Barbarians

In the closing paragraphs of Sinclair Lewis’s 1925 novel *Arrowsmith*, Martin Arrowsmith and his male companion, Terry Wickett, loll in an ungainly boat in the middle of a Vermont lake. Wickett, a chemist, and Arrowsmith, a bacteriologist, have recently rejected the stifling luxury of the McGurk Institute of Biology in New York City in favor of a homemade laboratory and a rickety shanty far off in the woods. Removed from the constraints of urban institutions and urbane colleagues, they sit beneath the evening sky and discuss the progress of their studies of quinine derivatives. “‘I feel as if I were really beginning to work now,’” Arrowsmith says to both himself and Wickett. He continues with the sentences that close the novel: “This new quinine stuff may prove pretty good. We’ll plug along on it for two or three years, and maybe we’ll get something permanent—and probably we’ll fail!”

Arrowsmith’s prediction of his own failure raised eyebrows among Lewis’s readers. When the author first presented the completed manuscript to his friend and collaborator, Paul de Kruif, de Kruif balked at the concluding sentence. Himself a renegade bacteriologist who became a writer after leaving his position at the Rockefeller Institute, de Kruif had worked with Lewis on the novel since its inception, providing crucial concrete details about the practice of biological research. Late in the summer of 1923, when Lewis invited de Kruif to comment on a draft of the novel, de Kruif found the manuscript both thrilling and true to life. “You’ve done it, my boy. It’s great,” he recalled telling Lewis. “I’d change only one word in the last sentence where Martin and his friend have gone to the bush to make science on their own.” “How’d you change it?” asked the author, whom de Kruif referred to as “Red.”

“Those last words—‘and probably we’ll fail’—”
“What would you say?”
“I’d suggest possibly, not probably, we’ll fail,” I said mildly.
“That shows you’ve missed the whole meaning of Arrowsmith,” Red said, 
shaking his head sadly.²

In this chapter, I argue that what de Kruif missed in Lewis’s representation 
of modern experimental science was the novelist’s vision of science as an es-
sentially unproductive venture. Failure is not epiphenomenal to research in 
Arrowsmith; it is central to the very definition of the true scientist’s endeavors. 
Fundamentally nonutilitarian, Lewis’s science confounds the desire for con-
summation, production, and achievement that de Kruif took for granted.

Like the purists’ search for an ever-receding truth, the explorers’ quest for the 
metaphysical pole, or the martyrs’ enthusiastic embrace of suffering, Arrowsmith 
valorizes the scientist’s uncompensated exchange. Throughout the novel, the pro-
tagonsist’s labors are unremunerated. He belligerently resists all useful scientific 
work, forgoing both professional publication and therapeutic applications as he 
takes on obscure bacteriological problems. As if to drive home the significance of 
the scientist’s lack of productivity, Lewis depicts Arrowsmith’s social and sexual 
relations as equally fruitless when gauged by the conventions of the day. Arrows-
smith ignores every opportunity to accrue wealth and social power, rebuffing ex-
pectations of middle-class mobility. His first marriage proves barren. (His wife’s 
only pregnancy ends with a traumatic stillbirth.)³ His second marriage produces a 
son, yet Martin abandons the child to focus on his scientific work.

Taking the novel as an endpoint, this chapter explores Lewis’s redemption 
of such unproductive expenditure. In dwelling on this aspect of the story, I de-
part from previous treatments of the well-discussed novel. Both literary critics 
and historians of science have explored Arrowsmith’s emphasis on asceticism 
and science. Yet they have not elucidated the connections between those in-
triguing closing lines and the novel’s religious and scientific themes. For exam-
ple, in his superb discussion of the novel, historian of science Charles E. 
Rosenberg mentions the exchange between de Kruif and Lewis but does not ex-
plore its broader implications. Referring to the conversation only in a footnote, 
Rosenberg suggests that Arrowsmith’s denouncement of success can be traced 
to Lewis’s feelings of revulsion about the price of his own fame and fortune: “no 
one had experienced more acutely than he the bitterness of American success.”⁴ 
Lewis’s biographer, the literary critic Mark Schorer, dismisses the ending as “a 
little fantastic, and quite unpersuasive.”⁵ I, however, want to stress the impor-
tance of that ending, showing that the protagonist’s avowed rejection of intel-
lectual and social productivity appears not perverse but virtuous. While the 
novel’s treatment of sacrifice does not necessarily indicate period consensus 
(de Kruif’s confusion over his friend’s choice of endings seems to suggest that 
Lewis’s portrayal of science was not universally shared), it does illuminate larger 
trends in the history of voluntary suffering.
As in previous instances of self-sacrifice, the novel’s evocation of uncompensated expenditure presupposes a state of privilege: only the fully self-possessed man might become the deliberate barbarian Lewis heroizes. Through the characters of Martin Arrowsmith’s wives, his institutionally dependent colleagues, and the racialized inhabitants of a fictive West Indian island, the novel establishes the familiar oppositions and exclusions defining the self-possessed subject: contrasts between masculine, sacrificial science and unscientific, feminine domesticity, and between colonial subjection and liberal self-determination. At the same time, the novel twists these patterns in surprising and complex ways, presenting Arrowsmith’s renunciation of worldly practicality as a position of contradiction, a life at once squalid and transcendent, beneath civilization yet superior to it. Quite unlike the scientists discussed in previous chapters, the fictional Arrowsmith renounces civility itself. In this portrayal, the free and virtuous scientist must be barbaric. Far from establishing his increasing refinement, Arrowsmith’s expenditures highlight his laudable slide toward degeneracy. In this sense, the book marks the culmination of nineteenth-century norms of sacrifice.

