing the tremendous threat moving closer, the poet maintains until the end the hope that either his fears are not completely warranted and the mechanical beasts will ultimately demonstrate the good that resides in the souls of their creators, or that he can, in his last moments, usurp control of the beasts and guide them toward more constructive pursuits, and the Great Poet stands firm, in the final line of "Years of the Modern," as they "advance, advance upon [him]" (47-48).

Works Cited

- Ahearn, Kerry. "Re: Walt. W." E-mail to the author. 24 Apr. 2006.
- Allen, Gay Wilson. *The New Walt Whitman Handbook*. New York: New York University Press, 1975.
- Allen, Gay Wilson. *The Solitary Singer: A Critical Biography of Walt Whitman*. Chicago: Chicago University Press, 1955.
- Asselineau, Roger. *The Evolution of Walt Whitman; The Creation of a Book*. Cambridge: Harvard University Press, 1962.
- Benesch, Klaus. *Romantic Cyborgs; Authorship and Technology in the American Renaissance*. Amherst: University of Massachusetts Press, 2002.
- Blankenship, Russell. "Whitman's Transcendentalism." *Readings on Walt Whitman*. Ed. Gary Wiener. San Diego: Greenhaven Press, 1999. 106-113.
- Bradbury, Malcolm and James McFarlane, "The Name and Nature of Modernism." *Modernism; A guide to European Literature 1890-1930*. Eds. Malcolm Bradbury and James McFarlane. London: Penguin Books, 1976. 19-55.
- Bruce, Robert V. *The Launching of Modern American Science: 1846-1876*. Ithaca, New York: 1987.
- Cooke, Alice Lovelace. "Whitman's Indebtedness to the Scientific Thought of His Day." *The University of Texas Bulletin*. 14 (Jul34): 89-116.
- Cosmic Evolution*. Ed. Eric J. Chaisson. Vers. 4. 2005. Wright Center for Science Education, Tufts University. 27 Feb. 2006
<http://www.tufts.edu/as/wright_center/cosmic_evolution/docs/splash.html>
- Cowley, Malcolm. "'Song of Myself' and Indian Philosophy." *A Century of Whitman Criticism*. Ed. Edwin Haviland Miller. Bloomington: Indiana University Press, 1969. 231-246.
- Cowley, Malcolm. "'Song of Myself' as Inspired Prophecy." *Whitman's "Song of Myself"—Origin, Growth, Meaning*. Ed. James E. Miller Jr. New York: Dodd, Mead, & Company, 1964. 179-195.
- Cutler, Ed. "Passage to Modernity: *Leaves of Grass* and the 1853 Crystal Palace Exhibition in New York." *Walt Whitman Quarterly Review*. 16:2. 65-89.
- Day, Martin S. "Whitman's Themes and Images." *Readings on Walt Whitman*. Ed. Gary Wiener. San Diego: Greenhaven Press, 1999. 78-82.

- Darwin, Charles. *The Origin of Species—6th Edition*. 1999. 20 Sept. 2005
<<http://www.literature.org/authors/darwin-charles/the-origin-of-species-6th-edition/introduction.html>>.
- Dowden, Edward. "The Poetry of Democracy: Walt Whitman." *A Century of Whitman Criticism*. Ed. Edwin Haviland Miller. Bloomington: Indiana University Press, 1969. 39-49.
- Emmanuel, Lenny. "Whitman's Fusion of Science and Poetry." *Walt Whitman Review*. 17:3 (Sep71): 73-83.
- Erkkila, Betsy. *Whitman the Political Poet*. New York: Oxford University Press, 1989.
- Foerster, Norman "Emerson on the Organic Principle in Art." *PMLA: Publications of the Modern Language Association of America*. 41:1 (1926): 193-208.
- Fogle, Richard Harter. "Romantic Writers See the World as an Organic Whole." *American Romanticism*. Ed. Jennifer A. Hurley. San Diego: Greenhaven Press, 2000. 32-38.
- Harris, Marion. "Nature and Materialism: Fundamentals in Whitman's Epistemology." *Walt Whitman Review*. 6:4 (Dec63): 85-88.
- Kinney, Katherine. "Whitman's 'Word of the Modern' and the First Modern War." *Walt Whitman Quarterly Review*. 7:1 (1989): 1-16.
- Mason, John B. "Walt Whitman's Catalogues: Rhetorical Means for Two Journeys in 'Song of Myself'" *American Literature: A Journal*. 45:2 (Mar73): 34-49.
- Miller, James E. Jr. "'Song of Myself as Mysticism.'" *Whitman's "Song of Myself"—Origin, Growth, Meaning*. Ed. James E. Miller Jr. New York: Dodd, Mead, & Company, 1964.135-157.
- Noyes, Russel, ed. *English Romantic Poetry and Prose*. New York: Oxford University Press, 1956.
- Reynolds, David S. *Walt Whitman's America: A Cultural Biography*. New York: Alfred A. Knopf, Inc., 1995.
- Sickels, Robert C. "Whitman's 'Song of Myself.'" *Explicator*. 59:1 (Fall00): 19-21.
- Scholnick, Robert J. "'The Password Primeval:' Whitman's Use of Science in 'Song of Myself.'" *Studies in the American Renaissance*. Ed. Joel Myerson. Charlottesville: UP of Virginia, 1986. 385-425.

The Origins of the Solar System. The University of Tennessee. 27 Feb. 2006.
<<http://csep10.phys.utk.edu/astr161/lect/solarsys/nebular.htm>>.

Thomas, M. Wynn. *The Lunar Light of Whitman's Poetry*. Cambridge: Harvard University Press, 1987.

Traubel, Horace. *With Walt Whitman in Camden*.

Whitman, Walt. *Leaves of Grass and Selected Prose*. Ed. John Kouwenhoven. New York: Random House, 1950.

Wimsatt, W. K. "Organic Form; Some Questions about Metaphore." *Romanticism: Vistas, Instances, Continuities*. Eds. David Thorburn and Geoffrey Hartman. London: Cornell University Press, 1973.

Wong, Hertha. "'This Old Theory Broach'd Anew': Darwinism and Whitman's Poetic Program." *Walt Whitman Quarterly Review*. 5:4 (1988): 27-39.