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**AN INDISSOLUBLE UNION: HOW THE
AMERICAN WAR FOR INDEPENDENCE
TRANSFORMED PHILADELPHIA'S MEDICAL
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HEALTH ESTABLISHMENT**

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There is an indissoluble union between moral, political, and physical happiness; and if it be true, that elective and representative governments are most favourable to individual, as well as national prosperity, it follows of course, that they are the most favourable to animal life.

—Benjamin Rush, “An Inquiry into the Cause of Animal Life”

*A*s news spread through Philadelphia that Germantown was lost and that General Howe's army was on the march toward the revolutionary capital, thousands fled the city. Some wanted to get themselves safely within Patriot-held territory. Some simply feared another round of the pillaging that had become a common practice of both armies. Some, however, went to attach themselves to the Continental Army, and among these were a number of Philadelphia's medical men. When the war came, American forces harvested many of their best doctors and surgeons from Philadelphia, the richest intellectual soil in the nation. When they returned to the city at war's end, they came with a new

confidence and a new sense of purpose. Their experience, of trying to cure legions of sick and wounded, and of trying to bring sanitary order to the chaotic encampments, had provided them with years of intensive training that no hospital could match. But it also taught them how to think about their profession as one not merely concerned with the healing of individual bodies, but with promoting and preserving the health of entire populations. The medical men left wanting to save Philadelphians; they returned wanting to save Philadelphia.¹

A number of works have treated the subject of medicine in the revolution, but few have engaged it as a political question. Most studies have focused on the mechanics of medical care. A few have explored the turbulent history of the medical department. Some physicians of the period have warranted biographical treatment, most notably the complicated and fascinating Benjamin Rush, the one true medical celebrity from the period.² Historians have emphasized how medical men affected military operations, and in some cases, how wartime experience changed medical practice. My interest is in how the war affected the medical men not as caregivers, but as *political actors*.³

The war changed the medical men in four key respects: First, it plunged them into hands-on medical practice, granting them a depth of knowledge they simply did not possess before the ordeal. Second, it endowed them with the prestige associated with revolutionary service and made their names known to the thousands of men they treated. Third, it put them in conversation with generals and civilian leaders, allowing them to develop the political alliances and acumen that would serve them in their later careers. Last and most important, it taught them to think in terms of populations. Because their greatest task was not the treatment of wounds but the maintenance of health, the medical men habituated themselves to thinking about how environmental and social vectors spread illness. Moreover, they grew accustomed to having their advice noted, if not always heeded, and sometimes to having it enforced through military discipline. All of these factors contributed to constituting the early national medical community in Philadelphia as a politically active force.

The Medical Community of Colonial Philadelphia

Philadelphia was the nation's medical capital in 1776, but the city's medical community before the revolution was also something of a ramshackle, piecemeal assemblage. In this, it was a reflection of the broader medical community

of the Anglo-American Atlantic. The elites of that coterie were physicians, who occupied the highest social ranks and were the most likely to boast university degrees. Surgeons and apothecaries, by contrast were viewed as more akin to trades than professions, learned by apprenticeship rather than education. Such distinctions were less pronounced in the colonies than in Britain and continental Europe, but they were begin to emerge, especially in major cities like Philadelphia, which became home to a medical school in 1765. While many of the city's surgeons and doctors bore no formal credentials, a new generation was rising through the more university-centered medical culture. Some held degrees from the province's newborn medical school. More highly esteemed were those who had learned at the great European centers of medical education: London, Leyden, Paris, and Edinburgh.

James Hutchinson provides an exemplary case. He took an early interest in pharmacy but had no wish to spend time learning the classical languages and other peripheral disciplines required in eighteenth-century medical training. Instead, recommended by Benjamin Rush and the Bartram brothers, who declared him "well acquainted with both Theory and Practice" of his art, he learned as an apothecary at the Pennsylvania Hospital.⁴

Still, Hutchinson's ambitions were higher, and with hopes "for improvement in every part of the Healing Art; to be able to expel the raging fever, to make diseases die," he traveled to London to study surgery.⁵ In traveling to Britain to receive instruction, he joined a great many of his countrymen. Between 1747 and 1800, more than one hundred Americans returned from Edinburgh alone bearing medical degrees. In 1765, as many Americans as Scots took medical degrees there.⁶

Others, like Hutchinson, elected to seek experience in hospitals. His host in London, the celebrated London physician and reformer John Fothergill, had advised him that surgeons were more needed in Philadelphia than physicians, and the student therefore sought an apprenticeship as a dresser to Percival Pott at St. Bartholomew's Hospital. At the time, surgery and apothecary were often regarded more like common trades than the profession of Physick, which often demanded more extensive education. However, this attitude was beginning to shift, with the rise of celebrated surgeons like Pott and John Hunter.⁷

Whether practical or theoretical, European training translated to vastly increased credibility in Philadelphia. Even in 1762, the young William Shippen lectured on anatomy before an amphitheater packed with auditors whose age and experience far outstripped Shippen's twenty-six years.

The famed brothers Hunter contributed the content of his lecture. Fothergill contributed the anatomical plates he used to illustrate his arguments. The prestige of Europe gave a young man something to teach his elders.⁸

In some respects, the European sojourn served to strengthen ties among the colonists and a sense of American identity. Writing of the friendships he forged with physicians from other colonies while in Edinburgh in the 1760s, Rush observed that the “original bond of union was our native country, a principle which always acts with most force when the subjects of our patriotism are limited, and when we are at a distance from home.”⁹ Hutchinson would echo the sentiment during his studies in London nearly a decade later, as the escalating war jeopardized his chances of obtaining passage back to America. He criticized his fellow colonists who had taken berths with the Royal Navy as traitors, but despaired of how he would ever return home. Fothergill commiserated with the worried student over the uncertain fate of his home, lamenting that “we know not whether that great city may not be now in Ashes, or a heap of ruins!”¹⁰

Smuggled home by way of France, Hutchinson carried a letter that would ensure him employment. Fothergill praised Hutchinson’s “capacity and incessant application,” and in keeping with his pacific convictions, recommended him for a hospital posting, as to avoid military service, as “he would there be much more useful to society by instructing others, than by his personal attendance in Camps or Armys.” But Hutchinson did not suffer the secret voyage simply to act as a teacher. Risking the ostracism of his fellow Quakers, Hutchinson, along with untold numbers of others, went to war.¹¹

The Clinic Born on a Battlefield: The Experience of Military Medicine

More than a thousand physicians, surgeons, surgeon’s mates, apothecaries, nurses, and others worked to attend sick and wounded American soldiers over the course of the revolutionary war, bloodying their hands in numberless bodies. Hutchinson wrote to his uncle of the aftermath of the battle of Germantown, being “so engaged in Dressing wounded men, that I have scarce time to look around me.”¹² If he had, he likely would have seen his brethren similarly engaged. The battlefields of the revolution confronted young surgeons and physicians with more varieties of maiming, and in greater

numbers, than their previous careers possibly could have. As Randolph Klein argued, the revolution “created an exciting and often grisly arena in which to develop and demonstrate talents.”¹³

Of course, the medical men did not enter the fray as complete naïfs; they were armed with the knowledge of their elders who had served in the Seven Years War, and with the manuals produced by the leaders in British military medicine. Such guidebooks, especially those by John Pringle and Richard Brocklesby, provided an important source of knowledge for American medics at the war’s outset, and the basis for similar manuals written by Americans like John Jones.¹⁴

But whatever they learned from the manuals, it did not prepare men like Hutchinson for the shocking carnage they witnessed at war. We know this because he and his cohort reported as much in their diaries and letters time and time again. Dr. Lewis Beebe of the Connecticut Line plaintively wrote that “language cannot describe nor imagination paint, these scenes of misery and distress the Soldiery endure.” Others echoed his struggle to articulate what they had seen. Dr. Jonathan Potts lamented that “the situation of the sick is not to be described.” Ebenezer David “beheld . . . what neither tongue nor pen can describe.” Benjamin Rush reminisced on sharing a room for the night with the wounded men he was attending, and remembered that it was then, “for the first time,” that “war appeared to me in its awful plentitude of horrors.” A surgeon bewailed “this place where nothing appears pleasing to the Sicken’d eye & nausiating stomach.” A witness to the battle of Bunker Hill wrote of “the most melancholy scene ever beheld in this part of the world.” Even the veterans of the general staff were not immune to the shock. The redoubtable Anthony Wayne, a general so fierce he earned the nickname “Mad Anthony,” was so moved by the deprivation and nakedness of his men that he wrote to Horatio Gates that “our hospital, or rather house of carnage, beggars all description, and shocks humanity to visit.”¹⁵ More than a year later, he wrote to Richard Peters at Congress:

I am not fond of Danger—but I would most Chearfully agree to Enter into Action once every week in place of visiting each hutt in my Encampment—where objects perpetually strike my eye and ear whose wretched condition cannot well be worsted—the ball or Bayonet can only hurt the body—but such objects effects the mind and gives the keenest wound to every feeling of humanity . . .¹⁶

These were the sights on offer to the men in the field, and they testify to how thoroughly stunned they were by the violence of the war. But they also illustrate how much more expansive were their knowledge and confidence when the fighting ended.¹⁷ As James Thacher wrote:

Here is a fine field for professional improvement ... [it has] familiarized my mind to scenes of woe. A Military hospital is peculiarly calculated to afford examples of affliction and to interest our sympathies and commiserations. If I turn from beholding mutilated bodies, mangled limbs, and bleeding incurable wounds, a spectacle no less revolting is presented, of miserable objects languishing under affecting diseases.¹⁸

Serving with the military acted as a dramatically accelerated and intensified course of medical education, offering far more practical experience than any formal plan of theoretical or clinical study. Even nurses benefited from the martial education. Mary Waters, who became a prominent nurse in early national Philadelphia, told one patient that she “knew nothing but what I learned ... in the military hospitals.”¹⁹

Cities on the March: The World of the Camps

The tasks of the medical men were not limited to healing wounds. Indeed, treating the effects of ball or bayonet was in many respects the least significant of their duties. Surgeons and physicians were expected to remedy any and all diseases, and ideally, to prevent them from gaining a foothold among the men at all while in camp. There, medical men learned to manage the health of entire communities, some of them nearly as populous as the small cities they often came to resemble. The comparison was surely not lost on contemporaries. The surgeon Albigeance Waldo remarked as huts replaced tents at Valley Forge that “our camp begins to appear like a spacious city.” Soldiers called their camps “log towns” or “our ... little town.” One went so far as to claim that by April of 1778, Valley Forge was a “Log-City ... part of which is as regular as Philadelphia.”²⁰

There were reasons beyond appearance and simple density to think of the camps as urban. Like the city, and especially like the seaport, the camp was viewed as a morally suspect agglomeration of morally suspect people.