As the title suggests, *Arrowsmith* focuses on the experience of the individual scientist. It is above all a “biography,” a coming-of-age story that describes a young man “who regarded himself as a seeker after truth . . . who stumbled and slid back all his life” (45). He is exceptional only because of his intense interest in scientific research. Born in 1883 in the small midwestern town of Elk Mills, Winnemac (a state said to be bounded by Michigan, Ohio, Illinois, and Indiana), Martin is apprenticed at age fourteen to the kindly town physician, Doc Vickers, who urges him to attend college before going on to medical school. (Martin’s parents quietly disappear by page 11, leaving enough money to pay for Martin’s college and medical school tuition.) While studying at the University of Winnemac, Martin is inducted into the alluring world of scientific research through eminent bacteriologist Max Gottlieb.

More than any other character in the novel, Gottlieb reveals Paul de Kruif’s collaboration, combining attributes of German-American physiologist Jacques Loeb, with whom de Kruif worked at the Rockefeller Institute, and bacteriologist Frederick Novy, with whom de Kruif studied at the University of Michigan. Enlivened by technical and imaginative details provided by de Kruif, Gottlieb is one of the novel’s key figures; Lewis even considered naming the book *In the Shadow of Max Gottlieb.* An embodiment of the ideal of research, Gottlieb serves as Arrowsmith’s scientific superego: when Martin wavers from his quest for truth, Gottlieb’s judgmental voice echoes in his head. Gottlieb becomes an “obsession” for Arrowsmith—the ideal incarnation of “the barbarian, the ascetic, the contemptuous acolyte of science” (369).

Despite Gottlieb’s profound influence, Arrowsmith veers from the narrow path of bacteriological research. He marries a young nurse, Leora Tozer. At the
urging of the dean of the Winnemac medical school, T.J.H. Silva (whom the medical students call “Dad”), Arrowsmith completes his degree and moves with his new wife to North Dakota. After a short, unsatisfying stint as a country doctor, Martin takes a series of other nonresearch positions: in Nautilus, Iowa, he joins a blustering booster, Almus Pickerbaugh, in the public health department; in Chicago, he joins a lucrative medical practice, the Rouncefield Clinic, as a private physician. Gottlieb then reenters the narrative, inviting Arrowsmith to abandon public health propaganda and clinic greed for a life of research at New York’s gleaming McGurk Institute.

While at the McGurk, an institution shaped by de Kruif’s recollections of the Rockefeller, Arrowsmith contends with unpleasant professional politics and mobilization for the Great War. In spite of these distractions, he discovers a bacteriophage that inhibits the growth of certain strains of staphylococcus. Encouraged by his peers, he travels to the fictional West Indian island of St. Hubert to test the efficacy of his phage on the island’s plague-stricken populace. At first Arrowsmith seeks to conduct a controlled scientific experiment, in which half the exposed population would be left untreated. While on the island, however, both Martin’s colleague, the buoyant Gustaf Sondelius, and his wife, Leora, also succumb to the plague. Stricken by these deaths, Arrowsmith abandons his experiment and administers the treatment to all who ask for it.

After his return to the States, Arrowsmith recovers from his grief and marries a wealthy widow, Joyce Lanyon. They have a child, and Arrowsmith flits briefly through the highest circles of New York society. Yet in the final pages of the novel, Arrowsmith abandons wife, child, and social position and flees to Terry Wickett’s makeshift laboratory, where he at last dedicates himself to a life of inquiry for inquiry’s sake.

The plot conforms to a typical Lewis pattern: an idealistic protagonist glimpses values beyond the confining spheres of his or her immediate environment and struggles to enact them. Other famous Lewis characters, from Main Street’s Carol Kennicott to Dodsworth’s eponymous lead, also struggle to maintain their personal integrity in a world of corrupt and corrupting values. In Arrowsmith, Lewis perfects the narrative of individual struggle by including a heroic retreat to nature, a theme prevalent in American literature since James Fenimore Cooper’s Leatherstocking novels. As scholars have been quick to point out, by stressing Arrowsmith’s purifying retreat to nature, Lewis revisits one of the dominant motifs of American fiction.

Yet the novel is unique in American literature of the nineteenth and early twentieth centuries in situating those heroic struggles within the realm of science. Certainly scientific protagonists had appeared previously in American fiction: consider Nathaniel Hawthorne’s Rappacini (1844) and Aylmer (1845), Edward Bellamy’s Dr. Heidenhoff (1880), and the mad tinkerer of Jack London’s “A Thousand Deaths” (1899). Arrowsmith, however, is the first significant
American novel to feature a research scientist as its central character. As such, the prize-winning novel not only heralded a new literary investment in science but also crystallized ethics of sacrifice for science that had been developing over the previous four decades.

