THE DOUBLE-EDGED SWORD:

THE TECHNOLOGICAL SUBLIME IN

AMERICAN NOVELS BETWEEN 1900 AND 1940

by

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Chapter One

The Technological Sublime: An Introduction

A Sublime Encounter with Technology

The time is 1900, the dawn of a new century, full of promise and unsuspected threat. The place: "the Gallery of the Machines at the Great Exposition" of Paris. *Dramatis personae*: Henry Adams, "an elderly American," great-grandson of the second and grandson of the sixth President of the United States, a historian by self-declared profession; and Samuel Pierpoint Langley, an astronomer, physicist and pioneer in aeronautics, "a great man of experiment" (378*ff*). The well-known scene of Adams' epiphanic and sublime encounter with the dynamo is only a brief episode in the long autobiography of an old man looking back on an eventful life spanning almost a century. Yet this little episode is arguably the most important lesson in the impressive record of a lifelong learning project, the education of Henry Adams, and no doubt the most frequently cited chapter of the book of the same title. Here is Adams himself, fictionalizing his non-fiction, talking about himself in the third person:

> To [Langley], the dynamo itself was but an ingenious channel for conveying somewhere the heat latent in a few tons of poor coal hidden in a dirty engine-house carefully kept out of sight; but to Adams the dynamo became a symbol of infinity. As he grew accustomed to the great gallery of machines, he began to feel the forty-foot dynamo as a moral force, much as the early Christians felt the Cross. [. . .] Before the end, one began to pray to it; inherited instinct taught the natural expression of man before silent and infinite force.

> Among the thousand symbols of ultimate energy, the dynamo was not so human as some, but it was the most expressive. (380)

In the same chapter, Adams sets up his classic dichotomy of the virgin and the dynamo, in which the former represents the unity of meaning still available to medieval people in beauty, religion, and art. By contrast, the latter symbolizes multiplicity in the new world order, which is governed by a utilitarian, rational, scientific, and technological approach. Countless interpretations of "The Dynamo and the Virgin" chapter have been suggested by scholars in the past century from a vast array of perspectives. To mention only two contradicting analyses, Leo Marx sees the book as a commentary on the transformation of life by technology, which separates Adams from his family's eighteenth-century tradition. Marx sees the virgin and the dynamo as in all-embracing conflict, "a clash between past and present, unity and diversity, love and power" (*Machine* 347). Cecelia Tichi disagrees, arguing that the two forces identified by Adams "form two halves of an equation that spans centuries. They are equivalents, not opposites or contraries" (156). It is neither the purpose of my study to decide between conflicting interpretations of Adams's text, nor does it aspire to settle the debate once and for all between the now centuries-long debate between the extremes of technophilia and technophobia.

What I propose to investigate is the literary treatment in selected representative texts of the early twentieth century United States of the quality that was also central to Adams's experience, and which he termed "infinity" and "a moral force" in the above passage, a "sudden irruption of forces totally new" (382), and "a totally new education" promising to be "the most hazardous of all" (383) elsewhere in the chapter: the sublimity of technology. Using literary texts as evidence of social history, I will argue that the first four decades of the twentieth century, a period of phenomenal technological developments in American

civilization, saw a radical reconfiguration of attitudes toward the technological sphere. On the basis of the analysis of works of fiction produced between 1900 and 1940, I will argue that this period was the culmination of the technological sublime, with a prevailingly ambivalent attitude of simultaneous awe and fear, emblematic of the transition between a by and large unified vision of technological utopianism and republicanism of an optimistically positivist nineteenth century and the increasingly pessimistic and dystopian, fragmented vision of the post-World War II era.

The concept of the technological sublime in the temporal and spatial context of the first four decades of the twentieth century and the United States of America will be the organizing concept of my study. The perception of the machine had gone through changes in the past centuries and I intend to show how such changes were reflected in popular ideology, and—more importantly for the purposes of a critical study—in some representative texts of the period. Through a study of the treatment of the dominating sublime technologies in selected texts I intend to prove that these forty years played a decisive role in changing the way Americans relate to their own technological civilization. In order to fully appreciate the nature and import of these changes, however, it is necessary to first situate them in a larger context and to define some of the terminology that will be used. This first chapter will also provide a survey of the literature available in this relatively new field of scholarship, while the final pages will provide a roadmap to the thematic-chronological approach of the succeeding chapters.

The American Technological Sublime: The Historical Context

The widely accepted trust in science and technology during the early twentieth century may be traced back at least to the eighteenth century, the Age of Reason. “Much of

the extravagant hope generated by the Enlightenment project," writes Leo Marx in his essay on technology and postmodern pessimism, "derived from trust in the virtually certain expansion of new knowledge of and enhanced power over nature" (12). Such optimism, Marx continues, was based in no small part on the relatively recent discoveries of Newtonian principles of motive power, which are the foundations of modern technologies. The scientific and industrial revolution that continued into the nineteenth century and reached its peak in the United States by the latter half of that century further boosted what Howard P. Segal calls the "old optimistic view of history as a steady and cumulative expansion of human power" ("Technology" 1).

To understand why the early decades of the twentieth century, more than any other period, may have been witness to fundamental changes in attitudes to the technological, we must consider the technological sublime in a somewhat broader temporal context. As Carroll W. Pursell argues in the introduction to *Readings in Technology and American Life*, a collection of primary documents pertaining to the progress of engineering and technology in American history, technology has always had a special part in American national consciousness (3). The revolutionary and early national periods in American history by and large coincided with a substantial industrial revolution in the United States. This era saw, among other things, the introduction of the steam engine and steamboats, the large-scale mechanization of the textile industry, the passing of the earliest patent laws accompanied by an upsurge of technological innovation, as well as the beginning of a massive importation of drawings, models, descriptions of machines, actual machines, and technical experts into the country (Pursell 27). As a result of the temporal coincidence, Americans have long felt a special affinity between their land and technology, and the belief that the country's progress and welfare are closely tied to technological progress has become a cornerstone of American

consciousness. This belief was not shaken by the Civil War, America's first "technowar" in the modern sense of the word.

The emergence after the Civil War of new key industries and technologies such as the chemical industry, Bessemer steel-making, and the production of electric power signaled the growing importance of scientific research in the service of industrial production. By the late nineteenth century the work of the talented but scientifically untrained inventor was beginning to be gradually replaced by the systematic innovation carried out by industrial research laboratories in the service of technological development. The same period also saw the increased professionalization of the engineering field, inaugurating the era of a new cultural hero, the engineer. One of the most consequential processes taking place in late nineteenth-century American history was the disappearance of the Western frontier and a simultaneous shift in trust for the country's future from the sustaining power of nature as represented by the frontier, to a growing belief in the potentials of technology for the welfare and progress of the nation. After all, technology had played a central role in the westward expansion of the country from the earliest images of the New World as a garden carved out of the wilderness with the help of human-made tools, to the most noteworthy contributions of the railroads, mining engineering, and irrigation projects (Pursell 3, 139).

The turn of the nineteenth into the twentieth century brings us within the temporal frame chosen for the present discussion of the literary representation of, and reactions to, technological civilization. Following the accelerated industrial growth of the late nineteenth century, the first decades of the twentieth century could generally be characterized as a period of coming to terms with technology by the wider population of the United States. The previously only occasional encounters with technology that were thrilling, awe-inspiring, or frightening a generation or two before have gradually become a part of everyday reality for

the average American. The assimilation of the machine into the modern American psyche and existence that was taking place during the first third of our century has by and large eradicated any remaining traces of the Victorian technological sublime and has made such technological epiphanies as Henry Adams's encounter with the dynamo in 1900 obsolete for some time in the United States.

An almost unconditional trust in technology's positive impact on the nation's, or more generally, humankind's, progress was especially prevalent in the early twentieth century. This was the era of scientific management, heightened efficiency, a rational and systematic approach not only in manufacturing, but also in virtually all areas of life. This was the time of Frederick Winslow Taylor, the foremost apostle of efficiency, and his unrelenting quest, stopwatch in hand, for "the one best way." Taylor's vision had a fundamental impact both on Henry Ford's assembly line and Lenin's Soviet Russia, and his importance could be ranked with that of Darwin, Marx, and Freud, as makers of the modern civilization we inhabit.

As is often the case with wars, World War One further catalyzed technological development and industrial production, while it also provided a deeper foundation for the acceptance of technology by bringing a large number of servicemen into an unprecedented everyday contact with (primarily military) technology. For American technology and industry, World War One was a "crusade of heroic proportions" whereby national planning was instituted, profit was temporarily subordinated to national security, and innovation was accelerated (Pursell 281). On the other hand, highly destructive military technologies such as the machine gun, tanks, submarines, and poison gas were first tested or extensively used in World War One. Part of the postwar disillusionment reflected in the fiction produced in the period was a realization of humankind's potential for mass (and on a human scale also self-)

destruction made possible in no small part by technology. As we will see, this experience prepared the way for a different vision of technology.

The Twenties, "the business decade," that inseparably allied technological development and business interests, seems especially significant in any consideration of the impact of technology on American culture, and by extension, literature. It would appear that the processes of industrialization, mechanization, urbanization, and standardization that had been emerging for several decades culminated in the decade following World War I, finally to reach a stage where quantitative changes turned into qualitative ones. Never before were such wide layers of American society immediately affected in their lifestyles and general standards of living by technology as in the 1920s. As will be seen from some of the examples and statistics below, several important events marked the Twenties not necessarily as a decade of technological breakthroughs, but rather as a period when the changes brought about by progress must have become apparent for the population at large. The 1920s was in many ways *the* decade of widespread assimilation of technology into American culture.

Browsing through the years between 1920 and 1929 in a chronicle of the United States such as Clifton's, the careful reader will doubtless observe several curious facts, which, as elements of a larger mosaic, indicate large-scale patterns in American technological civilization. Census figures in 1920 showed for the first time an urban population larger than a rural one. In his address on July 4, 1926, on the 150th anniversary of the United States, novelist Sherwood Anderson remarked: "The machine [has caused] the herding of men into towns and cities. [. . .] Minds began to be standardized as were the clothes men wore" (qtd. in Clifton 631).

In addition to urban growth, motorization was perhaps one of the most conspicuous changes in the country. By 1920, Americans owned 8 million cars, but it still meant two

horses for every automobile in the country. With 24 million automobiles (78% of the world's cars) registered by 1927, the horse-to-automobile ratio was very soon reversed (Lewis and Goldstein 142). The social and cultural effects of the monumental growth of the automobile industry in the period were and continue to be profound and long-lasting. Motorization and the massive road-building programs beginning in this period transformed not only the American landscape and cityscape, but also fundamentally altered the whole cultural landscape of the United States.

In aviation, the year 1923 saw the first non-stop flight across the American continent; then, in 1927, America celebrated Charles Lindbergh's thirty-three-and-half-hour non-stop solo flight across the Atlantic from New York to Paris. In telecommunications, the first national radio broadcast, the announcement of the results of the presidential elections, occurred in 1920. Between 1920 and 1924 the number of radios in homes leapt from 2,000 to 2.5 million. Symbolically, the Twenties also inaugurated (in 1929) the first engineer-president in the person of Herbert Hoover, who had a degree in mining engineering. These facts and figures are but selectively chosen examples of the very rapid and mainly quantitative changes that took place in the decade, yet they clearly illustrate the nature of the impact that the overwhelming presence of technology must have had on the generation of the 1920s: technology had become in this period an inseparable part of modern American existence and psyche.

Another reason why the literature of the 1920s is especially useful for studying patterns of changes in American technological consciousness is more practical. The 1920s is frequently regarded as a golden age of American letters, a sort of second American Renaissance, second only perhaps to the 1850s. The mere output and quality of the literature produced in this period by authors like Lewis, Cather, Fitzgerald, Dos Passos, Hemingway

and Faulkner, to mention just some of the greatest names, would warrant special attention, but more important is the fact that the writers of the Twenties, as will be shown, appear to be especially attentive to the changes brought about by technological progress in the period. As much as literature can be accepted as a singular way of documentation and reflection of social, economic, and psychological changes in a given place and period, a number of novels written in the 1920s clearly attest to the above claims about the significance of the decade in any serious consideration of the interaction of technology and American literature.

The period following the Twenties saw the beginning of a backlash in society's generally positive attitude toward technology. With the onset of the greatest economic depression to plague the United States ever, science and technology were frequently blamed for economic overproduction, as well as generating a high rate of unemployment by replacing human workers with machines. Commonly considered as scapegoats for hardships, science and technology were harshly criticized, and there were even voices demanding a moratorium of further research and development (Pursell 337). The social responsibility of engineers in the age they helped create was mentioned more and more frequently.

World War Two brought about a further resurgence in technological development, but compared with previous decades the role of the government (as opposed to private funding) was increasing. This period saw the establishment of the federal Office of Scientific Research and Development and a phase of intensified cooperation between the government, scientists, industrial engineers, corporations, and the military in the development of such key technologies as the military and civilian use of nuclear energy, radar, and computer technologies, jet propulsion, and rockets (Pursell 383-84). After World War Two, the United States reinforced its world leading position in technological research and development. Although Americans have lived in a high-tech society at least since the post-World War Two

decades, but arguably several decades before that, the general attitude toward this technological age is ambiguous at best. On the one hand, technology is very much taken for granted and assimilated into the fabric of society and modern existence. Most Americans still celebrate technological progress and believe it to be "rational, benign, and not only compatible with but indispensable for the fulfillment of the American dream" (Pursell 4). On the other hand, however, a large number of critics now raise their voices against the social, environmental, and human costs of technology and there is a growing public awareness of these issues in the general population. Tragic milestone events and discoveries, like the atomic bombs dropped on Hiroshima and Nagasaki, the Santa Barbara oil spill, Three Mile Island, global warming, or more recently, the disasters of Chernobyl and of the space shuttle Challenger have largely contributed to this awareness and made many people realize the repercussions of allowing technological development to go awry.

Technology and Literature

Technology and literature may doubtless appear at a first glance as two separate spheres of human activity that are remote, largely unrelated, in the perception of some people perhaps even antithetical to each other. The "two cultures" debates of the 1950s, initiated by C. P. Snow's book of the same title, were only a more recent reincarnation of the Romantic notion that considered science (and by extension, technology, frequently defined as "applied science") and art as two opposing and distinct areas of knowledge, or approaches to reality. Such a separation, or even contrasting, of art and science/technology still dominates everyday thinking. It would appear that we have come a long way from the Antique or even the Renaissance ideal of versatility, as manifested, for example in Leonardo da Vinci's balanced interest and talents in such now disparate fields as painting, aviation, and medicine. Current

tendencies in our civilization's evolution point toward an even more increased specialization in all areas of human knowledge and activities, which would make the individual disciplines even more remote from each other.

Despite the popular notion of a separation between science/technology and art (or more specifically, literature), there are at least three significant intersections between them, as pointed out in the preface of a collection of essays addressing this topic, significantly entitled *Beyond the Two Cultures*:

> First, language, the material of literature, is man's primal technology. [. . .] Second, both science and technology generate their own texts in print, plastic, and electronic forms. [. . .] Third, literature reflects *and shapes* the psychological, social, political, and economic ramifications of science and technology. The relationship between science, technology, and literature is thus endlessly reciprocal, frequently aesthetic, and profoundly cultural. (Slade and Lee ix; emphasis added)

The broader context of my study will be the relationship between technology and literature from the perspective of the third of the intersections listed above. For reasons detailed below, the scope of my discussion will be delimited also by criteria of time, space, and genre: technology and American fiction in the period roughly between 1900 and 1940. I intend to examine, on the one hand, the intellectual climate in the first four decades of the twentieth century in the United States and the role of sublime technology as a formative influence on human consciousness and, on the other hand, the manifestation of the technological sublime in American fiction produced in this period. Technology, an integral part of our modern existence and an important part of the modernist experience, is a recurring trope, an omnipresent entity, in modernist American literature in general, and fiction in

particular. Consequently, the study of the trajectory of the technological sublime seems to be a rewarding approach to a better understanding of the literature of this period, and conversely, literature may help illustrate and illuminate this chapter in the history of technological development so important in the shaping of our current material and intellectual culture.

As discussed above, a gradual shift from the previously dominant mode of optimism to a now prevailing mode of (postmodern) pessimism took place sometime during the first half of the twentieth century. Signs of this switch are inevitably found in the creative writing produced in the period, more specifically, in the fiction written in the United States between 1900 and 1940. It would appear that contrary to the generally positive and enthusiastic attitude toward technological progress that was characteristic of society in the first four decades of our century, American novelists in general took a more critical, or at least more carefully ambivalent, stance toward machine culture. This may be attributed to either a latent technophobia beneath the surface of the generally unconditional endorsement of technological progress, or to a greater sensitivity on the artists' part, resulting in an aesthetic endeavor to uphold certain traditional values that they felt were threatened in the face of the so far unprecedented technological development in the early twentieth century.

Whatever their motivation, it is quite possible that in their own way the specific writers of the period between 1900 and 1940 discussed in subsequent chapters also significantly contributed to the realization of the "double-edged sword" character of unbridled technological progress by bringing the idea home to readers well before it was widely recognized. This way, several novelists writing in the period, especially those widely circulated authors reaching a large readership, may not only have recorded the shift in attitude to the technological sublime, but also in their own way may have even contributed to it by communicating their views to contemporary society.

Basic Terms of My Inquiry

While the concept of technology is far from new[1], the word "technology," as well as the idea that it may be a crucial agent of change in society, is relatively recent. The first use of the word "technology" in its current meaning is usually attributed to Jacob Bigelow, Harvard professor of medicine, and author of a book titled *Elements of Technology, Taken Chiefly from a Course of Lectures [. . .] on the Application of the Sciences to the Useful Arts*. In his book, Bigelow advocated "the fusion of science and art, which he felt was characteristic of industrial society" (Nye 45). Bigelow's book was published in 1828, the same year when the construction of the first railroad line in Baltimore commenced, and the new word was becoming widely used in the period of the initial development of this new means of transportation and archetypal American technology.

Originally conceived by Bigelow as an amalgamation of "pure" science, and broadly interpreted, art (in the meaning of craft, skill, workmanship; cf. the Greek word "techne" in the root of "technology"), the concept of technology was becoming increasingly associated with utilitarianism and practicality toward the end of the nineteenth century. Indeed, technology is frequently approached as "applied science." The *Random House Webster's College Dictionary*, for example, defines technology in the following ways:

> 1. the branch of knowledge that deals with *applied science*, engineering, the industrial arts, etc. 2. the application of knowledge for practical ends. 3. a technological process, invention, or method. 4. the sum of the ways in which social groups provide themselves with the material needs of their civilization. 5. the terminology of a field; technological nomenclature. (1371; emphasis added)

As seen from these definitions, technology is primarily conceived as a "branch of knowledge," and as such, it is on equal terms with science or philosophy, or art, for that matter. As Joseph Tabbi points out, "literature and science in this state of affairs are to be considered alternative constructions or 'discourse systems,' neither of which should be privileged as a way of knowing" (x). On the other hand, by defining technology as *applied* science, the concept is immediately envisioned as being in a certain contrast with science. Indeed, the two have very different objectives: science's approach is purely theoretical and its main concern is understanding the world ("know-why"), while technology's principal objective is controlling it ("know-how").

Segal refers to David Billington's concept of the material elements of technology as consisting of machines and structures. Machines (like steam engines, automobiles, spacecraft, or computers) are generally dynamic, temporary, disposable, small scale, reproducible, and mass-produced; structures (e.g., roads, bridges, dams, skyscrapers), on the other hand, are static, permanent, large-scale, unique, and custom-made for a specific locale. The crucial difference is, therefore, in their inherent dynamism: if a bridge "moves" (as in Willa Cather's novel, *Alexander's Bridge*), or if a car does not (like the automobile of Gatsby's intoxicated guest in Fitzgerald's novel), there is something wrong with them. The two types of technological artifacts are also interdependent, as Billington points out: machines are usually used to make structures, while structures often hold machines together or house them (Segal, *Utopianism* 12).

Technology, of course, is more than just "hardware." As the use of words like "process," "invention," "method," and "way" in the above definitions indicates, a crucial part of the concept of technology is intellectual. Skills and techniques are also part of the concept of technology. Just as technology is more than machines and structures, so does its impact

reach beyond the merely material aspects of our civilization: it is a social, cultural, and historical phenomenon as much as a material one, and as such, it needs to be considered in a social, cultural, and historical context.

Let us now consider the second part of the term "technological sublime," which is also quite problematic. Not too surprisingly, many dictionaries seem to have a problem when it comes to defining sublimity, part of which may also have to do with the etymology of the word, complicated by its rare verb form with connotations in chemistry and alchemy.[2] *The Random House Webster's Unabridged Dictionary* defines the sublime as something "1. elevated or lofty in thought, language; 2. impressing the mind with a sense of grandeur or power; inspiring awe, veneration; 3. supreme or outstanding; 4. complete; absolute; utter." The examples it brings range from sublime poetry for the first meaning, through sublime scenery and dinner to the second and third, to sublime stupidity in the last meaning. The *American Heritage College Dictionary* uses such words and phrases in its own definition as "nobility," "majestic," "high spiritual, moral, or intellectual worth," "inspiring awe," and "impressive."

While many definitions of the sublime more or less circumscribe the qualities the term covers, no definition is ever likely to approximate the true essence of sublimity, precisely because the sublime is, almost by definition, a quality beyond words. In *American Technological Sublime*, David E. Nye defines the sublime as "an essentially religious feeling, aroused by the confrontation with impressive objects" (xiii). Such impressive objects may include landscapes and other natural sites, as well as human-made structures such as buildings or machines. In other elements of Nye's definition scattered in the introduction of the same book, a sublime object "outstrips expectations" (xi), creates "awe and wonder" in its spectator, "often tinged with an element of terror" (xvi). In this last respect, Nye reaches back to Immanuel

Kant's synthesis of earlier theories of the sublime as an aesthetic category—more about which shortly—inasmuch that he neither neglects nor overemphasizes the oppressive, overpowering, sometimes even dreadful aspects, which will be of special emphasis in my own analysis of the technological sublime of early twentieth century literature.

In the first chapter, Nye provides a useful overview of previous theories of sublimity from the emergence of the concept in the antiquity to the late nineteenth century, which I will quickly survey here. The concept of the sublime originally had a limited application, being a term used to characterize good oratory and fine writing. The first theorist of such rhetorical sublimity was probably Longinus, Greek philosopher and rhetorician, believed by consensus to be the author of *On the Sublime* [*Peri Hypsous*] in the third century A.D. He defines sublimity as a quality which touches the spirit of all people at all time "with a sense of grandeur" (qtd. in Nye 3): in other words, it withstands the test of repetition and has a universal effect on all people.

Sublimity as an aesthetic quality was rediscovered as a popular topic in eighteenth-century England, where it was commonly applied to natural objects reflecting the grandeur of creation. Shaftsbury maintained that the sublime was the highest form of beauty, while Joseph Addison considered beauty and sublimity as distinct categories (Nye 2). The chief theoretician of the sublime at this period was Edmund Burke, author of *Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful* (1756), who emphasized an important new element in his definition of the sublime, namely terror and fear. "Whatever is fitted in any sort to excite the ideas of pain, and danger, that is to say, whatever is in any sort terrible, [. . .] is a source of the sublime, [. . .] the strongest emotion which the mind is capable of feeling" (qtd. in Kasson 166). In stark contrast to Shaftsbury's aesthetics, Burke argued that, despite apparent similarities, the beautiful and the sublime are fundamentally

antithetical inasmuch that the former obviously attracts, while the latter fundamentally repulses its spectator.

As will be evident in subsequent discussions of the technological sublime, these key elements of terror and fear are essential ingredients in one newly emerging subtype of the sublime, the technological sublime. While Burke never mentions technology as a source of the sublime, the simultaneous awe and fear associated with his idea of the sublime are closely related to the ambivalence felt toward the ultimate double-edged sword of the past two centuries, technology. Rosalind Williams points out the importance of ambivalence as a key ingredient of the sublime experience, which "depends on the delicate equipoise of conflicting emotions. It is connected with pain and fear, but not too closely; it is defined by nervous tension, but not too much; it depends on danger, but only theoretical danger. Sublimity celebrates ambivalence" (85). This ambivalence is what makes the sublime perhaps the best description of the prevailing attitude to the technological realm, especially in the transitory period of the early twentieth century.

Immanuel Kant's synthesis of earlier theories of the sublime, set forth in his influential *Critique of Judgement* (1790), argued for yet another approach to the distinction between the beautiful and the sublime. He asserted that the sublime could not be an opposite of the beautiful, since it induced both pleasure and pain. He differentiated further between what he called the mathematical and the dynamic sublimes, arguing in essence that the former achieved its effect through magnitude, vastness, dimensions, sheer size or numbers, while the latter through the element of danger or terror, contemplated from a safe distance (Nye 7). Thus, in Kant's system, the beautiful is a function of aesthetic quality, while the sublime is derivable from quantity alone. Such a definition of the sublime, immensely influential in the nineteenth century, is much more easily applicable to the aesthetics of

technology. Indeed, as Nye argues, the natural world plays a decreasing role in subsequent definitions of the sublime after Kant. Thus coming full circle, a term originally conceived to be applied in a limited sense for a specific human technology (rhetoric), and later modified in meaning to refer mainly to various impressive natural landscapes and phenomena—a part of the majestic creation of God—began to cover once again the realm of human, rather than divine, creation.

The American version of the sublime in the eighteenth century was, of course, not fundamentally different from the English. The real point of divergence was the difference in sources of the sublime, which was a direct consequence of a radically different natural environment, and the significance with which the American sublime came to be invested, making it, in David E. Nye's words, "a preferred American trope through two centuries" (281). Anyone who has ever been to the Grand Canyon, Niagara Falls, or Yellowstone will no doubt have been faced with a large dosage of the sublimity of the American landscape. These present-day (albeit millennia-old) icons of the American natural sublime offer an excellent illustration of the natural grandeur of the American landscape, but an ordinary inhabitant of the North American continent up to the first half of the twentieth century, when large-scale tourism caught on, national parks became widespread, and the automobile and better roads made these sites accessible, could not hope to personally experience even one of these places, let alone all three, in a whole lifetime.[3]

While the Grand Canyon may be among the best contemporary examples of the natural sublime in America, because of its obscurity and inaccessibility it was hardly the site inspiring feelings of sublimity in many spectators of two or three centuries ago. Nevertheless, the North American continent satisfied in every respect the requirements of the natural sublime. What Burke's contemporaries in the American colonies were confronted with was a

"New World [. . .] filled with monsters animal and monsters human [. . .] a region of terrifying natural forces, of gigantic catastrophes, of unbearable heat and cold, an area where the laws of nature tidily governing Europe were transmogrified into something new and something strange" (Jones 70). No doubt, the accounts of "bullfrogs as large as dogs, mosquitoes the size of bats, mountains 50 miles high, strange winds that caused a living man's body to rot, earthquakes that toppled mountains, and enormous seagoing lions that seemed to glide over the water" (Nye, *American* 2) are no longer credited by contemporary readers, but the American taste, indeed appetite, for the sublime could be traced back to these accounts. Indeed, sublimity has always been a part of America's self-definition, whether we examine the natural environment as reflected in the earliest colonial accounts and afterwards, the system of government from the early national period, or the country's scientific and technological achievements more recently.[4]

Nye identifies the early national period, more precisely the 1820s, as the time when a distinctive American version of the sublime first emerged. Though the American Revolution offered some common ground of national identity by means of such icons as the Liberty Bell or the newly constructed federal capital, the young nation was in a frantic search of common, easily accessible symbols of national character: "Lacking the usual rallying points (a royal family, a national church, a long history memorialized at the sites of important events), Americans turned to the landscape as the source of national character" (Nye 24). That landscape, however, was significantly different by the early nineteenth century from what it had originally looked like when the first generations of settlers were confronted with it. The wilderness had been transformed into a garden at best, little short of an industrial park in some places. Nevertheless, the assumed harmony between technology and nature still existed. Factories dotting the

landscape, steamboats on the mighty Mississippi, railroad tracks criss-crossing the prairies were soon perceived as natural elements of the landscape:

> The popular sublime became a part of the emergent cultural nationalism of the US in the nineteenth century. The American public celebrated the fact that a spectacular sight was the biggest waterfall, the longest railroad bridge, or the grandest canyon, and they did so with a touch of pride that Europe boasted no such wonders. Natural places and great public works became America's icons of greatness. (Nye *American* 32)

The American technological sublime was born.

Earlier Scholarship in the American Technological Sublime

Even though the technological sublime is indubitably an important aspect of American culture, as is the case with the automobile, this most American of all technological icons ever, Americans were not the first to invent it. In the late eighteenth century, George Robertson, Joseph Wright of Derby, and other artists in England already "broadened the field of the sublime beyond the natural landscape and discovered new sources of sublime emotion in industrial processes" (Kasson 166). However, only in the United States of the early nineteenth century did it become a crucial part of national self-definition, or to use's Nye's term, "one of America's central 'ideas about itself'—a defining ideal, helping to bind together a multicultural society" (xiv). In the United States, four authors devoted book-length studies to the technological sublime. They are, in chronological order, Perry Miller, Leo Marx, John Kasson, and last, but definitely not least, David E. Nye. The purpose of my survey, therefore, is partly to provide an overview of the literature in cultural and literary criticism up to the end

of the twentieth century, prefacing my own analyses of the literary texts selected for their contribution to the ongoing debate of Americans' attitude to the technological sphere.

The invention of the concept of the technological sublime is commonly attributed to the late Perry Miller, who as early as 1961 voiced concerns of the Janus-faced nature of technology, thus going against the mainstream conception of technology as inseparably tied up with the progress of the nation, and indeed, of humankind. In an essay called "The Responsibility of Mind in a Civilization of Machines," first published in the 1961-62 issue of the *American Scholar*, he traces the changing attitudes of Americans to the machine civilization they created and embraced. He dismisses theories about the autonomy of technology, as well as any doubts about nineteenth-century America's conscious welcoming of a machine culture: "The machine has not conquered us in some imperial manner against our will. On the contrary, we have wantonly prostrated ourselves before the engine. [. . .] In fact, welcoming is a too pallid verb: the age was grasping for the technological future, panting for it, crying for it" (198-202).

He then goes on to locate the source of the anxiety surrounding technology in his own age, especially as viewed in stark contrast with the previous century's prevailing infatuation with the machine: "Whence, then, comes this insecurity [. . .] ? Where, when, and above all how did the mind of this fabulously successful enterprise become darkened with a dread that its jinni [. . .] would become its mortal enemy?" (207). However, Miller's answers, rooted in a somewhat fatalistic cold war rhetoric, are as yet indefinite, and therefore, unsatisfactory. He complains about the "massive indifference of the populace" (208) about the threat of nuclear holocaust. Because of the sense that (apparently, at least) there is nothing an individual can do to prevent an atomic bomb wiping out intelligent life as we know it (or being killed in a car crash, to cite another example of Miller's), the majority of people believe they are only

helpless victims of technology. This is fertile ground for technological determinism, now considered a discredited idea by most historians, but at its height in the cold war years. In conclusion, Miller calls attention to the responsibility of intellectuals, not only nuclear physicists, but also those in the humanities to take up these issues. Communication between the scientist and the humanist is not only possible (contraty to what C. P. Snow suggested), but also indispensable.

In his unfinished book, *The Life of the Mind in America: From the Revolution to the Civil War*, Miller picks up some of the same issues again and traces the emergence of sublimity in the rhetoric surrounding technological artifacts from the early national period up to the middle of the nineteenth century. The monumentally conceived study of American intellectual history remained a torso with only two books (as he called his larger sections incorporating several chapters) completed of the intended nine at the time of Miller's death in 1963. His letter to his publisher, reprinted in the back of the posthumous first edition, reveals his grandiose plans for an additional six books (327). The letter also testifies that Miller in fact intended to write a prologue to the complete work, which had the working title "The Sublime in America." He also left behind extensive notes for the third book he was working on and which in the final version bears the title "Science—Theoretical and Applied," but in the above-mentioned letter was changed to "Tensions—Science and Technology."

Miller points out that the "dominant conception of science entertained by the educated classes was one of passive contemplation of the divine perfection revealed in the order and coherence of Nature" (275-76). This symmetry is invariably described as majestic, magnificent, but the only truly adequate word is sublime. Science, according to the Enlightenment, is sublime, just as technology, applied science, would soon be. Miller pinpoints the 1820s as the turning point, when the progress of technology was beginning to

cause an exciting revolution in different areas of American life. He quotes Jacob Bigelow's, *Elements of Technology* as a prophetic, yet for a long time ignored and underestimated, little text which, according to Miller, announced a new era in the United States. In Miller's reading, "Dr. Bigelow in effect declared the independence of the nineteenth century from the eighteenth—of the practical, materialistic, hardheaded, utilitarian age from that of ideology and benevolence" (289).

Miller then goes on to survey the classic icons of the American technological sublime of the nineteenth century. He comments on the sublimity of the textile mills of Lowell, Massachusetts as perceived by contemporary visitors, quotes Robert Fulton, celebrated inventor of the steamboat, in calling the Erie Canal "a sublime national work" (302), hails the railroad for "its sublimity was entirely compatible with its utility" (306), and celebrates Morse's telegraph and later the transatlantic cable as truly American achievements. By the 1830s, Miller claims, scientific nationalism in America "had become so strong that many were convinced that the nation had now surpassed all of Europe put together" (312) in the fields of science and technology.[5]

Miller's examples reveal that his concept of the technological sublime is rooted in an earlier definition of the sublime, which still downplayed the element of fear in encounters with the technological. He does point out, however, that a countercurrent of hostility to the advancing technology existed in the nineteenth century; in fact, he finds the most significant representatives of such resistance in literature. "Because most of our classic literature of these years [1830s-40s] is hostile toward, or at least resistant to, the machine, we forget against what a background of loud hosannas Thoreau and Melville wrote" (300), he claims, although the hostility of Thoreau and Melville in particular, or of the literary elite in general, is debatable to say the least.

Ultimately, Miller dates disappointment in science and technology to the period of the Civil War, the closing date of his inquiry. In the outline for future chapters for Book III on "Science—Theoretical and Applied," he calls it a "forlorn hope: that technology, by binding the continent into a unit of railroads and telegraph and steamboats, will prevent a split" and argues that "science and its applications simply put weapons and machines at the service of armies" (326). True, the Civil War can be called the first modern technowar, in which "immense armies had been transported by railroad, coordinated by telegraph, and equipped with an ever-evolving arsenal of mass-produced weapons designed by scientists and engineers" (Franklin 47). But then again, just as the unity of the Union was restored between North and South, so also the transcontinental railroad, completed in 1869, helped unite the nation between East and West especially by making Westward Expansion possible or, at any rate, much faster.[6] Contrary to what Miller's notes for the last chapter might suggest, Americans' hopes for technology uniting and leading their nation into a new millennium were higher than ever in the second half of the nineteenth century. Rather than subsiding, the technological sublime was getting into full swing.

Unlike Miller's study of general intellectual history with only occasional references to literature, Leo Marx's *The Machine in the Garden: Technology and the Pastoral Ideal in America* (1964) primarily uses literature to make its point. As the subtitle indicates, Marx conceived of technology as a sudden intruder into the pastoral idealism of the United States. He examines how the pastoral ideals of the virgin continent (cf. Henry Nash Smith) and the image of the good shepherd were transformed by industrialization, a "counterforce in the American archetype of the pastoral design" (26). Marx also makes a comment in passing, which is yet another important aspect of the technological sublime, namely that the technological sublime partly fulfills the role of a national religion in a country where

religious pluralism is a primary fact and the separation of church and state is the law. He remarks that "the awe and reverence once reserved for the Deity and later bestowed upon the visible landscape is directed toward technology, or rather the technological conquest of matter" (197).[7]

Even before the publication of his highly influential book, Marx was already probing the issue of the critical attitude of nineteenth-century American writers towards technology, attributing their antagonism to a covert hostility in American culture toward machine technology. In "Literature and Covert Culture," published in 1957, he points out that in antebellum America, the rhetoric supposedly wholeheartedly committed to the idea of progress often contains images conveying "uneasiness, a less than full confidence in the benign influences of machines, [. . .] a largely unacknowledged doubt, fear, even hostility" (134). He finds the reason for the covert technophobia, borne out in the works of Cooper, Thoreau, Hawthorne, and Melville, in their logically incompatible values of pastoralism and progress.

Like Miller's, Marx's analysis also concentrates on the nineteenth century, but occasionally his commentary also extends into the early decades of the twentieth. Marx finds an identifiable motif throughout a number of nineteenth-century literary texts, which he calls the motif of "the machine in the garden." By this he means the recurring image of a machine or some other technological entity suddenly intruding into and invading the peace of a pastoral landscape, a fantasy of idyllic satisfaction. Marx traces the motif across a number of texts ranging from Thoreau's *Walden*, through Melville's *Moby-Dick*, to Mark Twain's *Adventures of Huckleberry Finn*. "It is difficult to think of a major American author upon whom the image of the machine's sudden appearance in the landscape has not exercised its fascination" (16), he asserts. Whitman, he claims, paid the "most direct tribute to the industrialized version of

the pastoral ideal": like Emerson, who believed that "Transcendentalism and machinery agree well," he has no difficulty assimilating the forces represented by the machine.