John Adams complained that the image of the camp as a place of “dissipation, debauchery, gambling, profaneness and blasphemy terrifies the best people on the continent from trusting their own sons . . . among so many dangerous snares and temptations.” Similarly, a British critic grouped the two kinds of communities together when he satirized American pretensions to gentility as something they must have learned “in camps & cities” from the “volatile and gay” French officers.”²¹

The camp also presented the same physical hazards. Washington’s order on camp hygiene rebuked those country soldiers who refused to recognize the “prodigious difference there is in the Circumstances of five or six people, who live by themselves on a farm, and of thirty or forty thousand men, who live together in a camp.” Addressing the order to those accustomed to rural living was neither accidental nor irrelevant; on the eve of revolution, Philadelphia had a population of nearly forty thousand.²²

The images of misery that so many observers struggled to describe must be understood within the context of tightly grouped encampments that shared many problems in common with urban spaces: a concentration of people that complicated the tasks of ensuring adequate sanitation and providing clean water. It was the surgeons and the medical staff tasked with selecting a healthy campsite, to be determined by a survey of the area and an examination of the local civilian populace. And it was they who were responsible for preventing outbreaks of disease among the men. It was a tremendous burden. A carelessly chosen or haphazardly planned camp could mean death for hundreds, if not thousands.²³

The famous winter at Valley Forge powerfully illustrates the nature of the camps. As Wayne Bodle has argued, Valley Forge has been distorted in popular memory by a “mythscape” of a desolate wilderness, when the encampment was in fact established in the midst of a dense and thriving agricultural community.²⁴ While recent literature has taken previous scholars to task for overstating the severity of the conditions, these revisions should not obscure the very real suffering of the Continentals in the winter of 1777–78. While the climate was relatively mild for the season, deprivation weakened the troops, aggravating the spread of illness among them. 2,500 died in a matter of months, mostly from disease, having never once come under enemy fire.²⁵

The most serious threat to an army, whether marching or camping, was smallpox. It had decimated regiments as they assembled, and most common soldiers neither possessed natural immunity to the disease, nor had they undergone the often dangerous procedure of eighteenth-century

inoculation. The process rendered the inoculee contagious for weeks, and generally immobile and incapable of any but the least demanding activity. While Washington recognized the profound danger of smallpox, he was also loath to deliberately immobilize his entire army when only its agility preserved it from capture or defeat. As such, it was not until February of 1777, in Morristown, that Washington had the chance to inoculate large numbers of his men. Hutchinson led another round of inoculations over the winter in Valley Forge, reaching nearly 3,500 men during his service there. Moreover, he did it with the utmost secrecy, as Washington feared that if the British learned that so many of his wintering soldiers were incapacitated, it would surely draw an attack that might have ended the war. Washington's desperate wartime gamble paid off in preventing the scourge, but for the Philadelphia physicians, it demonstrated definitively the value of inoculation, which most would embrace even more fervently after the war.²⁶

Along with inoculation, the most important goal for the army doctors was to make the camps cleaner and healthier places, and complaints about conditions were universal. One observer recoiled to find that "all manner of excrementitious matter was scattered indiscriminately throughout the camp." But preserving the camps required the cooperation of entire regiments, since one soldier's illness could swiftly spread to others, and since one man's carelessness in digging a latrine could endanger the health of all of his comrades, exposing them to the entire host of diseases that tormented fighting men in the eighteenth century: smallpox, typhus, dysentery, scabies, and more besides. Deprivation aggravated the conditions, at Valley Forge and elsewhere. Exposure sickened the ill-clad and shivering men, while typhus spread rapidly among those who slept in their filthy, infested rags. Carelessly dug latrines spilled their contents, exposing others to diphtheria and dysentery. Others were incapacitated by an intolerable itch caused by scabies, itself spread by the lack of clean clothing among the troops.²⁷

The dangers of camp diseases were not even restricted to the camp alone. Furloughed soldiers and deserters could bear the disease back to their home communities. Thomas Bond "gave . . . a very melancholy account of the sick soldiers" in late 1776, diagnosing them with "the true camp fever, which is near akin to the plague." He feared that the extensive death and poor burial practices would spread the disease to the people of nearby Philadelphia. By January, his fears were realized, and the doctor Abraham Chovet, surveying the scene, judged that given the conditions, "the soldier disorder spreading

thro' the city was inevitable." Whenever military hospitals set up in cities, there was potential for cross-contamination.²⁸

Of course, the salubrity of a site meant nothing if the men who inhabited it did not maintain standards of hygiene. To some observers, the soldiers themselves were perhaps the greatest obstacle to preserving the health of the camp, and the most blameworthy for the prevalence of illness. Before the Siege of Boston, the Massachusetts Legislature warned that the men were mere farm boys, untutored in the discipline necessary "to preserve them from disease." A surgeon lamented that the "ignorance and irregularities of our men ... subjected them to numberless diseases." The loyalist Benjamin Thompson described how the initial absence of laundresses led men who viewed such tasks as women's work to "choose rather to let their linen, etc. rot upon their backs than to be at the trouble of cleaning 'em themselves." In this regard, women played a critical role in preserving the health of the Continental Army as nurses and as camp followers who performed the cooking and laundry essential to maintaining health among the men. The latter group, generally wives or daughters of the men they followed, ameliorated the unhealthy martial environment of the camp by introducing salutary domestic practices of the household. Barring those instances in which they brought camp diseases back home with them, the soldiers were seldom more healthy than when on furlough, or otherwise privately accommodated.²⁹

George Washington took a deep interest in the health of the men, and the line officers followed suit in their attempt to impose some sort of hygienic regime. As early as the siege of Boston, Washington worked to promote cleanliness, issuing an order that he did "not mean to discourage the practice of bathing whilst the weather is warm enough to continue it," but advising the men not to do so near the bridge into Cambridge, in full view of the women crossing it. General John Peter Muhlenberg reminded his officers that Congress would "Speedily take into consideration ... such officers who have distinguished themselves by their Intrepidity and attention to the Health & Discipline of their Men." Colonel Henry Bicker, meanwhile, persistently ordered his officers to maintain better discipline, finally noting to them that "notwithstanding a repeated order respecting cleanliness, the smell in some places is intolerable owing to the want of necessaries & of the neglect of them," and ominously warning that this order would be the "last time without resorting to extremities" that the general would issue the command. Ultimately, commanders grew so frustrated that one posted a team of

“sentinels with orders to Fire on any man who shall be found easing himself elsewhere than in ye vaults.”³⁰

Ultimately, medical order would not be successfully enforced until the arrival of Friederich von Steuben, the German adjutant and taskmaster who convinced Washington that he was the ideal man to instill discipline in the ranks. Washington brought him on for that purpose, and he proceeded to make the soldiering life under his regime, in the words of one private, “a continual drill.” His influence exerted such “immense consequence to our army,” wrote the surgeon James Tilton, that he “contributed more to the health and comfort of the troops, than did the utmost efforts of all the medical staff.”³¹

Rush returned repeatedly to the notion that the soldiers needed to be brought constantly under the strictest discipline, for their own good and the good of the whole. In a memo to the line officers, Rush averred that “Soldiers are but little more than adult children.” The best health officer was therefore the one “who obliges them to take the most care of their HEALTH.” To Nathaniel Greene, he suggested that “the sick cannot be governed without military authority.” Though he conceded that it may not actually help them as patients, he was “persuaded your army will benefit by it hereafter.”³² In another instance, proposing to John Adams that the hospitals be put under stricter discipline, he insisted that guards “keep up at all times in the minds of the sick a sense of military subordination. A soldier should never forget for a single hour that he has a master.” Continuing, he complained that “One month in our hospitals would undo all the discipline of a year.” Moreover, those unhealthy habits were closely related to piety and patriotism in Rush’s view. He therefore recommended “the writings of Moses” as the best orderly book of military procedure.³³

This blurring of physical, moral, and emotional principles made the task of protecting the camp’s health a far-ranging one. Rush’s writings on revolutionary diseases underscore his emphasis on proper military regimentation, and to the proper relationship between doctor and patients. Proper training of the men “produced insensibility to all the usual . . . causes of diseases.” Indeed, once so fortified, it was demobilization and furlough that opened a window of physical vulnerability. Rush described cases of men who suffered convulsions on a feather bed when removed from the invigorating effects of army life. In his view, homesickness was not merely a distraction, but an actual physical disorder.³⁴

To the extent that political affiliation correlated with habits of mind, Rush believed that patriots and loyalists suffered from different kinds of

diseases, depending on their beliefs and their circumstances. He recorded that the Doorkeeper of Congress died from a “violent emotion of political joy” following the passage of the Declaration of Independence. By contrast, Loyalists died in numbers of the “protection fever” after being rejected by perceived friends. In some cases, Rush deemed the actual content of political belief to be the proximate cause of disease, if not the disease itself. He classified the leveling sentiments unleashed by the war as a particularly virulent species of widespread insanity, which he termed “Anarchia.” Rush’s political pathology therefore not only attributed illness to social developments, it also modeled the spread of social and cultural phenomena, like the egalitarian philosophy he dismissed as insanity, after epidemiological examples. Revolution itself was therefore a kind of disease, comprehensible to the trained medical mind, and an appropriate subject of his examination, treatment, and prophylaxis.³⁵

The regimen prescribed by the military medicos was a social one, involving control of behaviors and the arrangement of bodies in the camp space, and the response to health threats was always subject to the same politicking as any other policy matter. Military life posed particular challenges that forced medical men to look beyond the immediate patient to broader social and environmental determinants of illness. But the disciplinary structure of army life also taught the medical men to manage groups and spaces, and about giving and taking orders. Both were essential to forming the medical men as a particular administrative class, one that would be sorely tested by the trials of the army’s frequently dysfunctional hospital system.