Among pure scientists of the 1880s, polar explorers of the 1890s and 1900s, and roentgenologists of the 1900s and 1910s, science was generally represented as socially and materially unrewarding. Proponents of pure science proudly trumpeted their disgust for lucrative applications; MacMillan, Peary, and Cook emphasized the addictive, obsessive aspect of their quest for the pole; early X-ray experimenters heralded their colleagues’ fatal pursuit of new knowledge. The supposed virtues of these pursuits were at once achieved and confirmed through suffering: investigators’ voluntary endurance of physical, mental, economic, or social hardship attested to their affective and moral character: pure, trustworthy, noble, and so on.

These starkly different examples, however, shared an emphasis on the civility of their unproductive work. As we have seen, a dedication to “science for science’s sake” was said to demonstrate an advanced level of cultural development. In Henry Rowland’s words, only an elite few with the “ability” and “taste for higher pursuits” were willing to sacrifice themselves for greater knowledge. According to Peary, his advanced system of exploration would elevate the field; by circumventing unnecessary, unwilling suffering, he revealed the progress enabled by science. The X-ray martyrs similarly presented one another as embodying the highest cultivation of manly virtue. In other words, voluntary suffering not only required but generated refinement. Self-sacrifice both elevated the scientist and demonstrated the lofty moral and intellectual position that a few privileged bodies had already been allotted.

Lewis’s *Arrowsmith* at once extends and reverses this pattern. On the one hand, Arrowsmith shares a disdain for material concerns and similarly vows to transcend such interests through a devotion to truth for truth’s sake. On the other hand, Lewis turns the civilizing mission of science on its head. Although, like Henry Rowland, he presupposes progressive cultural development through the familiar hierarchical categories of savagery, barbarity, and civilization, Lewis’s protagonist heads down the great chain of being in the opposite direction. In stark contrast to Rowland’s 1883 declaration that the pursuit of knowledge represents the pinnacle of gentlemanly refinement, western achievement, and moneyed good taste, Arrowsmith’s quest for truth appears not civilized but feral. In Lewis’s depiction, science requires this barbarity. The scientist’s transcendence emerges, paradoxically, through his descent from civilization. The novel’s supporting characters also reverse conventional evolutionist rhetoric. Dr. Marchand, for instance, the Negro physician Arrowsmith encounters on St. Hubert, epitomizes urbane, genteel civilization; in Lewis’s hands, however, civility becomes the thing that courageous men avoid. Civilization implies a range of
attitudes and behaviors in the narrative: table manners, charity, polite language, compassion, concerns about personal cleanliness, and the acquisition of private property. Science entails a renunciation of them all.

Descriptions of Arrowsmith’s scientific incivility permeate the novel, which Lewis tried to title Barbarian. While serving as acting director of the Nautilus Department of Public Health, for instance, Martin sloughs off learned niceties while investigating the production of hemolysin in sheep’s blood. He growls at his wife and at his assistants. He fumes, rages, and sweats (248). He curses, forces his wife out of bed to help him prepare media, and is violent to his stenographer (248–49). Eventually, he is removed from his position as acting director. It remains unclear, however, whether Martin’s barbarism is acquired or inborn. In some instances, the scientist-as-barbarian appears to reveal degeneration (that is, he loses his civility through Lamarckian devolution); in others, he demonstrates atavism (he has somatically reverted to barbarity even before birth). In either case, barbaric he remains.

Nevertheless, Arrowsmith is tempted repeatedly by the delicacies of civilization. With his move to Chicago, he temporarily regains a veneer of gentility. He and Leora enter “the world of book-shops and print-shops and theaters and concerts. They read novels and history and travel.” They chat with “journalists, engineers, bankers, merchants” (260). Yet the moment Arrowsmith receives another opportunity to pursue research, his barbarism returns. When he discovers the staph-eating phage while at the McGurk, he forgets “Leora, war, night, weariness, success, everything” (296). As he delves deeper into his experiment, he begins to steal laboratory materials from Gottlieb and cigarettes from technicians (297). He stops bathing. He babbles (300). He stomps around the institute, “pillaging” for food (298). He enters his home only rarely and briefly, just long enough to gobble food “like a savage” (300).

As Arrowsmith’s research continues, he spirals still further from norms of civil behavior. He jettisons not only the superficialities of table manners and shaving but even his own mental stability. He becomes neurasthenic and obsessive. He spells words backward. He begins a checklist of his myriad phobias: agoraphobia, claustrophobia, pyrophobia, siderodromophobia (303–4). When at last anthropophobia sets in, Arrowsmith retreats from his work in an effort to regain self-command (304). Only with the timely intervention of the McGurk administrators—who demand that Arrowsmith cease experimenting in order to publish—does he avoid a headlong rush into mental pathology.