The method for that assimilation is what Marx, borrowing the term from Thomas Jefferson,[8] refers to as "the middle landscape": a place metaphorically situated between pastoral fantasy and technological nightmare, and the means by which "antebellum Americans tried to reconcile the brash aggressiveness of technology with the soothing domesticity of the lingering pastoral landscape" (Banta 240). According to Marx, the conciliating mode of the middle landscape, the Transcendentalist hope that nature and the machine can coexist in harmony, all but disappeared after the Civil War, once masculine factors in the American society closed ranks with technological advances (Banta 240).

The third influential theoretician of the American technological sublime before David E. Nye is John Kasson. In his 1976 monograph *Civilizing the Machine: Technology and Republican Values (1776-1900)*, he gives yet another account of the emergence of the sublime in relation to "industrial spectacles" in nineteenth-century America. As is evident from the subtitle, Kasson's focus is the period between 1776 and 1900, and his literary analysis is by and large limited to utopian writing in the late nineteenth century, yet his findings, especially those in Chapter 4, "The Aesthetics of Machinery," have a direct relevance to the purposes of my study.

In this chapter, Kasson sets out to examine the sources of nineteenth-century machine aesthetics and the meaning of technology for a republican civilization, and finds that "Americans' intense aesthetic response to technology and their desire to discover beauty in utility were firmly rooted in republican values" (143). Quoting Tocqueville ["Americans "habitually put use before beauty, and they want beauty itself to be useful" (qtd. on 143)] and Franklin ["To America, one school master is worth a dozen poets, and the invention of a

machine or the improvement of an implement is of more importance than a masterpiece of Raphael [. . .] Nothing is good or beautiful but in the measure the it is useful" [qtd. on 144)], he traces the American fascination with technology to the underlying ideology of utilitarianism and pragmatism. In this sense, he records, once again, that Americans have always deliberately positioned themselves in contrast with Europeans in a conscious effort to define the essence of their own Americanness. In Kasson's words, Americans envisioned technology as

> a product, capable of eliciting intense aesthetic enjoyment, that was the instrument not of decadence and tyranny but of a progressive, republican nation, the consequence not of idleness and expense, but of industry and ingenuity, the expression not of frivolity and weakness but of solidity and vigor, in short, the reflection not of Europe and the past but of America and the future. (146)

He attributes the ambivalence regarding the relationship between the fine arts and machinery also to the republican technological aesthetic. The origins of technology and the arts are the same,[9] and there is a harmony as well as a fierce competition between fine arts and machinery (147). Few would go as far as identifying technology as the art form of republicanism (Kasson stops short of saying that, too), but he seems to agree with John Kouwenhoven's initial hypothesis made in his *Made in American: The Arts in Modern Civilization* (1948), namely that the vernacular tradition of American arts is most clearly displayed in American technology, which is a kind of folk art. At the same time, Kasson also criticizes Kouwenhoven for being "profoundly unsympathetic to the dominant aesthetic of nineteenth-century Americans" (154).

Kasson uses a number of examples for sublime technological artifacts to illustrate his point: the "Southern Belle," a steam engine exhibited in 1853 at the New York World's Fair,

the locomotive "America" in the Paris Exposition of 1867, or the most significant of all, the Corliss engine of the Philadelphia Centennial Exposition of 1876 (*162ff*). The Corliss engine supplied power to all the exhibits in the Machinery Hall, and visitors, as Kasson notes, were "chiefly impressed by the engine as a powerful, indeed monumental, symbol of man's technological triumphs and a titanic form to inspire the romantic imagination" (162). Kasson is making a very important point here, since the Corliss engine did not represent the high-tech of the day, yet through its sheer size and power it was the ultimate sublime experience. Whitman confessed to having stood for hours watching it, while William Dean Howells discovered in the sublimity of the machine displays "the freest expression of the national genius" (165).

In many of the contemporary descriptions, however, there is also an undercurrent of anxiety: "a countervailing metaphor of the machine as monster, suddenly throwing off human control and unleashing its destructive force" (Kasson 165). Such an attitude to technology fully satisfies Burke's definition of the sublime in which awe and dread are both essential components. As Kasson points out, "by the mid-nineteenth century [. . .] this aesthetic of the technological sublime had achieved a broad following" (167). By the late decades of the nineteenth century, however, according to Kasson, "the tension between America's commitment to republicanism and her rapid technological growth reached a crisis" (183). Ultimately, Americans failed to harmonize the machine civilization with the republican ideals. Kasson formulates this in an extended technological metaphor, which is worth reprinting here:

> The social and cultural dislocations that attended this great technological transformation were immense. On the celestial railroad of American development, many found the journey disorienting, the roadbed rough, the

> milestones blurred, and the stations unfamiliar. Some were shut in boxcars or even condemned to ride the rods. Yet for a time their voices were muted as those who reclined in Pullman cars cheered the nation's progress. (183)

More and more doubts about a new epoch of civilization as brought about by technology were voiced. Kasson saw the flourishing of utopian writing at the end of the nineteenth century as a clear signal of society's frustration and desire for a synthesis of republicanism and technology. A recurrent theme in the surge of utopian writing of the late nineteenth century was "the possibility of social breakdown or catastrophe if American technology and society were not harmonized and controlled" (191). Kasson's mistake lies in his arguing that these utopian writings are "the culmination of over a century of American attempts to integrate technology and republican values" (230), when in fact they were but the prelude to the continuing attempts of artists, politicians, engineers, philosophers, and other intellectuals of the twentieth, and now the twenty-first, century to do exactly that. Ultimately, Kasson sees the project of achieving a technological society consonant with republican ideals as having failed a hundred years ago, but the American people have never really abandoned this aspiration.

The most recent and so far the most comprehensive analysis of the technological sublime comes from David E. Nye, a student of Leo Marx. In 1990, Nye published *Electrifying America: Social Meanings of New Technology 1880-1940*, in which his chief focus was what he called the "electrical sublime." His next book, itself entitled *The American Technological Sublime*, was published in 1994, and it approaches the issue of technological sublimity in a more general context. Nye's book was a major inspiration for my own study, and I am going to use his text as a theoretical frame of reference for my analysis of literary

examples. Therefore, I find it important that in the summary of his argument below I should also indicate at what points I disagree with him.

As quoted earlier, Nye defines the sublime as "a preferred American trope" for more than two centuries, "an essentially religious feeling, aroused by the confrontation with impressive objects" (xiii), such as natural sites, architectural forms, and technological achievements. One problematic aspect of Nye's definition of the technological sublime is his attempt to present it as a desacralized religion, which performs the function of welding together an otherwise heterogeneous population. In the pluralistic United States, Nye claims, no religion could ever perform the function of helping to bind together a multicultural society—by serving as "an element of social cohesion," the technological sublime did exactly that (xiv). This aspect of Nye's definition is derived partly from Kasson's ideas of the technological sublime as rooted in republican ideology and rhetoric: "These man-made objects became national symbols. Traveling to America's natural wonders and great public works became the act of a good citizen, just as pilgrimage to Jerusalem was the sign of a good Christian" (36). Like Kasson, Nye also cites the example of the Erie Canal as one of the first icons of the American technological sublime, one of those "sublime technological objects [. . .] assumed to be active forces working for democracy" (33).

Almost all of Nye's examples—from his opening description of the fiftieth anniversary of the Golden Gate Bridge and the last example of Las Vegas—indicate his bias for technological objects and achievements which attract the simultaneous gaze of great multitudes. Whether it is the commencement of the Trascontinental Railroad, the dedication of Brooklyn Bridge, or one of the numerous fairs and expositions that he focuses on, his emphasis is on the public event, the civic act, the communal aspect of the sublime. As one of his reviewers, Robert Friedel put it, "there is a danger of assimilating all examples of gigantism and showiness into

a concept that Nye earlier is at pains to describe as more subtle and complex" (675). Nye's concept of the sublime seems to imply crowds, as if sublimity could not be experienced in solitude, as if it were an essentially communal feeling, rather than an essentially religious one as his own definition implies. The issue of religion is subsequently taken up on a few occasions, but his treatment of this aspect of the technological sublime is not as thorough as Nye's own definition would suggest.

After rehearsing previous theories of sublimity (chapter 1) and the emergence of the concept in the North American continent, he discusses the gradual transference of its meaning from the natural to the technological (chapter 2). Nye then proceeds to examine different manifestations of the American technological sublime. Chapters 3 and 4 discuss the technological sublime of the nineteenth century. Following in Kant's footsteps, Nye sets up different categories of the sublime. He adapts Kant's concept of the dynamic sublime, and puts the railroad (chapter 3), as well as—in a later chapter—the atomic bomb and space technology into this category. The railroad, the chief technological icon of the nineteenth century, "merges westward expansion and Manifest Destiny with the sublime" (59). The machine is a moral force, and is—as contemporary drawings attest—considered to be a part of the still sublime landscape. In Chapter 4, Kant's mathematical sublime is reinvented as the geometrical sublime of bridges and skyscrapers. After the Civil War the railroad had already lost its novelty, and the public was in search of new forms of the technological sublime. This was found first in the suspension bridges, and then from the late nineteenth century in skyscrapers. Contrary to the inherent dynamism of the antebellum technological sublime, these majestic forms were sublime in their static permanence: the first horizontally spanning across previous natural obstacles, the latter expressing humankind's aspirations upward—the same desire to conquer another natural law, gravity, which fueled the sublimity of aviation. The geometrical sublime, and especially the

vertical city brought to life by a never-ending competition to impress a memorable corporate image on the public, became a dominant way of seeing and understanding the city after World War I. Meanwhile, however, other forms of the technological sublime also reemerged in the early twentieth century.

Chapter 5 is devoted to one such new category, which Nye refers to as the industrial sublime. The aesthetics of the industrial sublime is a belated American response to factory production, since it existed long before in Europe; more than a century earlier English factories had been frequently described in terms of the industrial sublime. The industrial landscape, however, developed along very different lines in the United States. What was most admired about American factories was the autonomy with which many spectators invested the technology amassed there, and this was particularly the case with electrified factories, apparently requiring little or no human intervention. It was no longer the technological artifact that was sublime; as David Edgerton puts it, "by the early twentieth century it was the process of production (notably the assembly line) that filled people with awe" (603). It was inherent in the nature of the rhetoric of the industrial sublime, frequently emerging in the newly introduced and immensely popular tours of factory floors, that it ignored the human element of the industrial landscape. As I will point out in the next chapter devoted to the sublimity of production, this was not the case with writers like Upton Sinclair or Theodore Dreiser, who saw through the veil of sublime rhetoric and exposed the human costs of factory discipline as well.

Electrified factories lead Nye's discussion to his own favorite subject, the electrical sublime (chapter 6), revisited from his earlier book, and the "unintended sublime" of the electric cityscape (chapter 7). In the chapter on the electrical sublime, Nye examines the aesthetics of lighting displays at international expositions like the Philadelphia Centennial of 1876, the Columbian Exposition of 1894, the Pan American Exposition of 1901 in Buffalo, N.Y., and the

Hudson-Fulton Celebration of 1909. While his treatment of the electrical sublime is exhaustive, some questions inevitably remain unanswered. One is likely to wonder whether lighting displays really are the most influential embodiments of the electric sublime, or simply the most spectacular and most frequently photographed ones. Also, granted Nye's own heightened interest in public events such as expositions it still remains doubtful as to how representative these expositions are of the reality of everyday Americans. The neon lights of the electric cityscape, where the technological sublime once again interfaces with the world of business, already foreshadow his final conclusions about the demise of the technological sublime and its replacement by what he calls the consumer's sublime.

Nye's following chapter, concentrating on a single moment in time instead of another form of the technological sublime, is intended as a synthesis of what has been said so far. The New York World's Fair of 1939, more specifically the diorama exhibits of the anticipated technological future of the 1960s, are identified as iconic of the new sublime; in perpetual search for novelty, the future itself, and especially the promise of a better future with the aid of technology became the ultimate sublime. However, as Edgerton also points out in his review, "in the nineteenth and early twentieth centuries, the celebration of big technologies was a celebration of the republic itself; it was a civic act. By the 1930s, it had become corporate propaganda" (603). Curiously, Nye's selection of the 1939 World's Fair as a milestone event indicates that he also seems to have identified the late 1930s as a period of important changes in Americans' attitude to technology and its sublimity.[10]

Chapter 9 of Nye's book already takes us outside the temporal frame chosen for my dissertation, but some of his observations made here are very useful for evaluating the fundamental changes of the technological sublime around World War II. In this chapter, Nye presents two newly emerging technologies, nuclear energy of the 1940s and space technology

of only about a decade later, as the latest reincarnations of the dynamic sublime, and points out striking parallels between them: both of them manifested speed and power; the role of the federal government as a coordinator was primary; secrecy surrounded both projects; and disasters like Three Mile Island or the tragedy of the space shuttle Challenger marked the way of their development. The combined application of rocketry and nuclear weapons (or the threat thereof) makes each of these technologies even more frightening. Nevertheless, Nye maintains that atomic energy, both its peaceful and its military applications, as well as space technology, are new forms of the dynamic sublime, which I find debatable.

The most important objection I have to the sublimity of atomic energy, in particular, is inherent in the definition of the sublime. While the simultaneous awe and fear may very well be there, the threat perceived is much more realistic than ever before. In the case of the atomic bomb, the fear is no longer only theoretical; when the terror is real, we are no longer dealing with an aesthetic category (Slade 1198). This was certainly the case during the Cold War years, but even today no soberly thinking individual can totally dismiss the very real danger of nuclear weapons once again deployed by terrorists or by one or more of the quite numerous countries that are in the process of building up, rather than disarming, their nuclear arsenal. Add to that the potentially dangerous situation created by outdated hardware, such as rocket control systems, combined with the low morale in the armed forces of the former Soviet Union, and you have a recipe for disaster, quite possibly one wiping out human civilization altogether.

Also problematic is Nye's treatment of space technology as sublime. While the competition of the space race did foster, however temporarily, in the United States a feeling of national unity, and while thousands of people still attend the launches of space shuttles, they do so most likely for the spectacle, the magnificent fireworks display (like in the case of

tourists earlier coming to Nevada to view the nuclear tests), and not so much for the sublimity of a technology that most of them, us, can hardly relate to.[11] The speed of spacecraft is difficult to be interpreted in the framework of the dynamic sublime, for it is no longer conceivable, and thus it becomes irrelevant. The same is the case with atomic energy, which might as well be alchemy to over 99.9 percent of the population, and the destructive power of which is also beyond the limits of what is still conceivable to be sublime. As Amato comments, "[t]he upsurges of personal and national pride in technological achievements had, until the advent of nuclear weaponry the character of innocence" (41). Contrast that with the words of J. Robert Oppenheimer quoting Hindu scripture upon witnessing the forces he helped unleash: "I am become Death, destroyer of worlds" (qtd. in Nye, *American* 228). Such technology is difficult to be viewed as sublime any more.

The only obvious purpose the next chapter, "Rededicating the Statue of Liberty" seems to serve in Nye's book is to demonstrate changes in the technological sublime by showing how one sublime (the statue) can remain unchanged, while another (the technology of the rededication, the civic event) had to be reinvented to remain attractive and marketable. Much more interesting is Nye's concluding chapter on the "degeneracy of the technological sublime by the emergence of rampant consumerism" (Lichter 1472). Signs of the "consumerization" of the natural, and later of the technological sublime had been apparent earlier on: Niagara Falls was originally an example of the natural sublime, but soon enough technological elements—Roebling's railway bridge, hydroelectric power stations—were added which were supposed to "enhance" its sublimity, and ultimately the falls was degraded into a tourist site to be experienced.[12] Las Vegas is used by Nye as an example of the ultimate postmodern landscape; no longer possessing any connection with production, it only features the dream world of consumption, an intensification of experience (295). Earlier versions of the

technological sublime had encouraged people to believe in their power to manipulate and control the world. By contrast, Nye claims, "in the consumer's sublime of Las Vegas or Disneyland, technology is put to the service of enacting fantasies" (295). The consumer's sublime may signal the end of the sublime experience through tourism, media overload, and a kind of "theme-parking" of reality (Frick 676).

Some technologies are conspicuously missing from Nye's list. The automobile, an iconic technology of twentieth century technology, is altogether ignored. Perhaps the automobile has become such a commonplace element of contemporary American culture that we tend to forget the novelty it presented and the fundamental changes it brought about, or perhaps as a technology it is too private, too individualistic to fit Nye's definition, based on the communal experience of sublimity. Similarly, the airplane only receives very cursory treatment; in his chapter on the 1939 World's Fair, it is mentioned as a new form of the dynamic sublime but not discussed at great length at all. Transportation is a "particularly important effect of life in a sprawling, sparsely settled, and expanding nation" (Carroll, *Machine* xiii) as the United States is, and so the above two transportation technologies will be given due attention in my subsequent chapters.

As Howard Segal remarks, Nye's study is "attentive to differences in class and religion and, to an admittedly lesser extent, race and ethnicity in Americans' response to the technological sublime" (551). Nye's treatment, or rather neglect, of gender issues in relationship to technology is problematic, Segal complains. At this point I should defend Nye, since the technological sublime, like technology itself up to very recent times was, in fact, predominantly conceived by white males. As Nye puts it, "men created virtually all the central objects of the technological sublime [. . .] . Though women were not absolutely excluded, they were marginal" (283). Scholarship in women's, as well as generally

minorities', relationship to technology is also very scarce to date. Sherwood Anderson commented extensively on the issue of women's special relationship to technology in *Perhaps Women*, a text I will briefly survey in my next chapter. Women also played an important role in the "domestication" of the airplane, which I will address in the chapter on aviation. However, the discussion of the technological sublime has traditionally been construed from a male perspective, which has left inevitable marks on Nye's (as well as my own) treatment of the issue.

The most important question that Nye raises but never answers concerns the possibilities for the future of the technological sublime. As Amato puts the question, "Can Americans regain a more meaningful relationship with technology?" (41). Or is the twentieth century also the end of the technological sublime? Is the dominance of consumerism really going to submerge the technological sublime forever? In my concluding chapter, I will also attempt to at least partially answer these questions.

As I pointed out in my introduction, the main difference between the foregoing studies of the technological sublime and my own project is one of scope and approach. Miller goes up to the Civil War and writes an intellectual history with only occasional references to literary examples. Kasson's focus is the period between 1776 and 1900, and his literary analysis by and large is limited to utopian writing in the late nineteenth century. Marx, of course, uses literature quite extensively, but mainly from the nineteenth century (his astute analysis of *The Great Gatsby* is a notable exception). His thesis on the whole, however, while influencing generations of theoreticians of technology and culture, has been surpassed. Nye, my own chief inspiration, is mainly interested in the social construction of technology and uses literature only occasionally, and only so far as it illustrates his points. By contrast, I concentrate on a shorter period, the four decades between 1900 and 1939, as delimited by the

beginning of the twentieth century and Henry Adams's encounter with the dynamo on the one end, and the publication of *The Grapes of Wrath* and the outbreak of World War II on the other, because this is the period in which I hope to show the decisive changes of mentality took place. Also, unlike Miller, Kasson, and Nye, I intend to foreground literature and to approach these issues from the point of view of a literary critic, rather than through the eyes of a historian.

Of course, many others have also written about technology and literature and, while they approached this subject matter from radically different directions, as evident from the bibliography, my study also relies on several decades of scholarship by these literary critics. The study of technology's role in literature has attracted students of the American novel since the 1960s. Leo Marx's *Machine in the Garden* (1964) was only the first groundbreaking attempt at synthesis in this area. Thomas Reed West's *Flesh of Steel: Literature and the Machine in American Culture* (1967) is typical of what Cecelia Tichi complains about regarding earlier treatments of the issue of technology and literature, as they rarely go beyond observing the position taken toward a particular technology in local passages of works, then generalizing about prevailing attitudes of the author toward technology ("Technology" 467). More recently, Tichi's *Shifting Gears* (1987) explores the relationship between defining technologies and literary aesthetics in the period between the 1880s and the 1920s. Lisa M. Steinman's monograph, *Made in America* (1987), concentrates on science and technology in the work of Modernist American poets William Carlos Williams, Marianne Moore, and Wallace Stevens. In *Bodies and Machines*, (1992), Mark Seltzer studies the American "body-machine complex," issues of bodies, genders, and technologies in American literature, while Jeffrey J. Folks's *Southern Writers and the Machine* (1993) examines a regional response to technological civilization. Articles on technology and literature have also been published in

great numbers in numerous scholarly journals. Among them the most important forum dedicated to issues related to my subject is *Technology and Culture*, published since 1959.

A Roadmap to Subsequent Chapters

The subsequent chapters of my study each center on a specific technology that could be identified as the primary sublime technology of a given decade between 1900 and 1940. These technologies are the following: the factory as the sublime of production in the early 1900s, the military technology as the sublime of destruction in the Great War of the late 1910s, the automobile as the sublime of mobility that peaked in the 1920s, and finally the airplane as the sublime of aviation that replaced the automobile as the ultimate sublime object in the 1930s. Obviously, the association between the decades and the above areas of technology serves only as a principle of chronological organization, and should not be interpreted very strictly or exclusively. Each chapter is prefaced by a short introduction into the general cultural significance of the technological artifact considered, followed by the examination of representative texts, which address issues of the technological sublime as they relate to the technology under analysis. Obviously none of these technologies are limited to specific decades, but it is in the nature of the technological sublime that the effect of each successive technological artifact wanes with time. Such a combination of the chronological and thematic approaches ensures that the literary representation of the cutting-edge of technological sublimity can always be identified and examined.

Chapter Two, "The Sublime of Production and the Production of the Sublime," examines various aspects of factory production (automation, standardization, Fordism, Taylorism, the "American system"), many of which originated in and survived from the nineteenth century, but gained even more prominence in the early twentieth century, also

having a significant influence on creative writing in that period. The aesthetic resonances of factory production in contemporary fiction, as exemplified by works of Dreiser or Dos Passos are considered, but center stage is reserved for three representative texts by two authors. Upton Sinclair's *The Jungle* serves as a text exposing the prevailing rhetoric of the mathematical sublime of technology, while Sherwood Anderson, writer of *Poor White* and the semi-fictional *Perhaps Women*, provides an example for an author deeply conflicted, among other things, about the changing patterns of artistic and technological creation, as well as the connection between machine production and human reproduction.

Chapter Three, "The Sublime of Destruction: World War One and the Military Machine," is devoted to the technological sublime in the context of warfare in general, and the "industrial warfare" of the first technowar, World War One, in particular. Two early novels by John Dos Passos, *One Man's Initiation—1917* and *Three Soldiers*, serve as texts demonstrating an aesthetic response to the increasing technologization of warfare, both on the very specific level of the deployment of increasingly destructive weapon systems and the equally important machine-like aspects of the modern military. World War I dealt a major blow to any positive reading of the technological sublime, but the myth of the machine was successfully revived in the prosperous "business decade" of the Twenties, when the foundations of the consumer's sublime dominating the post-World War II era were first laid down.

The final two chapters deal with two transportation technologies, the automobile and the airplane, that replaced the nineteenth-century train and steamboat as technological icons in the literature of the early twentieth century. The automobile was the defining technology especially of the Twenties, and Chapter Four, "The Sublime of (Auto)Mobility: The Four-Wheeled American Dream" examines the special role of automobiles in the changing context

of the technological sublime of the early twentieth century. Novels by various writers, including Lewis, Dos Passos, Dreiser, but most importantly, Fitzgerald's *The Great Gatsby* and Steinbeck's *The Grapes of Wrath* are analyzed from the perspective of this technology used as a cluster of thematic, symbolic, and metaphoric elements in works of fiction.

Chapter Five, entitled "The Sublime of Aviation: The Winged Gospel," is devoted to another newly emerging icon of the technological sublime: the airplane. Although less prevalent in contemporary fiction than the automobile, a number of writers, such as Sinclair Lewis, John Dos Passos, and William Faulkner used the image of the airplane extensively in their writings as symbolic of civilizational changes. Lewis's early novel, *The Trail of the Hawk* and Faulkner's *Pylon* as representative texts from the periods before and after the great divide of the First World War are addressed in greater detail. The airplane is an appropriate machine to close the discussion with, since its role in the Second World War signaled the disappearance of much of the positive sublimity surrounding technology, while its reincarnation in the space program is emblematic of many of the conflicting postmodern attitudes toward technology in the post-war period.

The closing chapter draws some conclusions about the relationship between technology and the Modernist period, which was the first to give close attention to such issues as human-machine interaction, technological utopianism, sexual and gender issues, the anthropomorphization of machines, and the technologization of bodies, as seen in works of fiction from the first four decades of the twentieth century. The chapter, as well as the study, closes by considering some ways in which the disappearing American technological sublime of the early twentieth century gave way to consumerism and postmodern culture with its unique relationship with science and technology.

Notes to Chapter One

[1] As David E. Nye points out in his introduction to *American Technological Sublime*, classical authors did adapt the sublime to describe both human-made and natural landscapes; the seven wonders of the world, some of the most sublime artifacts of Antiquity, for example, were all human-made (xviii).

[2] The verb form, "to sublime," which has been employed in both chemical and alchemical contexts, refers to a process of purification" (Frick 83). This meaning, unrelated to the interest of my study, refers to the process of converting a solid substance by heat into a vapor, which on cooling condenses again to solid form, without apparent liquefaction.

[3] The fact that modern transportation technology makes it possible for millions of tourists to experience all three of the above sites—not to mention a whole plethora of their audio-visual representations—is of course a source of sublimity in and of itself.

[4] Cf. the popular, jingoistic slogans such as "only in America," or "everything is bigger is Texas," containing an element of boasting and over-dimensioning, rooted in national (or state) pride. This element is also clearly present in the technological sublime. Cf. also the sublimity of the Constitution of the United States, often compared to a well regulated machine with its system of checks and balances.

[5] There has always been in the United States an intellectual tradition of self-definition by way of contrast with Europe. It is enough to recall Emerson's essay "The American Scholar," in which he called for intellectual independence from Europe to follow the political independence gained in the Revolutionary War.

[6] Those wishing to go West before the railroads had to undertake a journey that lasted for several weeks or even months and took them across dangerous country. Even during the

Gold Rush of 1849, sailing around Cape Horn at the Southern tip of South America was considered easier, safer, and faster than travelling by land across the continent. The railroad also greatly contributed to the economic growth of the nation, as well as changed the social, environmental, and demographic conditions of the country.

[7] I will return to the issue of technology as a special secular religion in America in connection with the cult of the automobile (cf. *Babbitt)* and the cult of aviation, in chapters 4 and 5, respectively.

[8] The middle landscape was the Jeffersonian ideal of a happy medium between the overcivilization of Europe and the savagery of the Western frontier, thereby achieving an optimal blend of art and nature.

[9] The marriage of Venus and Vulcan (the ancient Roman god of fire and metalworking) was a popular image in nineteenth-century America. The very word "arts" covered for a long time both concepts and technology was frequently referred to as the industrial arts.

[10] Nye would once again return to this topic in his next book, *Narratives and Spaces* (1997), where a perceptive analysis of E. L. Doctorow's *The World Fair* also complements his argument.

[11] Nye's inquiry (as my own) is, of course, limited to United States culture, but it would be immensely useful to consider in a comparative way also the technological sublime of other countries and cultures.

[12] For more on the sublimity of Niagara Falls, see Patrick McGreevy's *Imagining Niagara: The Meaning and Making of Niagara Falls.*

Chapter Two

The Sublime of Production and the Production of the Sublime

Factories and the Technological Sublime

As evidenced by the expression "industrial arts," one of the earlier names denoting the concept currently covered by the term "technology," the primary domain that technology was originally associated with was industrial production. The factory became the primary site of contact with technology from its first emergence in England in the textile industry in the early eighteenth century, and continued to be so at least until the middle of the nineteenth century. It only happened in a relatively later phase during the development of technological civilization that the machine left the factory grounds and the sphere of industrial production. Steam locomotives (and soon afterwards steamboats), the accompanying large-scale constructions of railroad tracks, bridges, and tunnels, and the emerging communication technology of telegraphy all appeared and became widespread by the mid-nineteenth century, providing ample opportunity for encounters with technology even for those outside the factory manufacturing system. At the same time, even though technology had permeated everyday life by the turn of the century, during the early decades of the twentieth century the factory was still a very important point of encounter with the machine.

As seen in the discussion of the emergence of the technological sublime as a positive aesthetic concept in Chapter 1, it was through the sight of factories in England in the second half of the eighteenth century that industrial processes first inspired feelings of sublimity in artists (Kasson 166). In Britain, this admiration for the technological sphere soon gave way to a negative, or at least ambivalent, image of industrial technology, due in a large part

to the typically urban location of industrial sites and their harmful effect on their environment. As David E. Nye puts it, "[t]he English were prone to view industrialization in terms of satanic mills, Frankensteinian monsters, and class strife"; by contract, "the Americans emphasized the moral influence of steam, and often sought to harmonize nature and industrialization" (*American* 54). Nye's study of the American technological sublime offers a periodization, modeled in some part on Lewis Mumford's, of the development of the American factory system.[1] This chronology also reveals a development in terms of the evolution of the special American version of the industrial sublime.

Factories in the colonial and early national periods relied on water mills for power and were usually established beside abundant streams, typically in the foothills of the Appalachian mountains. In the same period when factories in England "were concentrated in the cities, creating an industrial landscape," Nye claims, "American factories dotted the countryside and became the basis for smaller communities that seemed in harmony with their surroundings" (110). Apparently, however, even as early as the mid-nineteenth century, not everybody saw it that way. In his short story called "The Paradise of Bachelors and the Tartarus of Maids" (1855), Herman Melville, one of the earliest critics of industrialization in America, relates, through his narrator's voice, the frustration at seeing how a paper factory in a New England valley invades the idyllic peace of nature (326). This is followed by a rewriting of Dante's descent to the Inferno, and a clear denunciation of the working conditions the industrial revolution creates.[2]

The eotechnic "water-and-wood complex" was soon displaced with the introduction, during the 1840s and 1850s, of the steam engine (primarily used before on locomotives and steamboats) into factory production, as well as iron and later steel, as the primary materials. This period—corresponding to the paleotechnic phase in Mumford's scheme—was an era of

rapid industrialization, especially in the Midwest, depending on its coal and iron depositories and relatively developed transportation infrastructure including a developed network of railroads and canals. Eventually, electric power emerged in the 1880s, and became dominant in American factories during the first two decades of the twentieth century. Less than 4% of factories were electrified before 1900 and their proportion exceeded 50% by 1919 (Nye 134). The significance of electrified factories in terms of the sublime of production was the apparent autonomy with which they became invested. Steam engines a few decades earlier generally worked with little human intervention, but electrified factories enabled a further automation of the process of industrial production, promising or, depending on one's perspective, threatening, the gradual diminishing and ultimate elimination of the human element from industrial production.

The pre-World War I decades of the twentieth century, frequently referred to as the Progressive Era, were extremely instrumental in the formation of the modern United States in its material as well as intellectual aspects. In manufacturing, in particular, the foundations of today's industrial and managerial system were laid. Although the systematic mass-production of standardized parts (commonly referred to as the "American system"), making the complete interchangeability of machine parts possible, had been used since the mid-nineteenth century (first in the manufacturing of weapons used in the Civil War, later also in the mass-production of sewing-machines, typewriters, and countless other types of mechanical equipment), these efforts toward standardization were only brought to perfection in the early twentieth century. Among the most important technological changes in manufacturing, the moving assembly line, commonly associated with Henry Ford's name, completely redefined the manufacturing process.[3] Obviously, the cleaner, more efficient, environmentally friendlier electrified factories radically changed not just the industrial

landscape, but the general cityscape in the period discussed. The bleak, smoky landscape of Pittsburgh and similar cities at the turn of the century gradually gave way to the huge industrial plants, like self-contained cities, complete with railway lines, streets, recreational facilities, police forces, and newspapers. Typical examples would include the plants of General Electric, Westinghouse, United States Steel, and naturally, Ford's Highland Park Plant in Detroit (Nye 123).

It is partly in the above technological changes in industrial production that the appeal of the modern factory of the early twentieth century as a source of sublime experience can be located. There was much to admire and be proud of in these collective achievements of the American nation, increasingly defining itself through its special relationship with technology. Public interest in, as well as fascination with, technology, efficiency, and industrial production was at its all-time peak in the first decades of the century.[4] Factories were seen as autonomous, efficient to the greatest degree conceivable at that time, self-contained and self-sufficient. At the same time, they were seen as threatening for the very same qualities: their size may result in a feeling of smallness, insignificance, and impotence; their apparent autonomy may lead to thoughts of technological determinism. For spectators observing them from a distance—physical, but also social distance—they could even offer aesthetic gratification. For workers, however, deprived of their autonomy when forced to obey the machine's higher rule, factories offered a very different perspective: one from within the machine.[5] The human reaction to the sublimity of technology is therefore also socially determined: for those in control of technology, its qualities are obviously empowering. However, for an increasing number of people it meant a degradation of the human element into yet another standardized and interchangeable, and therefore, disposable and replaceable part of the larger machinery of the factory.

The Sublime of the Factory in Literature

Not surprisingly, technology and industrialization, standardization and automation, efficiency and waste were also issues dealt with in contemporary imaginative writing, but the principal interest was usually not purely in technology and production, but in the human aspects of the increasingly technologized world. The most important questions connected with technological production and its sublimity, as explored by writers like Upton Sinclair, Sherwood Anderson, Theodore Dreiser, and John Dos Passos, are the ones concerning the reassessment of the roles and responsibilities of the various human participants (workers, engineers, industrialists, inventors) in the age of mass-production. In addition, issues like the fear of diminishing boundaries between humans and machines, the aesthetic consequences of art's and technology's long-term interaction, and the unexpected question (especially in Anderson's writing) of the relationship between industrial production and human reproduction, of how human sexuality may be connected to, and redefined, by technology, were also addressed in contemporary literature. Most importantly, as seen in the representative texts discussed in this chapter, the approach taken by writers was generally more critical than the official rhetoric of enthusiasm and endorsement that so many, sometimes even those disenfranchised and victimized by technology, identified with.

One of the most important qualities underlying the sublimity of factory production in the early twentieth century was the perceived efficiency of the industrial process. In *Shifting Gears*, Cecelia Tichi provides a superb analysis of efficiency, as well as its counterpoints, instability and waste, as central categories in the first decades of the twentieth century, as well as important themes for many writers. Some saw machine technology as a destabilizing influence (cf. Frank Norris), while others invested it with hopes for overcoming instability. Efficiency was elevated in this period to a virtual state religion in the United States, and the

foremost apostle of this religion was Frederick Winslow Taylor. Best remembered today as the father of scientific management, he provided a theoretical (or, as he preferred to call it, "scientific") framework for the new industrial world order. His influence, reaching far beyond the factory floor and leaving its mark on virtually all aspects of American culture in this period, including literature, simply cannot be overlooked.

In *Taylored Lives: Narrative Productions in the Age of Taylor, Veblen, and Ford* (1993), Martha Banta defines the essence of practical Taylorism in the following four traits:

> (a) the breaking down and analysis of each phase of the machine process; (b) the hastening of the demise of the skilled craftsman and jack-of-all-trades, and their replacement by unskilled workers assigned to isolated units of a work process rationalized to match machine standards; (c) the employment of functional foremen restricted to single tasks; (d) the addition of a new layer of managerial elite. (note 10, 330)

The key concepts of Taylorism—efficiency, economy, and elimination of waste—were at the center of much discussion well before Taylor laid down the foundations of his highly systematized approach.[6] Banta is primarily concerned with Taylorism as "an extended narrative structure and discourse system" and its far-reaching impact extending "far beyond the factory floor to encompass every aspect of cultural existence" (4). By the second decade of the century, the laws of scientific management were ardently applied to office work, the running of organizations like colleges, churches, and charities, not to mention domestic life, as attested in the emergence of the science of home management. The primary setting where Taylorist principles were employed, however, remains the factory.