The Hospital System: Organization and Administration

Prior to the war, and in its early stages, soldiers were attended by surgeons attached to their own regiments, or sometimes simply whatever nearby medical men could be pressed into service. The war brought a vast reorganization, and an attempt to create a national military medical establishment. Congress established the Medical Department in their Hospital Bill of 1775, calling for the creation of three general hospital units, one each for the Northern, Middle, and Southern Departments. Unfortunately, the bill only vaguely specified the respective duties and the relationship of the General Hospitals and the Regimental Hospitals, which led to territorial disputes, shortages, lost patients, and general confusion throughout the war. Still, the experience

taught hard lessons about the nature of organizations, which its members would take with them into the new republic.³⁶

The Americans learned from the Royal army, clumsily and incompletely grafting the British system onto American soil. Perhaps the most influential architect of their model was John Pringle, who pioneered the “flying hospital” to reduce crowd diseases he saw in their large general hospitals by obviating the need to transport patients to the general hospital, and offering greater ventilation, less crowding, and the salutary effects of camaraderie from being among the other men of his unit. Rush had made his acquaintance during his studies in Europe, and found his system ingenious. The Congress, however, appointing Dr. Benjamin Church of Boston as Director General of the Medical Department, emphasized the General Hospital.³⁷

The department encompassed more than just the doctors and surgeons. It also oversaw suppliers, dressers, apothecaries and nurses, the last of which formed a critical arm of medical practice during the war. Often female relations of soldiers, nurses were the hospital staff with the most frequent contact with patients. Washington and Shippen constantly tried to offer premiums in order to recruit more as retainers, but Congress lagged behind in funding wages for the nurses. Many army doctors, however, viewed them in the same ill-humor they did the regimental surgeons. Morgan thought “a physician was like a general who had to understand all aspects of military duty but should not ‘act as pioneer and dig a trench’ . . . But he is general over a medical staff, subordinate to himself.”³⁸

Tensions born out of such hierarchical attitudes persisted between regimental and general hospital units throughout the war, and more often than not, the general hospital won out. Despite the many defects enumerated by Pringle, there were advantages to the general hospital. By concentrating patients it required fewer personnel, who were generally more qualified than the regimental men. There were also political reasons, as well. The general hospital physicians were generally of higher social rank and had better political connections than the scattered regimental surgeons. And even when leaders of the medical department seemed to prescribe the regimental hospitals, they could be overruled by Congress or the commander-in-chief.³⁹

The immediate and overwhelming crowding of the dysfunctional hospitals alarmed observers. Shortages, ill-discipline, and the contamination of the air by the sickly made the hospitals unhealthy for the well, and deadly for the already sick. Morgan warned that crowding “could certainly engender a malignant pestilential fever that would threaten the Ruin of the Army.”

Rush ostentatiously declared: "Hospitals are the sinks of human life in an army. They robbed the United States of more citizens than the sword." All too frequently, he was right. As many as 25 percent of those who entered hospitals never exited. Even while Washington wintered at Valley Forge, Rush sent him a letter, urging the general to remove as many men as possible from hospitals and into the private homes of nearby farmers, where he believed they could swiftly recover, absent the pernicious effects of the hospitals upon them. For the remainder of the war, Rush lobbied for a system more modeled on Pringle's, but he retained an abiding animosity toward hospitals until his death.⁴⁰ Perhaps James Tilton offered the most vivid description:

The sick flow in a regular current to the hospital; these are overcrowded so as to produce infection, and mortality ensues too affecting to be described . . . Our revolutionary army exemplified this misfortune in a shocking manner. The Flying Camp of 1776 melted like snow in a field; dropped like rotten sheep on their struggling route home, where they communicated the camp infection to their friends and neighbors, of whom many died.⁴¹

Hospital organization had real implications for maintaining an effective fighting force. Horatio Gates wrote that Congress could not expect good service from his troops "unless they command the same attention as is paid the health of their soldiers elsewhere." Washington apologized for Shippen's expansive plan for the medical department by arguing that "it will in the end, not only be a saving to the public but the only possible method of keeping an army afoot," not only by preserving the health of the soldiers, but because, the general recorded, he hears "from every quarter, that the dread of undergoing [attendance at hospital] has much retarded the new enlistment." The regimental surgeons made a similar case for the morale advantages that a reform of the department would provide, as the condition of the sick put a "damper on the spirits of the well." Worse still, "as the knowledge of their distress spreads through the country, it will prove an insurmountable obstacle to the recruiting the new army." British propaganda at Morristown even used the specter of "numbers wasting by sickness" in an effort to convince soldiers that it was "the moment to fly from slavery and fraud."⁴²

The department encountered another obstacle in scarcity. Clothing, rations, blankets, wagons, feed, shoes, shelter and soap were all in gravely limited supply. These conditions were partly due to the severe economic disruptions

caused by the war, but much of the blame also falls upon maladministration by Congress, the states, and the staff of the medical, commissary, and quartermaster departments of the military.⁴³ One account warned that five might die on the same straw before it was changed. General Wayne bitterly lambasted the clothier general James Mease, mourning the “some hundreds we thought prudent to deposite some six feet under ground—who dies of a Disorder called the Meases ... the whole army at present are sick of the same disorder.” But he held out a hope that underlined how thoroughly political medical decision-making could be: “a pointed and speedy exertion of congress or deploying another Doctor may yet remove the disorder.”⁴⁴

Medical supplies were among the most severe shortages, as the colonies lacked any substantial means of drug production. Until the French alliance, virtually the only supply of new pharmaceuticals came from prize captures at sea. Faced with such shortfalls, Church severely rationed the supply of bandages, medicines, and other necessary provisions to the Regimental Hospitals and instructed their surgeons to send all serious cases to the General Hospital. In 1776, his successor John Morgan could write that he was adequately stocked, but wondered “in the meantime, what is to become of the regimental surgeon? Should I divide my stores among them, they would be dissipated and ourselves left destitute.” Choosing to keep them for himself, Morgan only exacerbated the conflict between the regimentals and the General Hospital.⁴⁵

The tension between consolidation and decentralization echoed that of the commanders more generally. Defending the camps and keeping them clean made it necessary to disperse the men over a broad area. But dispersion often left soldiers without discipline, and tempted them to simply take what food they wanted from nearby farms and houses, a practice Washington had done his utmost to curtail. Similarly, sanitation and flexibility demanded some dispersion of the hospitals, much to the despair of the General Hospital managers. Morgan acknowledged their use, but felt they needed to be brought more “under proper regulations and due subordination to the general hospital” On the other side, the proud and territorial regimental surgeons felt they were being deliberately undersupplied. In reality, the two complaints fed back into one another, with inadequate regimental hospitals trying to survive by furloughing soldiers or sending them to the General Hospital, seeming to confirm Morgan’s dismal opinion of the Regimentals, and further crowding and straining the General.⁴⁶

Given these conditions, leadership of the Medical Department was understandably tendentious and embattled, circumstances only aggravated by the idiosyncrasies and the belligerence of the men chosen to lead it. The tenure of the first head, Dr. Church, was truncated by his treason, when he was found to be acting as an informer to General Thomas Gage in 1775. He was followed by two combative Pennsylvanians, John Morgan and William Shippen Jr. Morgan's primary challenge was the struggle to maintain harmony between the regimental and General Hospital divisions. But after Congress reduced the regimental hospital units, the added burden on Morgan's hospital finally broke the system, leading to Morgan's dismissal and replacement by William Shippen, who would himself be replaced by the placid John Cochran, following a bruising war of words between Shippen and his predecessor.⁴⁷

Morgan viewed his own removal as nothing more than a simple political betrayal for the sake of patronage, and raged at the injustice. The aggrieved doctor assailed his successor's conduct in no uncertain terms, contrasting his behavior with Shippen's:

I never by dark and secret Suggestions, have attempted to wound the Fame of those ... in authority above me ... in order to get them degraded and displaced, that I might raise myself up to their envied situation ... Nor has the country been alarmed with the progress and fatality of putrid fevers bred by the crowding of the sick too much together in close rooms, or by shuttering them up to starve and famish. The high Roads and places of the Fields have not been converted into Sepulchres of the dead, from my soliciting a charge I was not qualified to execute; nor have church yards been made fat with the numbers of the dead whose blood cries to heaven for punishment of my neglect.⁴⁸

For four long years, while the nation was embroiled in war, Morgan and Shippen battled each other in the courtroom, for pride, place and vindication. Even for the frequently vitriolic milieu of medical disputes in the eighteenth century, their exchange was a particularly apoplectic one. Morgan painted Shippen as a monster who profited from his post while soldiers starved and died. He had made the office "a mere sinecure, and an engine of corruption and power."⁴⁹ Shippen fired back that Morgan's loyalties were uncertain, and that he was "a traitor in disguise ... though he should talk whig as loudly

as the most enthusiastic delegate ... he solicited the enemy's forgiveness, protection and countenance. His indefatigable zeal in their cause soon convinced them of the sincerity of his repentance. In a scarlet suit with a sword at his side ... with them marched in procession, on the day of the Meschianza." The long battle between Shippen and Morgan was, like the battlefield, a new experience for most of these men. Like suturing a wound or inoculating for smallpox, administration was both craft and art, and navigating the hospital department was a rigorous apprenticeship.⁵⁰

Playing Politics: Reputation and Patronage

In the middle of 1781, a curious advertisement for a runaway appeared in a Pennsylvania newspaper. After offering a brief physical description, the notice specified that he was "a servant of Doctor Hutchinson at Valley Forge." One consequence of attending to so many men was becoming known among them, so much so that the advertiser believed that the only reason a reader might remember the object of his search was in connection with the surgeon of Valley Forge. Of the thousands of Pennsylvanians who wintered there, many must have received treatment from Hutchinson, or known someone who had. In this way, men like him acquired some measure of celebrity. The doctors' wartime education was not limited to medicine. In patronage battles, in jurisdictional disputes, and among the line, the medical men were also learning how to play politics.⁵¹

The military doctors benefited from an early national culture in which revolutionary service allowed all who had contributed to the glorious cause to share in a bit of that reflected glory. Surgeons and doctors held commissions, and early Philadelphia was a place where line officers were ascending to the status of minor gentry, carving out a new path of class mobility and inaugurating the American military establishment. Those who were not utterly disgraced were feted in the wake of the American victory. Only actual traitors, like Benedict Arnold or Benjamin Church, suffered true opprobrium. Some conservatives even complained that military service was enfranchising too many who "may probably shew a scar, but not an acre of land."⁵² In Philadelphia, some loyalist doctors, such as John Kearsley, suffered as exiles, but Morgan, Shippen, Hutchinson, and others bathed in newfound acclaim, with new allies to help them gather sinecures and popular renown that would enable them to mount their campaigns to the public.⁵³

Benjamin Rush later complained that his support for the revolution actually damaged his medical practice, having “left prejudices in the minds of the most wealthy citizens of Philadelphia against me, for a great majority of them had been loyalists in principle or conduct.” However, it is difficult to take his complaint at face value. Rush had previously advocated moving the nation’s capital from New York to Philadelphia precisely because the former city housed “more friends to monarchy and more lax principles with respect to free government,” while in Philadelphia, malefactors “could not find three characters that would join them in a laugh at the simplicity of dress or manners of an honest republican.” Indeed, Rush far more frequently complained of an excess of democracy in Pennsylvania than of any shortage of antimonarchist fervor.⁵⁴ If anything, Rush’s plaint seems more of a piece with his sometimes maudlin self-presentation, characterized by his feeling “neglected or unknown” among “the persons who called themselves great in the city.”⁵⁵

Beyond whatever popular renown the medical men gained by their service to the cause, the revolution offered them opportunities to form the political alliances that would serve them long after the war had ended. James Hutchinson, after returning to Philadelphia following his service at Valley Forge, and less than a year from his return from England, took up a post as Surgeon General of the Pennsylvania Navy. At the same time, he served on the Committee of Safety. In 1780, he was elected to the state assembly.⁵⁶

Hutchinson’s military, medical, civic and political achievements won him friends and admirers from across the political spectrum. By 1786, he had made himself a key player in the city’s antifederalist movement through his “Old Whig” essays, but he also dined with Washington while the latter was in Philadelphia for the Constitutional Convention. He later played an instrumental role in organizing the early Democratic Republican club and party in Pennsylvania. In 1792, he led one of the toasts they offered to Citizen Genêt. He was, in one scholar’s opinion, the most significant character in the opposition party of early Philadelphia. As his friend James Wilkinson noted, “it was not usual” for him to be silent on political topics.⁵⁷

Not surprisingly, Hutchinson’s activism earned him as many detractors as admirers. One viciously ridiculed him as “a bag of blubber . . . greasy as a skin of oil.” The anonymous poet who penned *The Philadelphiad* satirized him as “Doctor Hutchershins” “See how the Dr waddles through the throng// With falstaff’s belly, Lilliputian’s tongue// A beef-headed bully—some has said a calf// And that a goose has got more brains by half.” His growing involvement with the Democratic-Republican societies drew further criticism.