In one sense, of course, Lewis’s depiction of the barbarity of science reflects the particular concerns of postwar American literature. Like his acerbic contemporaries H. L. Mencken and Sherwood Anderson, Lewis scorned what he viewed as the domestication of industrialized society. The conventions of efficient accumulation found in popular domestic and workplace guides of the 1920s (epitomized in Stuart Chase’s 1927 The Tragedy of Waste) portrayed any
unproductive expenditure as a moral indecency.\textsuperscript{17} But Lewis and other writers took issue with this dogmatism. As Alfred Kazin describes, these intellectuals rebelled against an America they viewed as dangerously “soft.”\textsuperscript{18} In this respect, Arrowsmith’s barbarity reveals the disgust with cultured norms of civility and efficiency that Lewis shared with leading writers of the era.

The barbarity of science, however, not only points to an idealization of the “wild” generally present among 1920s intellectuals but, more significantly, to an ambivalence about emotional affect that diverges from previous instances of self-sacrifice. From the purist’s devotion to the X-ray experimenter’s enthusiasm, the scientist’s compulsive love for science has been depicted as central to his willingness to suffer for it (or “her”). In Arrowsmith, by contrast, the scientist is distinguished by his lack of emotional vulnerability. Here, the essence of science is experimentation, which demands dispassionate cruelty. That perspective reveals Lewis’s reliance on his collaboration with de Kruif.

As mentioned, de Kruif, who published thirteen best-selling books of his own, trained in bacteriology at Michigan and the Rockefeller Institute under the physiologist Loeb.\textsuperscript{19} From Loeb and his colleagues, de Kruif inherited a belief in the mechanistic determination of all natural phenomena and a commitment to rigorously controlled experimentation as the appropriate means for discerning those mechanisms.\textsuperscript{20} To acquire knowledge, he insisted, hypotheses must be tested in narrowly defined, strictly managed, reproducible experiments; performing these experiments required a certain kind of “scientific worker,” one able to eradicate all emotional sensitivity. “No matter how valuable [emotions] may be in other walks of life,” de Kruif asserted in Century Magazine shortly before he met Lewis, they are “out of place in science.” The experimenter must be “judicial” and “unemotional,” eliminating his feelings as he eliminates tainting external variables.\textsuperscript{21} Factors that determine experimental results “are to be weighed and measured meticulously and coldly, without enthusiasm for one, or disdain and enmity toward another.”\textsuperscript{22} For de Kruif, scientists were “heartless persons” consumed, like all explorers, by a single incessant impulse: “to know, to discover, to find out the how of things.”\textsuperscript{23} As he wrote in 1922:

Contrary to their own occasional pretension, and to the invariable description of them in newspapers and popular gazettes, their desire is not primarily to relieve suffering humanity. They are driven to their task by that strange instinct that gave rise to the impudent and dangerous explorations of Henry Hudson and to the unholy and heretical probings of Galileo.\textsuperscript{24}

This insensitivity to human suffering, de Kruif insisted, distinguished scientists not just from physicians but from the masses more generally. “Humanity in general is certainly not ready for a martyrdom to the progress of knowledge,” he
summarized in one description of experimental science. “It is doubtful, indeed, whether the generality will ever become the prey of such a disemboweled itch for knowledge.”

In following de Kruif’s lead, Lewis’s novel disrupts certain aspects of nineteenth-century sacrificial ethics. Where previously the special sensitivity of the scientist readied him for sacrifice (unlike those allegedly insensate bodies against whom the voluntary sufferer was defined), in *Arrowsmith* it is a special insensitivity that distinguishes the “disemboweled” scientific self. Sensitivity becomes equated with civility, which is in turn feminized and racialized. The absence of emotion signals manly self-possession.

Soon after de Kruif met Lewis in 1922, the outspoken young bacteriologist quickly came to influence Lewis’s conception of the new novel, acting at once as literary model, informant, and critic. Lewis affirmed his influence in numerous letters to publisher Alfred Harcourt:

> It gives me joy to inform you that De Kruif is perfection. He has not only an astonishing grasp of scientific detail; he has a philosophy behind it, and the imagination of the fiction writer. He sees, synthesizes, characters. You’ve sometimes said that my books are meaty; this will be much the meatiest of all—characters, places, contrasting purposes and views of life; and in all of this there’s a question as to whether he won’t have contributed more than I shall have.

Through the figure of Gottlieb in particular, Lewis emphasizes the scientist’s necessary renunciation of compassion. Gottlieb, like Loeb, has been educated in the tradition of German experimentalism and possesses “a diabolic insensibility to divine pity, to suffering humankind” (332). He “would rather have people die by the right therapy than be cured by the wrong” (120). Such insensitivity, Lewis follows de Kruif in suggesting, is essential to the life sciences, which demand experimenters’ cold indifference to the suffering of living subjects. As Gottlieb calmly and deftly kills a squirming guinea pig with a vial of anthrax in front of his rapt class, he lectures: “Some of you will think that it does not matter; some of you will think, like Bernard Shaw, that I am an executioner and the more monstrous because I am cool about it; and some of you will not think at all. The differences in philosophy is what makes life interesting” (36).