The image of the factory and industrial production, described in ambiguously sublime terms, plays an important part in a number of literary texts produced in the period. The

factory is an important setting and symbol, and industrial technology is frequently depicted as an active agent determining various characters' fates in the fiction of many writers in the period. The factory is a significant setting both in Theodore Dreiser's *Sister Carrie* (1900) and especially in *An American Tragedy* (1925). One of the early scenes of the former describes Carrie Meeber working at a machine punching eye holes in the upper part of the shoes manufactured in the factory: "Carrie saw at once that an average speed was necessary or the work would pile up on her and all those below would be delayed. She had no time to look about, and bent anxiously to her task, managing to do fairly well" (37), but after a while the "single mechanical movement" of her assigned work grows "distasteful," even "absolutely nauseating" (39). The protagonist of *An American Tragedy*, Clyde Griffiths, works in a similar factory, his uncle's Griffiths Collar & Shirt Company, but in a low-level managerial position. Banta's interpretation of the novel revolves around Clyde's failure at managerial effectiveness, not living up to the standards of efficiency, interchangeability, and executive abilities. Unlike his wealthy, authoritative, and efficient cousin and his "Uncle Sam," Clyde is, like his father, characterized by softness, vagueness, and inefficiency. Banta even sees Clyde's ultimate failure in terms of the dominant industrial management; dealing with Roberta's pregnancy is Clyde's "first, and most crucial, task of scientific management," she argues. "Inept, ignorant, procrastinating, he is unable to determine the means by which Roberta can efficiently abort the unwanted, because potentially unproductive, fetus," and what should have been carefully planned and executed is left to happen accidentally (Banta 299-300).

John Dos Passos also frequently built upon similar tropes, especially in his suggestion and fear of the interchangeability of people in a modern urban environment. He was also very much interested in the characters of inventors, engineers, and industrialists, and chose

several of them from among actual people of his age for the biography sections of his *U.S.A.* trilogy. The biographies of Andrew Carnegie, Minor C. Keith, Henry Ford, John Pierpont Morgan, and Frederick W. Taylor indict these technocrats for mechanizing people. The biographies of thinker-tinker inventors like Thomas Alva Edison and the Wright brothers are positive for the same reason, for their affirmation of individual purpose and heroism in the face of standardizing forces and tendencies. The one notable exception of an inventor condemned is the case of Charles Steinmetz, chief engineer and inventor at General Electric. Dos Passos contrasts him as a theoretical man, strong on mathematics, with Edison. Steinmetz was impractical, unable to individually market his inventions, and became a puppet in the hands of industrialists, "a piece of apparatus belonging to General Electric" (283)—a prime example of Dos Passos's use of the image of the mechanization of humans. Dos Passos also discusses Taylorism elsewhere in the *U.S.A.* trilogy. While there is undoubtedly more to scientific management than time-motion studies in the service of speeding up production to a physical maximum, but this aspect of it remains the most memorable, as eternalized in Dos Passos's *Big Money*, in the passage describing the work on the Ford assembly line, one of the best implementations of the modern factory managed on Taylorist principles:

> [. . .] the Taylorized speedup everywhere, reach under, adjust washer, screw down bolt, shove in cotterpin, reachunder adjustwasher, screwdown bolt, reachunderadjustscrewdownreachunderadjust until every ounce of life was sucked off into production and at night the workmen went home gray shaking husks. (813)

Dos Passos's recurring fear was of losing individual purpose and being reduced to the status of a cog in a mechanism, be it the army, factory, society, or "the system"—a theme he also articulated in *Three Soldiers*, which will be discussed in the next chapter.

While virtually any number of novels could be cited as commenting upon industrial developments and especially the social implications, the two authors who provided the most thorough analysis of the sublime of production, and thereby also contributed most to the production of the sublime were Upton Sinclair and Sherwood Anderson. Sinclair's *The Jungle* and Anderson's *Poor White* and *Perhaps Women* will be examined below as representative texts that treat the technological sublime in the period between 1900 and 1940.

The Jungle: *An Exposition of the Rhetoric of the Technological Sublime*

Upton Sinclair's *The Jungle* (1906), set in the highly industrialized Midwest of the early twentieth century, is a novel utilizing to the fullest the setting and symbolism of the factory in that period. Sinclair is primarily interested in the socio-economic consequences of factory work as perceived from the perspective of the workers themselves. The novel is, in fact, dedicated "to the workingmen of America" (3). Its protagonist, Jurgis Rudkus, a Lithuanian immigrant, represents the most disenfranchised layer of the industrial proletariat, the first-generation immigrant, who constituted a significant proportion of the industrial workforce in much of the period discussed here. With much sympathy toward this group and a considerable socialist bias, especially in the last third of the novel, Sinclair advocates labor organization as the only possible solution for them. In his title and in his use of animal imagery throughout the text, which compares the workers to hunted wild animals and parallels their fate with the livestock slaughtered in the stockyards of Chicago, Sinclair establishes an analogy between the capitalist system (and the city, its principal locale) and a jungle where the laws (economic, social, psychological, sometimes even physical) of survival are harsh and unforgiving.

The Jungle is best remembered today as a muckraking novel exposing the unsanitary conditions and procedures and other atrocities in the meatpacking industry, which in no small part contributed to the passage of the Pure Food and Drug Act and other consumer protection legislation in the early twentieth century. Such a reading, however, discounts the value of Sinclair's novel, just as his own propagandistically political message does in the conclusion. For the purposes of this study, however, it is also important to consider the text's treatment of technology and factory production and to credit the novel for its thorough examination and analysis of industrial working conditions in the early twentieth century. Part of Sinclair's objective is to expose and discredit the false rhetoric of the positive sublimity of production. The method is one of contrasting views such as the insider's with the outsider's, of looking down at the sublime factory from above and from and a distance with seeing it from within as a part of the machinery.

Early in the novel, Jokubas Szedvilas, a Lithuanian who had immigrated to the United States years before, takes his newcomer compatriots on a tour of the Chicago stockyards and the Durham meatpacking factory (37-46). This offers Sinclair an opportunity to comment at length on the industrial conditions that were partly specific to this industry, but in no small part more generally characteristic of factory production in this period. The Durham plant is organized on the latest principles of efficiency and "highly specialized labor" (43), whereby each worker does "a certain single thing to the carcass as it came to him," which is contrasted with the experience of Jurgis, who "had never expected to live to see one hog dressed by several hundred men" (41). The hogs go up to the top floor of the five or six stories high building on their own feet and proceed down to the first floor as pork driven by the force of gravity. "They don't waste anything here," points out their guide proudly; "[t]hey use everything about the hog except the squeal" (38). Just as no part of the animals goes unused,

so the workers are expected not to make a single wasteful motion or exert superfluous power: the "cleaver man," for example, "never made but one cut; he made it so neatly, too, that his implement did not smite through and dull itself—there was just enough force for a perfect cut, and no more" (42). The visitors, uninvolved spectators of the industrial process, admire the efficiency of this sublime works.

As the visitors follow the whole process of mechanized killing (reminiscent for post-World War Two readers of the death camps of Nazi Germany) from the top floor downwards, their guide, the official voice of the factory, bombards them with statistics: the factory contains "two hundred and fifty miles of track within the yards" (37), employs thirty thousand men, sends its products "to every country in the civilized world, and it furnishes the food for no less than thirty million people" (45). Most visitors, including Jurgis, are swept away by this mathematical sublime, a rejoicing in numbers. Indeed, this is "pork-making by machinery, pork making by applied mathematics" (39), but Sinclair's narration is reserved in its enthusiasm as he emphasizes the dehumanizing aspects of being a part of this organization. His comments on the "wonderful efficiency" (37) and the "wonderful machine[s]" (40) of "this great industry" (44) seem to echo on the surface the general sentiment of the period, as represented by the official factory guide's rhetoric, but his ironic adjectives should not be taken at face value.

When seeing the same industrial process from within, for example in the passage describing Elzbieta's job "as a servant of a 'sausage machine'" (133) in the meatpacking factory, Sinclair clearly denounces factory work for its dehumanizing effects:

> It was stupefying, brutalizing work; it left her no time to think, no strength for anything. *She was part of the machine she tended*, and every faculty that was not needed for the machine was doomed to be crushed out of existence. There

> was only one mercy about the cruel grind—that it gave her the gift of insensibility. Little by little she sank into a torpor—she fell silent. (137; emphasis added)

Clearly subordinated not only to the larger machinery of the factory as an organization, but even to the individual machines each worker "serves,"[7] the traditionally supposed power relations between humankind and technology are reversed and the workers are expected to give up a major part of their humanness and become in many ways like the machine, or even an extension of the machine. Human machine parts like Elzbieta are deprived of their individual will and autonomy, and delegate those powers to the larger, overpowering industrial entity.

Although the most detailed and most unforgettable factory scenes are set in the meatpacking plant, in later parts of the novel Sinclair demonstrates that the working conditions in other industries are equally horrifying. Once blacklisted in the stockyards, Jurgis finds work in a harvesting machine factory; initially appearing to be "a place to which philanthropists and reformers pointed with pride," one which "had some thoughts for its employees" by providing them with roomier workshops, a restaurant and even a reading room (196), this factory proves on the whole to be not much better. The employees, including children, laboring on a piecework system are badly overworked: "it was made certain that the boy [piling up thirty thousand pieces of steel parts a day in regular rows] did not idle, by setting the machine to match the highest possible speed of human hands" (197). Once again, this factory offers Sinclair an opportunity to expose the shallow rhetoric of industrialists and technocrats pointing with pride to the achievements of the United States as a world-leader in the field of manufacturing:

> [. . .] jubilant captains of industry would boast of it in their banquet halls, telling how our workers are nearly twice as efficient as those of any other country. If we are the greatest nation the sun ever shone upon, it would seem to be mainly because we have been able to goad our wage-earners to this pitch of frenzy; though there are a few other things that are great among us, including our drink bill, which is a billion and a quarter of dollars a year, and doubling itself every decade. (198)

In addition to using his own literary weapon of irony, Sinclair also turns here his adversaries' own weapon of numbers against them by exposing, in pure statistical data, one of the social consequences of the industrial conditions. This generalized statement gains even more force as it is also particularized in the description of Jurgis's abusive relationship with alcohol.

As an ironic consequence of the efficiency movement and its ultimate disregard for the interests of workers, Jurgis is discharged from this factory *because* of the efficiency of its workers; having filled all market demands for the time being, the factory closes down for an undetermined period until orders start to come in again. Jurgis's next job is in a steel works, where the huge and intimidating machinery gives the observer the impression of "standing in the center of the earth, where the machinery of time was revolving" (205). Work safety is not an issue, cannot be an issue, in the fervor of increased efficiency and productivity. On his fourth day at the steel mill Jurgis witnesses "a man stumble while running in front of a car, and have his foot smashed off" (206). At another accident when one of the furnaces explodes, Jurgis rushes to help some of the workers and gets burned himself, resulting in a period of eight working days unpaid and no thanks from anyone (206). The machine, symbolically representing for Sinclair the whole industrial organization, is not just indifferent, but destructive and potentially fatal toward its human servants. As the large

occurrence of industrial accidents prove, technology constitutes more than just a potential threat.

After the death of his wife and their newborn baby, then his only surviving son, Jurgis tries to escape the urban-industrial complex and find rejuvenation in the agricultural countryside, but his experiences there parallel those in Chicago. Supply and demand are also the rule in agriculture, and farm hands are employed only on a seasonal basis. On his return to the city, Jurgis sinks deeper morally. He betrays his own fellow workers when working as a scab during the general strike and is offered a managerial position in exchange. Eventually, Jurgis chances upon a socialist meeting and finds his personal redemption in political radicalism. Despite the dominant mode of condemnation for technology, primarily due to its association (by ownership) with the capitalist employers, the conclusion of the novel offers the possibility of redemption also for the machine.

In the futuristic scheme described in the speech of the radical Swedish revolutionary, Nicholas Schliemann, socialism is presented as a "millennial cooperative commonwealth" (Tichi, *Shifting* 70), not unlike the one depicted in Bellamy's *Looking Backward*. In this vision of a social-technological utopia, collectively owned technology would move out from industrial production also to revolutionize individual households and agricultural production. Schliemann's examples include dishwashing machines (336), potato-planting and -digging machines, as well as "every other kind of vegetable and fruit handled the same way—apples and oranges picked by machinery, cows milked by electricity" (337). Like the antagonistic late capitalist economic system, this utopian scheme also builds on the ideals of efficiency and cooperation through specialization. Schliemann (and through his voice, Sinclair), however, also advocates the eradication of the numerous forms and sources of wastefulness ranging from competition, through advertising, to ostentation inherent in the capitalist system

and "forecasts the elimination of these wastes as socialist political power advances in America" (Tichi, *Shifting* 70). In Sinclair's somewhat naive final analysis, then, technology has great potential for social uplift, if only used by the right people and for the right purposes.[8]

Sherwood Anderson's Commentary on Production and Reproduction

While Sinclair told his story from the perspective of the factory worker, others also looked at the issue from the opposite end, the perspective of the technologist. The most important author in the period who extensively dealt with the ambivalent sublimity of factory production and its potential impact on society and human psychology is Sherwood Anderson. The late nineteenth century also witnessed, along with a rapidly accelerating technological development and industrialization, the emergence of a new type of ideal on the American social scene: the inventor-engineer. In a period when the advancement of technological civilization could still be brought about by individual effort, the inventor came to symbolize the apparently endless potential of the human intellect. With the disappearance of the frontier, previously a foreground of the nation's history, a simultaneous shift was taking place from the frontiersman as a personification of the earlier national myth to the engineer and the inventor as representatives of the myth of a technological, sometimes even technocratic, future. The increasing professionalization of the engineering field resulted in the recognition of the engineer as a newly emergent cultural hero. In her analysis of Willa Cather's *Alexander's Bridge* (1922), incidentally a denunciation of this same myth,[9] Elizabeth Ammons comments at some length on the "pervasive and pronounced cultural mythology surrounding the engineer by the end of the nineteenth century" (748). The engineer is seen as the heir of Benjamin Franklin and Daniel Boone: creative and ingenious, masculine and

independent, with a mission to bring civilization to humankind (749-50). The inventor is all of the above and maybe even more, by virtue of the aspect of creation associated with his work. Mark Twain, in his *A Connecticut Yankee in King Arthur's Court*, wrote in such semi-divine terms about the secondary creation of the world as routinely practiced by the largely "unhonored" inventors, "creators of this world—after God—Gutenberg, Watt, Arkwright, Whitney, Morse, Stephenson, Bell" (323). The inventor, in this sense, is even more of a mythical and heroic figure than the engineer, who is largely dependent on the creative intellect of the inventor for the execution of his own work.

Anderson's *Poor White* (1920) is a novel with such an inventor-engineer, one of the new cultural heroes of the age, as its central character, written in an effort to explore the role of the inventor in society as well as the process of invention as a creative process. The novel clearly reflects Anderson's ambivalence toward the engineer-inventor hero; the writer presents his protagonist from a conflicted, ambivalent, and thus inherently sublime angle. On the one hand, Anderson acknowledges and valorizes a certain kinship between the artist and the inventor based on their shared dependence on inspiration and creativity. On the other hand, however, the novel also clearly conveys Anderson's aversion toward the object of the inventor's work and his ultimate rejection of the new industrial-technological world order brought about as a result of his efforts. The development of Hugh McVey's personality throughout the novel may be seen as a struggle between these two views, finally resolved in his ultimate rejection of the same new order he had been instrumental in bringing to his own community.

Anderson's characterization of Hugh McVey is moderately sympathetic at the outset of the novel; in a naturalistic manner, the writer carefully examines the circumstances and the environment surrounding his protagonist and presents his character as a result of these

influences. In one reading, *Poor White* is a rewriting, or perhaps a possible continuation, of Twain's *Adventures of Huckleberry Finn*. The dysfunctional family, the drunkard father, childhood poverty, and the indolent daydreaming boyhood years on the Mississippi are all reminiscent of Twain's novel, but McVey's life takes a turn different from Huck's. His adoption by the Shepards has a civilizing effect on Hugh (something vehemently resisted by Huck) and starts him on a different course, teaching him to value learning and hard work. Unlike Huck Finn setting out on a westward course, Hugh McVey is more attracted by the technologically advanced east; his wandering years finally end in the Midwest just before the onset of some of the greatest social changes in that region brought about by the advent of the industrial age. Symbolically, his initial jobs, first as a railroad station agent and later as a telegraph operator, already point toward the later role technology, the new frontier of the twentieth century, will play in his life.

It is at this juncture that McVey rediscovers his own imagination and creativity, which he previously used only while daydreaming on the riverbank in Missouri. Like a poet first trying his hand at jotting down some lines, McVey sketches up, largely for his own amusement, simple tools and machines. Throughout the book, Anderson emphasizes the parallels between the creative process in art and in technological invention; the novel especially abounds in references to McVey's work in terms of poetic creativity. His corn-cutting machines transform the drudgery of the work into "poetry [. . .] set to another rhythm" (224); his car-dumping devices make "a new kind of poetry in railroad yards and along rivers" (225). Anderson appears to realize and suggest in his novel the similarities between artistic and technological creativity: how both artist and inventor "would labor in solitude, withdrawn from the world which often misunderstood them" (Tichi, *Shifting* 187). Anderson also certainly sympathizes with his protagonist on account of McVey's desire to create and

use technology to eliminate the inhuman machine-like toil of agricultural workers. The fact, however, that the author emphasizes that McVey designed his first machines by observing human movements and then replacing all that is human by the inhuman element of technology hints at the negative side of Anderson's ambivalently sublime relationship toward mechanization.

Anderson's sympathy is still with McVey to the extent that he views him also as yet another unsuspecting victim of the very forces he helps unleash and which very soon get out of hand. Similar to Tom Outland in Willa Cather's *The Professor's House*, McVey is unable to commercially introduce and market his inventions, loses control over them, and thus cannot be held wholly responsible for the consequences they help bring about. Anderson's chief criticism is directed against the capitalist system as personified in characters like Steve Hunter and, to some extent, Tom Butterworth. Unlike the self-taught Hugh McVey, the college graduate Steve Hunter never read a book; while McVey's defining quality is his almost artistic creativity, Hunter is all ambition without any substance. Similarly, Tom Butterworth sees everything solely in terms of gains and profits and gradually loses much of his humanity in the course of the novel.

While Anderson did recognize the positive aspects of technological development and industrialization, he was more concerned about their detrimental consequences on the individual as well as the community. As David D. Anderson points out, it is not the new factories with their assembly lines where these negative effects are felt worst, "but along Main Street, where the town had found its identity and its purpose in the two generations since its founding" (16). It is here that we find the "technologically displaced persons" of small town America, who "found themselves replaced by machines, their skills obsolete, their demands for recognition unheard, their continued existence a joke or a tragedy" (16). As the

novel progresses, there is a gradual change in McVey and a growing realization of these detrimental effects of his own work, which he had never previously seen in a broader context.

One important trait of Anderson's work is the close association between technology and sexuality. Cecelia Tichi convincingly argues that Hugh McVey's conversion is largely rooted in his sexual awakening following his wedding to Clara (*Shifting* 191). Other signs also indicate the changes in McVey's outlook. He no longer finds it worth the effort to compete for the patent rights with the Iowan inventor. He is beginning to realize the unnatural ugliness of the industrial landscape his inventions also contribute to. Previously inarticulate and laconic, unable to communicate even with his own wife, McVey now "made up words over which light played" (369)—he becomes something of a poet himself. Eventually, a displaced villager, McVey withdraws from the urban-industrial life of his previous years to the private sphere of his expectant wife and returns to a more peaceful agrarian life on his father-in-law's farm.

Poor White is Anderson's attempt to "demystify the man-made heroes, the inventor-engineers he feared had become 'a new set of semi-mythical heroes' for the machine age" (Tichi, *Shifting* 184). Anderson's interest in the effects of industrialization is largely sociological, even though he looks at these larger social changes through the individual fates of his characters influenced by the forces of industrialization. Looking back from the perspective of the second decade of the twentieth century when the consequences of industrialization were evident, he depicted rather pessimistically the forces of capitalism and technological development that he believed transformed the face of much of the Midwest, turning slumbering villages into industrial cities and changing their inhabitants into modern day slaves, depriving them of much of their humanness.

Many of the important issues dealt with in *Poor White*, the promises and threats that constitute the sublimity of industrial production—the changing roles of the human participants in a period of rapid industrialization, the collapsing binary between humans and machinery, the machine's influence on sexuality, and the emergence of a new technological aesthetic—are also dealt with in a short, non- (or semi-) fictional text by Sherwood Anderson. *Perhaps Women* (1931) was written as the first—and the most provocative—piece in a series of poetic non-fictional works produced during the 1930s and unjustly neglected by critics.[10] Set against the background of the economic depression as well as the pervasiveness of industrial factory work, Anderson's treatise is an attempt to re-evaluate the myth of the American Dream, only, as Robert Dunne puts it, "this time in plainer words than he did when he resorted to the aesthetic scaffolding of fiction" (87).

In contrast with the hopeful ambivalence of *Poor White, Perhaps Women* is a largely pessimistic evaluation of the role and future of the worker in the modern industrial environment and the presentation of a somewhat surprising proposition put forward in the title. In his introduction Anderson sets forward his thesis when describing his book as "an attempt to express, partly in story form, partly in broken verse, partly in opinions [. . .] a growing conviction that modern man is losing his ability to retain his manhood in the face of the modern way of utilizing the machine and that what hope left there is for him lies in women" (7). Subjecting this preliminary statement to a retrospective rhetorical analysis after finishing the book, the reader realizes that Anderson's choice of words is very self-conscious, and they need to be taken as close to the literal meaning as possible. When he writes "modern man," he does not mean "humankind," as would have been interpretable by contemporary usage. When he uses the word "manhood," he literally means potency, or lack thereof, in the sexual-pathological sense. Similarly, when he calls his book an "attempt," this

should not be read as the familiar modesty trope, but must be understood and accepted as resulting from his resistance to writing the book, the tentativeness of his arguments, and his ultimate dissatisfaction with the end result: "This little book will have to be put out as it is. [. . .] I have tried to give it better form but that now seems impossible to me" (7).

In the text itself, Anderson suggests that the idea for writing the book stemmed from his conversations with a woman, identified by critics as Anderson's wife, Eleanor, and her complaints "that American writers were avoiding the problems brought on by America's reliance on factory work" (Dunne 88):

> It was a woman who had got me to do it.
>
> She had come to me, to where I was staying, in a small town.
>
> I had escaped from the roar of the big industrial towns, from the cities.
>
> I was in a quiet place.
>
> I was like a turtle with its head drawn in, sleeping under a bush.
>
> The woman had poked me with a stick. She had forced me to crawl out from under my bush. (111)

The writer's admitted resistance to the writing of the book, as well as the stimulating influence of a woman, fits well into the thematic framework of the text.

An important aspect of Anderson's perception of the industrial sublime is the vivification of technology. The first few pages of the text contain references to machines that "talk like blackbirds," "shout (and) dance on their iron legs," "have a thousand, a million little steel fingers" (9), "feed upon the power in rivers (and) eat white coal," groan and screech. The central office in Jointville is referred to as the "nerve center" of the Bogel automobile company he visits in the northwest (21-22). Earlier, in *Poor White*, Anderson already used this device when identifying machinery and industrialization as the "giant"

(133). Here, however, he goes one step forward when pointing out the many parallels between his organic, biological being and technology's mechanical existence. His automobile, this "long, graceful machine" will be on a scrap heap in a few years and "what is worth saving of [it] will go into the great retorts. It will be melted into new machines" (12).

Foreshadowing his own death, Anderson finds the analogy obvious: "What is worth while in me will go into a stalk of corn, into a tree" (12). But the binary between human and mechanical is deconstructed also from the other end; workers are perceived as parts of a larger mechanism. In their original state, they seem to represent the imperfect, unreliable, unpredictable element in the perfection of technological production; as Banta observes about the managerial rhetoric of the times, "the very presence of people on the factory floor is enough to introduce questions of the troublesome relations among reform, conduct, and control" (26-27). But the "minute-man," with stop-watch in hand, this haunting figure of Taylorism, sets out to further close the gap between the inefficiency of humans and the efficiency of machines (30-32). Intruding upon even the most private spheres of humanness ("And you have gone to the toilet. You stayed in there seven minutes. Was that necessary? Could you not have done everything necessary in three minutes?" [31]), the efficiency expert, and through his efforts the "enlightened industrial management," desires to further dehumanize the workforce.

Technology in itself is not the source of the problem in Anderson's evaluation; it is the fact that society was not prepared for this unexpected, unprecedented, and largely unchecked technological and industrial progress that will have serious consequences. "We have come into a new age in American life," he writes, "had been swept into a new age by machines and the men in power in American life had no program made for the new age" (84). Note also, in the above sentence, the variation at the start of the second clause changing the

originally active role of humankind to one of passivity. Men, Anderson claims, need direct, hands-on contact with the material or commodity being worked on, something missing in the age of modern industrial production: "The machine has taken from us the work of our hands. [. . .] It was good to feel things being done by our hands. The ability to do things to materials with our hands and our heads gave us a certain power over women that is being lost" (42). Apart from the misogynistic overtones and put in (deliberately) more simplistic terms, this is the same argument that Karl Marx and Thorstein Veblen articulated. Veblen, a contemporary of Anderson, referred to it as the "instinct of workmanship, which "entails a taste for effective work," as present in the discipline of handicraft, "and a distaste for futile effort," as emerging in the discipline of the machine (Veblen, *Theory* 15). Several decades before both Veblen and Anderson, Marx identified the same phenomenon as the "alienation of the worker from his product," which means

> [. . .] not only that his labour becomes an object, assumes an *external* existence, but that it exists independently, *outside himself*, and alien to him, and that it stands opposed to him as an autonomous power. The life which he has given to the object sets itself against him as an alien and hostile force. (qtd. in Chant 52)

As a result of this process, humankind has lost its touch with the material world: "The modern man is drowned in a flood of things he did not make. He has no definite connection with the things with which he is surrounded [. . .]" (Anderson, *Perhaps* 42). One is reminded of the protagonist of Sinclair Lewis's *Babbitt* making "nothing in particular, neither butter, nor shoes, nor poetry" (6) and not even realizing his condition in his self-complacency.

Factory work denies men, according to Anderson, dignity and pride in their work and leaves them feeling inadequate. Handicraft was earlier akin to divine creation, but "with machines now performing all the creative work, [they] now perform these god-like acts and

become, in fact, gods themselves" (Dunne 89). Men, in turn, feel spiritually emasculated, which may lead, in Anderson's fears, to "[p]hysical impotence, perhaps in a whole race of men" (102). After all, "[i]mpotence comes from the fear of impotence. In our machine age how can we help fearing?" (127). Once again, Anderson makes it clear that in addition to an allegorical meaning, he also means literally when he claims man "can no longer stand *erect*" (138; emphasis added). Even before that, in another highly ambiguous reference, he also personalizes the common male experience of impotence by claiming a share in it, despite the fact that he is not a factory worker: "The machines make me feel too small. [. . .] My manhood cannot stand up against them yet" (45).[11] Sublime technology is thus presented as the source of yet another type of fear, threatening once again the most intimate of human spheres, sexuality.

Anderson reserves a special role for women in the industrial system, one that follows from what he supposes to be a part of womanhood: "In the factories the men employees seem to feel smaller than the women. The women are affected less. It must be because every woman has a life within herself that nothing outside her can really touch except maybe a mate" (48). He proposes, therefore, that women replace men in factories for "perhaps women" will be able to turn around this process of deterioration and "help restore manhood in the modern man" (Dunne 90). Continuing in a slightly misogynistic vein, which is characteristic of the whole text, and foreshadowing Nye's idea of the consumer's sublime, Anderson shows why, as his chapter heading suggests, "It is a Woman's Age": "There are more goods made. Women get most of the goods. Men earn more money. The women spend it. They do right" (47). Contrary to popular perceptions, technology, it seems, ultimately serves women's interests more while destroying men: "The cities are all built for women. Whom do you suppose the automobiles are built for?" (55). All this, because "she

has something I cannot have—the machine cannot touch her mystery" (56). Anderson's shortsightedness in gender issues may be typical of the age, but it is interesting that in the face of the general attitude of resistance to women's presence in the workplace that was characteristic of the age, he would advocate just the opposite.

Anderson himself is a man, but he is also "an artist and an American. [. . .] In a land where women rule. In a land where, in industry, the machine rules" (54). As an artist, explicitly as part of his overt message, but also implicitly in his syntax and style, he registers the existence of a new, technologically informed, aesthetic that will "sing the song of the machine, of the automobile, of the airplane [. . .] the song of the factories" (17). He acknowledges a certain beauty inherent in technology, but feels ambivalent toward this new aesthetic standard. Technological invention would necessitate a "coldly beautiful poetic endeavor" (West 29), which is simultaneously admired and rejected by Anderson for its frightening prospects, as expressed in the passage quoted in a briefer version above:

> The machines are beautiful with a cold kind of classic beauty, but they are beautiful. In motion they become gorgeous things. I have stood sometimes for two or three hours in some big factory looking at the machines in motion. As I stand looking at them my body begins to tremble. The machines make me feel small. They are too complex and beautiful for me. My manhood cannot stand up against them yet. They do things too well. They do too much. (45)

Anderson's aesthetic stance derives in part from the survival (or perhaps revival) of a Victorian approach to the technological sublime, but is more progressive in its effort to situate the machine in aesthetic categories rather then striving, at all costs, to separate art and technology as mutually exclusive domains. It is also more advanced in its modern, psychological approach to machinery, especially in its efforts (taking his cues, no doubt, from

Freud's psychoanalytical school and D. H. Lawrence's writings)[12] to examine the psycho-sexual ramifications of industrialization.

Most importantly, Anderson employs an idiosyncratic syntax and writing style well suited to his topic: his abundant use of repetition, short, simple sentences, and one-sentence paragraphs lend a terse, intense, mechanical quality to his prose. Feeling, not just as a man, but also even as an artist, inferior to machines, Anderson wishes he could "write things that run as smoothly as modern machinery has been made to run" (64). The very genre selected—non-fictional account—is in harmony with the industrial age's preference for fact over fiction, for (semi-)scientific discourse over sentimentalized romance, perhaps even for journalism over imaginative literature. His ambivalence, or the conflict between his intentions and reality, are indicated by the occasionally interspersed, highly poetic (one might say Whitmanesque) passages, such as the following, taken from one of the concluding chapters of *Perhaps Women*:

> The old life of man outside there, the sense of an old life comes back—before the belts began to fly.
>
> —before the time of the flying wheels
>
> —before the time of the river of goods pouring out to men—submerging them perhaps
>
> —too many clothes
>
> —too many automobiles
>
> —too many pairs of shoes
>
> —Speed, speed—
>
> Power subject to man.
>
> Man subjected to power.

Goods.

Goods.

Too many goods. (137)

One begins to wonder whether Anderson's repeated incantation of these words strangely resembling the word "gods" is a conscious attempt to create an association between technological production and deity. But even if it is not, his curious yet cautious, admiring yet fearing, ambivalent and conflicted approach to the technological sublime, both in *Perhaps Women* and in *Poor White*, is undoubtedly among the most complex responses to technology in the Modernist period. He was quick to realize the possible social and psychological consequences of the unprecedented industrialization that his country underwent and probed, well ahead of his time, a range of issues such as the collapsing boundaries between humans and machines, the connection between production and reproduction, between technology and human sexuality, as well as the machine's implications for the aesthetics of the contemporary age.

Notes to Chapter Two

[1] In his seminal *Technics and Civilization*, published in 1934, Lewis Mumford divides the development of technological civilization into three major stages: the eotechnic, paleotechnic, and neotechnic phases. The eotechnic phase, the dawn of the age of technology, was predominantly based on wood and water power and was the period of such primary inventions as the horseshoe, the mechanical clock, and the printing press. This was followed by the paleotechnic phase, commonly identified as the period of "industrial revolution," which relied on the "coal-and-iron complex," and was characterized by the inefficiency of production, the degradation of workers, the inconsiderate destruction of the natural environment, and an unrelenting doctrine of progress. Mumford's appraisal of the paleotechnic industrial stage (between the late eighteenth and early twentieth centuries) is ambivalent at best: while acknowledging the splendid achievements of the period, he also accentuates what West called the "brutal factory discipline and the social and environmental degradation" (107) associated with this phase. In his scheme, Mumford's own time and the early decades of the twentieth century, his primary concern, constituted a transition from the paleotechnic into the new, neotechnic phase, which would rely on electricity and internal combustion engines as primary power sources, and alloys and synthetic compounds as materials. This phase could be increasingly characterized by a reliance on scientific research, as opposed to the inefficient empirical approach of earlier periods, as indicated not only by the research laboratories of large corporations, but also by a scientific approach to management such as Frederick Winslow Taylor's system.

[2] Incidentally, Melville's is also one of the earliest literary works exploring the analogies between machine production and human reproduction. Melville is in this respect

an immediate predecessor of Sherwood Anderson, who explored very similar questions in *Poor White* and *Perhaps Women* as they relate to a later period

[3] The moving belt assembly line's chief characteristics were a highly specialized division of labor whereby each worker performed a single operation or movement only, the delivery of work to the workers eliminating any unnecessary movements, and the continuous progression of the commodity through the shop. Ford obviously did not invent the assembly line, neither was he the first to use interchangeable machine parts. His cultural significance derives from the fact that he was the first to successfully combine these technologies with a revolutionary new vision of production and marketing on a large scale. His name is also associated with the introduction of benefits like the eight-hour and five-dollar working day and improved working conditions.

[4] The turn of the century was the time when many factories first started to offer tours of their grounds to visitors. World's fairs and expositions provided additional opportunities used by multitudes to satisfy their curiosity at the displays of machinery—cf. Henry Adams's dramatic encounters with technology at the 1893 Chicago and the 1900 Paris Expositions.

[5] The most memorable visual representation of this idea is undoubtedly Charlie Chaplin's *Modern Times* (1936). The movie, made during the Depression years, pokes fun at Taylorist factories aiming for the greatest possible efficiency and productivity regardless of costs to the worker. This was Chaplin's last movie to use the tramp character, who works on a moving assembly line in the movie. In the most famous scene of the film, the machine swallows him up and gives a new meaning to the expression "being a cog in the machine."

[6] In late-nineteenth-century utopian writing, for example, wastefulness, inefficiency, and inequality were already frequently exposed as the ultimate evils obstructing the realization of an ideal civilization. The best and most widely-known example of such utopian novels is Edward Bellamy's *Looking Backward, 2000-1887*. Published in 1888, Bellamy's novel simultaneously demonstrates how technology may be a principal cause (in the present) as well as the solution (in the future) of social problems. In the technocratic utopia of Bellamy's world, society is not simply dependent on, or worshipful of, machines, but is modeled after them. In *Civilizing the Machine,* Kasson provides a superb analysis of Bellamy's novel, as well as other technological utopias like Mark Twain's *A Connecticut Yankee in King Arthur's Court* (1889), Ignatius Donelly's *Ceasar's Column* (1890), William Dean Howells's *A Traveler from Altruria* (1894), which prepared the way for the twentieth-century interpretation of the sublimity of technology. "A recurrent theme in much of this utopian fiction concerned the possibility of social breakdown or catastrophe if American technology and society were not harmonized and controlled" (191), Kasson writes.

[7] Again, Melville was a predecessor exploring this reversal of roles between humans and machines in "The Paradise of Bachelors and the Tartarus of Maids." The girls in the paper factory are depicted as enslaved and dehumanized by the machines. Another common image, in addition to the human as slave of machine, is the human feeding the machine—another role of subordination—with materials, as in *The Jungle*, with energy, as the coal-shovellers in O'Neill's *The Hairy Ape*, or most recently with information, as in science-fiction novels involving malicious computers.

[8] In this respect, Sinclair's utopian hopes of technology resonate with Steinbeck's evaluation in *The Grapes of Wrath*, as discussed in Chapter 4.

[9] The traditionalist Willa Cather was among those artists of the early twentieth century who generally felt threatened by the technologization of the world around them. Her first novel, *Alexander's Bridge* (1914), is a typical example of the projection of the artist's fear of, and resulting attacks on, the engineer and his artificial constructions. The bridge-builder engineer is celebrated worldwide, and as Tichi points out, when the Canadian bridge he is building collapses, Cather takes "a certain resentful satisfaction" (*Shifting* 179) in the simultaneous failure of the bridge, the engineer, and the myth.

[10] The two other texts in this series include *Puzzled America* (1935) and *Home Town* (1940).

[11] Cf. also Taylor's article on the woodcuts illustrating the first edition of *Perhaps Women*, depicting "a bold, handsome woman riding a sturdy horse [. . .] leading a nag, astride which is a slouching figure of a man, a weak, puzzled look on his face" (110). This woodcut was made by Julius J. Lankes largely on the instructions of Anderson himself. The "slouching figure of a man" was supposed to be the writer himself. "Do not hesitate to make me a rather impotent figure" (111), wrote Anderson to Lankes, signaling his identification with the conditions of the working class male depicted in his book.

[12] Anderson's personal library contained an impressive collection of Lawrence's works: ten of his novels, as well as a collection of his letters and essays. Modlin's and Campbell's list also contains a volume by Freud, *The Problem of Lay-Analyses*, (albeit only published in 1927), but the basics of Freudian psychoanalytical theory were common knowledge in the era.