Even in New York, Hutchinson was known as an antifederalist leader. It was likely Hutchinson lampooned by a New York satirist in the 1792 cartoon “A Peep into the Antifederal Club,” which caricatured several Philadelphia opposition leaders.

FIGURE 1: This satirical cartoon, “A Peep Into the Antifederal Club,” depicts several leading lights of the Philadelphia antifederal movement. Note especially David Rittenhouse, with telescope, and Dr. James Hutchinson, seated with wine. (The Library Company of Philadelphia)

The provisioners integrated under the medical department were likewise able to take up positions in postwar Pennsylvania. The former commissary and quartermaster Nathaniel Falconer served for a number of years as the port’s Health Officer, under Governor Thomas Mifflin, his former colleague in the commissary department. Even James Mease, a student of Rush and, as clothier general, the object of General Wayne’s scorn, took up a post as resident physician of the lazaretto on State Island, tasked with caring for those

serving quarantine at the pest house. In taking patronage posts and sinecures, the friends the medical men made mattered more than the enemies.⁵⁸

Even Rush, who took such a pessimistic view of the professional consequences of his politics, was fully aware that they had granted him entrée to the halls of power. He took positions in the early government, and even noted that he used his “influence with the governing powers” to gain offices and preferment for “many hundred persons” who had suffered persecution because of their own neutrality or Loyalism during the war. His service made him a credible guarantor for questionable characters.⁵⁹

The Physician-Improvers Attempt to Improve Philadelphia

In 1787, as delegates assembled in Philadelphia to discuss a new constitution, another distinguished group was gathering to improve life in the new nation. The latter body counted among its founders Rush, Shippen, Morgan, and the elder statesman among them, John Redman, a generation older than the young enthusiasts. The College of Physicians of Philadelphia did not restrict its discussions to issues of physiology or therapeutics, and much of its activism reflected the unsettled state of post-war Philadelphia. Indeed, it issued opinions and memorials on everything from the insanity plea in criminal trials, to the environmental quality of the city air and streets, to regulating the sale, production, and use of spirits. Armed with a little knowledge and a little access to political power, the veteran medical men set out to make Philadelphia a healthy place. They had their work cut out for them.⁶⁰

From a certain angle, the College of Physicians can be viewed as a veterans’ organization. No uniformity of political opinion bound together the “medical gentlemen” who formed it. Rush execrated the 1776 Pennsylvania constitution as overly democratic, and supported the Federal Constitution as a happy corrective. Hutchinson reversed those positions, mildly supporting the 1776 document, but serving as one of the state’s leaders in opposition to a federal constitution he found profoundly antidemocratic. The very fact that Morgan and Shippen joined together as founders of the College of Physicians, after their tempestuous wartime relationship, demonstrates that the shared ideology of improvement coming out of the revolution was no mere partisan affair. And yet, of the twelve senior fellows who chartered the organization, more than half had held official positions in revolutionary armed forces.

The profound horror of the filthy, overcrowded military camps hovered over the improvers' agenda, and the city provided no shortage of appalling sights to engage their attention. Rush complained that the "filth left by the British Army in the streets created a good deal of sickness." Another observer remarked that the effluvia not only "stinks intolerably," but also attracted vast clouds of flies, in such numbers that "one hand is employed in brushing them away while the other is writing."⁶¹ British and Hessian troops treated seized houses contemptuously. After they evacuated the city, one estimate suggested that more than six hundred houses were destroyed or heavily damaged. Moreover, the halting steps the city had taken in the previous decade to preserve its health had been entirely overturned in the chaos of the war.⁶²

Indeed, the most basic functions of sanitation disintegrated during the occupation. One furious general complained of his men's abominable hygiene:

Notwithstanding the Great care and attention that has been paid to render the state house Barracks particularly Clean and Comfortable, some of the men have been so beastly as to ease themselves on the stairs and lower area of the house between doors, the Centry is therefore in the future to be very attentive (particularly during the night) to put a stop to such scandalous behaviour and immediately to confine any man who shall presume to make use of any other place whatever than the privy for his Necessary Occassions.⁶³

The Pennsylvania Hospital also suffered immensely under occupation and during the war more generally. Israel Pemberton complained to his friend Fothergill that the institution was in a "very languishing state," and that "the loss sustained in the winter of 1777 and spring 1778 with the ... embarrassments prevailing, have greatly affected our funds and reduced us into such circumstances that I am apprehensive it can not be long supported." Between 1774 and 1783, the value of the hospital's capital stock declined by more than 50 percent. The number of civilian patients fell by a similar proportion, and the number of poor patients plummeted from ninety to only twelve.⁶⁴

In the midst of such ill-use and despoilment, Philadelphia Friends plead to co-religionists in Ireland, on behalf of "twenty thousand inhabitants, exclusive of the army, seamen and many refugees." They warned that "even if there is some favorable change in the proceedings of the contending parties," Philadelphians were suffering and that the "destruction and havock

made by the two armies for many miles around the city, is generally very great and affecting; many of our peaceable brethren being stripped of nearly their all, as to provision, live stock, bedding and apparel." In total, the maladministration of the British occupiers alienated those friends they had in Philadelphia. As one former loyalist recalled of the widespread official looting, "all the favour shown us is the liberty of being plundered as friends of the crown and not as rebels, and of starving in the streets instead of starving in a gaol."⁶⁵

While the damage done by the British occupation was real and severe, the deeper cause of Philadelphia's growing problems with development and sanitation was a ballooning population that was making the city more crowded than ever before. While the mythic account of American expansion has made crowding seem an unimportant aspect of early American life, Philadelphia actually grew much faster between 1790 and 1830 than between 1860 and 1900. Furthermore, because new arrivals wanted to live near existing urban infrastructure, landlords tended to subdivide existing lots rather than expanding the boundaries of the residential city. Population was increasing much faster than residential construction. As a result, the percentage of manual laborers living in more than 1600 square feet dropped from 23 percent before the revolution to 12 percent after.⁶⁶

Rush and his cohort of medical improvers returned to this damaged, dirty, and growing city full of plans to improve it and optimistic that they would succeed. "In America," he wrote, "everything is new and yielding. Here genius and benevolence may have full scope. Here the benefactor of mankind may realize all his schemes." He identified a spirit of pragmatic experimentation in the new republic that encompassed attitudes toward medical practice, political organization and social order. "The minds of the Americans are at present in a yielding state," he wrote, "and . . . they readily adopt plans of every kind that are calculated to promote their happiness."⁶⁷

Among the first of those projects was a campaign to restrict the production and sale of alcohol. Medical men had made consistent efforts to control alcohol consumption in the army as pernicious to health, and they employed the same arguments in their petition. Following Tissot's advice that the physician must speak of physical effects, the 1787 memorial to the assembly declined "taking notice of the baneful effects of these Liquors upon Property and Morals," confining itself "to their influence upon the Health and lives of their fellow citizens, and he population of their country." Such effects, they wrote, included "Dropsy, Epilepsy, Palsy, Apoplexy, Melancholy, and

Madness." More than that, spirits Liquors also "generally impair the strength of the body, so as to lessen its ability to undergo . . . labour." Concluding, the physicians reminded the legislators that they were "guardians of the Health and Lives, no less than of the liberties and morals of their constituents." They took up the same tone when they later approached Congress with a similar proposal, going further to compare the "extensive ravages of distilled spirits" to the rumor of a Plague or any other pestilential disorder, which might sweep away Thousands of their Fellow Citizens."⁶⁸

Rush was a prime mover behind the campaign against spirits, confiding to one friend that it would "be in the power of physicians to do more than divines, or even legislatures, in preventing their dreadful effects upon health, morals, and the general society."⁶⁹ Rush always believed that his revolutionary experience actuated, "in great measure the disorganization of my principles in medicine." But he also connected that reordering to the "same republican ferment" that led him to "similar precipitation of the feculencies of error upon the subjects of education, penal laws and capital punishments." These projects, and others, like a college for Pennsylvanians of German extraction, a free school for the poor of Philadelphia, and the Philadelphia Dispensary were bound together by two constants: his use of medical language and his anxieties about concentrations of common people.⁷⁰ While he feared both "the tyranny of rulers" and the "licentiousness of the people" as the two great enemies of liberty, his later years found him far more concerned with excessive democracy than with its constraint. He despised the 1776 constitution, which "exposed to all the miseries of both [tyranny and licentiousness], without a single remedy for either." Moreover, nearly all of his projects drew equally from his medical and political thought. His belief in the paramount importance of maintaining healthy equilibrium through a variety of mechanisms applied equally to the body and the body politic. Rush envisioned a special role for the medical men in this age of improvement: "the cultivation of the moral faculty . . . should be equally the business of the legislator, the natural philosopher, and the physician; and a physical regimen should as necessary accompany a moral precept, as directions with respect to the air, exercise and diet, generally accompany prescriptions for the consumption, and the gout."⁷¹

His school plan, for example, promised that dire consequences would follow a failure to educate the destitute who "form a great proportion of all communities." But Rush did not intend the plan for their benefit alone, but as a pragmatic necessity, as "their ignorance and vices . . . are not confined to

themselves; they associate with and contaminate the children of persons in the higher ranks of society.”⁷²

As he did with the encamped soldiers, Rush knew what was best for the people of Philadelphia, and he intended to do it, no matter what the objects of his tender mercies may have wanted. There is something of Rush’s indifference to those he treated, and of his lack of self-awareness, in his bitter complaint about losing the business of a “respectable and worthy family . . . by taking up a news paper which lay upon a table and reading it while the lady of the house was giving me an uninteresting history of the case” afflicting one of her household. Still, he felt that doctors should strive to make medicine plainer, believing it unnecessary “that a patient should be ignorant of the medicine he takes . . . much less . . . that the means of life should be prescribed in a dead language, or dictated with the solemn pomp of a necromancer.”⁷³