Nauseated by the experiment, one student lumbers home from Gottlieb’s course meditating on the relation between the guinea pig’s death and the “sacrifice of the martyrs” exalted in Christian theology (37). The student, who appears to lack the indifference to suffering requisite for experimental work, ultimately decides to pursue another career. Clearly, science necessitates a specific kind of emotionality, and one with its own attendant styles of embodiment.
The scientist might be “heartless” when conducting experiments, the novel notes, but he must *passionately* detest false ideas. In a speech that one Lewis scholar describes as Arrowsmith’s “ritual initiation” into the world of pure science, Gottlieb informs his pupil that he must have a heart filled with hatred for the preachers who talk their fables . . . the anthropologists and historians who can only make guesses . . . the ridiculous faith-healers and chiropractors . . . the doctors that want to snatch our science before it is tested and rush around hoping they heal people . . . worse than the imbeciles who have not even heard of science, he hates pseudo-scientists, guess-scientists . . . he hates the men that are allowed in a clean kingdom like biology but know only one text-book and how to lecture to nincompoops all so popular! (267–68)  

Elsewhere, Gottlieb continues to advocate a hearty contempt for untruth and a staunch intolerance for those would propagate it. He encourages Arrowsmith to do “violence to all the nice correct views of science” (53) and assails him when he feels the young man has taken up “monkey-skipping and flapdoodling” in lieu of hardboiled research (303). Intellectual creativity must be pared away to make room for the destruction of false ideas: students who “wish a liddle bit to become scientists,” Gottlieb tells Martin, must be seized, denounced, and taught “right away the ultimate lesson of science, which is to wait and doubt” (15).  

While Gottlieb embodies the need for scientific contempt, Terry Wickett—the only other experimenter in *Arrowsmith* to escape Lewis’s satirical condemnation—is equally uncivil. At their first meeting, Arrowsmith is put off by Wickett, flustered when the chemist aggressively inquires whether he intends to be “one of the polite birds that uses the Institute for social climbing” or “one of the roughnecks like me and Gottlieb” (274). Initially disgusted by Wickett’s manner, Arrowsmith eventually comes to understand and mimic him, following Terry “the barbarian” to his homemade laboratory in Vermont (427). Experimental science, Lewis indicates, demands passionate, Nietzschean contempt—a hatred of all received ideas and their cowlike adherents.  

This hardened, hate-filled quest for knowledge hardly invites the feminine metaphors that pervade the writings of late nineteenth-century proponents of pure science. Truth is no beguiling goddess, making revelations, as G. Stanley Hall wrote in 1894, to “those who truly love and wait upon her.” In *Arrowsmith*, truth is a “clean, cold, unfriendly” set of “fundamental laws” (217, 116). Lewis compares the search for these laws to the detective’s snaring of criminals, the surgeon’s excision of tumors, and the soldier’s violent ambush of the enemy (296, 297, 301). Truth is, in short, more akin to the “terrible glory of God” than to “pleasant daily virtues” (116). The reference to the “terrible glory of God” points to the tension inherent in Lewis’s depiction of the scientific life. For all of
Arrowsmith’s sweating, raging contempt, his stance is portrayed as essentially sublime, noble rather than brutish.

Lewis had long intended to write a book featuring a religious hero. After the commercial success of his preceding books, the biting *Babbitt* and *Main Street*, Lewis intended his next novel to quell the widespread criticism that he lacked “spiritual gifts.”31 To this end, he planned a novel about the labor movement, featuring a Christ-like leader modeled after socialist Eugene Debs.32 As Lewis wrote to his wife Grace in 1922, “a Debs lasts; he is pure spirit; he would walk to his crucifixion with firm & quiet joy.”33 But Lewis put aside his religious novel the moment he met de Kruif. In the beleaguered bacteriologist (de Kruif had recently lost his position at the Rockefeller Institute after publishing a critique of medical greed), Lewis found a new model for his spiritual novel. As Lewis scholar James Hutchinson notes, de Kruif was “every bit as admirable and courageous as Debs but associated with a higher social class and a more reputable and idealistic calling.” Although he empathized with the blue-collar world of Debs’s labor agitation, Lewis may have been squeamish about bringing his satirical style to settings with which he had no personal familiarity. In Hutchinson’s view, “Lewis obviously felt more comfortable with this class of people and more confident of being able to portray them in his fiction.”34

While Lewis relied on de Kruif as a model for the scientific and biographical details of *Arrowsmith*’s characters, he diverged from de Kruif in emphasizing the essentially religious character of the project of science. Scientists in *Arrowsmith* are anything but the heretics described by de Kruif in 1922; for Lewis, the piety of scientific work is its foremost grace, and Max Gottlieb best represents the religious character of scientific research. Described as a “shadow” of a person, Gottlieb shuns the body to the best of his ability (13). While a professor at Winnemac, the tall, gaunt man lived in a dank, cramped cottage and rode a squeaky old bicycle to school. Although married, he wed his “thick and slow-moving and mute” wife without thought, “as he might have bought a coat or hired a housekeeper” (122, 119). Gottlieb was a man for whom “abstractions and scientific laws were more than kindly flesh” (291).35

Arrowsmith perceives that this neglect of or contempt for the body is the sign of Gottlieb’s greatness, his “priestly” asceticism (38). He condemns his “idiot” classmates for failing to recognize “what a man like Max Gottlieb means” (31). “You think Gottlieb isn’t religious,” young Martin argues with a classmate. “Why, his just being in a lab is a prayer” (31). In a way, the classmates’ failure to appreciate Gottlieb’s manhood is understandable since that manhood stems, paradoxically, from his diminution of the body. When Arrowsmith first sees Gottlieb, the professor appears as

a tall figure, ascetic, self-contained, apart. His swart cheeks were gaunt, his nose high-bridged and thin. He did not hurry, like the belated homebodies.
He was unconscious of the world. He looked at Martin and through him; he moved away, muttering to himself, his shoulders stooped, his long hands clasped behind him. He was lost in the shadows, himself a shadow.