Chapter Three

The Sublime of Destruction: World War One and the Military Machine

The Emergence of the Military Machine

Outlining his plans for reform and improvement in the Army, Elihu Root, freshly elected Secretary of War in 1899 declared that "the American soldier today is part of a great machine which we call military organization" (qtd. in Millis 175). As commonplace as the idea may sound today that the American soldier is but a cog in the military machine, such a conceptualization was still a novel idea a hundred years ago, when for most people "war was still a matter of young men 'springing to arms' and fighting the issue out with bullet, butt and bayonet in a deadly personal encounter" (Millis 175). There is an obvious tension between the idealism of the late nineteenth and early twentieth centuries and the bitter disillusionment caused by the shock of a more and more "industrialized" manner of warfare in the armed conflicts of the twentieth century. The culprit for this loss of innocence is a large-scale confrontation with the sublime of destruction that the increasingly efficient, technological and organizational military machine became capable of.

Prefacing his discussion of American literature of World War I, Peter Aichinger attempts to account for the emergence of this modern mindset. Throughout the nineteenth century, he argues, there had been an enduring belief that technology could somehow eliminate personal involvement, and the accompanying elements of danger and human loss from warfare.[1] In the efficiency-conscious early decades of the twentieth century the idea still lingered on that "war was only another problem that had best be solved in terms of cost accounting, time-and-motion study, and avoidance of loss due to employee fatalities" (Aichinger xv). The early

twentieth century thus saw the emergence of the military establishment as a recognizable entity, increasingly viewed as a machine with interchangeable parts.[2] As Aichinger states,

> [t]he American characteristically views any problem in terms of mass-production: reduce the problem to its component parts; make the parts interchangeable; find the most efficient means of mass-producing them; apply standardized methods of packaging, distribution, and advertising; and the problem is solved. Using this approach one can swamp the market with cars, soapflakes, hula hoops, or soldiers. The key to the system lies in the fact that the parts must be interchangeable. In human terms this means that friction must be reduced, personalities must not clash, cooperation is at a premium. (xvi)

Even though the technologization of warfare was a millennia-old process, it accelerated exponentially in the past two centuries, especially in the United States. As early as the mid-nineteenth century, when the cavalry and the horse artillery were still the elite corps in the armies of the most countries, the Corps of Engineers was already the *corps d'elite* in the United States (Aichinger xiv). In all fairness, the American Civil War could be—and has been—called the first modern technowar. Mass-produced weapons, the strategic use of the railroad and the telegraph to move and to coordinate the armies, and experiments with such precocious technologies as the submarine well merit this title.[3] It was the First World War, however, that completed this process of technologization by even larger leaps and bounds in military-technological development and a resulting pessimistic association—in the public consciousness as well as in the aesthetics of literary imagination—between technology and mass destruction. Sublime technology, which had earlier brought mass production for a mass consumer market, a rudimentary form of mass media by means of cheaply produced and widely

circulated newspapers, mass transportation at least in the biggest cities, has now also conquered the domain of warfare and destruction.

The First World War was without doubt the most formative event of the early decades of the twentieth century, a watershed event that left its mark on a whole generation and its literature in the United States and elsewhere. Frederick Hoffman's chapter, "The War and the Postwar Temper," in his monograph about the 1920s offers an excellent overview of American literary perspectives on "the Great War": the diverse motivations of the multitudes of volunteers enlisting and the manifold casualties and shocks suffered, ranging from the 50,000 Americans killed on distant battlefields, through the horrible physical wounds caused by modern technological warfare, to the psychological trauma suffered by many more and epitomized in countless war narratives (71-75). The casualties also included abstract notions and capitalized concepts—even the capitalized personal pronoun "I" in cases like Cummings's. Words like "patriotism," "courage," "victory," "honor," and "duty" became meaningless for a time. The result was frequently a bitter and generally highly critical attitude toward the pre-war generation and the civilization associated with it. According to Hoffman, this criticism was most acute in three distinct areas and was directed against the failure of communication, the failure of social values and meanings, and the failure of morality, all three of which are clearly reflected in the fiction of the post-war decade (23). To this list one may add the changing attitude toward technology caused by an intensified contact with the technological domain during the war, and a certain loss of belief in scientific, technological, and material progress as indicative of, or instrumental in, the general advancement of humankind. As John Dos Passos, whose work is perhaps most representative of this disillusionment, retrospectively put it in a preface added to his first novel, *One Man's Initiation—1917* (1920), at the end of the Second World War, Americans of his generation "raised [. . .] during the quiet afterglow of the nineteenth century

[. . .] were confident that industrial progress meant an improved civilization, more of the good things of life all around, more freedom, a more humane and peaceful society" (36). To these people, the shock of World War I also caused a loss of belief in the benevolence of science and technology for human civilization.

What made this war the "Great War" as it was initially called, and the First World War later on, is closely related to the sublime of scales and proportions. By conservative estimates, World War I produced 10 million dead and 20 million wounded. Another important change in comparison with earlier wars was in the demographics of the victims, showing an alarmingly high proportion of civilian casualties, and especially women and children, thus making war no longer an exclusive domain of males, or even adults (Norris 17-18). Another critic provides a list of further records:

> the number of countries engaged, the range and extent of the battles that were fought simultaneously on several vast land fronts, as well as at sea and in the air, the duration of continuous fighting, the advanced technology employed, resulting in a mechanization of killing as unprecedented as the overall number of dead and wounded, the hardships and sufferings inflicted on the non-combatant populations, and above all the 'mobilisation,' no longer of relatively small number of soldiers, mainly professional, but of entire nations. (Klein 1)

It is apparent from this list that the emphasis is on numbers, records, and superlatives, which is always fertile ground for the sublime to thrive upon. This was a war in which, "[w]hen there's 'nothing to report' from France that means the regular 5,000 casualties that happen every day," a war in which "a million men could die in a single battle without changing as much as the front line" (Cooperman 59-60). Obviously, the adjective "Great" conveys little admiration in the true sense of the word, but certainly there is awe at the sheer size and scope of the conflict, and there

is also quite naturally the other constituent element of fear, which was increasingly stemming from the technological domain, as demonstrated below.

The expression and the very concept of "shell shock"—a post-traumatic stress disorder common among servicemen engaged in active and usually prolonged combat—originated in World War I. It would appear that in addition to shell shock, another by-product of the "Great War" was a kind of a "machine-shock," a growing disillusionment with technology (as well as science) as a means of advancing human civilization. Contrary to the general mood of optimism and widespread utopian expectations, technology, especially in its latest incarnations as machine-guns, tanks, bomber planes, and submarines, seemed to be ultimately a destructive force. Fulfilling the prophecies of Mark Twain in the closing chapters of his dystopian text, *A Connecticut Yankee in King Arthur's Court*, World War I demonstrated how the positivist and rationalist technological values still prevailing in the early years of the twentieth century may turn into a nightmare. "You could not count the dead because they didn't exist as individuals, but merely as a homogeneous protoplasm" (432), writes Twain in 1889 describing one of the final scenes of the novel when 25,000 knights are electrocuted and the stench of decay eventually kills even the "victors." The anti-climactic ending, indicating the worthlessness of individual human life and the horrors of technological warfare, foreshadows one of the premises put forward in the first chapter of what is perhaps Hemingway's best war novel, *A Farewell to Arms* (1929), where, compared to the high casualties of combat, the fact that the cholera "was checked and in the end only seven thousand died of it in the army" (4) is supposed to be a felicitous fact.

The Sublime Technology of Destruction in World War I

The First World War witnessed—as well as accelerated—the introduction or the first large-scale testing of a number of new inventions in military usage.[4] Advancements in artillery technology allowed the withdrawal of large, long-range guns from the front lines and firing (on an elliptical trajectory) indirectly above the infantry. The best example is the Germans' infamous "Paris gun" (erroneously called "Big Bertha"), which had a firing range of some sixty miles, or more than double that of the best guns before. Distance from the source of danger, considered by Burke a precondition of the sublime, no longer translated into safety. The introduction of modern military techniques such as infantry fire by long-range guns, aerial bombing, or the deployment of intercontinental ballistic missiles, for that matter, raises the question of agency in the destruction they deal. As Norris puts it, "modern warfare is phenomenologically and ontologically discontinuous with earlier modes of warfare" because "modern weapons technology has fundamentally altered the locus of agency. [. . .] The agency of killing—always already dispersed among politicians, strategists, and soldiers—becomes so extremely dispersed with the employment of weapons of mass destruction as to become virtually unlocatable" (18). In other words, with the unprecedented technologization of warfare, it is increasingly difficult to find the role of the human element, and thus place moral responsibility.

As Hoffman maintains, the big guns and trench mortars are clearly among the controlling images of World War I fiction (92). Another important technological icon of the First World War is the machine-gun, developed in the nineteenth century, first used in the Boer War, and significantly perfected into a reliable machine of mass-destruction by World War I. Mechanized armored units, or tanks—originally conceived as armored tractors—were also utilized extensively for the first time in this war. Developed to provide support for charging

infantry, tanks were initially very unreliable because of frequent mechanical failures, as well as their inadequate firepower, speed, and range, but their psychological impact was unsurpassed. On the seas, large dreadnoughts, battleships, and submarines dominated and fueled the sublime of destruction.[5] Yet another invention of great psychological effect was poison gas, first used by the Germans in 1914. Margot Norris claims that poison gas was the most scandalous weapon in World War I, recognized by many as an essentially targetless technology capable of the mass-elimination of civilian populations. She also claims that "[a]lthough chemical and biological warfare remain unacceptable, the introduction of aerial bombing in World War I and its increasing use against civilian populations in World War II were accompanied by shifting and shifty rationales that exposed their improvised anteriority to that technology" (Norris 19).

The airplane, examined in more detail in Chapter 5 on aviation technology, may be seen as the ultimate sublime machine of destruction. Believed by many to bring back an element of long lost chivalry, grace, and cleanliness into warfare, it developed into a death machine during World War I. The airplane was first employed for military purposes during the North African colonial wars in the early 1910s; it was first used principally for reconnaissance, later for artillery observation and air support for infantry offensives. Bombs were originally dropped by hand; later the process was mechanized, and the dogfight—the chief source of chivalric association—also evolved after the problem of synchronizing the propeller and the machine-gun was solved. In the trench warfare of the World War I, the desire to fly above and away from it all, a dream that the airplane had the potential to realize, was still a positive counterbalance to its destructive capabilities. By the time of the Spanish Civil War of the late 1930s, and especially the Second World War, most of these idealistic associations had disappeared. Our World War I images of military aviation—the Sopwith

Camel, the flying aces, even the Germans' dreaded Red Baron, Manfred von Richthofen—tend to be positive and nostalgic. By contrast, images of aerial warfare in World War II—the bombing of London, Dresden, or any one of a number of cities claiming a high toll of civilian life and cultural heritage, the havoc of Pearl Harbor and kamikaze pilots in the Pacific, or the final act in that same theater, the Enola Gay with its deadly cargo—invariably invoke apocalyptic associations. The airplane thus provides a superb illustration of the changes in the technological sublime that took place in the period of some four decades from the Wrights' flight to the bombing of Hiroshima and Nagasaki.[6]

According to Aichinger, the most dreadful aspect of modern warfare is inherent in this dehumanizing effect, the replacement of the chivalric tradition still very much present in the face-to-face battles of the Civil War with warfare in purely technological terms: "The entire process, from recruitment to the engagement of the enemy, seemed to be the operation of a machine rather than the result of human volition. [. .] Everywhere there is the suggestion that the war is a self-generating force and that a given operation, once begun, must run its course" (11) The sense of being trapped in or by a "huge and ruthless machine" (Aichinger 11) is a recurring motif of fear in the face of the sublime of destruction in many World War I texts, fictitious and documentary alike. Such an attitude that views war and its technologies as autonomous and uncontrollable forces fits well in the broader context of technological determinism. This fear of an autonomous entity beyond the limits of human control, frequently visualized in technological terms as the "military machine," provides a solid foundation for the sublime of technological destruction.

Technology in Dos Passos's Early Novels

The dominant theme of many works of literature written during the war and the decade afterwards was the struggle between civilizations and their respective value systems, especially between a traditional civilization and a new world order striving to dismantle it. This latter destructive force was variably associated with, or even identified as, Germany, the Army, and not infrequently, technology. As Aichinger notes, "the war provided a powerful metaphor, not only to express the reaction against post-war conditions, but also to embody the spirit of the 'lost generation'" (17). Some of the best novels using this trope include John Dos Passos's *Three Soldiers* (1921), E. E. Cummings's *Enormous Room* (1922), William Faulkner's *Soldiers' Pay* (1926), and Ernest Hemingway's *In Our Time* (1925) and *A Farewell to Arms* (1929). Among his contemporaries, however, it was Dos Passos who took this metaphor the furthest and injected the additional element of the machine as a metaphor of the military, and by extension of modern experience. Therefore, my discussion of the sublimity of World War I military technology will be focused on his first two novels, *One Man's Initiation—1917*, and especially *Three Soldiers*. As Stanley Cooperman put it in his analysis of *Three Soldiers*,

> Dos Passos uses the military situation provided by the Great Crusade as a metaphor for twentieth-century civilisation, and in this respect the book is a cultural diagnosis rather than realism: one does not read *Three Soldiers* for data on the specifics of combat [. . .], but rather to understand how the mobilisation of an entire civilisation meant the supremacy of what Henry Adams termed "The Dynamo" over all individual action or reaction. ("Dos Passos" 23)

In other words, *Three Soldiers* is an indictment of a standardized, technologized, automated modern civilization in which human individualism is doomed. As will be seen, the war setting is a convenient device for Dos Passos to convey more general, pessimistic sentiments regarding machine civilization, which he started to formulate as early as *One Man's Initiation*, and brought to full force in his more mature works. The military environment is only used as a representative and symptomatic microcosm of more general problems with modern civilization.

Similar to some extent to what Hoffman calls the war narratives of the "old gang," *One Man's Initiation—1917* and *Three Soldiers* are also premised on the conflict between different cultures as symbolized by the Allied and Central Powers, but more ambivalent in their judgment.[7] Throughout both novels Dos Passos remains suspicious of war rhetoric and propaganda in general and is protesting more against the brutality and vulgarity of war itself, as well as the rigidly anti-democratic and anti-individualistic forces inherent in military existence, than the brutality and vulgarity of the "German atrocities." As Hoffman observes, "the defeat of art and civilized thought was a terrifying aspect of postwar reality" (79) for the young aesthete that Dos Passos was, and—especially in *Three Soldiers*—the machine that "rules over the individual and reduces to nothing all his pretensions and hopes" (80) is a dominant symbol of his aesthetics. These two novels by Dos Passos provide, therefore, the best illustration of the sublimity of the military machine.

Dos Passos's first novel, *One Man's Initiation—1917* is a quick-paced narrative building on impressionistic images more than on realistic descriptions, but the material and technological reality is an important aspect of the text throughout. The horrors of gas warfare are described at length and in gruesome detail by one of the characters early in the novel:

> "There's nothing they can do about this new gas. [. . .] It just corrodes the lungs as if they were rotten in a dead body. In the hospitals they just stand the poor devils up against a wall and let them die. They say their skin turns green and that it takes from five to seven days to die—five to seven days of slow choking." (47)

Airplanes figure significantly from time to time in the narrative. The "Boche planes" with their Mercedes motors (58) circle above the troops, chase ambulances "ten miles along a straight road" (58), or engage in dogfights adding to the "huge garbage-dump of men and equipment" (129) already littering the fields. "More garbage," remarks a ruddy-faced youth to the protagonist Martin Howe upon seeing how one of the fighting aircraft—it does not really matter whose, on which side—"burst into flames and fluttered down behind the hills, leaving an irregular trail of smoke" (130). Machine and its human slave/master (depending on one's perspective) both add to the heap of garbage, creating a strange mixture of an organic and technological wasteland. Dos Passos provides an accurate description of the trenches, complete with barbed wire (likened to, and actually replacing, Christ's thorns on 111) and telephone wire (134), and life in the trenches, based on his own experience as a volunteer ambulance driver on the front. In many ways, *One Man's Initiation—1917* prefigures the imagery of *Three Soldiers*: the three principal realms of metaphors—machinery, slavery, and livestock—used by Dos Passos to describe military existence, and discussed in more detail below, are all present in this early novel.[8]

Much more than *One Man's Initiation—1917*, Dos Passos's second novel, *Three Soldiers*, published only a year later, provides a superb illustration of a World War I novel permeated by images of the military machine and the treatment of the sublime of destruction. While the immediate theme of the novel is not technology itself, but rather the overwhelmingly

oppressive power of the military—and by extension, any organization—on the individual, in technology Dos Passos finds an excellent metaphor, readily available and commonly understood for his contemporary readers living in a rapidly technologizing environment. "The machine," sometimes referred to as "the system" or "the treadmill," and particularized in such seemingly surprising manifestations as the typewriter, serves as one of the central images of the novel.

As pointed out in my introduction, the concept of the "military machine" was in wide circulation well before World War I, so Dos Passos was not the first one to make this association, but *Three Soldiers* certainly utilizes the trope to its fullest extent. The most obvious parallels between the technological and military spheres are their inherently mechanical and monotonous quality, their standardizing influence (cf. the *uniform*ity required in the military), and last but not least, the military's extensive use of various advanced technologies.

Perhaps the most conspicuous examples of technological imagery in the novel can be found in Dos Passos's choice of chapter titles. Five, or potentially all six, of the chapter titles are conceived in the framework of the technological imagery. They are, as Brantley notes, "metaphorical section headings which define the sections and relate them to the theme of the novel, [. . .] the machine-like quality of the army and the uniformity required of the men in it" (24). The chapter titles suggest a full life-cycle in technological terms, which parallels the soldiers' experience in the war. "Making the Mould" and "The Metal Cools" evoke the production of steel or some other metal and its casting into uniform shapes, producing perhaps the "Machines" of Part Three.[9] Fuselli, Chrisfield, and Andrews are the three soldiers introduced in these chapters, inherently very different, yet molded into the same shapes by what Colley calls the "impersonal and inhuman mechanism of army existence" (33). Part Three, featuring the only combat scenes in the novel, contains several references to the mechanization of the common soldier and even his ultimate fusion with his weapons into a half-human and half-

machine cyborg, so that ironically, the chapter title refers more to the soldiers used as interchangeable machine parts in the larger military machine than to any kind of actual technological artifact.

"Rust" is a chapter focusing primarily on Andrews's wounding and his convalescence in the army hospital, and thus suggests uselessness after a period of usefulness; like rusting pieces of scrap metal in a junkyard, the convalescing soldiers are cast aside as no longer valuable. "The World Outside," covering the period Andrews spends as a relatively free man in the Sorbonne School Detachment, is also an obvious reference to the world outside the military machine. Ironically again, however, this is only an illusion, as the individual can never completely get outside the system; Andrews is arrested and sent to a labor battalion, deserts and attempts one more time to live in "the world outside." He is ultimately defeated, however, just as the other two soldiers followed less carefully by the narrator toward the end of the novel; all three of them end up "Under the Wheels," overpowered and defeated in their respective conflicts with the military machine.

Uniformity—or put in technological terms, standardization—is a central motif in *Three Soldiers*. Early in the novel, Fuselli is seen, for example, as standing "stiffly at attention in a khaki row that was one of hundreds of other khaki rows, identical, that filled all sides of the parade ground" (11). Another memorable passage in the novel occurs when after a long struggle and many humiliations, Andrews's name is finally included in the list of those transferred to the School Detachment and he watches his company march away: "The Company tramped off along the muddy road. Their steps were all the same length. Their arms swung in the same rhythm. Their faces were cowed into the same expression, their thoughts were the same. The tramp, tramp of their steps died away along the road" (272).

Whether seen from the inside as in Fuselli's case, or from the outside as in Andrews's, the resulting feeling of loss of identity is haunting. Yet it was exactly this submerging of one's individual identity in a collective consciousness that appealed to many of the enlisted soldiers, including Andrews himself, who signs up because he is "sick of revolt, of thought, or carrying his identity like a banner above the turmoil. This was much better [. . .]" (26). However, the relief is only transitory. After the initial reactions of exaltation, when "the weight of boredom and futility seems momentarily lifted; personal decisions are no longer necessary, and yet action, 'real action,' ensues" (Kazin 178), Andrews soon regrets his mistake. In Landsberg's words, he realizes that "soldiers even more than metropolitan newspaper writers [are only] cogs in the machine" (72). The military environment is not an escape from, but a mere reflection of the more universal Modernist human condition, part of which is a deplorable standardizing influence, especially in an urban/industrial/technological environment.

Three Soldiers abounds in examples of the dehumanization and accompanying mechanization of the common soldier. The soldiers are frequently treated by their superiors as uniform beings, preferably without any traits of individuality, or even as lifeless objects. "They were going to be put to work" (65), Fuselli contemplates while marching in his company, even though he fails to realize that this implies being tools in the hand of some distant, largely unseen and unknown forces. The image of the automaton, a machine more complex than a simple tool, but inherently inanimate and especially without free will, is frequent especially in the latter half of the book.[10] Andrews resents his superiors, "who thought of him as a coarse automaton, something between a man and a dog" (223). The bugler blows in the morning and "throw[s] him into an automaton under other men's orders" (255). Well conditioned by months of military existence and learning from previous mistakes, he "automatically" gets off into the mud and salutes a captain (251) and "automatically" jumps to attention and starts to march at another

officer's commands (357). When he finally escapes, however temporarily, the dehumanizing, even devitalizing, effects of the military organization, and positions himself outside the system, Andrews's mind and body are still filled "with a reverbation of all the rhythms of men and women moving in the frieze of life before his eyes; no more like wooden automatons knowing only the motions of the drill manual, but supple and varied, full of force and tragedy" (289). This last quotation also serves to highlight that Dos Passos's image of the automaton is a reference not only to the military's intended reduction of humanity to machinery, but should be read in the wider context of modern, twentieth-century experience. By the inclusion of "men and women," Dos Passos suggests monotony, aimlessness, and loss of individuality in spheres other than the front. Taken out of its original context, the above passage could refer to work in a mechanized factory, perhaps on an assembly line, or even foreshadow post-war life in suburbia. Just as the machine is an image of the army, so in turn, the army is an image of larger life, one that is mechanical, dreary, and monotonous.

An automaton, or a robot, is conceived as possessing certain life-like qualities, but lacking in some of the most important criteria of intelligent and meaningful human life, such as free will, self-determination, and individuality. Machines (like robots) are often identified by numbers, or perhaps by a combination of names and numbers, like the soldiers are. The dog tag, an invention dating from the First World War, is thus a very significant image featured perhaps for the first time in literature in Dos Passos's novel: "A hand fumbled at his throat, where the tag was, and someone read: 'Andrews, 1.432.286'" (196). Dos Passos did not have to comment on the meaning of this image at any length, since the theme of the loss of identity and being reduced to data—be it a dog tag number, one in a row of "hundreds of other khaki rows," statistical data, or an index card record in a filing cabinet—was established long before.

The automaton, this half-animate and half-inanimate entity who/which was chosen by Dos Passos to suggest the loss of human values, is an example of his treatment of the human (or natural) versus technological binary. Technology, however, is not the only frame of reference used by Dos Passos to describe the military existence. In fact, in sharp contrast with the machine imagery extensively used throughout the novel, he also builds upon two organic images, those of slaughtered animals and slaves. "They treat you like you was a steer being taken over for meat" (44), complains Fuselli, evoking slaughterhouse images reminiscent of Sinclair's *The Jungle*. "Meat for the guns" (44), adds an anonymous voice, suggesting a strange twist of roles, whereby the animated weapons consume and subsist on humans. Indeed, the soldiers are loaded onto ships and trains as mere live cargo, without much consideration for their condition. Fuselli is also struggling with a feeling of not only "being lost in the machine," but also of "being as helpless as a sheep in a flock" (44). Eisenstein, a secondary character in the novel, also uses both the organic and the mechanistic imagery to refer to his and his fellow soldiers' condition when claiming that "[. . .] in the tyranny of the army a man becomes a brute, a piece of machinery" (92), to which the Frenchman he is talking with replies, "I have always heard that Americans were free and independent. Will they let themselves be driven to the slaughter always?" (93). The treadmill, another image frequently evoked (cf., for example, 63 and 420), also reinforces the identification of soldiers with animals.

The other organic (as opposed to technological) image applied for the soldiers throughout the text is that of slaves, as in the case of Fuselli's protesting inwardly for being made a "slavey" and clean the lieutenant's room or Eisenstein's complaining of his company behaving like "a bunch of slaves" (91). The slave imagery becomes even more marked in the latter half of the book and especially in the Virginian Andrews's mind. Obeying orders and constantly risking humiliation invariably evokes in the thoughts of this young Southern man the

institution of slavery: "He saw himself vividly once more as he had seen himself before his life had suddenly blotted itself out, before he had become a slave among slaves" (199). Slavery is seen not simply as having to obey orders, being deprived of civil rights, and suffering humiliations; it entails on the slaveholders' part an attempt to deprive the slaves of their identity and humanness. Being "put to work" may be about being treated as a tool, or being treated as a slave. One of the technological wonders of the ancient world, the pyramids were built by slave work, reflects Andrews on his own work in the labor batallion: "We were working unloading cement at Passy—cement to build the stadium the army is presenting to the French, built by slave labor, like the pyramids" (422). It is not by accident that he registers at the boarding house under the name of John Brown, leader of the attack at Harpers Ferry, and sets out there to compose a symphony in honor of the abolitionist leader.[11] The range of metaphors from machinery through livestock to slavery all attempt to communicate the different aspects of the same qualities, or rather lack of qualities, of human life that the military or any other organization entails.

Nature, the binary opposite of technology, is depicted in the novel as in constant retreat in the military turmoil. It is raped and abused; the surface of the earth is torn up by trenches and bomb shells, and the voices of nature are blotted out by the clatter of machine-guns and the sounds of explosions. "The whip-like sound of rifles had chimed in with the stuttering of the machine guns. Little white clouds sailed above him in a blue sky, and in front of [Andrews] was a group of houses that had the same color, white with lavender-grey shadows, as the clouds" (185). Nevertheless, nature does return every now and then in the form of rain, smells and sounds, as exemplified by the following passage, describing Fuselli's perceptions: "Outside it had begun to rain softly, and a smell of wet sprouting earth came in through the open door" (117). Organic and technological sometimes even merge, or the boundary between them, in any

case, is difficult to establish. In the first paragraph of "Rust," shortly before he is wounded, Andrews is looking into a small pond at his own reflection and cannot tell where his own body ends and his gear and gun begin: "He looked at [his reflection] curiously. He could barely see the outlines of a stained grimacing mask, and the silhouette of the gun barrel slanting behind it. So this was what they had made of him" (193). Later, he is entertaining the idea of starting "a mutiny in his company," where "he would lash all these men to frenzy by his words, so that they too should refuse to form into Guns [. . .]" (241). In a scene later still, when he is already supposedly "outside the system," he is fascinated by the "organic completeness" (287) of the toy rabbits sold by a French street vendor. By blurring the boundaries between organic/animate and artificial/technological, Dos Passos provides a powerful critique of the technological sublime, and foreshadows, even if in a rudimentary form, the postmodern project of deconstructing such binary oppositions.

It is important to note that even though *Three Soldiers* is considered—along with Cummings's *The Enormous Room* (1922) and Hemingway's *A Farewell to Arms* (1929)—as one of the best American World War I novels, it is hardly a war novel in the traditional sense of the word. For one thing, the novel contains very few combat scenes and even those are more impressionistic descriptions than realistic depictions of actual military struggle. In fact, a great part of the first half of the novel is about the induction of the soldiers; then the Armistice is signed about halfway in the text and the rest of the novel concentrates on the postwar experiences and feelings as reflected in Dos Passos's representatively chosen characters.[12] More importantly, the image of the enemy is very special in the novel. The only Germans mentioned in the text are the P.O.W.s (70), the ones seen in propaganda movies on the German atrocities (26, 62), and the dead soldier Chrisfield chances upon in the forest (149) in a scene eerily similar to the one in Stephen Crane's *The Red Badge of Courage*.[13] As Brantley rightly points out, the

real enemy in the novel that the principal characters are in constant conflict with is the army itself, "the system," "the machine," rather than "the Huns" or even war itself:

> The army is the antagonist, the "machine" in the lives of the three men. It is the destroyer of liberty, individuality, and initiative; it operates on the lives of the men through its regulations which are as certain as the laws of nature and through its officers and non-commissioned officers who are as unbending as the regulations they must obey. (24)

Just as John Andrews is Dos Passos's first fully developed, and believable character after Martin Howe of his amateurish first novel, *One Man's Initiation—1917*, *Three Soldiers* is perhaps the first literary expression of his life-long distrust of any organization, and his first use of the theme that the "individual seldom wins against organized, inhuman social units, whether they be armies, governments, or labor unions" (Wagner 18).

Because the novel's aim is not primarily to realistically document modern technological warfare, but to register its psychological effects, there is relatively little direct representation of the various military technologies used in World War I. Nevertheless, most of the important military technological inventions and innovations introduced before or during the war are mentioned in the text. Dos Passos portrays and comments on these weapons as well, including machine-guns (cf. "Outside the house was a sound of machine-gun firing, broken by the occasional bursting of a shell" [185]), submarines ("It must be an awful thing to drown in the sea [. . .] . If one of those bastard U-boats [. . .]" [42]), aeroplanes idealized for their supposed cleanliness in warfare (138-39), poison gas ("An' the gas is the goddamndest stuff I ever heard of [. . .]. Mustard gas, they call it" [112]), as well as a number of transportation technologies widely used in the war, ranging from trains and trucks to ambulances and motorcycles. Yet perhaps the most prominent technological image in the novel representing this modern day army

and ultimately indicted as the most harmful of all is none of the above, but an inconspicuous machine, which is simultaneously also the writer's most important tool: the typewriter.

More than any other technological artifact, the typewriter seems to symbolize in Dos Passos's novel "the system," the rigid bureaucracy that is inherent and all-pervasive in the modern military. Almost every time Fuselli, Chrisfield, or Andrews comes into contact (and that usually means conflict) with the military organization, there is a typewriter in the background churning out endless piles of papers. "The sergeant kept his eyes fixed on the papers, which rustled as he moved them from one pile to another. In the end of the room a typewriter clicked slowly and jerkily" (225), Dos Passos writes in one of these episodes. Here is a longer passage from his autobiographical *alter ego*'s, John Andrews's, reflections at the army headquarters in Paris:

> Andrews could imagine [the officer] striding along halls, where from every door came an imperious clicking of typewriters, where papers were piled up on yellow varnished desks, where sallow-faced clerks in uniform loafed in rooms, where the four walls were covered from floor to ceiling with card catalogues. And every day they were adding to the paper, piling up more little drawers with index cards. It seemed to Andrews that the shiny white marble building would have to burst with all the paper stored up within it, and would flood the board avenue with avalanches of index cards. (340)

Undoubtedly, if Dos Passos were writing today, he would choose the computer or some other communication and/or information technology as his representative icon of the often underestimated organizational and bureaucratic aspect of the army.[14] In all certainty, he would be worried about the reduction of the individual in all of his or her complexity to machine-representable data. The computer would certainly add a new dimension to the idea of being lost

in the machine. But even as early as the second decade of our century, he gave voice to his concerns over information overload and the loss of individuality in the bureaucratic system. Only a few pages after the passage quoted above, Andrews is in the countryside seemingly outside of "the system," yet he realizes that his freedom is only an illusion:

> Even out here in these fields where the wet earth seemed to heave with the sprouting of new growth, he was not free. In those office buildings, with white marble halls full of the clank of officers' heels, in index cards and piles of typewritten papers, his real self, which they had power to kill if they wanted to, was in his name and his number, on lists with millions of other names and other numbers. (347)

Toward the end of the novel, Dos Passos summarizes the narrative of the whole "Great War," or all modern wars for that matter, and reiterates all three types of his metaphors—technology, animal, slavery—used to describe the war and the military throughout the text. Watching a little boy playing in the river, he reflects on how that boy would one day be made into a soldier, "the lithe body would be thrown into a mould to be made the same as other bodies, the quick movements would be standardized into the manual at arms, the inquisitive, petulant mind would be battered into servility" (415). Dos Passos is at his most pessimistic here regarding the future of humanity. His comments, however, while primarily to be read in the context of a recently ended world war, are open to wider interpretations about the general loss of values in the "brave new world" of modernity, and technology is his prime symbol for the new world order. In this respect, Dos Passos is one of the precocious forerunners of the technological pessimism of the Postmodern.

The Technological Sublime after WWI—Another Casualty of War?

In his highly acclaimed book on the British experience on the Western front and its literaty treatment, Paul Fussell remarks, somewhat nostalgically: "Out of the world of summer, 1914, marched a unique generation. It believed in Progress and Art and in no way doubted the benignity even of technology. The word machine was not yet invariably coupled with the word gun" (24). Humankind's first truly machine war may even have changed our perception of the world, but it certainly altered our ideas of warfare and technology's role in it. Aichinger lists in his introduction some typical nineteenth-century views of warfare—that it was a "phenomenon having a beginning, a middle, and an end; that war had a rational and attainable purpose; and that the individual, either as observer or participant, could benefit from the experience of war" (xxv)—that were all shattered in the Great War.

Technological warfare has by and large eliminated the room for individualism and heroism. The disfigurements of the human body caused by modern warfare were not like the red badges of courage of the Civil War. As Walter Millis puts it,

> In 1861 [. . .] war was still personal; it was a "fight" between men, individuals. whose individual prowess, courage, and devotion counted, not a contest between men and machines [. . .] . It was still a personal and usually hand-to-hand encounter—a few sweating, desperately angered and terrified men engaged against their counterparts. The weapons were the tools of this personal struggle, like the broadsword or the battle-axe of the Middle Ages [. . .] . In 1861 war was not an engineering operation. (110)

World War I and subsequent machine wars provided less and less of an outlet for individual courage and heroism. Gone were also any remaining traces of the naive military romanticism partly inherited from the frontier past. In Cooperman's words, "technological warfare

eliminated the battlefield as a resource for ritual" (184)—a loss best dramatized in the work of Ernest Hemingway. Technological violence in the trenches—being blown up while eating cheese in *A Farewell to Arms* or suffering an "unreasonable wound" causing the loss of male virility in a literal and figurative sense alike, as in *The Sun Also Rises*—is not comparable to the violence of fishing, big game hunting, or bullfighting.

There certainly remained some degree of romanticization of the machine after the war, especially in such increasingly conspicuous post-war manifestations as the automobile and the airplane, discussed in detail in the following chapters. The American technological sublime was not entirely eliminated during the relatively short involvement of the United States in World War I. The fact remains, however, that one frequently overlooked influence of the Great War, and the increased contact it brought many Americans with technology, was a different and more familiar view of techno-culture after the war, which also included a loss of belief in the possibilities of technological utopianism. In this respect, the "Great War" foreshadowed the post-World War II sentiments of many intellectuals, including the majority of Postmodern writers, in their ultimate disillusionment in science and technology after Pearl Harbor, the gas chambers of Auschwitz, and especially the atomic bombs dropped on Hiroshima and Nagasaki.

Notes to Chapter Three

[1] As Aichinger argues, the fact that Theodore Roosevelt called this belief "a loose popular idea" and "sheer folly" in 1890 is itself evidence of the popular importance of this notion (xiv). This desire for a "push-button approach to war" has never entirely disappeared since that time as evidenced by such technological developments during the cold war as intercontinental ballistic missiles or, more recently, experiments with so-called "smart weapons" such as fighting robots and airplanes remote controlled from thousands of miles away.

[2] Lewis Mumford would disagree and argue that the military machine appeared much earlier, in ancient Egypt. In fact, as he argues in *The Myth of the Machine*, the first machines ever were the invisible "megamachines" made up of human components during the Pyramid Age. "Labor machines," Mumford writes, are those "utilized to perform work on highly organized collective enterprises"; when, however, "applied to acts of collective coercion and destruction, it deserves the title, used even today, the 'military machine'" (188)

[3] Photography, another new technology of the time, made it possible to capture deglamorizing images of the war, especially of the casualties of the fighting, who were the "ideal," perfectly still subjects necessary for early photographic techniques (cf. Franklin 48-49).

[4] My survey of military technological inventions in World War I is based on Trevor Dupuy's monograph, *The Evolution of Weapons and Warfare*. Of special interest is the anthropomorphizing title that suggests the applicability of the Darwinian principle of evolution for military technological artifacts.

[5] Significantly, an important reason for the United States' entry into World War I was Germany's declaration of unrestricted submarine warfare and the sinking of the *Lusitania* off the

coast of Ireland in 1915, resulting in the death of 128 Americans. The real reason for America's involvement may be harder to establish, but is certainly related to the economic, and by extension to the industrial interests of the country.