But Rush was a genuine humanitarian as well. His call for a more “republican medicine” was in some ways an elaboration of existing trends toward the popularization of medicine. Authors like William Buchan, and Rush’s own students, came to reject the obscuratinism of many physicians. He viewed the propagation of medical knowledge as a matter of liberty, arguing that the ability to physick oneself must be “considered among the most essential articles and rights of man.”⁷⁴

His support for the 1786 Dispensary derived from the revulsion against crowded hospitals that he learned so thoroughly in the revolution. Even without the wartime shortages and stresses, hospitals could be primitive, dispiriting, and dangerous places. A poor understanding of contagion often put infectious patients in close proximity with those whose immunity was already weakened by illness or injury, despite a formal policy of excluding contagious patients. More generally, the hospital was not designed to comfort the sick, merely to restore them to working condition. As such, a stay in the hospital could be a wretched experience. The Dispensary, instead of housing patients in the kind of hospital rooms that Rush found inadequate and inhumane, would provide only outpatient care at the facility, and deploy physicians to the homes of the poor whenever possible, or when necessitated by chronic disease. After the revolution, Rush deemed hospitals at best a necessary evil, arguing that, “with all their boasted advantages, exhibit at the same time the monuments of the charity and depravity of the people.” Far preferable was care given within the “wholesome air” of private homes, a practice which would ultimately, Rush hoped, “produce an abolition of hospitals for acute diseases.” His Dispensary project was a sincere effort to improve the lives of

poor Philadelphians by offering low-cost medical insurance and treatment in a salubrious environment.⁷⁵

Similarly, Rush's recommendations for penal reform emphasized the need for free flowing air and clean space in order to prepare the mind for the kind of introverted contemplation that the institution's promoters promised would lead to reformation. Cleanliness, he argued, was not only "conducive to health," but also "tends to good order and other virtues." His student James Mease agreed, arguing that cleanliness was "so intimately connected with morality," that it should be "the first thing attended to, previously to any attempts at moral purification, which it is the object of that discipline to effect," and he applauded his mentor's proposals for sanitary regulation at the Penitentiary for precisely that reason.⁷⁶

Rush was not alone in his beliefs concerning the importance of circulation, and particularly about the importance of plant life to promoting it. Trees exerted a particular fascination for the medical men. Joseph Priestley's research on "dephlogistated air" in 1774 demonstrated that a mouse could live longer in a closed space with a plant to clean the atmosphere and "fix" the air; the improvers hoped that trees would exert the same beneficial effect upon humans in the closed-up spaces of the city. Benjamin Franklin had earlier promoted planting, and criticized the "rage of destroying trees that grow near houses," criticizing the notion that they would trap unhealthy vapors, and "certain, from long observation, that there is nothing unhealthy in the air of woods, for we Americans have everywhere our country habitations in the midst of woods, and no people on earth enjoy better health or are more prolific." Trees meant air; air meant health; and health was the outward sign of virtue.⁷⁷

Unfortunately, scavenging for firewood during the revolution and the postwar rebuilding boom had led to massive deforestation in the city and surrounding area. Tourists in the 1780s and 1790s noticed the absence of trees, which they blamed for the city's unpleasant heat. The medical men also theorized that trees or helped counteract the infectious "morbid exhalations" coming from the shore, and worried that the continuing clearing of foliage and ground cover had left the city particularly exposed. Rush asserted it "a well-known fact" that "intermitting and bilious fevers have increased in Pennsylvania in proportion as the country has been cleared of wood," and that "it is equally certain that these fevers have lessened or disappeared, in proportion as the country has been cultivated."⁷⁸ Rush proposed a vast program of planting, as the odors of flower gardens and other plants were not

only healthy but “could seldom fail to inspire serenity and to compose the angry spirits.”⁷⁹

Rush was joined by other Philadelphia medical men. In one of his last public acts, James Hutchinson helped to prepare a 1792 memorial to the Common Council, calling for the city to revive the public squares “as laid out by the worthy founder and proprietor” who established them “so as to promote the health . . . of the city.” Reproving the Council for lacking an appropriate “spirit of improvement,” the memorial argued that refurbishing the greens would “conduce to the health of the City, by the encreased salubrity of the air; for it is an established fact that trees and vegetation have this happy effect.”⁸⁰

Like Hutchinson, Mease concerned himself with the state of Philadelphia’s public squares, the one subject on which he could “not be moderate.” He castigated “the prostitution” of the squares, “in order to prepare for the comfort and health of a population, rapidly increasing.” He worried that “of the five squares, expressly set apart, by the benevolent founder of the City, for . . . the salutary recreation of future generations, not one has been exclusively appropriated to its destined object!” He compared the city unfavorably to New York, calling Philadelphia’s rival “praiseworthy in the highest degree, and deserving of imitation by a city which boasts (and with much propriety) of many excellent establishments, tending to promote and preserve health and general comfort.”⁸¹

Mease also echoed his mentor’s call for a ventilated, arboreal city. He decried those who left not even “a foot of yard space” between buildings, noting that doing so would “have admitted a refreshing body of air from the river, and prevented the accumulation of filth.” Lack of ventilation also made the smoky common stove a nuisance, even though the appliance was “obviously required by the nature of our climate, and essential to the comfort, nay health, of delicate constitutions.” Like ventilation, the planting of trees, served “not only greatly to ornament the city, but to promote public health by the circulation of air the produce and the shade they afford during the summer.”⁸²

The physicians’ concern with climate, and the connection Rush drew between revolution his plans of medical improvement, was nowhere clearer than in Philadelphia’s greatest medical emergency of the eighteenth century: the epidemic yellow fever that claimed thousands of lives in the century’s last decade. It was not the first time Philadelphia had been visited by the contagion, and it would not be the last, but it was the deadliest outbreak of the

century. It was the greatest test the improvers had yet faced, and they took a leading role in advising the state government on how to address the unfolding disaster, reinforcing their status as the preeminent medical organization on the continent.

For Rush, the outbreak confirmed the truth of his holistic view, and evoked the specter of his most fearsome demons—political dissolution, moral depravity, and physical decay. As Jacquelyn Miller argues, Rush “believed that physical, moral, and political ailments were all parts of the same whole,” and, as with the “Anarchia” and “protection fever” he had identified as products of political excitement, Rush feared that the fever, unchecked, portended another revolution—perhaps more like the bloody French tumults that were then shocking his conscience than the struggle he had served fifteen years earlier. The fierce debates over how the disease was caused—by imported infection or by environmental vectors—and over how to fight it—with gentle, cooling treatments or by Rush’s so-called “heroic” regimen of bleeding, shook Philadelphia’s medical establishment, culminating in Rush’s resignation from the College of Physicians he had helped found less than a decade before. But the death he saw in the midst of a city of increasing density and dirtiness only heightened the urgency he felt about opposing those conditions.⁸³

Ultimately, Rush’s interest in making the city more like the countryside was overwhelmed in the wake of the yellow fever years by a more general antipathy to urban life. He saw that diseases were “less common in country places than in cities,” and called for manufacturing to be discouraged as baneful to health and morals, though perhaps less so in America than in Britain. Increasingly, he argued not about conditions within cities, but whether the United States needed cities at all. In that intellectual journey, at least, he would not be alone.⁸⁴

The City and the Country

Rush’s skeptical attitude toward city life, and his preference for the rural over the urban fits snugly into the broader interpretations of post-revolutionary America. Indeed, one of the major themes of early national history has been the pastoral story of the rising Jeffersonian yeoman republic, and the rejection of the cities. For Rush, the question of agriculture went to the heart of

his politics. He viewed America as precipitously perched between barbarism and decadence, which joined like points on a circle. At the antipode of that point was the virtuous agronomist, preserved in health and liberty against both tyranny and license.⁸⁵

Still, the farms that the physician-improvers promoted were not the self-sufficient yeoman households of nostalgic haze. They were technologically inclined, enthusiastic to adopt new and better methods to increase production. Mease's "Pattern Farm" would introduce improvements first the "gentlemen who live in cities or country towns ... for they are free of the strong prejudices which enchain the mind of the regular farmer." Equally significant, they were to be market-oriented farms, to create agricultural exports and create American wealth. Rush advised settlers of the "New Parts of the United States" that they should "choose lands ... that are near those navigable waters that run towards the Atlantic ocean and which are within the jurisdiction of the United States."⁸⁶

Before the Revolutionary War, medical men in Philadelphia were individual professionals working in a provincial capital. After the war, they were able to attain the status and form the institutions of a medical establishment that could exert influence on the government and upon the populace. This article contends that that influence can be traced, in significant measure, to the political capital and popular prestige accrued by their revolutionary service.

The revolution also helped shape the doctors' ideas about managing the health of a population. As individuals, their ventures into making policy for collective welfare were rare and generally measured. The experiences on that "fine field for professional improvement" impressed upon the medical mind both the necessarily social dimension of controlling disease and the habit of imposing discipline, whether directly through political authority or indirectly through their advisory role.

Whether or not the physicians' newfound influence actually improved the health of Philadelphia and Philadelphians, they were taking newly emboldened steps toward an expanded role in the life of a city that inspired an increasing ambivalence. The horrors the doctors and surgeons witnessed rendered in vivid color also reinforced the pre-existing concern about the effects of crowding, whether in the camp or in the city, turning them toward rural revival. The Philadelphia medical-improvers were hoping to make their city the hub of a great agricultural economy and empire. Ironically, their campaign to take the "city" out of Philadelphia coincided with that

port's precipitous decline relative to New York. Their city would survive, despite its economic contraction, and despite the yellow fever epidemics that would ravage it throughout the 1790s. But the great city that the doctors dreamed of during the revolution—free and virtuous, airy and salubrious—would never be realized. Their pastoral vision for the city had been superseded by actual farms and fields as the pre-eminent national myth for the country.⁸⁷