He had worn the threadbare top-coat of a poor professor, yet Martin remembered him as wrapped in a black velvet cape with a silver star arrogant on his breast (13).

Gottlieb’s power, in other words, arises from his renunciation of the world of flesh. Martin’s wife Leora confirms this power. Referring to Gottlieb as “the greatest man” she’d ever seen, she informs her husband that the emaciated scientist is “the first man I ever laid eyes on that I’d leave you for, if he wanted me’” (118). Manliness increases with every demonstration of bodily denial.

This ascetic practice is no self-effacing piety, however. As the barbarity of Arrowsmith’s actions make clear, transcendence demands a vigorous, violent scorn for civilization and its trappings. From the “sacrifice” of Gottlieb’s guinea pig to the aggressive tones of Martin’s “prayer of the scientist” (269), the religious ascetic and the “contemptuous acolyte of science” are said to share a hardened quest for a higher truth. Terry “the barbarian” exemplifies this hardness. Wickett’s jibes, as Arrowsmith realizes, “made up the haircloth robe wherewith he defended a devotion to such holy work as no cowled monk ever knew” (410).

The climactic episode of the novel, when Arrowsmith and his entourage travel to the plague-stricken island of St. Hubert to test his phage, condenses and reveals the tension between a barbaric commitment to truth and a civilized humanitarianism. It also demonstrates how racialized histories of voluntarism allow the denial of life-saving medication to the island’s inhabitants to be portrayed as noble: unlike the colonial subjects of St. Hubert, the fully self-possessed visitor might (and must) willfully surrender his heart along with his body. Before he departs for the island, Gottlieb tells his protégé that only refusing the human temptation toward pity can preserve his status as a scientist. Martin must resist the cry of his “own good kind heart,” lest his humanity “spoil” the experiment (338). Humanitarianism is not in itself a contemptible value, Gottlieb concedes; but above all, foremost and first, there “must be knowledge,” acquired only through a cold willingness to allow some human beings to go untreated as an experimental control (338). Rather than refuting his instinct for pity entirely, Gottlieb suggests, Arrowsmith must allow his pity for imagined successive generations to douse his eagerness to treat the sick and suffering of today. “Let nothing,” Gottlieb repeats firmly, “neither beautiful pity nor fear of your own death, keep you from making this plague experiment complete” (339).

Yet once he witnesses the tormented deaths of so many of the islanders, Martin wavers in his desire for experimental completeness. In his moment of
weakness, “he regained the picture of Gottlieb’s sunken, demanding eyes; and he swore that he would not yield to a compassion which in the end would make all compassion futile” (359). The question for Arrowsmith, as for the “volunteers” of Emerson’s poem, was, Which suffering was worthwhile and on what basis? With what conviction might the reason for the exchange be assured? As Arrowsmith prepared to justify his plan to the island’s board of governance, he summoned the image of his mentor for sustenance. “Beside him stood Max Gottlieb, and in Gottlieb’s power he reverently sought to explain that mankind has ever given up eventual greatness because some crisis, some war or election or loyalty to a Messiah which at the moment seemed weighty, has choked the patient search for truth” (361).

Despite the calming assurances of the biblical Gottlieb, Arrowsmith’s plan to leave some of the colonial subjects untreated triggers an enraged protest from the island’s governors. The emotive civility of colonialism is set in opposition to the barbarity of Arrowsmith’s refusal to administer the treatment universally. Colonial administrator Sir Robert Fairlamb bellows at Arrowsmith’s proposal:

“Young man, if I were commanding a division at the front, with a dud show, an awful show, going on, and a War Office clerk asked me to risk the whole thing to try out some precious little invention of his own, can you imagine what I’d answer? There isn’t much I can do now—these doctor Johnnies have taken everything out of my hands—but as far as possible I shall certainly prevent you Yankee vivisectionists from coming in and using us as a lot of . . . sanguinary corpses.” (360)

Apologizing to his wife, “Lady Fairlamb,” for his use of strong language and maintaining the cordial “Sir” at the end of his address, Fairlamb epitomizes the mannered civility that Martin—emboldened by the image of Gottlieb—rej ects. Arrowsmith invokes the safety of his racial privilege to boast of his resistance to the people who are trying to compel him to administer the phage: “Nothing can make me do it, not if they tried to lynch me” (375). When Leora dies on the island, however, he falls apart. Soon he is injecting everyone, taking “a bitter satisfaction in throwing away all his significance, in helping to wreck his own purposes” (376). Destroying the opposition to practical utility that gave his work meaning, Arrowsmith feels that he is a “traitor to Gottlieb and all that Gottlieb represented.” The more the people on the island “shouted his glory, the more he thought about what unknown, tight-minded scientists in distant laboratories would say of a man who had his chance and cast it away. The more they called him the giver of life, the more he felt himself disgraced” (381).