[6] Less immediately evident, but quite as important technological entities included radios and field telephones for communication, replacing flags and semaphores. Trenches and barbed wire were also extensively used in World War I. In *The Great War and Modern Memory*, Paul Fussell provides an excellent description of trench warfare and the different kinds of trenches (firing trench, supporting, reserve, and communication trenches) used on the Western front. He points out how the trenches could be seen as streets, producing a "parody of the modern city" (43) where the firing trench is one's downtown office, and the supporting and reserve trenches are the suburbs where soldiers return after a day's work. Fussell also observes that significantly, barbed wire and the machine-gun, were both American inventions. The barbed wire was extensively used on the frontier from the mid-nineteenth century, while the machine-gun was "the brainchild of Hiram Stevens Maxim (1840-1916), an American, who, disillusioned with native patent law, established his Maxim Gun Company in England and began manufacturing his guns in 1889" (42).

[7] Even though the "old gang" rarely commented on the role of technology, Edith Wharton's *The Age of Innocence* (1920) is a notable exception. Significantly set in the post-Civil War era, but written in and for the post-World War I period, the novel is also about the clash, death, and survival of cultures—European and American, old and new, traditional and technological. *The Age of Innocence* is a novel simultaneously saluting the new age and sentimentalizing over the old, suggesting to post-war America that it is time to mature after the age of innocence. Not surprisingly then, the novel abounds in technological images,

especially toward the end of the text. The standard nineteenth-century technological icons, the telegraph, the railroad, and the steamboat also appear earlier in the novel, only to give way to more "miraculous" inventions, such as the telephone, offering the "fantastic possibility that they might one day actually converse with each other from street to street, or even—incredible dream!—from one town to another" (111). The protagonist, Newland Archer, also reflects on the vision of inventors and engineers now building tunnels under the Hudson River: "They were of the brotherhood of visionaries who likewise predicted the building of ships that would cross the Atlantic in five days, the invention of a flying machine, lighting by electricity, telephonic communication without wires, and other Arabian Night marvels" (234). By the end of the novel, fulfilling the prophecies of the earlier passage, Archer's son is calling him long distance from Chicago and "the voice [sounded] near by and natural [. . .] long-distance telephoning has become as much a matter of course as electric lighting and five-day Atlantic voyages [. . .]" (288). Technological change is symbolic for Wharton of cultural change, the coming of a new, not necessarily better or worse, but in all certainty very different world.

[8] In a self-referential and ironic question an aspirant asks Martin Howe: "Have you ever seen a herd of cattle being driven to abattoir on a fine May morning?" (108). The common feature between livestock driven to the slaughterhouse and soldiers on the front is resignation: "That's why the herd can be driven by a boy of six [. . .] or a prime minister!" (108). "We are slaves," exclaims one of the French anarchists toward the end of the novel: "It has always been the same: man the slave of property or religion, of his own shadow" (165). Man is even turned into a cyborg, a partly human, partly mechanical (partly even animalistic) entity, like the seriously wounded soldier looked upon by Martin Howe in Chapter II: "Between the pale-brown

frightened eyes, where the nose should have been, was a triangular black patch that ended in some mechanical contrivance with shiny little black metal rods that took the place of the jaw. [Martin] could not take his eyes from the soldier's eyes, that were like those of a hurt animal, full of meek dismay" (54).

[9] Entering Andrews's consciousness, Dos Passos specifically refers to the casting of toy soldiers in an early passage of the novel: "He tried to drive the phrase [Arbeit and Rhythmus] out of his mind in the music of the rhythm that had come to him, that expressed the dusty boredom, the harsh constriction of warm bodies full of gestures and attitudes and aspirations into moulds, like moulds toy soldiers are cast in" (22). Later, however, the image of toy soldiers is abandoned.

[10] The word "robot" was first used by Czech writer Karel Capek only a year before Dos Passos's novel in his play *R.U.R.* (1920), and might better cover in its current meaning the concept of the automaton as intended by Dos Passos, a machine that resembles a human and does mechanical, routine tasks on command.

[11] Gilman's article explores the influence of Henry David Thoreau's work on Dos Passos's philosophy in general and the political stance represented in *Three Soldiers* in particular. The character of John Andrews, he claims, is inspired by the political essays of Thoreau, and his life-long support for John Brown. Both Thoreau and Dos Passos, Gilman points out, stressed the "primacy of the individual" and "the principle of life that to be an individual means following the dictates of conscience" (470).

[12] On the geographical and social representativeness of Dos Passos's characters (Fuselli, the lower class second generation Italian immigrant; Chrisfield, the farmboy from Indiana; and Andrews, the autobiographical intellectual character from Virginia and New York City), see

Brantley 24. Dos Passos also balances and contrasts the various war experiences temporally (induction, combat, and post-war situation) and spatially (front and behind-the-lines service).

[13] Dos Passos was the first important writer after Stephen Crane and his *The Red Badge of Courage* (1895) to use warfare as a fictional theme. On the parallels and differences between Crane's and Dos Passos's novels, cf. Wrenn 109.

[14] Computers were originally developed for the military during World War Two, in an effort to speed up the calculation of the ballistic missile tracks and deciphering enemy cryptograms. Some twenty years later, the foundations of a gigantic national computer communications network, the ARPANET, the predecessor of today's Internet, were laid down, also by the military. The computer and the Internet are only two recent examples of the countless technological artifacts, the invention and development of which was in large part facilitated by military research.

Chapter Four

The Sublime of (Auto)Mobility: The Four-Wheeled American Dream

The Automobile as the Ultimate Sublime Machine of the Twentieth Century

Undoubtedly, the early decades of the twentieth century witnessed in the United States what has been called the third industrial revolution, a profound re-shaping of modern American civilization, and the most significant change in American life ever caused by a single technological invention. Ironically, what was responsible for all this was a piece of machinery invented at the end of the *previous* century and on a *different* continent.[1] The machinery in question is, of course, the automobile, called by Levine "the most visible and dramatic symbol of new forces" (46) at work in modern America. The car embodies and combines (even in its earlier name) the fundamental American values of individualism and self-reliance (auto) with the equally valorized dynamism and movement (mobility). Unlike the railroad and urban transit systems, the automobile provides flexible and individual transportation, which implies freedom, privacy, independence of patterned routes, timetables, and schedules, and as such better fits the American tradition of individualism.

The car may be seen as the ultimate object of the modern technological sublime in modern United States, incorporating more of the ambivalences and ambiguities than any other machine. Americans perceive their cars as the single most important and most valuable technological artifact, which they nevertheless frequently personify, use as well as occasionally misuse and abuse, cherish and hate, own and disown, depend on and get failed by. More than in any other nation, a significant number of Americans are conceived in cars, spend a substantial part of their lives in cars, and die in and by cars. The automobile is a

machine on the one hand, ontologically separate from its user, but also increasingly seen as a prosthetic necessary for survival in the spread-out American landscapes, forming a cyborg-like composite entity between machine and its user, mutually dependent on each other. The automobile is the ultimate mass-produced machine and yet invariably an expression of one's personality. An individual American's automobile history often reveals much of that person's life not only in terms of material status, but also personal values. Similarly, the national "auto-biography," as recorded among others by literary texts, may offer much insight into the development of American culture and collective consciousness.

While rapid transportation is taken for granted in contemporary technological societies, such mobility is a relatively recent phenomenon. According to Aldroft's calculations, in 1914 "the typical American averaged about 1,640 miles of total travel per year, and nearly 1,300 of this was accounted for by walking" (qtd. in Bessel 163). Even though railroads, steamboats, bicycles, and even primitive cars with electric and internal combustion engines appeared at various points during the nineteenth century, it was the early decades of the twentieth century that saw a radical rearrangement in the patterns of transportation of the general population by shifting from human and animal power to mechanized modes of travel.[2] The changes are clearly quantifiable in terms of miles traveled and people and goods transported, but more important are, in Bessel's words, the "fundamental changes in the ways in which people in industrialized countries perceived the world around them" (162). The statistics nevertheless reveal a phenomenal change. In 1895, there were altogether four automobiles registered in the United States; in only five years, this number crept up to 8,000, and reached a half million by 1910 (Epstein 317). In another ten years there were 8 million cars, a figure that tripled by the late 1920s. In 1928, Herbert

Hoover, who would be the first engineer president of the United States, was already calling for "two cars in every garage" in his victorious presidential campaign (Laird 644). From the early Twenties onward, the automobile was increasingly seen as a necessity rather than a luxury, and even the Depression, which temporarily curtailed the sale of new cars, did not decrease car registrations and petrol consumption (Bessel 181). This seeming paradox is perfectly borne out, for example, in the significance of the automobile in the Westward migration of Steinbeck's representative Joad family in *The Grapes of Wrath*, discussed below, or the statement of renowned humorist Will Rogers during the Depression that the United States would be "the only nation in the history of the world that ever went to the poorhouse in an automobile" (16).

The sudden spread of motor vehicles in this period—in which Henry Ford's manufacturing and marketing philosophy[3] played a crucial role—brought about major changes in the country, making their effects felt to our days. Among various other effects, the car decreased church attendance, democratized tourism, transformed the nation's economy by becoming the largest industry and by establishing the practice of purchasing on credit. Critical voices even complained that the automobile, a "brothel on wheels," was a major factor contributing to the loosening up of morals in the Jazz Age. The sense of how the automobile also served as a new device of entertainment for (or since) the young generation of the 1920s clearly comes through from various literary texts produced in this period.[4] The Jazz Age has been described as "the era of anarchic 'gypsying,' of the use of automobiles to travel freely around the country without planning" (Gentry 106), escaping the city, parental control, or just monotony. The automobile also offered escape of another, more serious kind; as Carrol Pursell points out, cars frequently helped African-Americans to avoid the

humiliating Jim Crow accommodations on public transportation (*Machine* 243). By allowing people to live farther away from city centers, the motor vehicle was altering settlement structures, and ultimately, the landscape of the whole United States. Perhaps the most important changes, however, took place in the national consciousness of the American people. By reasserting Americans' independence and self-reliance, the automobile "struck roots deep in the national psyche and became part of the American dream" (Edey 256).

All these changes, naturally, did not go unnoticed by the artists of the period. Novelists of the Twenties, in particular, showed much interest in this new technology which proved to be so influential in various aspects of American life. More than only documenting the profound effects of the spread of the automobile, various writers also used cars as devices of characterization, or as symbols and metaphors in their works. Functioning as a powerful symbol of technology and modernity, the automobile is presented, among other things, in the sometimes conflicting terms of commodity, object of desire, status symbol and symbol of conspicuous consumption, means of escape and killer machine. This chapter will foreground and scrutinize the presence of the automobile in its various roles in literary texts produced in the twenties and the thirties and show how the diversity of these meanings is a symptom of the continuing appeal of the technological sublime. The selection of the authors and novels to be addressed was the most challenging task in this chapter because of the large number of literary texts, canonical or less significant, that take up one or another aspect of automobility—for this same reason, more texts are discussed here than in other chapters of this dissertation. In my judgement, Lewis, Dos Passos, Fitzgerald and Steinbeck are the best choices for tracing the evolution of attitudes to automobility in this period as they provide the

most thorough and sufficiently and representatively varied responses to this important technological phenomenon in American culture.

Sinclair Lewis as a Social Historian of American Automobility

Sinclair Lewis, one of the earliest writers to thoroughly examine the various meanings of automobility, is primarily interested in the social aspects of the issue. As early as in *Main Street* (1920), he used the automobile as a device of characterization. In small towns in the Midwest and elsewhere it was usually the country doctor who first found the automobile a worthy investment. Dr. Will Kennicott, an ambivalent character representing the very qualities for which small towns like Gopher Prairie were considered the strength of America, is this bold pioneer in the novel. Kennicott's transitory status between urban and rural, between backward and modern, is expressed, among other things, in his list of hobbies: "medicine, land-investment, Carol, motoring, and hunting" (195). Although the above list reflects no particular order of preference, we learn that few things "beatified [Kennicott] as did motoring [. . .] . To him, motoring was a faith not to be questioned, a high-church cult, with electric sparks for candles, and piston-rings possessing the sanctity of altar-vessels" (195-96). Lewis's half-serious, half-mocking semi-religious rhetoric surrounding technology, which he was to make an even more important part of his narrative in *Babbitt*, clearly demonstrates how important automobiles were becoming for Kennicott, and for many of his fellow Americans in this period. These people, we learn, mostly talk about subjects that they all know; and the one standard topic with men is automobiles, just as with women it is the evergreen domestic question of how to get good hired girls.

Yet it is also important to note that in these early days of motoring the very fact that one possessed a car elevated that person above the general public. Being the happy owner of a two-year-old Buick puts Kennicott in the same bracket with all the other motorists in town in the peculiarly democratic society of Gopher Prairie, where, as we recall, the tailor is a member of the society, but the barber is not—after all it is "no use running this democracy thing into the ground" (42). The story of *Main Street* still clearly belongs to the 1910s, when the "ownership of any kind of automobile was regarded as the American dream come true" (Sears 213).

In only a few years, however, by the time *Babbitt* was published in 1922, Lewis asserts that having just *any* kind of car may no longer be sufficient: "The dream was amended to mean ownership of the 'right' kind of car, symbolic of the 'right' social status" (Sears 213). In one of the early scenes of the novel, Babbitt gets the whole family excited by announcing that he was "[s]ort o' thinking about buying a new car" (73). The discussion about the practical advantages of sedans over open cars eventually boils down to "everybody's got a closed car now, except us" (74), which allows the sarcastic narrator to remark that "in the city of Zenith, in the barbarous twentieth century, a family's motor car indicated its social rank as precisely as the grades of the peerage determined the rank of an English family" (74). Having a car is not primarily about transportation—it is more about social class. Important as his everyday rituals of starting the engine, pulling up at the nearby garage to "fill 'er up," and finding a good parking spot in front of the office may be, Babbitt mainly sees in his car an indication and affirmation of his social standing. Such a misuse of technology originates from a misunderstanding of it, like in the case of the scores of gadgets Babbitt accumulates.

Thanks to Lewis's almost photorealistically descriptive style whereby he frequently characterizes through objects, Babbitt is routinely seen as interacting with technology. No doubt, Babbitt is very comfortable with technology; he surrounds himself with the most up-to-date, scientifically designed and expensive gadgetry available on the market. His "nationally advertised and quantitatively produced" alarm-clock (7), his "very best of water-coolers, up-to-date, scientific, and right-thinking" (31), and his "priceless time-saver" of an electric cigar-lighter (46) are only a few examples of his obsession with keeping abreast with modern times. As the omniscient narrator reveals, however, Babbitt's worship of machinery does not originate from a true understanding of the same:

> He had enormous and poetic admiration, though very little understanding, of all mechanical devices. They were his symbols of truth and beauty. Regarding each new intricate mechanism—metal lathe, two-jet carburetor, machine gun, oxyacetylene welder—he learned one good realistic-sounding phrase, and used it over and over, with a delightful feeling of being technical and initiated. (58)

Babbitt may be seen here as epitomizing one of the predicaments of modern twentieth-century existence: too far removed from an immediate contact with his material environment, making "nothing in particular, neither butter, nor shoes, nor poetry" (6), he is stuck with a blind faith in progress and technology without comprehending the entirety of his situation and the potential dangers inherent in the kind of existence he leads.

The most prominent and symbolically most complex piece of machinery Babbitt is seen interacting with in the novel is undoubtedly his automobile. The car, an extension and an expression of his personality means "poetry and tragedy, love and heroism" (24) to Babbitt. Technology is a part of his fantasy personality: "The office was his pirate ship but

the car his perilous excursion ashore" (24). He is noted to take good care of his automobile—little wonder since it is one of the most visible status symbols in his possession. He even takes his car for the short distance to the Athletic Club when in fact it takes more time "to start his car and edge into the traffic than it would have taken to walk the three and a half blocks" (533)—an ultimate example of wastefulness, inefficiency, and what Thorstein Veblen would call conspicuous consumption. In his special attachment to his automobile, and in his insistence on convenience, Babbitt prefigures the unreasonable dependence of Americans on their cars in the years to come. Lewis's satire of conspicuous consumption, as described also in automobile terms, could easily find its targets even today.

The satirical device of using semi-religious rhetoric to describe mundane objects in general, and technological objects in particular, which Lewis first introduced in *Main Street* is given even more emphasis in this novel. Babbitt's relationship to technology could be characterized as a mixture of self-righteous pride in achievements he has no real part in on the one hand, and a spiritual reverence stemming from his ultimate lack of understanding of the workings of technology on the other. Business (or rather his peculiarly distorted business ethic) is one of his substitute religions, but technology is also frequently presented in spiritual or semi-religious terms: his god is "Modern Appliances" (8), or "the God of Progress" (11). Babbitt's automobile, the ultimate symbol of technology in the novel, is at the center of his substitute theological universe, as indicated by Lewis's choice of words in various passages: Babbitt is "a *pious motorist*" (7), buying gasoline is a familiar "*rite*" (26), and motoring is among the "*sacred* and unchangeable sports of Babbitt and Paul Riesling" (56; emphases added). Even his son and daughter, Ted and Verona, are referred to as "devotees of the Great God Motor, [as] they hymned the patch on the spare inner-tube, and the lost jack-handle"

(19).

Even though Lewis generally admired and believed in progress, efficiency, and technology, *Babbitt* is a straightforward presentation of his very real concerns about technological development, which was over the tension between "the high achievements of a technologically advanced civilization—as represented by the bold skyline of Zenith—and the soft-bellied underachievers who are the city's inhabitants" (Love 75-76). Nowhere is this tension more striking than in the first section of Chapter 1, which sets forth this distinction as one of the central themes of the novel. The description of Zenith at dawn abounds in elements of technology: more than the handful of insignificant people appearing in this scene (the weary telegraph operators, the scrubwoman, factory workers with lunch boxes), it is the skyline, the Post Office, the factory and tenement buildings, as well as the limousine crossing a bridge, the New York express, the telegraph that truly define the city of Zenith (5). This is "a city built—it seemed—for giants" (6), but inhabited for the most part by midgets like George F. Babbitt, realtor, who takes great pride in being a part of the progress and efficiency he sees embodied in Zenith without ever realizing that his own contribution to the development of the city is rather insignificant. His own peculiar relationship to technology may be seen as a microcosmic representation of the larger relationship between humanity and the heroic modern world of science and technology: *Babbitt* is "a study of personal impotence set against a cityscape full of the evidence of heroic technological power and achievement" (Love 77).

In addition to characterizing Babbitt through his interaction with machinery, Lewis suggests, throughout the novel, the machine-like qualities of Babbitt himself. He leads a machine-like existence: waking up every day at the same hour, driving routinely to and from

his office, engaging after work in all the standardized social activities prescribed for middle class suburban people like himself. Occasionally, Lewis himself uses the word "mechanically" to describe Babbitt's actions as in "he mechanically wiped away the sweat" (241) and in "he started the car and mechanically drove on" (255)—two examples of strange word choice attaining more significance only if examined in the wider context of Babbitt's standardized, indeed mechanical, existence.

As the plot progresses, Babbitt is beginning to resemble a malfunctioning machine that needs to be fixed, or perhaps even more a malfunctioning cogwheel in the larger machinery of society. In this larger system of interchangeable parts, there is, of course, a danger that the malfunctioning part will easily be replaced by another identical part as in the case of the real estate deal lost to the competition, Sanders, Torrey and Wing Real Estate. But Babbitt just as easily experiments with replacing one incarnation of the "fairy child" of his dreams with another as if they were not human beings, but mere parts of machinery.

Mechanization and standardization are the two ultimate technological metaphors employed by Lewis to signify his objections to middle class life-style. In his rebellious state of mind Babbitt himself is eventually beginning to realize how sterile, standardized, and mechanized the existence he leads really is. He deliberately abandons his routine and attempts to break out from the monotony of his personal and public life. He is repelled by the automaton-like efficiency of his new secretary, Miss Havstad, herself "a perfectly oiled and enameled machine"; even though "she took dictation swiftly [and] her typing was perfect" (300) it only made Babbitt jumpy to try to work with her. Eventually, Babbitt never gets far beyond the recognition of the dreariness of his life: the prospects of losing the security offered by this kind of existence, however bleak, frightens him and he backs off at the first

opportunity. As merely a part of a larger mechanism without an individuality of his own, he can only function properly in place in the bigger machine of middle class existence. Even though the novel ends on a happy note for Babbitt himself, the reader is made acutely aware of the sad state of affairs for George F. Babbitt and the millions of Babbitts throughout the world in the 1920s or in our days.

The radical lawyer, Seneca Doane, who could be considered more than anybody else in the novel as Lewis's mouthpiece, resolves best the ambivalent relationship toward progress and technology. Just like Babbitt (or Lewis, for that matter) he is an admirer of material and technological progress: "Zenith is a city with gigantic power—gigantic buildings, gigantic machines, gigantic transportation" (84) he says exaltedly to the less than enthusiastic scientist, Kurt Yavitch. Significantly, he defends the notion of standardization as necessary for efficiency and progress, but insists that it should be confined to its place in the technological sphere. What he is fighting against is the standardization of thought, in other words, the extension of the technological and industrial principles to society. He—and through his voice Lewis—insists that an element of incalculability will always remain necessary in order to maintain our basic human nature and not to become machines ourselves: "Personally, I prefer a city with a future so unknown that it excites my imagination" (85), he says. Whether the next generation of Zenith's inhabitants, best personified by young Theodore Roosevelt Babbitt—preparing for a technical career—will measure up to this new technological civilization remains an open question at the end of the novel, signaling Lewis's own premonitions about the double-edged sword nature of sublime technology.

After concentrating on the consumer's side, in *Dodsworth* (1929), finally, Lewis examined the sublime technology, and more specifically the automotive industry from the

perspective of the opposite side of production. By creating the character of Samuel Dodsworth, automobile manufacturer, and making him the protagonist of his novel, Lewis provided a partly satirical and partly sympathetic insight into the private and public worlds of this "captain of industry." Dodsworth's character is a mixture of the creative and the unimaginative, the artistic and the mechanical, the down-to-earth utilitarian businessman and the hopelessly sentimental romanticist. Dodsworth is a successful Hugh McVey, personifying a fusion between business and technology: he is in touch with the engineering aspects of his field, but at the same time running the prosperous Revelation Automobile Company, one of the foremost car manufacturers of the country. The young Dodsworth is a technological visionary, much like the would-be aviator, Carl Ericson, of Lewis's early novel, *The Trail of the Hawk* (1915), discussed in the next chapter. As early as 1903 Dodsworth predicts, to the disbelief of his friends who consider cars as a passing fad, that automobiles will one day run forty miles per hour (2) and that they will be as common as buggies are in their days (4). He is an entrepreneurial hero, the founder and director of the Revelation Automobile Company (a telling name for a car manufacturing company), but also a "dreamer" (6) and "crazy as a poet" (6) in his relentless championing of new automobile designs. Long before "streamlining" becomes the catch-word in the 1930s, he advocates the abandonment of the imitative idea of automobiles as horseless carriages and designs his cars with "long straight lines" (4). He is an authority on car design, and the first to introduce four-wheel brakes on his cars (247). Like Kennicott and Babbitt would be, Samuel Dodsworth is awed at the sight of Grand Central Station, the "temple of new divinity, the God of Speed" (163). Technology is consistently presented by Sinclair Lewis in this semi-religious, or theological, imagery, closely related and stemming from the rhetoric of the technological sublime.

West calls *Dodsworth* Lewis's "most balanced examination of American business" (127) and claims that its protagonist epitomizes the American businessman at his finest. Dodsworth is "an independent industrialist," West asserts, "who recoils at the prospect of becoming the creature of an organization" (128). Especially in the early chapters of the novel, however, it is precisely the mechanistic side of Dodsworth's character that receives most emphasis. In a memorable passage closely resembling Babbitt's morning preparations before leaving for his office, Lewis describes his protagonist tying his neck-tie "not swiftly but with the unwasteful and extremely unadventurous precision of a man who has introduced as much scientific efficiency into daily domesticity as into his factory" (10-11). Lewis goes on to associate Dodsworth with other technological icons when he describes him as a man with "the energy and reliability of a dynamo" (11). Dodsworth even calls himself, albeit in a very un-self-satisfactory moment, a "human cash-register" (26), but he nonetheless employs "hundreds of young people willing to be turned into machines" (15) in the greater machinery of business organization. Before leaving his native environment of American culture and society for Europe, Dodsworth's character is sufficiently established in technological and mechanistic terms.

His European trip and his marital problems, however, redefine his values, his outlook on life, and ultimately his whole personality; he is losing with every day of his sojourn aspects of his previously mechanical existence. Europe makes Dodsworth see the United States in a different light and his own participation in, even contribution to, the kind of American civilization prevailing in his native country appears less and less palatable. Early during the trip, at a dinner party in England, he remarks, to the astonishment of his wife, and to some extent also of himself, that "for all our admiration of American energy and

mechanical ingenuity it's the most terrible country the world has ever seen" (83), and objects to the dominance of material ideas and excessive standardization prevailing there. During his prolonged European stay he had lost touch with hustling America and is unaware of the latest developments in the automotive industry (179). Yet he still believes that he would be able to merge the scholarship of Europe and the technology of America and seriously entertains the idea of becoming perhaps the first great historian of the automobile, which is, as he realizes "more important in social evolution than twenty battles of Waterloo" (247). Dodsworth best understands and appreciates here the technological sublime: he is filled with awe even though he judges it a "hideous religion," which means that he is overwhelmed, conflicted and ambivalent about technology. Eventually, Europe becomes his "last refuge, in this Fordized world, of personal dignity" (250) and in one of the last scenes of the novel, upon his return to Paris, he even feels uncomfortable in the metropolis too much resembling, with its bustling traffic and multitudes of cars, the America he is by now fleeing from (330). His transformation from young idealist to mechanically predictable industrialist comes a full circle when he renounces his business aspirations and middle-class respectability and finally decides to divorce his unfaithful wife and return to Europe.[5] Samuel Dodsworth's soul is saved, it is suggested by Lewis, by his voluntary renunciation of the false religion of the machine and the kind of mechanical existence associated in Lewis's fiction with the industrialized, standardized, and overly technologized United States of the late 1920s. As such, *Dodsworth* may signal Lewis's eventual rejection of the technological sublime.

Dos Passos's Manhattan Transfer *and "Technophobic Modernism"*

Dos Passos's fiction is commonly associated with literary modernism, which is generally believed to embrace technological progress for its perceived cleanliness, efficiency, practicality, and social utility. His novels, nonetheless invariably express a much more ambivalent attitude toward technological civilization, more commonly associated with the work of traditionalist writers like Sherwood Anderson or Willa Cather, for example. Dos Passos uses automobiles as symbolic objects in a number of his more mature novels, most notably those in the *U.S.A.* trilogy, but *Manhattan Transfer* (1925) was selected for this analysis because of the richness of commentary it offers, especially as cars are depicted and examined against their archetypal background of the big city. Indeed, unlike Lewis, who concentrated on the social significance of technology, John Dos Passos primarily viewed the automobile, or more generally technology, in the context of modernization and urbanization. *Manhattan Transfer*, a novel spanning three decades in the life of New York, the "corrupt city," abounds in references to motor vehicles and to some extent also describes the development of this particular technological invention. "Like many of his generation, Dos Passos had a love-hate relationship to the machine age" (202), wrote Cecelia Tichi in her analysis of technology, literature, and culture in modernist America. Indeed, the ambivalence of the technological sublime in general, and of automobiles in particular, pervades *Manhattan Transfer*.

"A great deal is going to happen in the next few years. All these mechanical inventions—telephones, electricity, steel bridges, horseless vehicles—they are all leading somewhere" (15), prophesies the Babbitt-like real-estate agent at the very beginning of the novel; then he adds: "It's up to us to be on the inside, in the forefront of progress" (15).

Mechanical inventions, progress, technology—these concepts seem to be central to Dos Passos's rather pessimistic vision of modernity. It is not technological development *per se*, however, that Dos Passos was protesting against; rather, it was the accompanying disappearance of certain human values. The lack of real human relationships is made clear in the novel; friendships are superficial; marriages are breaking up; families are dysfunctional in the microcosm of *Manhattan Transfer*.

While the automobile is never a central symbol for Dos Passos, its significance in the novel cannot be overlooked. Instead of individual cars, Dos Passos frequently uses big-city traffic as a background to the story of *Manhattan Transfer*; the emphasis is thus put on the impersonality of urban existence, since even the singularity of the vehicles is dissolved in the mass of automobiles comprising the traffic, let alone the individuality of the passengers in those vehicles. It is interesting to note in the following examples how Dos Passos recreates the urban atmosphere by using repetition as a technique to underscore the notion communicated and to suggest monotony also on a linguistic level. "Behind them automobiles *slithered* with a constant hissing scuttle in *two streams along the roadway*" is repeated on the next page as "[b]ehind them limousines, roadsters, touringcars, sedans, *slithered along the roadway* with snaky glint of lights running in *two* smooth continuous *streams*" (163-64; emphases added). In a similar example, also involving automobiles, we see through the eyes of Ed Thatcher sitting at his window "looking out over the *endless stream of automobiles* that whirred in either direction past the yellowbrick row of stores and the redbrick station" (197; emphasis added). The image of the monotonous (as suggested by the word "endless") lines of traffic is further impressed upon the reader when it is repeated two pages later: "Thatcher turned his face [. . .] to look out the window at the two *endless bands of automobiles* that

passed along the road in from of the station" (198-99; emphasis added). Even though automobiles are sold to individuals on the promise of individualism, Dos Passos has a distinct perspective: he stands back and sees the wider pattern, traffic as part of the larger machinery of the city. The car is thus reduced to a symbol of facelessness.

Characteristically, most of the individual vehicles depicted in the novel are either taxi cabs, or fire engines, with only three exceptions to this general tendency. Early in the text, Dos Passos describes one of the "automobile riots" (24-25) that were common on the streets of cities in the early years of automobility. Later, he provides a detailed description of "Dingo," Stan Emery's loose-mufflered, freshly painted blue wreck, and his ride in the streets of New York. Finally, late in the novel, we catch a quick glimpse of the Rolls-Royce of the wealthy bootlegger, Congo Jake, alias Armand Duval. All three automobiles are clearly presented in negative terms, although in different ways: as potential killer machine, as ugly and noisy environmental hazard, and as status symbol purchased with dirty money, respectively. These three individual cars are depicted against the background of a multitude of unnamed and unidentified vehicles making up the traffic on the streets of New York City.[6]

Dos Passos's use of symbols of modernity in *Manhattan Transfer*—the skyscrapers, taxis, revolving hotel doors, fire engines—all underline his preference for a set of alternative values to the ones of consumerism and technological development. His apocalyptic vision of the city burning from within, as symbolized by the frequent appearance of fire engines, makes it clear that Dos Passos's ideal was closer to the Jeffersonian model of agrarian America than to Franklinian urbanism. This is accentuated by the final pastoral image of a horsecart (as opposed to a motorized vehicle), "a horse and wagon [. . .] a brokendown springwagon loaded with flowers, driven by a little brown man with high cheekbones" (403) coming

aboard the ferry, with Jim Herf, Dos Passos's fictional alter ego in the novel, looking on while deciding to leave town for good. Thus, the final conclusion of Dos Passos, at least in *Manhattan Transfer*, seems to be a rejection of the valueless modern urban existence, as presented through his various, technologically conceived, symbols.

The Great Gatsby *as Auto-Biography*

F. Scott Fitzgerald's fiction has frequently been compared to social history, especially with regard to the Twenties, or to use the expression coined by Fitzgerald himself, "the Jazz Age." His 1925 novel, *The Great Gatsby* is no exception; in fact, this is the novel that manages to capture most effectively the influence of modern technological civilization on the physical, cultural, and social landscape of the United States in the Twenties. Fitzgerald lavishly uses in this novel many new elements of the changing American culture, including technological ones, but the most prominent and most complex technological symbol of *The Great Gatsby* is undoubtedly the one that was most visible and influential in the Twenties: the automobile.

As Laird claims, "the depth and comprehensiveness Fitzgerald brings to the analysis of the fateful role of the automobile, the possibilities it represents, [and] the conditions and consequences it creates" (644) make *The Great Gatsby* unique and remarkable in American literature in its foresight concerning the future role of automobility in the United States. Indisputably, the extent and complexity of Fitzgerald's use of automobiles for literary purposes in the novel is unprecedented, and it is likely to be the result of the importance of automobiles in Fitzgerald's own life.[7] The automobile is Fitzgerals's image of modernity, one of his most effective means of characterization, as well as a major dramatic device in the

novel. For the characters of *The Great Gatsby* it variably represents a form of transportation, commodity and "medium of exchange," object of desire, status symbol, or means of escape and freedom. Fitzgerald defines his characters partly through their relationship to technology when commenting on the kind of car they drive on the one hand, and the way they drive on the other.

The most conspicuous example of the novel's automobile symbolism, Gatsby's "circus wagon" (128), has been the target of much critical speculation. It sums up, as Leo Marx states, the quality of life that Gatsby aspires for; and it serves later in the novel as "a murder weapon and the instrument of Gatsby's undoing" (*Machine* 358). The color of its body (the witnesses of the accident described it as yellow, while Nick called it cream-colored) resembles the color of gold, the ultimate symbol of materialism, while its green interior may also be seen as a reference to "greenback" dollars or as repeating the color imagery symbolic of hope established at the end the first chapter when Gatsby reaches out across the bay toward Daisy (Echevarría 76). The function of Gatsby's "splendid" and "gorgeous" Rolls-Royce keeps changing throughout the text; initially, it is the ultimate status symbol, a mobile version of his mansion, a vulgar display of Gatsby's wealth scorned by Nick (Marx, *Pilot* 317), only to become by the end of the novel a major dramatic device, a killer mechanism.

Other characters, like Tom Buchanan, are also invariably connected with, and characterized through their connections with, automobiles. We find out, for example, that much to the astonishment of the fashionable Long Island society, Buchanan has his garage converted into a stable for polo ponies (125), which is a sign not of retrocedence and technophobia, but of aristocratic eccentricity and contempt for anything considered as mainstream—in this case, automobility. His moral character is further established in a

situation involving automobiles when his first adultery (taking place before the fictional time of the novel) is disclosed: he "ran into a wagon on the Ventura road one night, and ripped a front wheel off his car" (82). Like Gatsby's car, Buchanan's blue coupé, as shown by O'Meara, also functions in a variety of ways. On one level, it is seen as a piece of hardware, pure technology, a means of transportation between East Egg and New York. On a second level, similarly to Gatsby's car, the blue coupé also functions as commodity, a status symbol for the Buchanans, a means of expressing their social and financial status. Furthermore, claims O'Meara, in specific situations between Tom and Wilson, the car also becomes a currency, a special "medium of exchange." Wilson—incidentally a car mechanic leading a rather mechanical existence in the literal and symbolic wasteland called "the valley of ashes"—for whom the coupé could become a "literal and figurative means of escape" (O'Meara 82), hopes to buy it from Tom Buchanan so that he and Myrtle can sell it for profit and go West. Tom, however, has no real intention of selling the car; his promise was only made to have an excuse to visit the garage on a regular basis and to keep Wilson in uncertainty and at bay.

Nick Carraway is, of course, nowhere in the same financial bracket as Gatsby and the Buchanans, although he is better off than the Wilsons. His car, an old gray Dodge, "may be seen as analogous to his character and moral values: reliable and old-fashioned" (Echevarría 76). Significantly, even though he is not as heavily invested in automobility as some of the other characters in the novel, he is describing his life after thirty as an automobile ride: "before me stretched the portentous, menacing road of a new decade" (143). His girlfriend, Jordan Baker, also has a car of her own; more importantly, however, her very name evokes automobile memories, for it is compounded from "two of the best known trade names in

motoring, the Jordan 'Playboy' and Baker 'Fastex' Velvet, a luxury upholstery fabric for automobiles" (MacPhee 208).

Women's relationship to automobiles is treated with special attention by Fitzgerald. Daisy Buchanan, typically of affluent women in the 1920s, has her own car: a little white roadster. It is ironic, as Echevarría points out, that at the beginning of their aborted relationship, Gatsby "has no 'chariot' to facilitate his romantic pursuit" (73); Daisy, the dream girl, however, already drives (albeit very badly) her own automobile. Not surprisingly, Myrtle has no car of her own, and yet she is ever so careful in selecting the right taxi. It is obvious that she is primarily interested not in transportation, but in buying a commodity (O'Meara 74): "Upstairs in the solemn echoing drive she let four taxicabs drive away before she selected a new one, lavender-colored with gray upholstery" (31). Even if without a car of her own, Myrtle's relationship with cars expresses her social aspirations. She "wears" automobiles as a fashion item and intends to make a social statement through this.