NOTES

1. Richard L. Blanco, "American Army Hospitals in Pennsylvania During the Revolutionary War," *Pennsylvania History* 48 (October, 1981): 347; Samuel X. Radbill, "Medicine in 1776: Colonial and Revolutionary Medicine in Philadelphia," *Transactions and Studies of the College of Physicians of Philadelphia*, Ser. 4 44 (July, 1976): 1–8.
2. Louis C. Duncan, *Medical Men in the American Revolution, 1775–1783* (New York: Augustus M. Kelley, 1931; reprinted, 1970), 112; Maurice Bear Gordon, *Naval and Maritime Medicine During the American Revolution* (Ventnor, N.J.: Ventnor Publishers, 1978); Oscar Reiss, *Medicine and the American Revolution: How Diseases and Their Treatments Affected the Colonial Army* (Jefferson, N.C.: McFarland & Company, 1998); Whitfield Bell Jr., *John Morgan: Continental Doctor* (Philadelphia: University of Pennsylvania Press, 1965); Elizabeth A. Fenn, *Pox Americana: The Great Smallpox Epidemic of 1775–1782* (New York: Hill and Wang, 2001); James Edgar Gibson, *Dr. Bodo Otto and the Medical Background of the American Revolution* (Baltimore: C. C. Thomas, 1937); Carol Binger, *Revolutionary Doctor: Benjamin Rush, 1746–1813* (New York: W. W. Norton & Co., 1966); Alyn Brodsky, *Benjamin Rush: Patriot and Physician* (New York: St. Martin's Press, 2004); David Freeman Hawke, *Benjamin Rush, Revolutionary Gadfly* (Indianapolis: Bobbs-Merrill, 1971).
3. Brooke Hindle, *The Pursuit of Science in Revolutionary America, 1735–1789* (Chapel Hill, N.C.: University of North Carolina Press, 1956), 281.
4. Testimonials from Benjamin Rush, Charles Evans, and Moses Bartram in support of James Hutchinson, Hutchinson Papers, April 19, 1773, American Philosophical Society. Hereafter cited as APS.
5. Whitfield Bell Jr., "James Hutchinson (1752–1793): Letters from an American Student in London," *Transactions and Studies of the College of Physicians of Philadelphia* Ser. 4, Vol. 34 (July, 1966): 22.
6. Whitfield Bell Jr., "Philadelphia Medical Students in Europe, 1750–1800," *Pennsylvania Magazine of History and Biography* (hereafter cited as *PMHB*) 67 (January, 1943): 1; Henry Burnell Shafer, "Medicine in Old Philadelphia," *Pennsylvania History* 61 (January, 1937): 21; Andrew Hook, "Philadelphia, Edinburgh and the Scottish Enlightenment," in *Scotland and America in the Age of the Enlightenment*, ed. Richard B. Sher and Jeffrey R. Smitten (Princeton: Princeton University Press, 1990), 236–37; Francis R. Packard, "How London and Edinburgh Influenced Medicine in Philadelphia in the Eighteenth Century," *Annals of Medical History* (hereafter cited as *AMH*), *New Series* 4 (May, 1932): 224; Lisa Rosner, "Thistle on the Delaware: Edinburgh Medical Education and

- Philadelphia Practice, 1800–1825,” *Social History of Medicine* 5 (April, 1992); William L. Sachse, *The Colonial American in Britain* (Madison: University of Wisconsin Press, 1956), 56–63.
7. Whitfield Bell Jr., *The Colonial Physician and Other Essays* (New York: Science History Publications, 1975), 102–4; W. F. Bynum, “Physicians, Hospitals and Career Structures in Eighteenth-Century London,” in *William Hunter and the Eighteenth-Century Medical World*, W. F. Bynum and Roy Porter, eds. (New York: Cambridge University Press, 1985), 119–20; Toby Gelfland, “‘Invite the Philosopher, as Well as the Charitable’: Hospital Teaching as Private Enterprise in Hunterian London,” in *William Hunter and the Eighteenth-Century Medical World*, 146.
 8. Betsy Copping Corner, “Day Book of an Education: William Shippen’s Student Days in London (1759–1760) and His Subsequent Career,” *Proceedings of the American Philosophical Society* 94 (April, 1950): 132–36; “Minutes of the Board of Managers of the Pennsylvania Hospital, Vol. 2,” in *Pennsylvania Hospital Historical Collections, Section I, Series 1* (Philadelphia, PA), 325–27; Shafer, “Medicine in Old Philadelphia,” 21–24.
 9. Benjamin Rush, “Travels through Life, an Account of Sundry Incidents & Events in the Life of Benjamin Rush,” in *The Autobiography of Benjamin Rush: His “Travels through Life” Together with His Commonplace Book for 1789–1813*, George W. Corner, ed. (Princeton, NJ: Princeton University Press, 1948; reprint, 1949), 45.
 10. Quoted in Bell Jr., “James Hutchinson (1752–1793): Letters from an American Student in London,” 25.
 11. John Fothergill Letter of Recommendation, December 12, 1776, Hutchinson Papers, APS.
 12. James Hutchinson to Israel Pemberton, October 5, 1777, Hutchinson Papers, APS.
 13. Hindle, *The Pursuit of Science*, 238; Randolph Shipley Klein, “The Men of ‘68: Graduates of America’s First Medical School,” in *Science and Society in Early America: Essays in Honor of Whitfield J. Bell, Jr.*, Randolph Shipley Klein, ed. (Philadelphia: American Philosophical Society, 1986), 111.
 14. Kathleen M. Brown, *Foul Bodies: Cleanliness in Early America* (New Haven: Yale University Press, 2009), 160; Stanhope Bayne-Jones, *The Evolution of Preventive Medicine in the United States Army, 1607–1939* (Washington, D.C.: Department of the Army, 1968), 7–9, 28; Hindle, *The Pursuit of Science*, 110.
 15. Henry Steele Commager and Richard B. Morris, eds., *The Spirit of ‘Seventy-Six: The Story of the American Revolution as Told by Its Participants*, 1983 ed. (New York: Bonanza Books, 1958; reprint, 1983), 828; Duncan, *Medical Men in the American Revolution*, 51; Albigenice Waldo, “Diary of Surgeon Albigenice Waldo,” *PMHB* 21 (October, 1897): 305; Gibson, *Dr. Bodo Otto*, 107; Lewis Beebe, *Journal of Lewis Beebe, a Physician on the Campaign against Canada, 1776* (Philadelphia: Historical Society of Pennsylvania, 1776; reprinted, 1935), 12; David, quoted in Caroline Cox, *A Proper Sense of Honor: Service and Sacrifice in George Washington’s Army* (Chapel Hill: University of North Carolina Press, 2004), 147.
 16. “Gen. Anthony Wayne to Richard Peters, May 13, 1778,” *PMHB* 31 (April, 1907): 240–41.
 17. Helen Brock, “North America, a Western Outpost of European Medicine,” in *The Medical Enlightenment of the Eighteenth Century*, Andrew Cunningham and Roger French, eds. (Cambridge: Cambridge University Press, 1990), 205–6; Courtney Robert Hall, “The Beginnings of American Military Medicine,” *AMH, 3rd Series* 4 (February, 1942): 129–30.
 18. Duncan, *Medical Men in the American Revolution*, 252.

19. Quoted in Linda K. Kerber, *Women of the Republic: Intellect and Ideology in Revolutionary America* (Chapel Hill: University of North Carolina Press, 1980), 74.
20. Waldo, "Diary," 317; Jeremiah Greenman, *Diary of a Common Soldier in the American Revolution, 1775–1783: An Annotated Edition of the Military Journal of Jeremiah Greenman*, ed. Robert C. Bray and Paul E. Bushnell (DeKalb: Northern Illinois University Press, 1978), 109; Joseph Lee Boyle, ed., *Writings from the Valley Forge Encampment of the Continental Army, December 18, 1777–June 19, 1778* (Bowie, MD.: Heritage Books, 200–), 1:105.
21. Adams, quoted in Holly A. Mayer, *Belonging to the Army: Camp Followers and Community During the American Revolution* (Columbia: University of South Carolina Press, 1996), 61; Harry M. Ward, *George Washington's Enforcers: Policing the Continental Army* (Carbondale: Southern Illinois University Press, 2006), 24; Terry Bouton, *Taming Democracy: "The People," The Founders, and the Troubled Ending of the American Revolution* (New York: Oxford University Press, 2007), 66.
22. Quoted in Bayne-Jones, *Evolution of Preventive Medicine*, 190.
23. Reiss, *Medicine and the American Revolution*, 11–24; Charles Royster, *A Revolutionary People at War: The Continental Army & American Character, 1775–1783* (Chapel Hill: University of North Carolina Press, 1979), 144; Charles L. Heizmann, "Military Sanitation in the Sixteenth, Seventeenth and Eighteenth Centuries," *AMH* 1, no. 3 (1917).
24. Wayne Bodle, *The Valley Forge Winter: Civilians and Soldiers in War* (University Park: Pennsylvania State University Press, 2002), 2–10.
25. John E. Ferling, *A Leap in the Dark: The Struggle to Create the American Republic* (New York: Oxford University Press, 2003), 204–6; Robert Middlekauff, *The Glorious Cause: The American Revolution, 1763–1789* (New York: Oxford University Press, 1982), 410–20; Paul Lockhart, *The Drillmaster of Valley Forge: The Baron De Steuben and the Making of the American Army* (New York: Smithsonian Books, 2008), 56; Cox, *A Proper Sense of Honor*, 51.
26. Fenn, *Pox Americana*, 98–103; John Welsh Croskey, *History of Blockley: A History of the Pennsylvania General Hospital, 1731–1928* (Philadelphia: F. A. Davis, 1929), 348; Stephen R. Taaffe, *The Philadelphia Campaign, 1777–1778* (Lawrence: University Press of Kansas, 2003), 17.
27. Taaffe, *The Philadelphia Campaign*, 151–52; Thomas Fleming, *Washington's Secret War: The Hidden History of Valley Forge* (New York: Smithsonian Books, 2005), 130–40; Duncan, *Medical Men in the American Revolution*, 142; Reiss, *Medicine and the American Revolution*, 11.
28. Royster, *A Revolutionary People at War*, 131–32; Sarah Logan Fisher, "'A Diary of Trifling Occurrences': Philadelphia, 1776–1778," *PMHB* 82 (October, 1958): 420–24; Blanco, "American Army Hospitals," 352–54; Brown, *Foul Bodies*, 164–65; John W. Jordan, "The Military Hospitals at Bethlehem and Lilitz During the Revolution," *PMHB* 20, (July, 1896): 151.
29. Benjamin Thompson, ca. 1775, in Commager and Morris, eds., *The Spirit of 'Seventy-Six: The Story of the American Revolution as Told by Its Participants*, 154; Royster, *A Revolutionary People at War*, 59–61; Duncan, *Medical Men in the American Revolution*, 112.
30. John Peter Gabriel Muhlenberg, "Orderly Book of Gen. John Peter Gabriel Muhlenberg," *PMHB* 35 no. 3 (1911): 290; Henry Bicker, "Orderly Book of the Second Pennsylvania Line Col. Henry Bicker," *PMHB* 35 no. 4 (1911): 493; Philip Cash, *Medical Men at the Siege of Boston, April, 1775–April, 1776: Problems of the Massachusetts and Continental Armies*, *Memoirs of the American Philosophical Society*