What the panoptic gaze of these unknown scientists suggests, Lewis implies, is an affinity between the concerns of experimental scientists and cowled monks: a shared devotion to purposeful impracticality, to the ceaseless quest
for an ever-receding truth. Like polar explorers dying to reach an obscure mathematical point or radiologists scorching their fingers in an effort to discover the source of the X-ray “burns,” Lewis’s scientist lunges into his search for “the underneath principle” that he well knows he can never obtain (53). Although ultimately futile, this incessant search for truth is not unpleasant: like Walter J. Dodd or G. Stanley Hall, Arrowsmith is never so happy as when facing insurmountable new “mountain-passes of work” (301). He “beautifully and excitedly fail[s]” in his experiments (247). He must fail, in the end, since his goal—his ennobling, purifying goal—is to accede to a fugitive, inexhaustible truth. (Lewis toyed with titling the book “The Merry Death.”) Revealing in the ceaselessness of his quest, Arrowsmith contentedly studies all night to prepare for the “work whose end is satisfying because there is never an end” (287). As a grown man in Vermont, Arrowsmith looks forward to the failure of his investigations of quinine derivatives; as a boy, he “blissfully” looked for, but never managed to find, “the Why that made everything so” (54).

From one perspective, Lewis’s emphasis on the eternal failure of Arrowsmith’s investigations seems perfectly in keeping with the imperatives of a growing consumer society. Science, like beauty, might be seen as the kind of luxury, of conspicuous consumption, that ultimately affirms the norm of measured, temperate productivity. One member of the American Association for the Advancement of Science affirmed this view in 1920, suggesting that scientific research, like “artistic creation” or “philosophic speculation,” is a “reservation” for the mind: “great world parks to which man must resort to escape from the deadening, overspecializing routine of his habits, mores and occupations and enjoy veritable creative holidays of the spirit.” Here, science’s uselessness offers a respite that ultimately allows the machinery of civilization, including “man” himself, to spin on smoothly.

Lewis, however, offers a more profound critique of the objectives of productivity, allowing Arrowsmith to triumph as a heroic figure only after disavowing consumption and fulfillment altogether. Emphasizing this point, Lewis matches the idealized futility of Arrowsmith’s scientific research to the unproductivity of his marriages. Arrowsmith defies reproductive norms by abandoning his only child, casually throwing off paternity in favor of an adult relationship with Terry Wickett. But he also subverts the norms of monogamous, reproductive heterosexuality in his relationships with women. He terminates his youthful romance with the white-limbed, elegantly dressed Madeline Fox for the “vulgar, unreticent” Leora Tozer (56). While he longs physically “for the girl Leora,” Arrowsmith entrusts his emotional life to “another, sexless Leora,” one who “with her boyish nod or an occasional word . . . encouraged him to confidence” (70–71). In “her indolence, her indifference to decoration and good fame,” Leora “was neither woman nor wife but only her own self” (397).

Like Leora, here described as alternately boyish and sexless, the two other
women in Arrowsmith’s life also appear attractively defeminized. Orchid Pickerbough, the nineteen-year-old daughter of Martin’s boss in Nautilus, Iowa, was never so appealing to Martin as when playing in the snow, dressed in the “roughness of tweeds, eyes fearless, cheeks brilliant as she brushed the coating of wet snow from them, flying legs of a slim boy, shoulders adorable in their pretense of sturdy boyishness” (212). Similarly, Joyce Lanyon, the woman who becomes Arrowsmith’s second wife, strikes him as attractive at the same moment she appears to be his physical double: “she was his twin; she was his self-enchanted” (368). Drawn by androgynous or boyish female figures, Martin quietly secedes from the norms of reproductive heterosexuality, affixing his affections to Wickett and Gottlieb (33, 314) and his lust to an infinitely receding truth.

Exemplifying the rejection of softness prevalent among literary intellectuals of the 1920s, Lewis presents the feminine as the antithesis of science throughout the novel. Experimentation, the emblematic activity of the brutal assault on truth, only acquires feminine attributes when ill-conceived or poorly executed. A professor at Arrowsmith’s medical school, for instance, conducts this sort of efeminate research: “When Robertshaw chirped about fussy little experiments, standard experiments, maiden-aunt experiments, Martin was restless” (22). In one of the rare passages where science itself is feminized, the speaker is no researcher at all but an eminent pathologist who abandoned the “tough” work of experimentation for the decorative work of institutional administration. The metaphorically emasculated researcher, Dr. A. DeWitt Tubbs, bubbles to Martin, “‘I’m afraid I’m not the moral man that I pose as being in public! Here I am married to executive procedure, and still I hanker for my first love, Milady Science!’” This confession of scientific desire strikes Martin as disingenuous, however, since he notices that Tubbs’s laboratory bench shows no sign of recent use (274). The feminization of science in Tubbs’s statement only acts to accentuate his detumescence as a researcher.