The question of what the novel's characters drive situates them socially in a hierarchy similar to the one suggested by Lewis in *Babbitt*, but how they drive is an indication of personal, even moral values in the novel. *The Great Gatsby* abounds in examples of poor driving, traffic violations, accidents, and near-accidents. After Gatsby's first party a drunken guest drives his car into the ditch (58-60). Next, Jordan Baker nearly runs over a group of road workers, passing them so close that the "fender flicked a button on one man's coat" (63), thus earning Nick's unflattering epithet as a "rotten driver." En route to New York, Gatsby is pulled over for speeding, but he gets away using his "gonnegtions," by simply showing the officer a card from the police commissioner (72-73). Clearly, misuse or abuse of technology such as reckless driving may be seen as symbolic of the general wildness, carelessness, and

irresponsibility of the Jazz Age (cf. Echevarría 76) and provides a way for Fitzgerald to make indirect moral statements about his characters. Arguably, Fitzgerald's characterization through the way people drive their cars is also imbued with misogynistic overtones: women are described as bad drivers, but men invariably get the blame. It seems that Nick is perhaps the only character not in the category of careless drivers, although it must be noted that Gatsby was not necessarily a bad driver; he was "only" speeding, symbolizing the haste with which he was trying in all his life to achieve his goals.

The automobile incidents culminate in the hit-and-run scene when Myrtle gets killed by Daisy, driving Gatsby's car on their way back from New York. It would be all too easy and tempting to regard the automobile as an inherently evil mechanism, a murder weapon as much as the gun subsequently used by Wilson. In his final analysis, Leo Marx identifies the automobile as "the machine in the garden" in *The Great Gatsby*, a destructive force "working against the dream of pastoral fulfillment" (*Machine* 358). In my judgement, however, Fitzgerald's text does not fully warrant such a negative reading. If anything, the importance of human responsibility in terms of how we use technology is the message that *The Great Gatsby* communicates.

The Great Gatsby also makes use of other elements of the technological environment, such as trains, Gatsby's hydroplane, or gas stations, but these are more for the purpose of creating an authentic modern background than conscious exploitations of a technologically conceived metaphor, such as in the case of the automobile. One of the central symbols of the novel, however, cannot be overlooked in any discussion of technology and *The Great Gatsby*. Conceived in Eliot's newly established framework of wasteland imagery, the infamous

"valley of ashes," a modern, man-made, industrial wasteland, stretching between West Egg and New York City, is thus described in the opening of Chapter Two of the novel:

> About half way between West Egg and New York the motor-road hastily joins the railroad and runs beside it for a quarter of a mile so as to shrink away from a desolate area of land. This is a valley of ashes—a fantastic farm where ashes grow like wheat into ridges and hills and grotesque gardens, where ashes take the forms of houses and chimneys and rising smoke and finally, with a transcendent effort, of men who move dimly and already crumbling through the powdery air. (27)

Critics have since identified the original "valley of ashes" as the Corona dumps, a swampy area in the borough of Queens filled with ashes from coal-burning factories and the garbage of the city in the 1920s. (Cf. Matthew J. Bruccoli's "Note on Geography" on page 211 of the Cambridge edition of *The Great Gatsby*.) Industrial and urban waste becomes symbolic of moral corruption and spiritual barrenness. Significantly, Fitzgerald first evokes his version of the wasteland by agricultural metaphors ("fantastic farm," "grotesque gardens"), where the adjectives signal the inappropriateness of such rural, or pastoral imagery. The garden is transformed, then, in the same sentence, into the image of a city with houses and chimneys and men moving "dimly and already crumbling through the powdery air" (27). The above passage, an excellent illustration of the intrusion of the machine—as symbolizing industry, technology, or the city—into the pastoral garden (to use the central metaphor of Leo Marx's *Machine in the Garden*) also indicates Fitzgerald's awareness of the potentially dismal consequences of urban and technological civilization allowed to go awry.

The Great Gatsby is evidently the text that best captures the influence of the automobile on the physical and cultural landscape of the United States in the 1920s. Fitzgerald also lavishly uses in his fiction many new elements of the changing American culture: advertising, electric gadgets, fashion, telephones, phonographs, radio, and the movies, but the automobile is undoubtedly his most important technological symbol. As Lauraleigh O'Meara expressed, "what we have in *The Great Gatsby* is a creative manipulation of the automobile as symbol and image to accomplish a variety of ends" (74). As such, Fitzgerald's novel is probably a unique example of the complex uses of automobile imagery in American literature. Although his description of the infamous valley of ashes, "modern city at its ugliest" (*Pilot* 224), as Leo Marx called it, as well as the depiction of the automobile as a potentially lethal machine, may be read as a criticism of modern technological society, his overall attitude toward technology in general, and automobiles in particular, was more of fascination than condemnation. In this sense, the novel serves as a counterpoint to the indictment of automobility and, by extension, of technology offered by Lewis and Dos Passos.

Steinbeck's Promise of Redemption for Technology

Writers of the Twenties found an excellent image of modernism in the automobile and utilized the potentials of this image to the fullest extent, but the automobile has continued to play an important role even after the novelty of this technological phenomenon had begun to wane. As a representative text of the treatment of technology in general, and of the image of the automobile in particular, *The Grapes of Wrath* (1939), John Steinbeck's probably best, in any case his best-known, volume of fiction, will be addressed in the closing pages of this

chapter.[8] Significantly, *The Grapes of Wrath was* published in the year World War Two broke out, which is the event chosen to delimit my study's discussion of technology's presence and interaction with American fiction, and it seems to epitomize the whole period's general attitude of ambivalence toward science and technology, which was further reinforced by the dubious achievements, at least in ethical, moral, and philosophical terms, of science and technology during and after the Second World War.

Despite its fundamentally rural and agricultural setting, *The Grapes of Wrath* is in all likelihood the most powerful commentary on the place, promise, and perils of the machine in human life in the rapidly technologizing United States of the early 1930s. As early as 1963, Robert J. Griffin and William A. Freedman pointed out that machines and animals are two of the pervasive, crucially important, and dominant motifs of Steinbeck's text (115). The technological tropes identified, although only cursorily analyzed by Griffin and Freedman include the tractor as a symbol of "the mechanical monstrosity of industrialized farming" (116), the "huge red transport truck" of chapter two as "a sort of epitome of the mechanical-industrial economy—the bigness, the newness, the mobility, the massive efficiency, even the inhumanity [. . .] and lack of trust" (118), and of course the Joads' truck.[9]

What Griffin and Freedman, as well as later critics, fail to pinpoint is that the chief motivation of the Okies' plight is inseparably identified with a machine metaphor; even though being "tractored out" is not a reference to some technological disaster, but a consequence of certain well-definable ecological and economic necessities, this figure of speech suggests an indissoluble identification of all the migrants' problems with technology. This stance, of course, fits well into the attitude of many Americans during the Depression who were blaming science and technology for overproduction and generating unemployment

by the replacement of workers by machines (Pursell 337). But it also has its immediate roots in the ideas of the Southern Agrarians, whose views were best formulated in *I'll Take My Stand*, a collection of essays published in 1930. In Hoffman's interpretation, the Southern Agrarians' primary objective was "to define the failures of an industrial [. . .] society, in which religion, the arts, 'the amenities of life,' could not flourish" (175) and advocated instead a return to agrarianism, the culture of the soil. As will be shown, Steinbeck's attitude may easily be labeled as fitting into this agrarian anti-technological tradition, but is in fact much more advanced, complex, and ambivalent—perfectly in line with what could be called an ambivalent sublime approach to technology.

Groene also points out that "Steinbeck's agrarian ideals apparently made him also resent the mechanization and industrialization of agriculture" (129), and that "the use of machinery in agriculture is strongly condemned [as] machines sever the emotional bond between Man and Nature" (130). "Is a tractor bad?" (205), asks Steinbeck in one of the interchapters:

> Is the power that turns the long furrows wrong? If this tractor were ours it would be good [. . .] . We could love that tractor then as we have loved the land when it was ours. But this tractor does two things—it turns the land and turns us off the land. There is little difference between this tractor and a tank. The people are driven, intimidated, hurt by both. (205-06)

While identifying *this* tractor—that is, a tractor owned and operated by corporate agribusiness—with the ultimate military image of a tank,[10] Steinbeck suggests the malevolent, potentially even fatal, aspects of agricultural mechanization. Carrol Pursell notes: "During the 1930s the single most important and disruptive force in agriculture was the

small, flexible, rubber-tired, gasoline-powered tractor [. . .] . The tragic dust-bowl of the decade could be, and was, traced back to an inappropriate imposition of a too-powerful agricultural technology on the Great Plains" (*Machine* 259-60). In Steinbeck's reading, tractors are not evil by nature; they are evil by their association, through ownership, with capitalist agricultural practices. They symbolize technologized agriculture, but beyond this immediate meaning they also suggest the changed ownership patterns in agriculture. Banks (an umbrella term used by Steinbeck for agribusiness) and tractors, and even the people associated with either of them, are by definition the enemies of traditional land ownership and farming practices. They are inseparable in their inhumanity and monstrosity: "the banks were machines and masters all at the same time" (43). Banks are inhuman: "It's not us. It's the monster. The bank isn't like a man" (45). But are banks not run by humans? The answer echoes Dos Passos's distrust and even fear of all organizations for their inherently oppressive nature, as I have discussed in Chapter Three:

> No, you're wrong there—quite wrong there. The bank is something else than men. It happens that every man in a bank hates what the bank does, and yet the bank does it. The bank is something more than men, I tell you. It's the monster. Men made it, but they can't control it. (45)

Technology seems to be an apt metaphor as it is another entity created by humans, which is potentially uncontrollable and even harmful in getting out of hand, or into the wrong hands. The machine—the tractor is a case in point—is even capable of transforming and dehumanizing the people it comes into contact with, as in the cyborgian description of the man on the tractor as a destructive agent: "The man sitting in the iron seat did not look like a man; gloved, goggled, rubber dust mask over nose and mouth, he was part of the monster, a

robot in the seat" (48). The driver is sitting on the seat and stepping on the pedals, but Steinbeck's choice of verbs suggests little or no real control over the machine's ultimate aim and actions—he is not driving, at best only serving, or operating the machine. As it turns out, the driver comes from the same background as those he (or rather the tractor he is "sitting" on) is tractoring out, filling up their wells, and going through their dooryards; he is "Joe Davis's boy" (50). He is as much a victim of the changed economic system as the disenfranchised share-croppers, only he is better at adapting himself to the technological changes: "Times are changed, don't you know? [. . .] Get your three dollars a day, feed your kids" (51). In the final analysis, however, he is trapped in a larger machinery, perceived in the simplified analysis of its victims as "the bank," which is defined in opposition to all that is human and humane. Technology, also created and supposedly run by "men," but apparently getting out of control, is an excellent symbol for Steinbeck to get his point across.

In addition to tractors, automobiles and especially trucks also figure significantly in Steinbeck's novel. In his article on Steinbeck's image of the West,[11] Rundell notes that in his fiction "Steinbeck realizes the profound effect the automobile has had on the American people. It has replaced the hearth as the center of family living" (15). Indeed, shortly before they depart for their long journey, the Joads "met at the most important place, near the truck. The house was dead, and the fields were dead; but this truck was the active thing, the living principle [. . .] . This was the new hearth, the living center of the family, half-passenger car and half truck, high-sided and clumsy" (135). The house and the fields signify the past and stasis, while the truck, even if parked and its engine not running, suggests movement, change, and thus hope for the future.

One of the central themes of *The Grapes of Wrath* is mobility on several levels: social mobility, which the Joads and the hundreds of thousands travelling with them hope to achieve through the spatial mobility allowed by a recently established new technology, automobility. As Henderson put it,

> it was the *modernization* of agricultural production and its attendant forms of consciousness that, Steinbeck argued, brought about this state of affairs; in particular that aspect of modernization whereby technological change loosens boundaries, brings into contact formerly discrete things and persons, and allows for a seemingly small event to be nested inside something more significant. (212; his emphasis)

Movement is at the core of the novel and may be read in elevated terms, as Owens did, as a "recapitulation of the American westering movement with its echoes of the biblical journey toward Canaan" (*Revision* 129), or, on the contrary, as a grotesquely ironic and twisted form of tourism. Certainly, the migrants' aim is far from recreational, yet Steinbeck's treatment of their passage constantly evokes images of a newly emerged national pastime, automobile tourism. A significant portion of the novel, the whole middle part of its tripartite structure, is set "on the road"—the same road, incidentally, the Main Street of America, as in Jack Kerouac's later novel of the same title. "Highway 66 is the main migrant road [. . .] the path of a people in flight [. . .] the mother road, the road of flight" (160) in Steinbeck's novel. It is all the more ironic then that in his descriptions of automobile caravans, and night camps, roadside gas stations and landscapes, Steinbeck would connect and thereby contrast the migrants' perspective of their travel in the American West with the experience of the tourists

discovering the pleasures offered by motorized tourism in the same period and frequently the same locale.

Even out on the desert stretches of U.S. Route 66 and at the garages along the road the automobile continues to be an indication of social status and background. "The Okies are conscious of vehicles as status symbols and automatically distrust anyone in a better car" (120), Griffin and Freedman write. The used car business was booming with extraordinary profits in the 1930s in the areas where farmers were deprived of their lands and evicted (Rundell 16), and many of the vehicles purchased for a substantial part of their savings never made it all the way to California. Just as the turtle's thirty feet progress may be said to parallel and symbolize the migrants' trek halfway across the continent, so similarly the condition of their truck is used by Steinbeck as a symbolic reflection of their own state.

Like tractors, so also automobiles and trucks are depicted as evil objects and killer mechanisms as suggested especially in their fatal or near-fatal encounters also with animals. In Chapter Two, a light truck only narrowly misses the land turtle trying to cross Route 66 (22).[12] The Joads' dog is less fortunate in his encounter with a "big swift car" several hundred miles down the same highway (177); then the Dodge driven by Tom Joad squashes a jackrabbit mesmerized by the car's headlights (252). It must also be realized, however, even though Steinbeck himself occasionally blurred the difference and the boundaries between machine and its human inventor, user, or operator, that technology in itself is not evil, ultimately not even in Steinbeck's universe. Technology is, instead, neutral and indifferent by nature, and its malevolence and benevolence is dependent on the machine's human operator and the uses it is put to. It seems that in *The Grapes of Wrath* Steinbeck managed to reconcile the two sides of the technological sublime in relation to the automobile by detaching

awe and fear from the machine itself, and locating the values attributable to technology in other factors. As even Griffin and Freedman admit,

> machines are usually instruments or indices of misfortune in Steinbeck's novel. But to assume that machinery is automatically or necessarily bad for Steinbeck would be a serious mistake. Machines are *instruments*, and in the hands of the right people they can be instruments of good fortune. (124; their emphasis)

One driver attempts to hit the turtle on the highway, while another risks her own safety to avoid hitting it: "She saw the turtle and swung to the right, off the highway, the wheels screamed and a cloud of dust boiled up. Two wheels lifted for a moment and then settled" (22). In another incident, the "big swift car" hitting the Joads' dog "slowed down for a moment and faces looked back, and then it gathered greater speed and disappeared" (177), which prompts Owens to comment on how "the ruthless force of machine America, the power which has tractored the migrants off their cropped-out land and with which they must contend once they reach California, hurtles past, seeming to gather speed from the power of its destructiveness" (*Trouble* 78). Due to Steinbeck's technique involving the personalization of the automobile and impersonalization—into mere "faces"—of its driver and passengers, Owens seems to ignore the problem, however, that this automobile does not necessarily represent the same "ruthless force of machine America" and that it is actually driven and controlled by humans, very much like Steinbeck's representative family, the Joads. This becomes even clearer in the third "hit-and-run incident," when Tom, obviously a character with Steinbeck's sympathies, accidentally runs over a jackrabbit and comments remorsefully: "Some fellas like to hit 'em. Gives me a little shakes ever' time" (252-53). Clearly, no-one under these circumstances is at fault, neither the driver, nor the victim, but especially not the

automobile. It would probably be a mistake to generalize from the above situation and conclude that technology is inherently neutral and may never lead to the exploitation, disenfranchisement, or even destruction of individuals. But even in this small and seemingly inconsequential last episode Steinbeck seems to emphasize that it is humankind's ultimate responsibility to devise and control technology in such a way that will be benevolent and not harmful. As Owens also asserts, Steinbeck suggests that "man is capable of asserting a humanistic order amidst the mechanized chaos" (*Trouble 81*).

One such man in *The Grapes of Wrath* "capable of asserting a humanistic order" is Al Joad, emerging from relative unimportance at the beginning of the novel and gaining significance as a character primarily through his special relationship with technology, specifically with automobiles and their engines. As Groene points out, Al is a "competent mechanic and conscientious driver" (132), whose actions, frequently connected with the truck, regularly benefit the Joads in their various difficulties in California, so that he matures and emerges as a leader figure by the end of the novel, especially after his older brother, Tom Joad, is forced to leave the family. In his character, Groene argues, Steinbeck may have suggested a practical way out from the predicament of the migrant farmer and "qualifie[d] his one-sided agrarianism and beg[an] to accept the positive aspects of mechanization and industrialization" (133). Clearly also separated by a generation gap from most of the migrant characters in the novel, Al "no longer believes in making a living as a farmer, but looks to the city and the chances offered there [. . .] . Though he does not aim at becoming a millionaire like Henry Ford, he is confident that he can earn a decent wage as a mechanic" (133). I am less confident than Groene that the character of Al is offered as an optimistic solution to the problems Steinbeck describes in *The Grapes of Wrath*. While such adaptability and

mechanical aptness as displayed by Al Joad certainly must have appealed to Steinbeck on one level,[13] in this respect he is fundamentally not that different from the dehumanized driver of the tractor, "Joe Davis's boy," discussed above. This kind of solution also involves a disproportionate degree of compromise and the abandonment/discontinuance of tradition, and is a constrained solution at best. Paradoxically, while the tractor driver is largely condemned and depicted as a robot, a machine himself, Al becoming "one with his engine [. . .] the soul of the car" (167) is applauded for a similar identification with another machine. As such, Al may be a further expression of Steinbeck's ambivalence toward technologization, but on the whole his character does not offer an ultimately positive and optimistic resolution. Instead, Steinbeck leaves the question open, as it should be perhaps.

The most conspicuous technological images presented in the above and a number of other texts written in the period is undoubtedly the automobile, replacing such iconic images of previous periods as the steam engine, the railroad, or Henry Adams's dynamo. While the novelists discussed in this chapter do not share a unified technological vision, the examination of the image of the automobile does offer a sense of continuity, or development. By the mid-Twenties, the image of the automobile evolves from an innocent piece of machinery and important status symbol into an alienating and potentially dangerous entity, and finally into an actual killer mechanism in Fitzgerald's *The Great Gatsby*. On the other hand, association with the finest technology—as exemplified by the superb Rolls-Royces owned by Congo Jake and Jay Gatsby—seems to be tied to instances of individual corruption. These readings seem to underline the negative aspects of the artists' judgments on technology's role in society. In Steinbeck's *The Grapes of Wrath*, however, a representative text on American automobility during the Depression years, the car ultimately offers some

promise of freedom and social mobility through spatial mobility. While Steinbeck's attitude toward technology, especially as a catalyst of social change in its influential redefinition of agricultural production is ambivalent at best, the automobile is—more specifically its low-end incarnations—is depicted as a useful, even indispensable, piece of machinery, something of a social leveler, and an integral part of the American way of life.

Notes to Chapter Four

[1] The first four-cycle internal combustion engine was developed in Germany by Nicolaus August Otto in 1876, and Europe remained for some time ahead of America both in the manufacturing and the use of motor vehicles. As will be seen in Chapter Five, Europe's initial preeminence in automobility was repeated approximately a decade later in the field of aviation: despite the fact that "powered flight was first achieved in the United States, the capital of aviation before the First World War was indisputably Paris" (Wohl 38).

[2] Mention must also be made here of another area of revolution in this period's transportation technologies, the emerging urban transport, especially the revolution brought about by electric traction, which was made practicable by the introduction of the dynamo in the 1870s. On the development of urban transport, see Bessel 164-74. That urban public transportation, after an initial upsurge around the turn of the century, never became an established part of the American way of life may be explained by the coincidental growth of private automobile ownership and the process of suburbanization and the accompanying decline of inner-city populations.

[3] No discussion of the automobile's long-lasting influence on American culture originating in this period would be complete without reference to Henry Ford's contributions and especially the impact of the Model T. First introduced in 1908 and manufactured virtually unchanged until 1927, the Model T was a simpler, lighter, and smaller car than most of its contemporaries. In the same period, the price of the Model T fell from $850 to below $300 and Ford had sold 15 million of them, a record only beaten by the Volkswagen Beetle in the 1970s (Bessel 177). As discussed in Chapter Two, Ford introduced the moving assembly line

and organized the mass-production of components for the Model T, thereby making its manufacture much faster, more efficient, and economical than ever before. This allowed him to lower the price and open up a new mass market, putting the automobile for the first time within the reach of the average citizen (Bessel 177). The huge home market in turn "allowed economies of scale and efficiencies of production [. . .] and thus stimulated demand further" (Bessel 188). As may be expected, Ford's name and automobiles are omnipresent in the fiction of (and about) this period, so only a few examples are mentioned here. Dos Passos naturally included his version of Henry Ford's biography—titled "Tin Lizzie"—in his *U.S.A.* trilogy, treating Ford's story as a representative myth of his time (806-14). The University of Winnemac in Sinclair Lewis's fictional Midwestern city is compared to "a Ford Motor Company, and if its products rattle a little, they are beautifully standardized, with perfectly interchangeable parts" (*Arrowsmith* 9-10). As a sign of the global influence of American business and technology, Fordism is also chosen as the symbol of the dehumanization of industrial technology in British novelist Aldous Huxley's dystopian novel, *Brave New World* (1932). The novel in which a Model T probably plays the greatest role ever is E. L. Doctorow's *Ragtime* (1975); depicted as a "sinister [. . .] product of Henry Ford's assembly line mentality and of an oppressive myth of American success" (Gentry 105), the Model T functions as Doctorow's symbolic attack on consumer—including automobile—culture in America.

[4] A careful reading of Theodore Dreiser's *An American Tragedy* (1925), for example, reveals that the automobile is almost exclusively associated with entertainment in that novel.

By contrast, when the aim is simply getting from one place to another, people still use trains or buses; and these journeys are invariably described as tedious and uninteresting.

[5] The final glimpse that readers of Lewis's interlocking fictional universe get of Dodsworth is in *World So Wide* (1951), his last novel, where the protagonist encounters a twenty-years-older Samuel Dodsworth and "regards him as a 'largeness and a solidity' in the Anglo-American community of Florence" (Puzon 579).

[6] Dreiser's use of motor vehicles in *An American Tragedy* (1925) is somewhat similar to Dos Passos's, although it is less subtle and ambiguous. He tends to emphasize some of the evil aspects associated at that time with automobiles and uses it (like the Hotel Green-Davidson, and, to some extent, sensationalist newspapers) as a symbol of corruption. As images of modern America, all these articles become, in their turns, means contributing to the downfall of Clyde Griffiths. Had he not worked in the corrupting environment of the hotel, had he not joined the others in their joyride, had he not read the account in the newspaper about the drowned woman, Clyde's story would have ended very differently.

[7] Fitzgerald's private automotive history, as Luis Girón Echevarría pointed out, is the best illustration of "the discrepancy between the dream and reality of his life" (73). At one point in an autobiographical sketch in his *Notebooks*, he even characterizes his own wild life with Zelda in the early years of the Jazz Age as a careless motor ride: "They rode through five years in an open car with the sun on their foreheads and their hair flying [. . .] . They missed collisions by inches, wavered on the edge of precipices and skidded across tracks to the sound of the warning bell [. . .] . One could almost name the day when the car began to splutter and slow up" (87).

[8] Although not discussed in this chapter, William Faulkner was a prominent novelist continuing the Fitzgeraldian tradition of automobile symbolism into the Thirties. According to Waldron, Faulkner viewed automobiles with "a mixture of good-humored affection, aesthetic admiration, and emotional—even psycho-sexual—exhilaration on the one hand, and on the other, ridicule, abhorrence and dread" (284). Waldron convincingly shows that Faulkner's first treatment of an automobile in any detail was in his short story "Country Mice," and it was a take-off on Gatsby's car. In more recent novels Jack Kerouac, E. L. Doctorow, and John Updike, among others, take up the issue and examines further aspects of American automobility. The virtue of being the pioneers both in large-scale American motoring and in the fictional treatment of the automobile, however, remains uncontestedly with the generation of the Twenties.

[9] In the strict sense of the word, tractors are not automobiles, but belong in the group of farm machinery; however, they do share many characteristics with cars and are even used occasionally in rural communities in place of automobiles for transportation purposes. Similarly, trucks are not primarily for passenger transportation and thus do not qualify, again strictly speaking, as automobiles. But the Joad's makeshift truck was, in fact, converted by Pa and Al from a Hudson Super-Six automobile: "the front of it was a sedan, the top had been cut off in the middle and the truck bed fitted on" (95). The whole process foreshadows Steinbeck's own outfitting of *Rocinante*, the "recreational vehicle" he converted from a truck and drove all across North America in his 1960 trip, written up in his non-fiction work, *Travels With Charley* (1962).

[10] As noted in the previous chapter, tanks were originally conceived in the World War I-period as armored tractors, and thus share a common ancestry with agricultural machinery.

[11] Rundell's article is illustrated with a number of excellent photographs documenting the great westward migration of the 1930s. Not surprisingly, the automobiles and trucks, whole "caravan[s] of jalopies heading west, laden with apprehensive people and meager household goods [. . .] a typical sight on the southwestern landscape in the 1930s" (16) figure significantly in many of these photographs.

[12] A much-discussed image of the novel is the land turtle, whose plight and vicissitudes parallel those of the Oklahoma migrants. "The progress of the Okies," explain Griffin and Freedman, "representative of the perseverance of 'Manself,' is neatly foreshadowed in the description of the turtle's persistent forward movement: he slowly plods his way, seeking to prevail in the face of adversities" (122). A somewhat ironic difference, one deriving from the factor of proportions involved, is that while the migrants are struggling to get *along* to the end of Route 66, the turtle's objective is simply to get across from one side to the other of the same highway.

[13] As Rundell points out, "in several novels Steinbeck has favored mechanics who repair automobiles" (16). His description of the roadside repair routine of Tom Joad and Casy, repeated in a similar scene in *The Wayward Bus* (1947), is extremely realistic and "reveals a wealth of mechanical knowledge and experience" (16) on the writer's part.

Chapter Five

The Sublime of Aviation: The "Winged Gospel"

The Aviation Sublime from Kitty Hawk to The Trail of the Hawk

If one single technological artifact had to be chosen as representing the iconicity of the technological sublime and the changes it went through during the first half of the twentieth century, this title would inevitably go to the airplane. Indeed, the flight of heavier-than-air machines—especially if considered in combination with the successor technology of space "flight"—may be regarded as the most exhilarating and most celebrated technological feat of not only the early decades, but the whole of the twentieth century. Other candidates for this title, like the automobile, computers, or nuclear energy, may have changed our lives in more fundamentally underlying ways (for better or worse), but they hardly compare with the airplane in terms of excitement, even elation, and standing.

Aviation, in the modern sense of the word,[1] was practically born at the same time with the twentieth century; little surprise, then, is the close association of aviation with modernity. The dream of flying, of course, is much more than a century old. There is something perhaps genetically coded in humankind about the desire to get higher. Ancient myths and legends contain countless references to the possibility of ending our two-dimensionally limited earthbound existence and moving birdlike through the air.[2] The association of flying with angels, celestial creatures with wings, was probably also an important motivation (Corn 48). With the heavens and the nurturing sun above, upward has always been regarded as a privileged, therefore desired, direction. These factors also contributed to the general fascination of people with flying and the emergence of what amounts to a secular religion

celebrating the technology that finally made it possible: the airplane. All this was, of course, not lost on contemporary intellectuals, many of whom considered the airplane a "source of an essentially aesthetic and moral experience" (Wohl, "Republic" 106), as the literary examples of this chapter also testify.

Aviation history is a well-researched area, and its milestones need hardly be recounted here in great detail, so only those aspects that are relevant to the American technological sublime will be highlighted. For one thing, the fact that the first practical, maneuverable airplane was developed by two Americans, Orville and Wilbur Wright, was a major factor in the emergence of the American sublime of aviation. The Americans' long love affair with aviation, however, did not start immediately after the events at Kitty Hawk, North Carolina on December 17, 1903. In typical American utilitarian manner, the Wright brothers were unwilling to disclose the details of their design as they were hoping to cash in from the anticipated commercial, and especially military, applications. In addition, the decades, indeed centuries, of futile attempts at finding the solution to human flight led to skepticism on the part of contemporary journalism and its reading public alike. In 1908, Orville Wright demonstrated an improved version of the Flyer for the U.S. Army that stayed up in the air for more than an hour with a pilot and a passenger on board. Meanwhile, his brother Wilbur shocked a group of incredulous French spectators with another flying machine. It was only then that it began to dawn on the general public on both sides of the Atlantic that the Wrights had finally found the secret to the age-long dream of human flight. The psychological impact of the machine incorporating ten years of development in the American bicycle mechanics' shed, as well as centuries of experimentation by their predecessors and contemporaries, was immense.

Robert Wohl's aptly titled *A Passion for Wings: Aviation and the Western Imagination, 1908-1918* is a superb analysis of the popular and the artistic response to the emergence of the airplane in its first decade. Wohl points out that unlike many other contemporary inventions, including electricity, radio, or the telephone, aviation rarely had a direct effect on people's lives; nevertheless, it "gave rise to utopian hopes and gnawing fears" (1). As seen in the definition in Chapter 1, such a complex of ambivalent and seemingly self-contradictory emotions is characteristic of the sublime. Wohl's focus is the various artistic responses to aviation in Europe; he traces the intimate relationship between aviation and the European avant-garde in literature and the arts. The book well documents the moral and political ambivalence of Europe's enchantment with aviation, which came much earlier than in the United States. Wohl's analysis of such diverse reactions to aviation as Marinetti's Futurism with its unprecedented fascination with technology, or H. G. Wells's prophetic warning of the dangers of air wars on a large, even global, scale in *The War in the Air* (1908), proves that there is also a distinct European version of the technological sublime, which is based on anxiety rather than fascination.[3]

Meanwhile, in the United States, Americans' fascination with aviation was also getting into full swing in the 1910s. The rate of progress in aviation was phenomenal in this period. Cash prizes offered for record flights greatly stimulated the development of aviation on both sides of the Atlantic. In the privileged caste of pilots a new generation of techno-cultural heroes emerged, gradually replacing the inventor and the engineer in their well-established roles. The twentieth century was ushered in with a "yearning for a new type of hero: someone able to master the cold, inhuman machines that the nineteenth century had bequeathed and at the same time capable of transforming them into resplendent art and myth"

(Wohl 29). The American public seemed to have found its new heroes in the men and, increasingly, women conquering air, this latest in a series of frontiers.

In *Winged Gospel: America's Romance with Aviation, 1900-1950*, Joseph Corn describes what he identifies as a quasi-religious attitude of Americans toward aviation in the first decades of the twentieth century. The winged gospel, he claims, is a peculiarly American reaction, continuing the nineteenth-century tradition of "poetic exaggeration regarding the promise of technology" (46). Such technological messianism or utopianism is unique to American culture, and is best exemplified in the secular religion of aviation, whose followers worshiped the airplane as a mechanical god, that would bring a new age of peace and harmony. Idealistic enthusiasts expected the airplane to "foster democracy, equality and freedom; to improve public taste and spread culture; to purge the world of war and violence; and even to give rise to a new kind of human being" (Corn 34). Such an attitude cannot fully be conceived as in line with the technological sublime, as it was too one-sided in its unconditional enthusiasm. The ambivalence of the airplane was not yet realized, as few commentators were in the least skeptical. As was the case with the railroad less than a century before, Europe was more cautious. Among other, more sober, critics of the technological utopianism prevailing in American culture, several authors of creative fiction would gradually become more vocal in helping to find a healthier balance between an unconditional enthusiasm and the often exaggerated technophobic fears of European writers such as the British H. G. Wells and John Galsworthy, or the Austrian Karl Kraus.

As if trying to make up for their initial dismissal and neglect in connection with the Wrights' breakthrough, it was the popular press that first discovered and spread the "winged gospel," reporting on what seemed an unending "stream of firsts and new records" (Corn 10).

And, one must sadly add, aviation tragedies, of which the era also abounded. A decidedly sensationalist aviation journalism emerged in the 1910s as an important medium of communicating the technological sublime to the masses. While amazement at human ingenuity still dominated the emotions, a realization of the threats of aviation, although mainly to the pilots foolhardy enough to risk their lives, was also emerging.

Literature would soon follow on the heels of journalism. However, as Bilstein notes in *Flight in America,* an interesting trend regarding the typical literary approach to aviation in this period was manifest. "Much of the fictional literature involving airplanes," Bilstein writes, "seems to have appeared in juvenile titles, and the authors have been long forgotten" (308). Naturally, children's books concentrated only on the positive aspects of the technological sublime. In an essay devoted to American boys' aviation books widely accessible in various series throughout the first half of the century, Fred Erisman examines the significance of these juvenile texts as "powerful socializing tools [that] convey general cultural attitudes and ideals to their readers" (120). In addition to passing on a massive amount of technical information of increasing sophistication to a young readership, these books were also important in communicating attitudes toward technology in general. Their message was, however, often uncritically positive and optimistic with the compromises, human and social costs and necessary adjustments at best only hinted at. These juvenile books generally did an excellent job of impressing their young readers with the image of technology, as represented in its high-tech manifestation of the day, the airplane, as dependable. They also reinforced American national pride in technology and presented aviation as a "progressive and democratizing influence that will work inevitable but desirable social changes" (Erisman 123) on the American people.

One notable exception to the trend of relegating the fictional treatment of aviation to juvenile titles is Sinclair Lewis, the first great American writer fascinated by aviation. Lewis also started out with a children's book, *Hike and the Airplane* (1912), published under the pseudonym Tom Graham. More importantly, however, three years later, he devoted an adult book to the pioneering days of aviation. In 1915, America's first would-be Nobel Prize winner for literature published his second novel, *The Trail of the Hawk: A Comedy of the Seriousness of Life.* In this novel, Lewis did a splendid job of capturing and documenting the contemporary public's fascination with flying, and he even anticipated some later aeronautical developments in the novel. *The Trail of the Hawk* was well received by the critics, but it never became a popular success. This proved to be typical throughout the period examined: "[u]p to World War II, successful aviation books were most likely to be non-fictional" (308), Bilstein concludes. Titles by the Lindberghs, such as *We* or *North to the Orient*, accounts based on actual flights, however, routinely became best-sellers. Why? Perhaps aviation was fascinating enough as fact, and imagination could not keep pace? This is not necessarily the case; quite obviously, many of the utopian expectations toward the airplane's future overestimated its social and moral effects. In any case, retrospectively, Lewis had every reason to think of his book as prophetic of the career of Charles Lindbergh,[4] the celebrated aviator of the late 1920s (Schorer 221), which is a clear indication of the fact that imaginative writing could sometimes be ahead of reality even in such a progressively developing field as aviation was in this period.

In the first chapter of the novel, Lewis introduces his protagonist, Carl "Hawk" Ericson, as an all-American boy in the contemporary sense of the word, thus creating the larger contextual theme of America's self-definition:

> Carl was second-generation Norwegian; American-born, American in speech, American in appearance, save for his flaxen hair and china-blue eyes; and, thanks to the flag-decked public school, overwhelmingly American in tradition. When he was born the '"typical Americans" of earlier stocks had moved to city palaces or were marooned on run-down farms. It was Carl Ericson, not a Trowbridge or a Stuyvesant or a Lee or a Grant, who was the "typical American" of his period. (6)

Carl grows up as a member of the new generation of pioneers whose frontier—now that the Western frontier has disappeared—is found in the challenges of a technological future. As Dooley asserts, in *The Trail of the Hawk* Lewis is investigating the potential outlets for the pioneering spirit in twentieth-century America (30). In the modern world, Dooley claims, new expressions had to be found for the American frontier spirit, and an obvious choice was flying airplanes, or more generally, conquering new technological frontiers. Lewis saw the need for a new type of popular hero to replace such legendary figures as the frontiersman, and like many other writers, he found it in the technologist. He was asserting that the period of boundless opportunities had not passed with the closing of the frontier, that there was still an opening into a freer, more abundant life than has previously been known—through technology.

Even as a high-school student at the turn of the century, the protagonist of the novel works as an electrician, reads the *Scientific American*, and insists on the practicability of "horseless carriages" (29). His first encounters with new technologies are invariably epiphanic moments for Carl. The awe that he feels at his first glimpse of an automobile makes him resolve to study mechanical engineering (34). A few years later, he reads an article

about gliders, and he enthusiastically convinces his buddies with whom he is stringing telephone wire on a summer job to build one, which he flies briefly and crashes (73-77). This early encounter with aviation, a taste of its sublimity, is the first flight of the Hawk and an early sign of his later calling.