- (Philadelphia: American Philosophical Society, 1973), 103; Wyndham B. Blanton, "Washington's Medical Knowledge and Its Sources," *AMH, New Series* 5 (1933); Brown, *Foul Bodies*, 465–66.
31. Reiss, *Medicine and the American Revolution*, 21–28; Joseph Plumb Martin, *Private Yankee Doodle: Being a Narrative of Some of the Adventures, Dangers and Sufferings of a Revolutionary Soldier*, ed. George F. Scheer (Boston: Little, Brown and Company, 1962), 118; Duncan, *Medical Men in the American Revolution*, 234.
 32. Benjamin Rush to Nathaniel Greene, December 2, 1777, in L. H. Butterfield, ed., *Letters of Benjamin Rush, Vol. 1, 1761–1792* (Princeton: Princeton University Press, 1951), 168; Benjamin Rush, *Medical Inquiries and Observations* (Philadelphia: 1815; reprinted, 1972), 150.
 33. Rush to John Adams, October 1, 1777, in Butterfield, ed., *Letters of Rush*, 156; Rush, *Medical Inquiries*, 111.
 34. Rush, *Medical Inquiries*, 129–30; Royster, *A Revolutionary People at War*, 59–61; Sarah Knott, *Sensibility and the American Revolution* (Chapel Hill: University of North Carolina Press, 2009), 201–18.
 35. Rush, *Medical Inquiries*, 131–34; Gordon Wood, *The Creation of the American Republic, 1776–1787* (Chapel Hill: University of North Carolina Press, 1969; reprinted, 1998), 32–36. Much has been written about this aspect of Rush's medical politics, some of the more important works are: George Rosen, "Political Order and Human Health in Jeffersonian Thought," *Bulletin of the History of Medicine* 26 (January-February, 1952); George Rosen, "Benjamin Rush on Health and the American Revolution," *American Journal of Public Health* 66 (April, 1976); Jacquelyn C. Miller, "The Body Politic and the Body Somatic: Benjamin Rush's Fear of Social Disorder," in *A Centre of Wonders: The Body in Early America*, Janet Moore Lindeman and Michelle Lise Tarter, eds. (Ithaca, N.Y.: Cornell University Press, 2001); Manfred J. Waserman, "Benjamin Rush on Government and the Harmony and Derangement of the Mind," *Journal of the History of Ideas* 33 (October, 1972); Thomas Clark, "Civilization, Disease, and Political Order: Benjamin Rush's 'Enquiry into the Natural History of Medicine among the Indians of North-America'," in *Colonial Encounters: Essays in Early American History and Culture*, ed. Hans-Jurgen Grabbe (Heidelberg: Universitätsverlag Winter, 2003).
 36. Cash, *Medical Men at the Siege of Boston*, 67–72; David L. Cowen, "Medicine in Revolutionary New Jersey," in *New Jersey's Revolutionary Experience*, Larry R. Gerlach, ed. (Trenton: New Jersey Historical Commission, 1975), 9–11; William O. Owen, "The Legislative and Administrative History of the Medical Department of the United States Army During the Revolutionary War," *AMH* 1, nos. 2–4 (1917): 198; Hall, "The Beginnings of American Military Medicine," 122.
 37. Sachse, *The Colonial American in Britain*, 61; Cash, *Medical Men at the Siege of Boston*, 76; Brock, "A Western Outpost," 205–6; John Pringle, *Observations on the Diseases of the Army*, (London, 1752), 92–98; Hall, "The Beginnings of American Military Medicine," 122; Paul E. Kopperman, "Medical Services in the British Army, 1742–1783," *Journal of the History of Medicine and Allied Sciences*, (hereafter JHMAS) 34, (October, 1979): 446–47.
 38. Kopperman, "Medical Services in the British Army," 436–43; Brown, *Foul Bodies*, 175–76; Mayer, *Belonging to the Army*, 195–222; Kerber, *Women of the Republic*, 58–60; Cox, *A Proper Sense of Honor*, 131.
 39. Kopperman, "Medical Services in the British Army," 446–47; Jordan, "The Military Hospitals at Bethlehem and Lilitz," 151; Mayer, *Belonging to the Army*, 195–97; Cox, *A Proper Sense of Honor*, 125–31.

40. Rush to Washington, Dec. 26, 1777, in Butterfield, ed., *Letters of Rush*, 180–82; Rush, *Medical Inquiries*, 150; Cowen, “Medicine in Revolutionary New Jersey,” 27; Duncan, *Medical Men in the American Revolution*, 192.
41. Duncan, *Medical Men in the American Revolution*, 112.
42. Gibson, *Dr. Bodo Otto*, 112, 121, 135–36; John A. Nagy, *Rebellion in the Ranks: Mutinies of the American Revolution* (Yardley, Penn.: Westholme, 2007), 41.
43. Fleming, *Washington's Secret War*, 89–92; E. Wayne Carp, *To Starve the Army at Pleasure: Continental Army Administration and American Political Culture, 1775–1783* (Chapel Hill: University of North Carolina Press, 1984).
44. “Wayne to Peters, May 13, 1778,” 241; Jordan, “The Military Hospitals at Bethlehem and Lilitz,” 149–50.
45. Duncan, *Medical Men in the American Revolution*, 117, 230–31; Cash, *Medical Men at the Siege of Boston*, 136; Reiss, *Medicine and the American Revolution*, 37; Brock, “A Western Outpost,” 202.
46. Bodle, *Valley Forge Winter*, 103–6; Duncan, *Medical Men in the American Revolution*, 124–27.
47. Bell, Jr., *John Morgan: Continental Doctor*, 178–205; Betsy Copping Corner, *William Shippen, Jr.: Pioneer in American Medical Education* (Philadelphia: American Philosophical Society, 1951); Middlekauff, *The Glorious Cause*, 265. For Cochran's career as head of the medical department, see Morris H. Saffron, *Surgeon to Washington: Dr. John Cochran, 1730–1807* (New York: Columbia University Press, 1977), especially 64–87.
48. Bell, *John Morgan*, 218–19.
49. Bell, *John Morgan*, 235.
50. David Harley, “Honour and Property: The Structure of Professional Disputes in Eighteenth-Century English Medicine,” in *The Medical Enlightenment of the Eighteenth Century*, Andrew Cunningham and Roger French, eds. (Cambridge: Cambridge University Press, 1990), 156–60; Bell, *John Morgan*, 247.
51. *Pennsylvania Gazette*, May 23, 1781.
52. Royster, *A Revolutionary People at War*; Bouton, *Taming Democracy*, 62–70; Sarah J. Purcell, *Sealed with Blood: War, Sacrifice, and Memory in Revolutionary America* (Philadelphia: University of Pennsylvania Press, 2002), 71–86; Richard H. Kohn, *Eagle and Sword: The Federalists and the Creation of the Military Establishment in America, 1783–1802* (New York: Free Press, 1975); Woody Holton, *Unruly Americans and the Origins of the Constitution* (New York: Hill and Wang, 2007), 172–73; Surgeons earned the many of the same benefits, including equal land grants, as line officers. See Gibson, *Dr. Bodo Otto*, 304–5. Indeed, even some who rendered service to British armed forces escaped with reputations unscathed. See Whitfield Bell Jr., “Physicians and Politics in the Revolution: The Case of Adam Kuhn, with a Note on Philip Turpin,” *Transactions and Studies of the College of Physicians of Philadelphia* 23, (June, 1954).
53. Commager and Morris, eds., *The Spirit of 'Seventy-Six*, 339–40; Mayer, *Belonging to the Army*, 52–53; Kerber, *Women of the Republic*, 73–74. Reiss argues that physicians' status fell due to malfeasance in the Medical Department, but the overall trend seems to be one of increasing power, prestige, and political organization. See Reiss, *Medicine and the American Revolution*, 48–49. For the argument that revolutionary sacrifice was venerated, see Purcell, *Sealed with Blood*. For the contrasting view, see John Resch, *Suffering Soldiers: Revolutionary War Veterans, Moral Sentiment, and Political Culture in the Early Republic* (Amherst: University of Massachusetts Press, 1999).

54. Bouton, *Taming Democracy*, 179–82. For quotations, see Rush to John Adams, March 19, 1789, in Rush, “Travels through Life,” 88; Butterfield, ed., *Letters of Rush*, 507.
55. Rush, “Travels through Life,” 85.
56. John W. Jackson, *The Pennsylvania Navy, 1775–1781: The Defense of the Delaware* (New Brunswick: Rutgers University Press, 1974), 329; Joseph S. Foster, *In Pursuit of Equal Liberty: George Bryan and the Revolution in Pennsylvania* (University Park: Pennsylvania State University Press, 1994), 108; Robert L. Brunhouse, *The Counter-Revolution in Pennsylvania, 1776–1790* (Harrisburg: Pennsylvania Historical and Museum Commission; reprinted, 1971), 89–90; Steven Rosswurm, *Arms, Country, and Class: The Philadelphia Militia And “Lower Sort” During the American Revolution, 1775–1783* (New Brunswick: Rutgers University Press, 1987), 189–90.
57. *Dunlap’s American Daily Advertiser*, June 7, 1792; *Independent Gazetteer*, July 13, 1793; *Dunlap’s American Daily Advertiser*, June 7, 1793; *Pennsylvania Gazette*, October 10, 1792; Raymond Walters Jr., *Alexander James Dallas: Lawyer, Politician, Financier: 1759–1817* (Philadelphia: University of Pennsylvania Press, 1943), 33; Anonymous, “The Philadelphiad; or, New Pictures of the City,” in *Barry-Hayes Papers, ISM* (Philadelphia: 1784), 48; “Extracts from Washington’s Diary, Kept While Attending the Constitutional Convention in 1787,” *PMHB* 11 (October, 1887): 307; James Wilkinson to James Hutchinson, May 4, 1786; “Letters of General James Wilkinson Addressed to Dr. James Hutchinson of Philadelphia,” *PMHB* 12 (April, 1888); Saul Cornell, *The Other Founders: Anti-Federalism & the Dissenting Tradition in America, 1788–1828* (Chapel Hill: University of North Carolina Press, 1999), 85–87; Merrill Jensen, ed., *Documentary History of the Ratification of the Constitution* (Madison, Wis.: State Historical Society of Wisconsin, 1976), 288.
58. John W. Jackson, *Valley Forge: Pinnacle of Courage* (Gettysburg, Pa.: Thomas Publishing, 1992), 98–101.
59. Rush, “Travels through Life,” 161.
60. Whitfield Bell Jr., *The College of Physicians of Philadelphia: A Bicentennial History* (Canton, Mass.: Science History, 1987); Thomas A. Horrocks, “The College of Physicians of Philadelphia: ‘Not for Oneself, but for All,’” *Pennsylvania Heritage* (Winter 1987); Eleanor S. Spohn, “The Founding and Founders of the College of Physicians of Philadelphia” *Transactions and Studies of the College of Physicians of Philadelphia*, 4th Ser. 44 (October, 1976).
61. John W. Jackson, *With the British Army in Philadelphia, 1777–1778* (San Rafael: Presidio Press, 1979), 266–67; Rush, “Travels through Life,” 138.
62. Jackson, *With the British Army*, 266; Rosswurm, *Arms, Country, and Class*, 150–52; Charles S. Olton, “Philadelphia’s First Environmental Crisis,” *PMHB* 98 (January, 1974): 99–100.
63. Jackson, *With the British Army*, 174.
64. Israel Pemberton to John Fothergill, October 14, 1779, Pemberton Papers, Vol. 34, 180, Historical Society of Pennsylvania; Minutes of the Board of Managers of the Pennsylvania Hospital, vol. 5, 186–88, Pennsylvania Hospital Archives; William H. Williams, *America’s First Hospital: The Pennsylvania Hospital, 1751–1841* (Wayne, Pa.: Haverford House, 1976), 68.
65. Darlene Emmert Fisher, “Social Life in Philadelphia During the British Occupation,” *Pennsylvania History* 37 (July, 1970): 240–42; Rosswurm, *Arms, Country, and Class*, 149–52; “Letter of Friends in Philadelphia to Friends in Ireland, Soliciting Aid During the Occupation of Philadelphia by the British,” *PMHB* 20 (January, 1897): 125–26.