The only explicitly feminized object in the McGurk Institute’s laboratory space, an enormously expensive and largely ornamental centrifuge nicknamed “Gladys,” happens also to be the only notably dysfunctional object in the novel. Gladys fails to separate materials and frequently flings the contents of test tubes out into the laboratory. Uncontained and uncontainable, the leaky centrifuge is finally dismissed from the McGurk for “her sluttish ways,” and Martin and Terry get “bountifully drunk” to celebrate “her” departure (418). The sale of the centrifuge purportedly purifies the institute (315). But like the psychoanalytical repressed, Gladys returns. Joyce, Arrowsmith’s second wife, acquires the expensive apparatus when constructing a laboratory over their garage for Martin’s use. Her proud acquisition of the discarded machine confirms Arrowsmith’s perception of women’s scientific ineptitude. The feminine—whether evident in the cloying affection of Joyce Lanyon or the mechanical incompetence of Gladys—poses a continual obstacle to Arrowsmith’s science.
Femininity is also tied to domesticity, which threatens to tame barbaric, unproductive science. Arrowsmith’s laboratory technician, while competent, cannot become a real scientist since he favors “six hours’ daily sleep and sometimes seeing his wife and children” (324). Invariably, the temptations pulling the scientific hero away from his barbarous pursuit of science are cloaked in similar domestic imagery. Representatives of the home appear throughout the narrative to try to convince Arrowsmith of the value of utility and productivity. Dean T.J.H. Silva, for instance, scolds Arrowsmith for having an irrational infatuation with knowledge for its own sake. Echoing an earlier article by de Kruif, “Dad” Silva tells Martin:

“It’s all very fine, this business of pure research: seeking the truth, unhindered by commercialism or fame-chasing. Getting to the bottom. Ignoring consequences and practical uses. But do you realize if you carry that idea far enough, a man could justify himself for doing nothing but count the cobblestones on Warehouse Avenue—yes, and justify himself for torturing people just to see how they screamed.” (117)

The father reprimands his wayward son for scattering intellectual seed. Work must be useful, he insists; energies must be spent wisely and fruitfully. Despite Dad’s best efforts, Arrowsmith maintains his sense of “higher” value. When the dean’s efforts to lure Arrowsmith toward useful research are thwarted by Martin’s stubborn attachment to research, “Dad” Silva enlists the aid of that other key representative of the home: Mrs. Arrowsmith. Insisting that Martin should be “passionate on behalf of mankind,” he admonishes Leora, “‘You must keep him at it, my dear, and not let the world lose the benefit of his passion’” (118). At the other end of the spectrum, Gottlieb, exemplar of authentic science, repeatedly criticizes marriage in front of Arrowsmith, sneering at “dese merry wedding or jail bells” (105). Arrowsmith himself waffles between the world of sensible domesticity and unreasonable scientific extravagance. After marrying for the first time, for example, he vows to take up useful, lucrative habits. “He had Leora now, forever. For her, he must be sensible. He would return to work, and be Practical. Gottlieb’s ideals of science? Laboratories? Research? Rot!” (103). When Arrowsmith at last renounces Joyce and commits himself to pursuing science in the wilderness, only “maverick and undomestic researchers” are welcome (427).

Despite the novel’s apparent antithesis between unscientific, feminine domesticity and scientific, masculine barbarity, it is worth pointing out that women characters themselves do little to disable scientific research. While Gottlieb curses the prison of marriage, for instance, it is his “mute” wife who first enables his presence in the lab and his daughter Miriam who later supports his science emotionally, financially, and practically. Leora goes still further, resisting efforts to turn her wild husband into a polite and respectable citizen and
steering Arrowsmith toward the hard, cold life of research as he reluctantly backs away. “You belong in a laboratory,” she insists when he considers “settling down” to a useful occupation: “finding out things, not advertising them. . . . Are you going on for the rest of your life, stumbling into respectability and having to be dug out again? Will you never learn you’re a barbarian?” (210) While the novel’s male characters contrast femininity and authentic research, the actual women in the story in fact protect and promote their research. The salient struggle for self-definition, then, lies within the powerful men at the center of the story—in their own persistent efforts to mold themselves to the demands of science.

By feminizing the productivity of civilization and masculinizing an unproductive barbarism, Lewis recoups Arrowsmith’s blissful pursuit of an unattainable goal as testimony to his manliness, his scientificity, and his moral virtue. Far from perverse, his rejection of production and reproduction appear eminently laudable, the sign of individual perseverance and integrity. What de Kruif failed to realize when he first read the Arrowsmith manuscript is the degree to which the rejection of compensation—the loss at the heart of this exchange with science—produces Arrowsmith’s heroic status. While Lewis’s biographer discards the novel’s conclusion as “a little fantastic,” Arrowsmith’s happy expectation of failure actually represents his ascendance as a self-sacrificing scientist. What Lewis so skillfully reveals is a key tension in standards of sacrifice: Gottlieb is at once emaciated and arrogant; Wickett is at once barbaric and eminently admirable; Arrowsmith’s life is at once squalid and transcendent. While the real-life scientists we have seen in preceding chapters struggle to come to terms with the contradictions of sacrifice, Lewis’s fictional scientist inhabits them triumphantly, lolling happily on a placid lake.