The middle section of the book—Part II: "The Adventure of Adventuring"—is the most significant part of the novel in terms of its treatment of technology. The list of the protagonists' job titles show that Lewis is writing a "Horatio-Alger-meets-technology" type of story. Carl starts out as a metal worker in an automobile factory, becomes a mechanic, a road-tester, and a chauffeur, then a "jolly mechanic again [. . .] the tender of the motor-boat fleet at an Ontario summer hotel" (146). His aborted education is complemented by much hands-on experience and travel across the country, and well beyond its borders: after leaving Canada, he works as an official time-keeper, and then as a stationary engineer at the Panama Canal works in Panama (158), and as assistant superintendent in a Mexican mine (160), all described in the course of a few pages. His criss-crossing of the North-American continent is not an aimless element of the plot. Lewis consciously makes his restless protagonist experience the world and try everything first-hand before allowing him to (re)discover aviation, which puts this new epiphanic encounter into the context of a long quest.

The middle part of the book, "The Adventure of Adventuring," is generally regarded as the best-written part of the text.[5] The strength of the aviation section may be related to Lewis's own fascination with aviation, manifest in the countless points when he stops the narrative to let his readers in onto a little aviation history and lore (cf. 73, 159-60, 162-63, 168). Names of the heroes of the pioneering days of aviation—Wright, Chanute, Langley, Montgomery, Blériot, Curtiss—are sprinkled all over these pages, to be mixed in with the

fictitious characters of the author's own creation. Lewis's description of the scene of aviation in these early days is very vivid, complete with characters like the air-minded Dr. Bagby, "devoting a lifetime of ability to helping man sprout wings and become superman" (167), Carmeau, the French flight instructor trained by Blériot himself, enthusiastic students from all walks of life, and newspaper reporters always surrounding the aviators. Carl's greatest moments of epiphany, indeed a series of sublime encounters, are with aviation: his first glimpse of an airplane, his first flight with Carmeau, then his first solo, which almost ends in disaster. Yet it is this quality of thrill that inspires him for the years to come. This is the point when he earns his nickname, Hawk, which is a rich source of symbolism for Lewis with associations to Kitty Hawk, loneliness—he is "lone as a mateless hawk" (103) at Plato College—and even his later business successes.

After he resolves to become an aviator—"Yes, *that's* what I've always wanted" (164)—and earns his wings, he follows the customary career path of early aviation heroes and goes into barnstorming and air racing, which takes him across the continent once again from West Coast to East, and from rural America to the biggest metropolises. A significant episode in his early barnstorming career is the country fair at Onamwaska. Before his arrival, he is described by an enthusiastic female reporter of the local newspaper as a "Greek god [. . .] the birdman, a god of the air" (180), and now people prepare to lynch him as a crook when he refuses to fly in unsafe conditions.[6] Eventually, he does fly, despite his better judgment, and literally as well as figuratively rises above all the earthlings, viewing them from above as just a homogeneous mass, his perspective reducing the spectators to vegetation, or part of the landscape:

> As he soared to earth he looked at the crowd for the first time. His vision was so blurred with oil and windsoreness that he saw the people only as a mass and he fancied that the stretch of slouch-hats and derbies was a field of mushrooms swaying and tilted back. He was curiously unconscious of the presence of women; he felt all spectators as men who had bawled for his death and whom he wanted to hammer as he had hammered the wind. (185)

The description of his flight, elevating him into a god-like position above earthly concerns and the multitude of spectators admiring him, yet also unconsciously hoping to see him and his machine fall to their demise, is as good a description of the conflicted nature of the technological sublime as we are likely to get from Lewis.

From barnstorming in small towns, Hawk goes on to national fame first as a racing pilot "driving round and round and round the pylons, hour on hour, safe and steady as a train, never taking the risk of sensational banking, nor spiraling like Johnstone, but amusing himself" (187) and then as a cross-country pilot breaking new records and collecting prizes all over the country. The description of his winning flight from New York to New Haven is especially revealing, and not only because of the apparent parallels with Lindbergh's trans-Atlantic flight and the celebrations that follow. Caught up in the desire to win again, he is beginning to take chances: "He would risk the long over-water flight—very long they thought it in 1910" (192). His flight is described in terms of the recurring motif of loneliness, another price to be paid for experiencing the sublimity of flight; every second paragraph is concluded with a variation on the sentence describing how "horribly," "abominably," and "unspeakably" lonely he is once the earth ceases to exist underneath (193-94). Upon landing, he is noted to have saved lives, even by risking his own and fracturing his machine—a further

reinforcement of the myth of the heroic aviator, as well as another relatively fortunate crash in a line of incidents foreshadowing the impending, almost inevitable tragedy.

At the very heart of the book (chapters 22 and 23, beginning on page 202 in a text of 41 chapters and 409 pages), Lewis suddenly changes, if only temporarily, the technique of third person narration of limited omniscience to a diary format, because it allows an even deeper and more direct insight into the protagonist's changing attitude to flying. This is perhaps the most important part of the book, especially in terms of the technological sublime, which speaks volumes of the ambivalences of the aviator protagonist's attitude to flying. Early in the chapter he is making fun of ignorant earthbound creatures, including women and an effeminate slob—only to reconsider his opinion of female aviators when he meets Istra Nash. (203-04). "The aviator that keeps his nerve has to be sort of a friendless cuss some ways" (206) he asserts, and then he can hardly wait for Istra to come out to the airfield to see him. He enjoys the fame and fortune that a phenomenal career in aviation allowed him, but he denies that he is a hero and calls himself just a "pretty steady flier" (216). He claims to have become used to the throng of reporters, now routinely assigned to specifically cover his career for the masses hungry for aviation news, but he also realizes how ephemeral his fame is. "[B]y tomorrow night NY will forget me," he comments, and then he adds: "They forget us quick" (213). But the worst predicament comes as he is forced to face that being yesterday's news might be the least of his problems.

He feels old at the age of 25, since "already there's a new generation of aviators. Some of the old giants are gone, poor Moisant and Hoxsey and Johnstone and the rest killed" (213). Gradually, the loss of many friends and fellow aviators as so many sacrificial victims on the altar of aviation makes Hawk re-evaluate the sublimity of flight. His former instructor

Carmeau is killed because of mechanical failure, “Ely killed in October, Cromwell Dixon gone—the plucky youngster, Professor Montgomery, Nieuport, Todd Shriver whom Martin Dockerill and Hank Odell liked so much, and many others, all dead like Moisant” (216). A fellow student at Carmeau’s school, Tony Bean, a friend he just spent some time with “flying together and calling on senoritas and he playing the fiddle and laughing” (218), falls 200 feet out of his plane to his death. This is more than mere name-dropping on Lewis’s part, since most of these names belong to characters that he previously introduced and developed to some depth. Carl feels that the peak days of aviation—in terms of fascination and also as a profitable enterprise—will be gone soon, but he still underestimates the immediate danger of pushing the limits any further. Then, the period of his own “rotten luck” starts, as the following incidents demonstrate. A farmer shoots at his machine in Louisiana, and he is forced to crash land in a field. The following day his motor misfires and he has to make a quick landing in a bayou (218). Two more forced descents two days later, one on a “railroad track, avoiding telegraph wires” with just enough time to “get machine off track as [he] could hear train coming” (219). The bad omens foreshadow a more serious accident in which the wind plunges his plane into a marsh and sends him to hospital for three weeks. He soon receives news of the death of his best friend, Forrest Haviland, also killed in an airplane, and that practically means the end of his aviation career. In an optimistic reading, he quits just in time, once he had achieved all that he possibly could, and has also brushed with death, but still before he had to pay an even higher price. In a more pessimistic reading, however, Carl may be seen as disillusioned and revolting from the excess of waste, especially in terms of human life, that is the by-product of an apparently efficient and progressive technology.

A few years later, looking back at the amazing technological development of the past decade, Carl notes, somewhat nostalgically: “Glad I've been an aviator; gives me some place in it all, anyway” (354). However, although he is still in his late twenties, the urge to enlist in the British Aero Corps and scout over the skies of Europe never entirely overcomes his life instinct. When he goes out to the airport, a new generation of fliers has already taken his place, and he looks like an “outsider to aviation,” a “Typical Bystander” (403). Although he is eventually recognized by the youngsters as one of the few surviving veterans of aviation and they greet him by his nickname “Hawk,” he is no longer one of them, on the forefront of progress.

As seen in the above reading of *The Trail of the Hawk*, despite the general attitude of elation and his own attraction to flying, Lewis’s attitude to aviation is not biased. An important part of his narrative is the recurring motif of casualties as a result of pushing the limits of human and technological capabilities in a foolhardy way. Lewis’s approach to the technological sublime is crude in the sense that he does not speculate much on what the weakest link in the machine-human-nature equation may be. The causes of crashes range from bad weather and mechanical failure to human error, although this latter is given perhaps a little more emphasis. In Lewis’s interpretation, excessive pride, *hybris* at our technological achievements, is a recipe for disaster. The crash with the self-built glider on its maiden flight is an early omen, but the many incidents further down the plot, and especially the death of Carl’s best friend, reveal an acute awareness on Lewis’s part of the human costs involved in technological progress. “Sometimes I wonder if the Lord ever meant men to fly—that with so many accidents, and you know aviators often get killed and all” (237), says the mother of Carl’s childhood friend, expressing a skeptical and conservative perspective on flying, which

was also quite widespread at the time, rather than just typical of her sex. While it is unlikely that Lewis would entirely agree, still his early, if by and large lonely, voice—calling attention to the other, previously neglected aspect of the aviation sublime, namely the danger of falling as a modern-day Icarus out of the skies, inherent in the endeavor to reach high—is an important literary statement on the emerging aviation sublime.

Beyond World War I: The Apogee of the Sublime of Aviation

The First World War provided additional impetus to the spread of air-mindedness. As is usually the case regarding the relationship between technology and war, World War I accelerated the development of aviation. The airplane came of age; indeed, it was forced to come of age very quickly, immediately before and during the First World War. The design of both the airplane and its engine showed considerable improvement. Because of the pressures of war, more pilots were trained and more planes built during the four years of conflict than in the pre-war years since the first flight. One logical consequence of the militarization of aviation would have been an increased awareness of the destructive potential inherent in airplanes; however, this aspect of aviation's sublimity was by and large still underestimated in the United States. Voices like Dos Passos's in *One Man's Initiation—1917* and *Three Soldiers*, discussed in detail in Chapter 3, were not representative of prevailing attitudes to aviation or technology in general. Instead, hero-making in aviation culminated in the period during and immediately after the First World War, when the cult of the aces was born and nourished.[7]

In the early 1920s, aviation gradually emerged as a redefined human activity: it was no longer a solution in search of a problem. Airplanes, which many believed hardly proved their worth during the war, suddenly found uses in dozens of ways ranging from carrying passengers, cargo and mail to crop dusting and entertainment. Meanwhile, a new form of the sublime of aviation emerged, and its chief repository became the barnstormer. During the post-war demobilization, many former war pilots and "regular" aviation enthusiasts such as young Charles Lindbergh, bought surplus inexpensive warplanes and became barnstormers; wondering from place to place, they put on air shows and circuses, using such fields as were

available. Their operations included practically any flying activity that would provide an income, including the carrying of passengers, aerial photography, advertising,[8] flight instruction, air racing, and most importantly, exhibitions of stunt flying like acrobatics, upside-down flying, pylon-flying, jumping with parachutes, and wing-walking. These courageous and often foolhardy fliers were important promoters of air-mindedness and the propagators of the technological sublime of aviation in the United States.

The importance of barnstormers can hardly be overemphasized in the context of the sublime of aviation. It was more than entertainment, more than business even. For millions of people throughout the United States, especially in rural areas, these barnstormers provided the first opportunity for encounter with aviation. As Vivian Wagner points out, barnstorming was an apparent manifestation of technophilia, "a love for and fetishization of the machine," a hallmark of Modernism (80). However, it was not only technophilia, but also necrophilia. One critic compared barnstormers to "the graceful matadors of Hemingway courting death" (Lhamon 275). The spectators themselves, aware of the inherent danger of flying that the fliers faced, flocked to the air shows in anticipation of tragedy. People crowded the airfields and the wheat fields of America primarily to witness human and machine defy nature, but in a perverted way hoping also to catch a glimpse of human and technological disaster.[9] Little wonder, then, as Lester H. Brune points out, that barnstormers also created a fear of flying for many Americans, which would be quite difficult to overcome in the publicity campaigns of the major airlines only a decade later. Examining Western European responses to aviation, Wohl claims that "before 1914, the danger of flying machines and their fragility was part of their charm" and that "some argued that the possibility of death was ultimately what gave meaning to flight" (*Passion* 255). Notwithstanding the validity of these statements, I would

argue that they are just as easily applicable also to the "flying gypsies" of America a decade or two later. As will be seen in subsequent parts of this chapter, more than any other contemporary on the American literary scene, William Faulkner was also very much aware of such ambiguous meanings of aviation, when he chose barnstormers as central characters for his novel, *Pylon.*

In the Twenties there was another important event that cannot be ignored in any discussion of the technological sublime. There is hardly another individual in American culture who contributed more, however unconsciously, to the spread of air-mindedness and the dissemination of the sublime of aviation than Charles A. Lindbergh with his transatlantic flight of 1927. Ironically, however, Lindbergh's flight is probably also the single most overrated achievement in the history of aviation. More than eight years before his transoceanic flight (between May 8-31, 1919), the Atlantic was already crossed in an airplane, with intermediate stops including Newfoundland, the Azores, and Lisbon, Portugal. In June of that same year, the first non-stop transatlantic flight was also made by the British aviators John William Alcock and Arthur Whitten Brown, in a little over 16 hours, winning a substantial prize offered by the London *Daily Mail.* They crossed the Atlantic in about half the time as Lindbergh and received twice as much in cash prize. Why is it, then, that Lindbergh's name and flight is still remembered around the world, while the names of his predecessors are all but forgotten? What explains the intensity of the emotions unleashed, the "near deification" (Morrow 719) of Lindbergh, himself totally unaware of the import of his accomplishment? How is it conceivable that, as Laurence Goldstein finds, there are more poems (even if most of them are unreadable doggerel, submitted to various poetry contests) celebrating Lindbergh and his achievement than any other person or event in Western history?

The answer to these questions lies in the timing of Lindbergh's flight and the state of the technological sublime, in connection with aviation and otherwise, in that historical moment. As Pursell explains, "[t]he sensation of that flight in the *Spirit of St. Louis* was explainable in part by the fact that it neatly wedded two seemingly disparate parts of the American myth: a belief in the power and accomplishments of the 'lone' individual, and a commitment to the social construction of a modern, industrial technology" (*Machine* 236). The true significance of Lindbergh's flight remains a perplexing paradox, and as such, it seems a culmination in terms of the American technological sublime.

The chief question concerning the covert, but underlying dichotomy, even antagonism, between the technological and human is very much at the core of the technological sublime. "Was the flight the achievement of a heroic, solitary, unaided individual," John William Ward asks, or did it "represent the triumph of the machine, the success of an industrially organized society?" (177). If we had asked Lindbergh, he would have said, in fact, he did say, "Well, we've done it" (qtd. in Ward 176). But who is the true referent of this first person plural pronoun, also chosen by Lindbergh as the title of his autobiography, published soon after his flight? Is it he and the *Spirit of St. Louis*, in a cyborgian combination of the human and the technological? Or did he refer to the long row of inventors and engineers who perfected the airplane, and the team of mechanics, sponsors and other supporters, indeed, the American industrial complex that indirectly stood behind him in his enterprise?[10] Or is this phrase supposed to include the whole American nation, so eager to identify with "Lindy," and appropriating him, indeed a great promoter of pro-American feelings in Europe, as national property? Or broader still, humankind? There are more questions in connection with

Lindbergh's flight than definitive answers. Indeterminacy regarding the role of technology is an especially important part of these unspoken dilemmas.

But the timing of this achievement towards the end of the Twenties was just as important. First of all, there had been a standing price of $25,000 since 1919 for the first non-stop solo flight over the Atlantic, which significantly heightened expectations by the end of the Twenties.[11] The competition for fame and fortune was fierce, and the drama preceding the success of Lindbergh, one of the least likely to win, was intense. The potentially fatal outcome of the enterprise, which was ultimately the share of Nungesser and Coli, Lindbergh's chief American rivals in the race, was very real. More importantly, "Lindbergh's flight came at the end of a decade marked by social and political corruption and by a sense of moral loss" (Ward 181). Because of the long-standing and pervasive faith of Americans in individualism and self-reliance, the fact that—at least in the public mind—his flight was the achievement of a lone individual was of even greater significance than the actual accomplishment. He became an inspiration, a beacon of hope, the subject of a new, or in any case renewed, cult of hero worship in the technological sphere. Lindbergh filled an emotional need by confirming the belief in the continued vitality of America, and by extension, Western civilization. At the same time, however, his flight also brought to the surface many new questions about the future of technological progress and the role of humanity in that future. As Richard Gray puts it, "[t]he dual response to Lindbergh is significant in a general sense because it indicates just how much, in the first decades if this century, Americans were torn between conflicting notions of their experience" (196). As much of the indeterminacy and ambivalence inherent in the cultural reading of Lindbergh's flight indicates, 1927 was a milestone in terms of American attitudes to the sublime of aviation, fully borne out in the following decade.

Faulkner's Pylon: T*he "Wastelanding" of the Sublime of Aviation*

One writer of the generation to witness this last decade of the aviation sublime, one who had seen all the changes, lived through them, indeed, had been an active part of them, was William Faulkner. The rest of this chapter will be devoted to Faulkner's perception of the changing meaning of aviation, in the broader context of technology. The primary text used will be *Pylon,* his relatively undervalued novel from the mid-1930s. While it is a formidable task to attempt to add anything new to the massive body of scholarship available on Faulkner, the research into his relationship with the technological sublime has convinced me that this is an area which merits, as well as permits, further study. In the final analysis, I am thoroughly convinced that *Pylon* is, in fact, a text rich in submerged commentary on and critique of technological culture in the 1930s, and is an appropriate text to use as a conclusion for an analysis of the disappearing technological sublime before the Second World War.

In his introduction to *Southern Writers and the Machine*, Jeffrey J. Folks makes some very astute observations on the response of southern writers, including William Faulkner, to the rapid modernization of their region. He claims that change, most notably the rapid transformation of the South from a basically rural and agrarian society into a modern, technologized and industrialized one, is the central concern of most southern literature in this period. His underlying assumption is that the concept of change is the central subject of all representative modern texts coming from the South, to an even greater extent than in modernist literature in general (1). He asserts that the basis of the aesthetic with which Southern writers responded to technological progress derives partly from the nineteenth-century British notion of the Victorian technological sublime and partly from an inherently

American attitude of attempting to situate and conceive of technology within the pastoral tradition (3). Folks maintains that contrary to the general associations of the South with conservative and traditionalist thinking in conflict with progressive ideologies, most of the major intellectuals of the early twentieth century had long acknowledged the ultimate defeat of such a reactionary, backward-looking position. "There is plenty of nostalgia for the past," he writes, "but very little conviction of an actual attempt to return to a pre-industrial order" (4). This does not mean that Southern writers in and after the 1920s were direct proponents of industrialization and pioneers of technological development, but by and large they had at least made "an attempt to come to terms with the modernization which was well underway and clearly irreversible" (4).

Pylon (1935) is perhaps the Faulkner novel that most thoroughly bears out the above dichotomy focusing on a technology that in many ways proved to be an excellent choice for an icon of technological progress in the 1930s: the airplane. Faulkner's choice of aviation as the representative technology with which to demonstrate his ambivalence toward unlimited trust in technological progress and development is hardly accidental; in fact, it is deeply rooted in his biography. On top of the intensified interest of the general public in flying after World War I, further heightened by the accomplishments of Charles Lindbergh in the late 1920s, Faulkner's own personal interest, as well as a lifelong association with aviation, was also a significant factor. To put it very bluntly, William Faulkner was an "airplane nut" of the worst order. His fascination with flying dates back to his childhood when he first caught a glimpse of balloonists at the Lafayette County Fair in 1908.[12] A few years later he and his brothers would actually build an "aeroplane" of sorts, which, as a matter of course, thirteen-year old Billy crashed on its maiden flight, or rather fall, from a low bluff in the Falkner

backyard (Harrison 22). This early aviation incident, a combination of enthusiasm and pending disaster, could be seen as a foreshadowing of Faulkner's subsequent aviation adventures.

In the 1910s when the earliest barnstormer troupes toured many places in the South, and the war was just around the corner, young William Faulkner became even more enchanted with the chivalric nature of aerial combat, admired these "knights of the air," and wanted to become like them. When World War I broke out and the airplane found its first practical use in the military, Faulkner resolved to become an aviator. Even to this day, various contradictory accounts are in wide circulation on Faulkner's service in World War I. After the war Faulkner came home to Mississippi in style, wearing an RAF uniform, spreading the news, or at least not refuting it, that he had been wounded in an air crash, or even in air combat overseas, that he had destroyed two German planes in France, and that he had at least two major operations that resulted in a metal disk in his hip and a silver plate in his head. (Less sympathetic critics add that he has was noted to even feign a limp to prove the former, and used the latter on occasion to cover up for a little too much drinking.) His version of the events, at least in those early years, is well summarized in the following account of his life, printed along with an interview in 1931:

> In 1915 he enlisted with the Canadian air force and went to France. He crashed behind his own lines. He was hanging upside down in his plane with both legs broken when an ambulance got to him [. . .] After he recovered he transferred to the American air force. He has a pilot's license now and sometimes flies a rather wobbly plane owned by a friend in Oxford. (qtd. in Meriwether 23-24)

The fact is of course that the legends of being shot down were part of the self-created myths that Faulkner projected for himself. He was, indeed, a flying cadet in Canada, but his entire military career was spent in ground school training. He never made it to Europe before the Armistice, and in fact he only learnt to fly a plane in 1933—two years after the above interview was published.

The following year, however, he also bought a Waco C type airplane and for a while piloted it on a semi-regular basis. He also encouraged his younger brother Dean to learn to fly, and even financed his flying lessons "hoping the talented Dean would stick to something he could make a living at" (Karl 521). First with his flying instructor and friend, Vernon C. Omlie, and later with his brothers John and Dean, he took part in several air shows in northern Mississippi. In 1934, he and Omlie flew to New Orleans to attend the air show staged at the occasion of the opening of Shushan Airport, which was one of the most memorable aviation events of the times in the South. This event, where he had an opportunity to see some of the most famous exhibition fliers of the country, was a direct inspiration for *Pylon*, written in the same year and published in 1935. By this time, aviation "became Faulkner's 'baseball,' a metaphor for the way he linked himself to a national pastime, a pastoral with frail machines" (Karl 518). Faulkner, his brother Dean and some of his friends even set up an air circus not unlike those described in *Pylon* and "Death Drag." Then, however, tragedy struck: on November 10, 1935, Dean crashed the plane during an air show and was killed along with three passengers. This was one of the most devastating experiences in Faulkner's life. He felt guilty since it was he that encouraged Dean to fly and gave him the airplane in which his Dean was killed. Nine months later Omlie also died in a plane crash.

For a whole year Faulkner would not touch the controls of an airplane, and only occasionally afterwards.

Significantly, when asked about aviation in an interview in 1955, Faulkner gave other reasons for his recent negligence of the earlier hobby. Only a few decades after the pinnacle of the aviation sublime, he complained of the gradual disappearance of freedom and spontaneity once associated with flying. "I still enjoy aviation," he said,

> but it has become so mechanical that the pleasure I had once is gone. One has to be a mechanical or technical expert to fly any more. The days when anyone with an airplane and a tank of fuel could fly where he wanted to is past. [. . .] After the First World War, aviation was new. People were willing to pay up to $100 to go up in a plane. You didn't need any license to practice this activity. As flying got more regimented and as there got to be more planes, it got less interesting and you earned less money at it, so I left it. (Meriwether 139)

While conveying a sense of loss and disillusionment prevalent in the post-World War II period, this comment allows little insight into the true meaning of aviation for Faulkner in earlier decades. As Robert W. Hamblin asserts in his entry on aviation in *The William Faulkner Encyclopedia*, Faulkner was attracted to flying primarily by the risks it involved: "Small in stature, effeminate in appearance and bearing, unfortunate in love, Faulkner appears to have sought to assert his manhood and courage by courting danger and death at the controls of a plane" (26). Amazement at the power and potential of airplanes, especially as seen against the background of the skies of the technologically backward, agricultural South, combined with a constant awareness of the dangers inherent with it—this is a special version of Faulkner's technological sublime.[13] However, as Gray notes, Faulkner always "remained

just on the margins of things; knowing enough now to share in the adventure, to experience vicariously the thrill of transgression, but unwilling to push things farther, to venture beyond the role of the weekend pilot" (195). Such a cautious reconsideration of the sublime of aviation would especially be timely after the tragic losses of his brother and his friend, just after the publication of *Pylon*, Faulkner's comment on the technological sublime in the 1930s.

Little wonder, then, that aviation also plays a significant part in Faulkner's art. Some of his earliest writings, poems like "The Ace" and "The Lilacs," as well as short stories in the early 1920s, such as "Ad Astra," "Love," "Landing in Luck," "Death Drag," and "Honor" were inspired by aviation, particularly the image of the war pilot. Most of these writings reach back to the cult of the World War I ace, while some of them, most notably "Honor" and "Death Drag" with their barnstormer characters, anticipate *Pylon*.[14] The dichotomy of dreams and reality, which is at the core of Faulkner's attitude toward aviation is well borne out in his first novel, *Soldiers' Pay* (1926). The book tells the story of two young soldiers' return home from World War I, one unharmed, the other disabled physically and psychologically. The chief characters of the novel are Cadet Julian Lowe, Faulkner's real alter ego, who never had a chance to be in combat, and the dying ace, Lt. Donald Mahon, his self-made alter ego, a projection of his wishes. A similar contrast is played out in Bayard Sartoris, the protagonist of *Flags in the Dust* (1929) and his twin brother John, who were also combat pilots in World War I. John is shot down by a German plane while Bayard survives, but the wartime experience leaves him incapable of reintegrating into peacetime society. Tortured by survivor guilt over his brother's death, he is constantly looking for a substitute sublime, something that is as thrilling, exhilarating, and at the same time as dangerous as flying those fighter planes was. He seems to find this first in a high-powered automobile, which eventually kills not him,

but his grandfather, and then in a wild stallion, which fulfills much of the same need. Eventually, he comes full circle back to aviation, and significantly dies when testing an experimental airplane—if not on the altar of patriotism, then at least as a sacrificial victim for progress.

More importantly, in addition to the texts mentioned above, in which the sublime of aviation is an important, if not central, motif, Faulkner also devoted a full novel to this topic. *Pylon*, Faulkner's eighth novel, is about flying and the motivation of the fliers, reflecting its author's ambivalent feelings of fascination for aviation combined with his fears, soon justified in his brother's accident. Given the importance of the changes brought about by the quick technologization and urbanization throughout the United States it is all the more surprising that *Pylon* is perhaps Faulkner's most underrated novel. The book received a rather lukewarm reception from contemporary reviewers, although it was later very warmly praised by Dos Passos and Hemingway. Edmond L. Volpe asserts that *Pylon* "provides an unsatisfying, almost irritating, reading experience" (175). The highly fragmented, allusion-laden, innovative style and language of the text may also be an alienating factor: "Its frequent unannounced shifts in point of view and narrative voice, over-reliance on Eliotic subject matter, and neologistic vocabulary—these are the traits that have repeatedly irritated *Pylon*'s commentators" (McElrath 277). In his critical biography, Richard Gray even went as far as calling *Pylon*, citing what he considered unanimous critical consensus, Faulkner's least satisfactory novel. He seems to ground this claim in Faulkner's own ambivalence and confusion regarding aviation: "He could not, in short, turn the dream of flight into a convincing fiction [. . .]. He could only report his confusions and leave it at that; after which, it was not the bar he sought, by way of compensation, but other stories nearer the earth"

(203). While it must be granted that the plot of *Pylon* is rather meager,[15] Michael Zeitlin is justified in claiming that the story of *Pylon* is "secondary to its more important function, which is to record, transcribe, interpret, and so *manage* successfully the phenomena of a radically transformed reality" (233; his emphasis). In my own analysis, I hope to show that the confusion, ambivalence, and indeterminacy may well be there, but rather than discounting the value of the work, in fact, they further underline the themes of the text, including Faulkner's commentary on the technological sublime of the 1930s.

As I mentioned above, one of the reasons why many critics denounced the text was Faulkner's apparent overdependence on Eliotian material. Granted, Faulkner deliberately engages in a seemingly never-ending intertextual game with T. S. Eliot. The city and especially its new airport, built on land that was formerly a swamp, are invariably presented as wastelands. As one critic puts it, the whole "novel ultimately is about waste: human waste mainly, but also the waste of energy, waste of meaningful life, waste of what should be the best" (Karl 530). As part of the intertextual game, there is even a Valley of Bones here, as well as a chapter entitled "Lovesong of J. A. Prufrock," not to mention the "burial by water" of Roger Shumann, the pilot protagonist who crashes into the lake. As Susie Paul Johnson puts it, however, these critics disregard the "abundant and original detail and concern" (288) that Faulkner invests. The airport "celebrates the promise of technology and represents the future as New Valois sees it. But in *Pylon* planes become instruments of exploitation; their ability to attract the crowds is valued more than the safety of the pilots" (Johnson 292). The essential motive is greed for profit, which is contrasted with the aviators' foregoing of the same. Crowds of ticket-holders come in anticipation of tragedy, to see the professional pilots flirting with death. The sublimity of the airplanes for many spectators directly translates into

the spectacular crashes, fireballs with waste of human life and machine. Technology so used offers no promise of escape from the wasteland; indeed, it contributes to the wastelanding of the world.

Another reason for the unpopularity of *Pylon* is the inaccessibility of its highly innovative language. I would like to argue that this, too, is related to the sublimity of technology. As Michael Zeitlin notes, the language of *Pylon* appropriately complements its theme: "so alien, so fast-paced, so beyond the range of established literary language and convention did Faulkner find the contemporary scene that he needed to invent a new language, one now determined by the imperatives of a mechanized culture" (232). As several critics have noted, *Pylon* is really an extended poem in narrative form (Volpe 176; Karl 532). The abundance of neologisms, composite, portmanteau words, such as corpseglare, wirehum, gasolinespanned, pavementthrong, trafficdammed, machinevoice, gearwhine, typesplattered, reminds the reader of Dos Passos, whose use of newspaper headlines interspersed in the text is also utilized here. As Cecelia Tichi notes, this technique "underscores the rapid-transit age with the technique of jamming words together to suggest rapid-fire speech and instantaneous perception" (*Shifting* 198). Time and space collapse as a result of technology, and the technique that Faulkner uses in an attempt to recreate this feeling is the mechanization of the text, writing prose made of standard parts (repetition is an important device in *Pylon*), and creating text based on engineering standards.

The fame of William Faulkner, "the sole proprietor of Yoknapatawpha County," rests on his works set in and around the immediate vicinity of his hometown, Oxford, renamed Jefferson, in his fiction. *Pylon* is a notable exception to the generally rural settings used in most of his longer fiction. This is Faulkner's only novel set entirely within or on the very

outskirts of a major American city, even if a fictional one, and Faulkner's "first real attempt to register the voices of the city" (Gray 198). New Valois, Franciana is, as Faulkner himself admitted, a rather thinly disguised fictional version of New Orleans, Louisiana. The description of the city abounds in images of decay and spiritual corruption. The time is during the week of Mardi Gras, which is also the time of the opening of the city's new airport, significantly named after the corrupt Jewish chairman of the municipal sewage board.[16] Mardi Gras, of course, symbolic of death and rebirth, provides an excellent backdrop to Faulkner's examination of the anxieties regarding an artistic response to technology. *Pylon* is also unique in being Faulkner's only novel set in the future: the novel was written in 1934, but is set in 1935. It is a "prophetic book, in which air racing is used as a general metaphor for a nightmarish vision of the future" (Harrington 154).

In addition to airplanes, other technologies like telephones, taxicabs, typewriters—all of them icons of the big city and tools of a newspaper reporter, this archetypal city character—are also prominently featured. As Zeilin notes, technological images like "the telephone's 'dead wirehum' or the lamp's 'corpseglare' refract a dying civilization [. . .] a grotesque anti-pastoral, a viciously fragmented world" (234). While Faulkner's indebtedness to Eliot is doubtless, he owes much to Dos Passos's description of the pulsating city as well, even though the nameless reporter is definitely no Jimmy Herf, and New Orleans in 1935 is certainly no Manhattan. However, although situated in the heart of the South it may well be on its way to becoming a metropolis, and Faulkner skillfully pinpoints those aspects of urbanization and technologization which seemed inevitable, yet ambiguous: awesome while frightening. The roadster of Hagood, the reporter's boss, as painted against the background of the old "French Town," is a case in point: "a machine expensive, complex, delicate and

intrinsically useless, created for some obscure psychic need of the species if not the race, from the virgin resources of the continent, to be the individual muscles bones and flesh of a new and legless kind" (87). This shift in the fundamental background of his fictional work, a clear, although only temporary, break, a "holiday from Yoknapatawpha County—and from the Southern past" as Cleanth Brooks called it (178), is at the same time also the earliest and the best articulation of his rather ambivalent views on the role of technology in contemporary America, and especially in the South.

The novel features many typically Faulknerian themes. Flying emerges in *Pylon* as symbolic of the general disillusionment and restlessness of youth in the post-war period. Another obvious theme is that of survival, never a purely materialistic necessity, but balanced against certain ideals that are hardly rational. Faulkner's concept of psychological necessity, that men and women must do what they are driven to do by their most profound inner motivations, is brought to the foreground. A central question in *Pylon* concerns human motivation and the complexity of why people do things, ranging from external circumstances and physical needs to inner desires, compulsions, and even obsessions. Onlookers, newspaper reporters, and members of the audience speculate about the flyers' motivation: Do they fly just for the money or for another reason? The answer is uncertain: "they dont need money except now and then when they come in contact with the human race" (47), the reporter claims. The airplane can eradicate the need for money—it has no value up there. It almost creates a superhuman, or a cyborgian, but in any case non-human race out of those who fly it. The central dilemma of the reporter, and thereby of the text as a whole, is whether the fliers are human to defy death like this?

> "Because they aint human like us; they couldn't turn those pylons like they do if they had human blood and senses and they wouldn't want to or dare to if they just had human brains. Burn them like this one tonight and they dont even holler in the fire; crash one and it aint even blood when you haul him out: it is cylinder oil the same as in the crankcase." (45)

The reporter's implication is that if they are not human, then human morals, ethics, or emotions do not apply to them. "It ain't adultery; you cant anymore imagine two of them making love than you can two of them aeroplanes back in the corner of the hangar, coupled" (231), the obsessed reporter repeats his mantra to convince himself even and to make sense of his experience of the fliers.

As the passage above, and many other passages in the text suggest, *Pylon* frequently foreshadows the postmodernist project of deconstructing traditional binary oppositions. A text grounded in anxiety and conflict regarding progress versus nostalgia, *Pylon* also reveals "a deeper unease of unresolved uncertainties about male and female, past and future, pastoralism and technology, stability and change" (Gray 197). The sublime of aviation prompts Faulkner, for example, to express dissatisfaction with the dichotomy of mechanic and organic. On the very first page of the novel, the airplanes on the advertising placard are compared to "a species of esoteric and fatal animals not trained or tamed but just for the instant inert" (7). A few pages later, the new airport is described as having "a mammoth terminal for some species of machine of a yet unvisioned tomorrow"; then on the same page we get our first actual glimpse of the racer planes, which are presented here as "waspwaisted, wasplight, still, trim, vicious, small, and immobile" (18). After Shumann's first crash in their original plane, the reporter describes the machine as "lying on its back, the undercarriage

projecting into the air rigid and delicate and motionless as the legs of a dead bird" (164). The last moment of idyll, of a positive sublimity of aviation before the disintegration of Shumann's plane mid-air, is also a description of the racers from a distance, in pastoral, organic terms: "The noise was faint now and disseminated; the drowsy afternoon was domed with it and the four machines seemed to hover like dragonflies silently in vacuum, in various distancesoftened shades of pastel against the ineffable blue, with now a quality trivial, random, almost like notes of music—a harp, say—as the sun glinted and lost them" (233). After that, the airplane becomes very mechanical again, fuselage and tail section apart, all of it becoming along with the human pilot part of the "refuse from the city itself [. . .] any and all the refuse of man's twentieth century clotting into communities large enough to pay a mayor's salary—dumped in the lake" (236-37).