66. Carole Shammas, "The Space Problem in Early American Cities," *William and Mary Quarterly* 57 (July, 2000): 506, 512; Sharon V. Salinger, "Spaces, Inside and Outside, in Eighteenth-Century Philadelphia," *Journal of Interdisciplinary History* 26 (Summer, 1995): 24–27.
67. Benjamin Rush to William Peterkin, November 27, 1784, in L. H. Butterfield, "Further Letters of Benjamin Rush," *PMHB* 78 (January, 1954): 26–27. Benjamin Rush to Richard Price, February 18, 1787, in Butterfield, "Further Letters of Benjamin Rush," 28.
68. Minutes of the College of Physicians of Philadelphia (MSS: College of Physicians) 28, 120; Antoinette Emich-Deriaz, "The Non-Naturals Made Easy," in *The Popularization of Medicine, 1650–1850*, ed. Roy Porter (London: Routledge, 1992), 150; Mayer, *Belonging to the Army*, 109–10.
69. Rush to John Coakley Lettsom, August 16, 1788, in Butterfield, ed., *Letters of Rush*, 479–80; Horrocks, "The College of Physicians."
70. Bouton, *Taming Democracy*, 64; Rush, "Travels through Life," 89. On the overlapping languages of pathology and politics, the most incisive work is Roy Porter, "Gout: Framing and Fantasizing Disease," *Bulletin of the History of Medicine* 68 (Spring, 1994) 1–28.
71. Rush to John Adams, October 12, 1791, in Butterfield, ed., *Letters of Rush*, 240; Miller, "The Body Politic and the Body Somatic," 62; Rush, *Medical Inquiries*, 121; Rosswurm, *Arms, Country, and Class*, 161; Knott, *Sensibility and the American Revolution*, 210–17.
72. Butterfield, ed., *Letters of Rush*, 413.
73. See also, Rush to John Adams, July 21, 1789, Rush, "Travels through Life," 167; Donald J. D'Elia, "Dr. Benjamin Rush and the American Medical Revolution," *Proceedings of the American Philosophical Society* 110 (August, 1966): 230; Butterfield, ed., *Letters of Rush*, 517. Mease would follow Rush's disdain for Latin, see his James Mease, *An Inaugural Dissertation on the Disease Produced by the Bite of a Mad Dog, or Other Rabid Animal.*, (Philadelphia, 1792).
74. Norman Gevitz, "'But All Those Authors Are Foreigners': American Literary Nationalism and Domestic Medical Guides," in *The Popularization of Medicine, 1650–1850*, Roy Porter, ed. (London: Routledge, 1992), 238–40; C. J. Lawrence, "William Buchan: Medicine Laid Open," *Medical History* 19 (January, 1975); Emich-Deriaz, "The Non-Naturals Made Easy," 139; Roy Porter, "Spreading Medical Enlightenment: The Popularization of Medicine in Georgian England, and Its Paradoxes," in *The Popularization of Medicine*, Porter, ed., 218–20.
75. Rush to the Managers of the Pennsylvania Hospital, November 11, 1789, in Butterfield, ed., *Letters of Rush*, 528; D'Elia, "American Medical Revolution," 231; Rosen, "Benjamin Rush on Health and the American Revolution," 397–98; Rush, *Medical Inquiries*, 83–86, 150. Though his motivation came out of his revolutionary experience, the model was likely the contemporary Dispensary movement in London. See Robert Kilpatrick, "'Living in the Light': Dispensaries, Philanthropy and Medical Reform in Late-Eighteenth-Century London," in *The Medical Enlightenment of the Eighteenth Century*, ed. Andrew Cunningham and Roger French (Cambridge: Cambridge University Press, 1990).
76. James Mease, *The Picture of Philadelphia, Giving an Account of the Origin, Increase and Improvements in Arts, Sciences, Manufactures, Commerce and Revenue, with a Compendious View of Its Societies, Literary, Benevolent, Patriotic and Religious* (Philadelphia: B&T Kite, 1811), 165, 176–77; Michael Meranze, *Laboratories of Virtue: Punishment, Revolution and Authority in Philadelphia, 1760–1835* (Chapel Hill: University of North Carolina Press, 1996), 207–10; Rush, *Medical Inquiries*, 110–13. For further discussion of space and health in British prison reforms, see Robin Evans, *The Fabrication*

- of Virtue: English Prison Architecture, 1750–1840* (New York: Cambridge University Press, 1982), 94–117; Kilpatrick, “Living in the Light,” 264–66.
77. Stanley Finger, *Doctor Franklin’s Medicine* (Philadelphia: University of Pennsylvania Press, 2006), 174–76; Alden H. Harkin, “Oxygen, Politics and the American Revolution (with a Note on the Bicentennial of Phlogiston),” *Annals of Surgery* 184 (November, 1976): 647–48. For air, health, and virtue, see Simon Schaffer, “Measuring Virtue: Eudiometry, Enlightenment and Pneumatic Medicine,” in *The Medical Enlightenment of the Eighteenth Century*, ed. Andrew Cunningham and Roger French (Cambridge: Cambridge University Press, 1990), 281–88.
 78. Benjamin Rush, *Medical Inquiries and Observations, Vol. II* (New York: Arno, 1815), 24, 37; Beth A. Twiss-Garrity, “Double-Vision: The Philadelphia Cityscape and Perceptions of It,” in *Shaping a National Culture: The Philadelphia Experience, 1750–1800*, ed. Catherine E. Hutchins (Philadelphia: The Henry Francis du Pont Winterthur Museum, Inc., 1994), 8; Rush, *Medical Inquiries*, 13.
 79. Rush, *Medical Inquiries*, 110–13.
 80. “Memorial to the Common Council of Philadelphia to Improve Public Squares,” in Historical Society of Pennsylvania, Philadelphia General Petitions, Box 4a (Philadelphia: 1792).; “Minutes of the Philadelphia City Council, October 31, 1791– March 22, 1796,” in MS at the Philadelphia City Archives, Record Group CNL 6 (Philadelphia). Though the petition was read at Council and referred to a committee, it did not convince that body, judging from the ordinance passed a week after the committee’s report, empowering the streets commissioners to remove trees from paved areas, and forbidding planting of trees along the streets.
 81. Mease, *Picture of Philadelphia*, xi–xiii.; Mease also pens a nearly identical jeremiad to his friend Caesar A. Rodney; see James Mease to Caesar A. Rodney, Nov. 30, 1810 (MS at APS1974 235ms).
 82. Ibid. 24–26.
 83. J. H. Powell, *Bring out Your Dead: The Great Plague of Yellow Fever in Philadelphia in 1793* (Philadelphia: University of Pennsylvania Press, 1949; reprinted, 1993); J. Worth Estes and Billy G. Smith, *A Melancholy Scene of Devastation: The Public Response to the 1793 Yellow Fever Epidemic* (Philadelphia: Science History Publications/USA, 1997); Martin S. Pernick, “Politics, Parties, and Pestilence: Epidemic Yellow Fever in Philadelphia and the Rise of the First Party System,” *WMQ*, 29 (October, 1972); William Hedges, “Benjamin Rush, Charles Brockden Brown, and the American Plague Year,” *Early American Literature* 7, (Winter, 1972–73); Miller, “The Body Politic and the Body Somatic.”; Eve Kornfeld, “Crisis in the Capital: The Cultural Significance of Philadelphia’s Great Yellow Fever Epidemic,” *Pennsylvania History* 51 (July, 1984); Jacqueline Bacon, “Rhetoric and Identity in Absalom Jones and Richard Allen’s *Narrative of the Proceedings of the Black People, During the Late Awful Calamity in Philadelphia*,” *PMHB* 125 (Jan./Apr., 2001).
 84. Rush, *Medical Inquiries*, 13, 74; Rosen, “Political Order and Human Health,” 42.
 85. Rush to Thomas Percival, October 26, 1786, in Clark, “Civilization, Disease, and Political Order,” 130; Butterfield, ed., *Letters of Rush*, 400–408; Rush, *Medical Inquiries*, 83–90; Benjamin L. Carp, *Rebels Rising: Cities and the American Revolution* (New York: Oxford University Press, 2007), 213–24; Drew R. McCoy, *The Elusive Republic: Political Economy in Jeffersonian America* (Chapel Hill: University of North Carolina Press, 1980); Laurel Thatcher Ulrich, *The Age of Homespun: Objects and Stories in the Creation of an American Myth* (New York: Vintage, 2001), 143–73; Peter Onuf, *Jefferson’s Empire: The Language of American Nationhood* (Charlottesville: University of Virginia Press, 2000).

86. "To American Farmers About to Settle in New Parts of the United States," in Butterfield, ed., *Letters of Rush*, 503; James Mease, *Address on the Subject of Establishing a Pattern Farm in the Vicinity of Philadelphia; Delivered at the Annual Meeting of the Philadelphia Society for Promoting Agriculture*, (Philadelphia, 1818), 7; Joyce E. Chaplin, *An Anxious Pursuit: Agricultural Innovation & Modernity in the Lower South, 1730–1815* (Chapel Hill: University of North Carolina Press, 1993). For a detailed study of rural riverine economy in the same period, see Martin Bruegel, *Farm, Shop, Landing: The Rise of a Market Society in the Hudson Valley, 1780–1860* (Durham, N.C.: Duke University Press, 2002).
87. Robert E. Wright, *The First Wall Street: Chestnut Street, Philadelphia, & the Birth of American Finance* (Chicago: University of Chicago Press, 2005), 118–65; Robert Greenhalgh Albion and Jennie Barnes Pope, *The Rise of New York Port, 1815–1860* (New York: Charles Scribner's Sons, 1939; reprinted, 1970), 1–15; Marion V. Brewington, "Maritime Philadelphia, 1609–1837," in *Philadelphia: Port of History, 1609–1837* (Philadelphia: Philadelphia Maritime Museum, 1976), 67.