The crossover between organic and mechanical, however, works both ways. The reporter's description of the aviators is just as unforgiving: "Yair; cut him and it's cylinder oil; dissect him and it aint bones; it's little rockerarms and connecting rods . . ." (231). Apparently, however, this is not only the reporter's perception, but also the narrator's, and by extension, Faulkner's. Jiggs, the barnstorming team's mechanic, is especially frequently described in terms of machinery. He is "walking at his fast stiff hard gait like a mechanical toy that has but one speed" (11), moving his legs with "tense stout pistonlike thrusts" (23). The reporter is also described in terms of a mechanical entity. His face freezes "like a piece of unoiled machinery freezes" (243), and his namelessness also suggests non-human, inanimate qualities, as does his most frequent association by several characters with a scarecrow.[17] Unconsciously, he even wishes to be an interchangeable part in the efficient mechanism of the aviators, to be like them, free of society's normal restriction, and especially to partake of

Laverne in their promiscuous lifestyle, which fascinates and repels him as much as the world of aviation: “Sometimes I think about how it’s you and him and how maybe sometimes she dont even know the difference, one from another, and I would think how maybe if it was me too she wouldn’t even know I was there at all” (175). At the same time, despite all his awe and fascination with aviation the reporter always remains a complete outsider of technology. He has but one hour’s flight instruction to his credit, and it turns out that he does not even know how to drive a car (267). The ending of the book, where he attempts to write up the story of the barnstorming team but writes “not only news but the beginning of literature” (314) proves that he is indeed more of an artist than an efficient journalist, the cog in the machine he is expected to be.

Another binary similarly deconstructed is gender: in the all-male environment of the aviators the only female protagonist, Laverne, is described as genderless, or at least as a person whose gender is uncertain and of no significance: ”a woman not tall and not thin, looking almost like a man in the greasy overall” (21). By contrast, she is very much gendered in the important inserted story of Laverne’s first parachute jump where “[s]he wore skirts; they had decided that her exposed legs would not only be a drawing card but that in the skirt no one would doubt that she was a woman” (194). Even here, however, Laverne is attempting to obliterate the stereotype of the bashful female when crawling back to the cockpit and initiating sex with Schumann, and then jumping out of the airplane with no undergarments, causing havoc among the hundreds of spectators underneath. Industrial production and human reproduction are intermingled, the previously separate categories of human, machine, animal all but melted into one, as in the reporter’s account of the circumstances of Jackie’s birth: “the kid was born on an unrolled parachute in a hangar in California; he got dropped already running like a colt or

a calf from the fuselage of an airplane onto something because it happened to be big enough to land on and then takeoff again" (48).

In an article examining gender, technology, and utopia in *Pylon* and "Honor" (an earlier short story by Faulkner which contained some of the key elements of the novel), Vivian Wagner offers what she calls "a forgiving and hopeful reading of Faulkner's airplane tales" (82), an analysis of techno-utopianism through the lens of feminist theory. Machines, fetishized by "high, white, male Modernism," generally function as weapons "to conquer and destroy a feminized, organic world" (81). The airplane in *Pylon*, however, can be an exception in these stories, she asserts, since the revisioning of gender roles invariably occurs in and around airplanes: "The airplanes are, ultimately, substitute wombs, where the characters are engendered and where their roles are both determined and questioned" (89). *Pylon*'s utopia then, as represented in the character of Laverne, is in its challenging of the patriarchal authority of the nuclear family and its heterosexual norms. While I feel that Wagner's reading is stretching the boundaries of interpretive liberty, it certainly is right on target as far as the richness of the symbolic interpretations of the airplanes, and the interplay between sexuality and technology are concerned. Described by the reporter in terms of an orgasm (97), sex is almost inseparably tied up with flying in the novel. Speculating on the motivations of the barnstormers, one of the reporters notes that flying is a compulsion for some: "It's because they have got to do it, like some women have got to be whores. They can't help themselves" (292). Speed and risk are aphrodisiacs for Laverne, who conjoins the two ephemeral sensations in the parachute jumping episode (147). As a result of his fascination, indeed obsession, with both Laverne and aviation, the reporter also strongly associates sexuality with flying.

Several critics have commented on the reporter protagonist's, and by extension Faulkner's, ambivalent attitude to the fliers as an underlying theme in *Pylon*, and usually regarding this indeterminacy as a problematic point of the novel. Using Faulkner's own comments made at the University of Virginia, Edmond L. Volpe claims that "[s]ympathy for them in their isolation from society merges with antipathy for them as rootless beings beyond the range of God and love" (176). Brooks also realizes that the reporter is "torn between two ways of seeing [the barnstormers]—as merely passionless machines or as heroic supermen" (181). Gary Harrington reiterates the same argument, also noting the shift in pronoun use as signaling the reporter's attitude: "[w]hen viewing the fliers romantically, the reporter uses the plural personal pronoun 'we,' indicative of an inordinate sympathy with—and involvement in—their predicament; when considering them cynically, he uses 'they,' suggestive of his distancing himself from their behavior or even of an antipathy towards it" (53). The romantic perception of the fliers is especially powerful initially. As an idealistic young man, he easily subscribes to the glamorizing image of the flier constantly conveyed by the loudspeaker voice of the air meet, the sensationalist newspaper headlines, and other elements of the popular culture around him. "[G]lamor may not be quite the right word to describe the quality with which the Reporter's imagination has invested them; perhaps 'awe' would be more accurate" (183), Brooks notes. The reporter gradually realizes, however, that the barnstormers and the ideas they represent offer no salvation, no means of escape from the wasteland. Through the description of a series of technological mishaps starting with Colonel Burnham's fiery crash and culminating in the disintegration of Shumann's plane in mid-air, Faulkner exposes the almost religious awe and veneration with which many of his contemporaries regard machines. As a powerful statement to this effect, in one of the concluding episodes of the novel, Roger's

father, Dr. Shuman symbolically, almost ritualistically, destroys the toy plane of Laverne's son with the frustration and anger of a Luddite: "He stooped and caught up the toy and held it up, his face twisted into a grimace of gnomelike rage, and whirled and hurled the toy at the wall, while the boy watched him, ran to it and began to stamp upon it with blind maniac fury" (312).

In his analysis of Southern writers and the machine, Folks concludes that after the initial rejection of the iron demon, Faulkner finally embraced technological progress as inevitable. On the basis of the textual evidence I would argue that it is just the other way round. After an initial period of unconditional fascination with aviation came disappointment. As Brooks claims, *Pylon* is "the bitterest indictment of modernity (and its worship of speed), with the possible exception of *Sanctuary*, that Faulkner ever wrote" (200). *Sanctuary* and *Pylon* are the two novels by Faulkner that take a direct look at the industrial and urban culture of the future rather than retreat into traditional world of agrarian manners, and neither of those texts finds much to admire in that culture.

The Fading Away of the Aviation Sublime

Faulkner's ambiguous ambivalence in his treatment of the sublime of aviation foreshadows not only the personal tragedies in his circle of family and friends, but also the general change of spirit towards airplanes, which was part of the broader theme of loss of faith in technology of the coming decades. By the late 1930s, Americans had come to terms with the winged gospel. Aviation had become "a firmly fixed phenomenon in American society—an integral component of life and culture" (Bilstein 76), a part of mainstream American culture. Less than thirty years after its inception, "aviation culture reached its

apogee during the 1930s and lost much of its vigor and self-confidence during the years that followed the Second World War" (Wohl, "Republic" 107). Utopian beliefs in the benevolence and moral power of aviation had disappeared, just like similar feelings regarding steam a century before. In his analysis of the "winged gospel" in the period immediately before the Second World War, Joseph Corn examines three areas of connections between aviation and larger American culture: attaining equality for women (as well as other minorities, most notably, African Americans) through aviation, proposals for democratizing flying by putting a cheap airplane in everyone's garage, and making aviation an integral part of education in the United States. The common thread and the sad reality of these three case studies were that each of these noble enterprises ultimately proved utopian and ended in frustration. The 1930s was, indeed, the great age of the American aviatrix; women like Amelia Earhart, Elinor Smith, Louise Thaden, and Anne Morrow Lindbergh provided hope for integrating women into a technologized American culture. As Corn puts it, "no activity better symbolized the freedom and power which was lacking in [women's] everyday life" (73) than flying. In the long run, however, women aviators' femininity was increasingly utilized by commercial aviation in an effort to dispel the "intrepid birdmen" image and to sell aviation to the public as a perfectly safe and reliable form of transportation (Corn 75*ff*). Out of their controlling position in the cockpit, women were soon reduced to air-hostesses, which reinforced earlier gender stereotypes rather than helping them achieve equal standing with their male colleagues in aviation. Similarly, utopian hopes for the equivalent of the Flivver, a mass-produced airplane readily available to the masses, soon proved impracticable, while "air-minded" education for the "Winged Superchildren of Tomorrow" (Corn 113), depositories of a technological future, eventually deteriorated into toys in children's hands.[18]

The 1930s still witnessed many attempts to present technology as positively sublime and vigorous, and aviation was often at the center of such attempts. Despite the economic depression of the 1930s, "the curve of aviation progress ascended strongly" so that a "nexus of development" (Bilstein 83) was reached. Aviation, regarded as the acme of human achievement, was chosen by the organizers of the 1939 New York World's Fair as one of the inspiring symbols (Nye, *American* 201). However, by this time aviation had lost much of the initial qualities for which it was earlier held sublime. "Gone was the time when the pilot was his own commander, basing all decisions on individual judgment" (97), Bilstein comments; aviators became highly trained and specialized professionals rather than artists of the air. Of course all of this must be considered in the wider context of the persistent, but at the same time changing, nature of the sublime of all new technologies. As Nye remarks,

> [T]he first airplanes to appear over Chicago or New York drew millions out into the streets; yet within twenty years daredevil stunts were necessary to hold the crowd's interest, and by 1960 aviation had passed into the ordinary. Each form of the technological sublime became a 'natural' part of the world and ceased to amaze, though the capacity and the desire for amazement persisted. (284)

By and large, the awe has been displaced by the commonplace, heroism by commercialism, and the room for individuality by the restrictions of regulations.

The World War Two eliminated much of the illusions about the positive sublimity of technology. The awe associated with the airplane was all but gone, and although the fear remained, it was very real, not just theoretical. This was especially true in war-torn Europe where "the droning sound of airplanes, and the sight of wings, became identified [. . .] with deathdealing explosives raining from the sky, gutted buildings, shrieking children, and

crowded air-shelters in which families huddled together as the ground above them shook" (Wohl, "Republic" 114). But even if American soil was spared mass aerial destruction in both world wars,[19] Americans still started to view the airplane as ambivalent, even as a menace. Pearl Harbor, Midway, London, Hiroshima, London were each a lesson not to be missed. While only few voices of complaint regarding the destructiveness of airplanes could be heard during and after the First World War, the demise of the winged gospel "with World War II and the post-war rise of strategic airpower" convinced many Americans now to "consider the airplane as an ambivalent, even malevolent agent" (Morrow 719).

Perhaps the most eligible candidate for the title of sublime technology after World War II is space flight, but the Space program was rarely if ever perceived with the same kind of enthusiasm as the achievements of Lindbergh, it even divided the nation rather than uniting it. Whereas the typical association with flying is freedom, space travel, at least in its current stage of development, is more restrictive. The aviator could still be seen as a heroic individual, while the astronaut is part of a huge system, a clockwork of organization, which allows very little individuality. They are not adventurers, but highly trained professionals, albeit taking a calculated risk. The complexity of space technology is beyond most people's comprehension and even beyond astronauts' control.[20] Astronauts are still heroic, but they are heroes exactly in their passivity, in their conformance to rules, in their precision lacking any creativity, in their obedience to mission control, and ultimately to the dictates of technology. Astronauts have very little control over their own activity, there is hardly any room for creativity. The human role is diminished; technology looks autonomous.

Inevitably, aviation continues to appeal to a great many people, unlike any other technology in the past. Millions of people each year still go to air shows, or just to airports in

order to watch planes take off. Most of us still look up when we hear the sound of an airplane overhead, which has to do with that quality of irresistible magic—"the winged gospel"—which may have waned considerably since World War II, but still exercises a fascination in our days.

Notes to Chapter Five

[1] In our days when we talk about the technology of flying, we usually think of what experts call heavier-than-air craft: airplanes and helicopters. These are distinguished from lighter-than-air craft like balloons and dirigibles, or airships. Lighter-than-air flight was actually the original direction of development in aviation, but for most applications it eventually turned out to be impractical for a number of reasons, including safety and control.

[2] In addition to the most obvious example of the myth of Daedalus and Icarus, consider, for example, the canonical tale of the Flying Africans, also featured in a number of modern texts. For a discussion of the origins of the legend of the Flying Africans and its literary treatments in Toni Morrison's *Song of Solomon* and Paule Marshall's *Praisesong for the Widow*, see Wendy W. Walter's essay.

[3] Wells's text is especially prophetic in bringing home the fact, much ahead of his contemporaries, that the airplane, contrary to initial notions, would "erase the age-old distinction between combatants and civilians" (Wohl, *Passion* 74), a fact first fully demonstrated in the Spanish Civil War in the late 1930s, and then, on a much larger scale, in World War II. For the British, of course, one important source of anxiety was the loss of their "splendid isolation," no longer attainable in the age of aerial warfare.

[4] Upon receiving news of Lindbergh's flight, Lewis immediately sent Harcourt the following telegraph: "Why dont Grosset [the reprint firm] start intensive campaign Trail Hawk which is really story Lindbergh. Can hook up with fact that we born forty miles apart" (qtd. Schorer 485). The similarities are, indeed, uncanny. The protagonist of the novel, Carl "Hawk" Ericson, was a second-generation descendant of Scandinavian stock, just like

Lindbergh. Both were born in Minnesota (as was Lewis himself), and both of them were all-American boys in the contemporary sense of the word. Their aviation careers—savings spent on flying school, barnstorming, and air racing to fame—also showed significant parallels. It seems, however, that Lewis himself was greatly stimulated by the careers of aviators such as Cal Rodgers—several events of his four-month cross-country flight in 1911 seemed to be fictionalized in Carl Ericsson's story.

[5] In a letter written to Lewis, Upton Sinclair dismissed the beginning of the novel, along with "all the society and love talk toward the end" as commonplace, but insisted that "all thru his hard luck period and his aviator life, [the] hero is thoroughly interesting and alive" (qtd. in Schorer 226). William Dean Howells agreed, writing "I did not like your boy in the beginning; I thought him overdone; and so dropped the book for a while. Today I took it up and read about the flying, from the mob scene in California to the end of flying at New Haven. It was good, BETTER, BEST" (qtd. in Schorer 231).

[6] Cf. Anne Morrow Lindbergh's description of the change of perspective during a landing, using similar imagery: "Like gods still we were, looking down from our great height at the scalloped shore line" (9). The Olympian perspective soon gives way to a more realistic description as they come nearer to the earth: "Perhaps my picture was wrong. Perhaps we were not riding the wind like omnipotent gods. Perhaps, instead, our plane was a tiny sliver of bark, tossed this way and that on the choppy surface of a great unruly sea of air" (10).

[7] One important aspect of the cult of the aces was that Hollywood also discovered aviation as an important theme, as the scores of titles featuring fighter pilots indicate. Many of these movies were based on the journals and autobiographical accounts of actual pilots,

while many others are derived from the plethora of second-rate aviation fiction produced in these decades. For a more detailed discussion of aviation in popular culture genres such as comic strips and movies, Bilstein's chapter "Folklore, Fantasy, and Artifacts" in *Flight in America* is a good starting point.

[8] The sky was, after all, the biggest billboard, and airplanes proved an excellent medium of advertising. Along with the advent of aviation, the 1920s was also the first great period of advertising in the United States. Advertising usually took the form of writing the names of products on airplanes: it is a rarely known and somewhat disappointing fact, for instance, that *The Spirit of St. Louis* was named after a tobacco company based in that city, which was one of the chief sponsors of Lindbergh.

[9] To illustrate how much the perverted fascination with technological disasters has not changed, consider Nye quoting a television technician on the shuttle launch site: "God forbid that anything should go wrong, but that's why we are here" (qtd. in *American* 252).

[10] More than a hundred companies are supposed to have contributed to the *Spirit of St. Louis* with materials, parts, or services. Lindbergh himself emphasized that his flight was "the culmination of twenty years of aeronautical research and the assembling together of all that was practicable and best in American aviation" (qtd. in Ward 189).

[11] It must also be noted that for this kind of mass public reaction, another technology was also needed in addition to the airplane: a network of mass communication of newspapers and radio networks, which had also reached a critical mass in the Twenties.

[12] As his brother John later recalled, the fatalism surrounding the aviators was very much a part of this early encounter: "All airmen of that day were looked on as lunatics [. . .]

We knew one of them would fall and be killed sooner or later, and . . . we wanted to be there and see him when he got what was coming for him" (qtd. in Harrison 21).

[13] In addition to fulfilling his need for danger, denied in World War I, airplanes also allowed Faulkner a means of constructing an alternate identity and to escape, however temporarily, the drudgery of everyday life and the responsibilities it entails. Paradoxically, horses fulfilled a similar need in a later stage of his life (Karl 496). In this respect, it is interesting to note the parallels between the lives of Faulkner and his fictional character, Bayard Sartoris.

[14] There is even a *ménage á trois* in "Honor," which can be regarded as a preparatory sketch for *Pylon*.

[15] Because of the general neglect the book has received in recent decades, it may be useful to reprint here a brief plot synopsis: "A flying team composed of a pilot, a 'jumper' [i.e. a parachutist], and a mechanic, accompanied by a woman and her son, are desperately short of money and they hope to win at least one of the first purses at an air show. They live only on their winnings, which means that often they have no place to stay, little to eat, and no money for transportation within the city. [. . .] The reporter who covers the air show becomes fascinated by Roger Shumann's flying team; he makes their acquaintance and tries to help them. He becomes increasingly involved in the action, and, inadvertently, it is he who is responsible for the team's destruction. He devises a scheme that will permit them to buy a new, more powerful plane, which will undoubtedly win the final trophy race that has the biggest purse. This, he thinks, will solve their financial problems once and for all. [. . .] The powerful plane, however, has several defects; the reporter learns about them at an early stage

and so does the pilot, but they persevere in their plan, caught up in the desire to win. During the final, tense race, the plane not only does not perform and comes apart in the air; the pilot is killed in the lake. At the end of the novel, the group disbands" (Masterplots 1291-92).

[16] Faulkner's somewhat anti-Semitic attitude, as born out in his characterization of Colonel Feinman, may be traced back to his rather negative experiences in Hollywood.

[17] Faulkner's own comments in an interview on the namelessness of the reporter seem to discourage such interpretations. Characters name themselves, he claims, and the reporter just never revealed his name to him: "I have written about characters whose names I never did know. Because they didn't tell me. There was one in *Pylon*, for instance, he was the central character in the book, he never did tell me who he was. I don't know until now what his name was. That was the reporter, he was a protagonist" (Meriwether 132). But then, again, why the reporter never seemed to possess a name, this most basic of all human possessions, is open for interpretation. (Cf. also David Yerkes's rather unconvincing article, which claims that the real name of the reporter, born on April Fool's Day, is "That".)

[18] Nevertheless, as Corn adds, the great model building and flying fever of the 1930s did significantly promote the "winged gospel," and was especially important for involving not only boys, but also girls in great numbers with technology, thereby further contributing to the elimination of the gender gap in the field of aviation.

[19] Between late 1944 and the end of the war, the Japanese launched thousands of bomb-carrying balloons, calculated to cross the Pacific and, by means of an ingenious timing and release mechanism, drop their lethal loads on the U.S. mainland. Six civilians (including children on a family picnic) were killed on May 5, 1945 by a bomb they found in the state of

Oregon, making them the only American casualties of World War II in North America. For more details, cf. Robert C. Mikesh, "The World's First Intercontinental Missiles." *Air Force and Space Digest* 51 (1968): 158-62.

[20] Few people realize, for example, that upon reentry into the earth's atmosphere the astronauts can hardly see anything, and since everything is happening so extremely fast, the descent has to be done automatically. At around 35,000 feet the shuttle slows down to less than the speed of sound, and the steering could be done manually, if necessary, although it rarely is. Then, at 4,000 feet something happens that is not done by the computer: the pilot pushes a button to lower the landing gear. That is all they have to do, and that only so as to reaffirm that they are still an important and integral part of what is happening around them.

Chapter Six

The Demise of the American Technological Sublime

As Joseph Tabbi wrote, a few years before the sublime millennial moment that allowed much occasion for rethinking the developments of the previous century,

> one could hardly find a better contemporary occasion for the sublime than the excessive production of technology itself. Its crisscrossing network of computers, transportation systems, and communications media, successors to the omnipotent "nature" of nineteenth-century romanticism, have come to represent a magnitude that at once attracts and repels the imagination. (16)

Tabbi locates nature as the chief source of the American sublime in the nineteenth century, even though, as Kasson and Miller had shown, the accession of technology as a secular national religion and the source of the American sublime originated long before the twentieth century. As Nye shows, the sublime has always been an underlying tenet of the American identity and experience. True, it was traditionally associated with the subject's encounter with the magnificence and overpowering sense of nature,[1] and Americans were also originally locating the source of sublimity in the grandeur of their country's natural landscapes. However, as the country was gradually carved out from the wilderness, and the natural world receded and gave way to a built environment, as the nation's economy continuously shifted from agriculture to industry,[2] as its population increasingly gravitated toward the metropolitan centers from the small towns and farms, the locus of the sublime also shifted from the natural to the technological.

As Nye aptly points out, Americans throughout the nineteenth and for most of the twentieth centuries paid homage to various technological artifacts, from railways, bridges,

and factories in the nineteenth century, through skyscrapers, automobiles, and airplanes in the first half of our century, to space vehicles and computers in most recent times. The "technological sublime is an integral part of contemporary consciousness [. . .] one of America's central 'ideas about itself' [. . .] and its emergence and exfoliation into several distinct forms during the past two centuries is inscribed within public life," Nye explains (*American* xiii-xiv). Unlike elsewhere, and especially in contrast with Europe, the critics of technological civilization have generally been outnumbered in the United States ever since the country's beginnings. Americans never made good Luddites because the progress and welfare of the nation as well as of the individual have always been closely associated with technological progress.

The previous four chapters surveyed four important decades in the development of the American technological sublime and some of the literary responses to it from the perspective of what could be considered as the four most significant areas of technological development in this period: factory production, military technology, automobility, and aviation. For obvious constraints of space, my study cannot purport to be comprehensive, but my explicit objective was not all-inclusiveness, but an exploration of the dimensions, or the arc of technological images in a few representatively selected texts. The approaches taken by the authors selected for discussion were diverse, but they all turned out to exhibit a great degree of awareness of the ambiguous nature of the machine in the period examined. As discussed in Chapter 1, the American technological sublime is a construct that can be useful in understanding the often conflicted and ambivalent reactions of simultaneous enthusiasm and anxiety, awe and fear, exaltation and depression associated with the patterns of development experienced in the United States in this transitory period.

The decades between 1900 and 1940 saw the culmination of the technological sublime in America: the loss of the innocently one-sided enthusiasm and technological republicanism of the nineteenth century and a shift to a bitter, fragmented, and largely dystopian vision of technology that became dominant in literature after World War II. One might even argue that 1920, the midpoint year of the period examined and the year in which the census showed for the first time a predominantly urban American population, was a symbolic watershed year. In any case, to the significance of the Roaring Twenties as a post-war period, the time of the "Lost Generation," the Jazz Age, boosterism, the business decade, and the second American Renaissance of American letters, we may definitely add the importance of a growing awareness of the double-edged nature of rapid technologization in the country.

The momentous changes taking place in the United States in the first decades of the twentieth century, identified and even quantified by historians and sociologists as urbanization, industrialization, and the commodification and mass distribution of cultural artifacts, to mention only a few, gave birth to the modern United States. The essence of Modernism, deriving in part from an inherent reaction and objection to modernity, eludes easy definitions, and it was not the purpose of this study to identify one of the several widely circulating definitions, or to come up with yet another one. More certain and also more consequential for our purposes is the close association between Modernism and technology. Ihab Hassan, who was also reluctant to restrict the range of meanings the concept of Modernism evokes by defining it, provides a list of "Modernist rubrics," such as urbanism, technologism, dehumanisation, primitivism, eroticism, antinomianism, and experimentalism—traits among which technology seems to occupy a privileged position.

Modernism generally valorized technology for its perceived cleanliness and efficiency, and frequently found aesthetic beauty in the geometrical abstraction of

technological artifacts such as the skyscraper or the streamlined automobile. Modernism emphasizes newness and invention, for which technology was an appropriate symbol. Not only was the streamlined technology of the early twentieth century an important theme of Modernism, but also "a form of its artistic struggle" (Hassan 392), an inspiration for its own aesthetic. As Tichi points out, some artists even applied engineering principles in their work and admired contemporary technology for its apparent precision and efficiency. Some modernists, like William Carlos Williams, for example, even went so far as regarding the poem as a machine, a "mechanism that has a function which is to say something accurately" (qtd. in Tichi 245). In fiction as well, short, efficient, and undecorated sentences that find the shortest distance between two points, as Hemingway's prose aspires to do, was often believed favorable to earlier styles of writing. Nevertheless, a pattern emerging from my analysis of the literary texts in the previous chapters suggests that modernist artists also exhibited a significant degree of ambivalence toward the machine, and shared a realization of dangers inherent with technology. The overarching trust in science and technology as the ultimate instruments of human progress, which in the nineteenth century was only rarely challenged, especially in the United States, by voices of ambivalence, skepticism, or open rejection, has gradually given way to a much more cautious attitude of questioning, doubts, and sometimes even fear in this period, and prepared the way for a more complex attitude toward technology after World War II. As Segal notes in his introduction to a recent collection of essays on technological pessimism and postmodernism, "technological pessimism has become an integral part of the emerging culture of postmodernism. Within that cultural hierarchy, technology itself may be assuming a declining status amid a growing disenchantment with material success and with all forms of social and political engineering" (3). In contrast with the dominant attitude of the nineteenth century, which was one of univocal celebration,

current views of technology are divided and ambivalent at the same time, and this loss of confidence occurred during the first half of the twentieth century.

On the one hand, technophilia is at unprecedented heights today. Both as individuals and as a society, Americans are more dependent on technology than ever before, and many people still consider technology as a "virtually unalloyed blessing for man and society," "the motor of all progress," "the solution for most of our social problems," a force promising to liberate the individual and to create a prosperous utopia (Mesthene 16). Most scientists and engineers, military leaders, and industrialists share this uncritically optimistic view, but it is also prevalent in general society. Those at the other extreme of the ideological spectrum—they could be called technophobes, although this term would suggest pathological undertones, which is certainly not the case—consider technology as "an almost unmitigated curse," which "robs people of their jobs, their privacy, their participation in democratic government, and even, in the end their dignity as human beings" (Mesthene 17). In their estimation, technology is destructive of tradition, it brings about a technocratic society where the individual is increasingly submerged, and—since the atomic age has dawned on us—it also threatens to wipe out human life altogether. This view is shared by proponents of back-to-nature philosophies, socialist critiques, many artists, literary commentators, popular social critics, existentialist philosophers, latter-day Marxists, and eco-terrorists. The pessimistic view of the development of powerful and widespread modern technology considers technology as an autonomous force, self-perpetuating, uncontrollable, and destructive of human values. Perhaps the best known representative of this group is the French philosopher Jacques Ellul, author of the highly influential book, *The Technological Society* (1964), who revisited these issues in a later book called *The Technological Bluff* (1986), and reiterated his earlier misgivings about technology. His argument is based on four claims, namely: (1) that

technological progress exacts a price; (2) that technological progress raises more problems than it solves; (3) that technology is not neutral; its good and bad effects cannot be separated; and finally, (4) that all technological innovations have unforeseen effects.

Ultimately, both of these views are rooted in the idea of technological determinism, a concept closely related to the technological sublime, since the feeling of simultaneous awe and fear, previously reserved for deities and natural phenomena, is now transferred to an object which the subject conceives of as autonomous and capable of controlling its environment. Despite its huge popular appeal for centuries, technological determinism is generally discredited by modern historians who understand technology (like culture) as socially constructed and believe that "we all—perpetrators, victims, beneficiaries, bystanders—collaborate in this social construction" (Pursell, *Machine* xii), although our respective roles and influences in this activity are certainly not the same. As far as the technophobe-technophile debate, which is far from over, is concerned, the truth, of course, is somewhere between the two extremist positions: "technology has both positive and negative effects, and it usually has the two *at the same time and in virtue of each other*" (Mesthene 26; her emphasis). Neither camp has the whole truth.[3] Technology is not autonomous and is neither inherently good or bad. It seems to me that many of the greatest writers of American literature from Melville to Mailer would agree with Mesthene in her position. In fact, contrary to the prevailingly laudatory voices of celebration, the novelists now considered among the greatest names in the first half of the twentieth century precociously gave voice to their feelings of ambiguity and ambivalence when it came to commenting, directly or indirectly, on the sublimity of technology.

The question inevitably arises: what is the status of the technological sublime today? If it has largely disappeared, as I believe it has, what has filled the void left behind? David E. Nye,

attempting to establish a sense of continuity in humankind's need for sublime experiences, argues that the disappearing technological sublime gave way to rampant consumerism. This "consumer sublime" means the end of the sublime experience through information overload, substituting the virtual for the real, and pre-packaging reality in simultaneous television coverage. In *American Technological Sublime*, Nye offers Las Vegas as the ultimate example of the consumer's sublime: a postmodern landscape, a place built upon the "intensification of experience" (295) that has substituted reproduction of fantasies for the production of goods. Especially apt is this choice for Las Vegas's relative vicinity to, and contrast with, earlier, more meaningful sites of the sublime such as the Grand Canyon, Hoover Dam, and the nuclear testing grounds of the New Mexico desert. The natural sublime made people realize their smallness in contrast with divine creation; the late nineteenth- and early twentieth-century rhetoric of the technological sublime encouraged them to believe in the human ability to subdue and change the world by means of science and technology. By contrast, "in the consumer's sublime of Las Vegas or Disneyland, technology is put to the service of enacting fantasy" (295). In a more recent book, *Narratives and Spaces: Technology and the Construction of American Culture,* Nye laments the commercialization and technologization of such archetypal sublime experiences as the encounter with the Grand Canyon. Whereas people earlier spent days in and near the Canyon, taking in its sublimity gradually, now this experience is increasingly condensed and mediated by technological means such as helicopter rides over the canyon, or viewing an IMAX presentation just outside the park entrance. "Instead of sublimity," Nye writes, "what is wanted are jump-cuts and a collage of novel sensations [. . .] the strongest possible experience in a minimum of time. The grand tour preferred a leisurely banquet of the senses; the post-modern tourist demands fast-food and a shot of adrenaline" (22).

Recent literary theory also offers a reinterpretation of the sublime in the contemporary context. The Postmodern development of recent decades reevaluated many underlying tenets of Modernism, including its relationship to technology. A number of contemporary critics, taking their clue from Jean-François Lyotard's reinterpretation of Kant's theory of sublimity and Fredric Jameson's critique of postmodernism, argue that contemporary reality can best be approached through the concept of the what they call the postmodern sublime. Joseph Tabbi, in a book of the same title defines the postmodern sublime as a "simultaneous attraction to and repulsion from technology, a complex pleasure derived from the pain of representational insufficiency, [. . .] one of the most powerful modes of modern writing in America—a technological sublime that may be located, conceptually and temporally, between Henry Adams's *Education* and Donna Haraway's 'Cyborg Manifesto'" (1). However, his approach, which would suggest that the technological sublime is only approximately one hundred years old, is somewhat misleading. As shown through the literary examples of the previous chapters, the phenomenon of the technological sublime was a by-product of the Industrial Revolution at the latest, but it is possibly as old as technology itself.

This more recent appropriation of the concept of the sublime by Lyotard, Jameson, and other postmodern critics is related to, but also significantly different from, the American technological sublime on the preceding two centuries, the subject of my study. For one thing, the postmodern sublime is no longer just an American phenomenon; in fact, its very essence derives from the experience of confrontation with a global network of corporate, financial, information and communication systems. Its sublimity is not so much derivative of awe at the potentials of such a network, or even fear of its destructiveness of human values or traditions, but of the representational inadequacy with which its critics struggle when faced with it. More importantly, the source of the postmodern sublime is no longer merely technology,

even though some critics, like Tabbi, use the terms “technological sublime” and “postmodern sublime” interchangeably. Arguably, while technology is an important aspect of the postmodern sublime, it is more a symbol of capitalist economy and the postmodern condition than the essence of it. As Jameson writes,

> this alarming disjunction point between the body and its built environment [. . .] can itself stand as the symbol and analogon of that even sharper dilemma which is the incapacity of our minds, at least at present, to map the great global multinational and decentered communicational network in which we find ourselves caught as individual subjects. (44)

The postmodern city, whole sections of which are no longer designed for pedestrians, the alarming technologization of medicine (in such seemingly innocent cases as the large-scale use of synthetic drugs such as anti-depressants, or the more controversial issues of human cloning), and especially the advent of global communication and information systems creating an unprecedented virtual cyberspace are all are all symptomatic of major cultural changes in our era.

Those who care to analyze and critique this postmodern sublime frequently realize our limitations to sufficiently “comprehend the abstract network of contemporary technological forces, as writers of the late nineteenth- and early twentieth-century naturalistic fiction believed they could represent and extrapolate from the forces contained in more visible steam, steel, and coal technologies” (Tabbi 20). Indeed, much of the disappearance of the technological sublime in the original sense of the term is due to the loss of visibility and comprehensibility of contemporary technology by its consumers/victims. Modern science and technology have both grown beyond the comprehension of everyday people. “It is no rocket science”—echoed the popular phrase in the fifties and beyond, even though the

technology of rocket propulsion still relies basically on the well-established Newtonian principles of dynamics. Nuclear energy, computer and information systems, or biotechnology are eminently less comprehensible for laypersons not because they have no effect on our lives, but because of the inherent difficulty to visualize and thus conceptualize them in everyday terms. As a result, most people have given up the hope of making sense of any technology and they no longer try to understand how even a simple machine like a refrigerator works.

Several explanations are available for the failure of today's population to relate to modern technology in a way that people did only a few generations before. It may be related to the fact that, unlike the engineering activity of the nineteenth and early twentieth centuries that produced highly visible and sometimes even aesthetically pleasing artifacts, the most advanced technologies operate on a scale much smaller than what is visible, and thus comprehensible, in simple terms. Many of today's most fantastic technological achievements (microchips or genetic "engineering" are good examples) are nanotechnological in scale and require a thorough scientific training to comprehend. Sensory experience, which has been the basis of the sublime for millennia, is insufficient to appreciate these technologies. The achievements are more difficult to grasp, while technological disasters, such as ecological problems caused by technology, are more visible and sensational. Another possible explanation is the breakdown of communication between the scientist/technologist on the one hand, and the humanist, or even the general population, on the other, due in a large part to increased specialization and the information revolution whereby the amount of scientific and technical knowledge doubles at an alarming rate. Technology is also an ever greater divide between the initiated and the layperson because of linguistic reasons; there is a lack of a common vocabulary, and the reliance on terminology makes it nearly impossible to

communicate and translate concepts into a common "vernacular." In O. B. Hardison's words, "the growth of knowledge produces branches and subbranchings of specialities [. . .] . As the branchings multiply, they seem to isolate people in procedures and languages that are unintelligible to people in other specialties" (xiii). In addition to this cultural and linguistic fragmentation, technology is also losing its appeal because it is increasingly a team achievement rather than the result of individual insight or creativity. There is very little room for technological heroism today, as the recent public relations crisis of NASA proves.[4] Efforts to reconnect people with technology are scarce and unsuccessful, often resulting in "dumbing down" to the level of jingoistic rhetoric, or appeal to popular culture. Partly due to the internationalization of science and the globalization of capital, Americans as a nation take much less pride in the country's scientific and technological record than they did even thirty years ago. While it is debatable, as Nye claims, that a core American culture, as defined by their relationship to the technological sublime has ever existed, it is certain that even if it has, such a centrifugal force has lost much of its appeal as a self-defining concept for the nation.

Notes to Chapter Six

[1] That nature supplies the archetypal sublime objects explains the Romantic period's revival of interest in theories of sublimity. On this issue the best source is Thomas Wesikel's 1976 monograph, *The Romantic Sublime*.

[2] As Daniel Bell shows in his influential essay, "The Coming of Postindustrial Society," the developments did not stop here, since one of the most important changes of the post-World War II period was the shift in the developed world from the manufacturing to the service sector as the chief basis of capitalist economies.

[3] Mesthene also warns her readers of a third fallacy, namely taking the issue of technology too lightly. Dismissing technology as a non-issue is the exact opposite of investing it with too much importance, but it is perhaps also the most dangerous and irresponsible attitude.

[4] In most recent news, NASA is "on a mission to reconnect with the public [. . .] awkwardly exploring the universe of popular arts" (Zaslow 3E). Hosting pop concerts at shuttle launchings is the most recent fad, which follows earlier attempts at winning the public through pop culture, such as "plugging into everything from video games to movie scripts in efforts to explain and sell itself" (Zaslow 3E). The ultimate long-term goal is to reestablish belief and broaden the base of taxpayer support by winning the generation that has just received or is about to receive voting rights.

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