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## “WE MUST PERFORM EXPERIMENTS ON SOME LIVING BODY”: ANTIVIVISECTION AND AMERICAN MEDICINE, 1850–1915

This article examines the American Anti-Vivisection Society (AAVS) and its campaign in the late nineteenth and early twentieth centuries to end the practice of live scientific experimentation on animals. In attempting to enact state and federal-level legislative reform, the AAVS ran up against the American Medical Association (AMA), who claimed vivisection was critical to furthering medical advances and who sought to defend their profession’s recently won respectability. This article argues that the very public campaign by the AAVS toward political reform pushed the AMA, and medicine more broadly, into the political sphere. The debate over the morality of vivisection at the beginning of the last century was thus critical to creating the politically powerful AMA of the twenty-first century.

Guests filed into Philadelphia’s Academy of Music Opera House under a clear, cold March sky in 1885 to mark the thirty-third annual commencement ceremony for the Woman’s Medical College of Philadelphia. The faculty granted twenty-two degrees that day in front of a packed house, and the festivities included music from the Germania Orchestra and speeches by esteemed doctors.<sup>1</sup> Among them was the commencement speaker, Dr. William W. Keen, noted neurosurgeon and faculty member in the department of surgery at the Woman’s Medical College. Keen’s speech congratulated the gathered graduates before laying into the primary focus of his address. “There is an important medical issue of the day to which I wish to draw your attention,” he began. “It is one to which intense feeling, especially among women, has been aroused, namely, the question of experiments upon animals.” Keen argued forcefully for the utility and necessity of animal experimentation in medicine, pausing regularly for applause from the audience. He invoked a number of specific instances where advances in medicine resulted directly from animal research. In concluding, he underscored the importance of fact and reason in “forming public sentiment” on animal experimentation and instructed doctors to address questions during their daily interactions with patients. After more applause, the commencement ceremony continued and flowers were given to the graduates. Keen’s polemic met a receptive audience and the day went off without a hitch.<sup>2</sup>

A commencement address focused almost exclusively on vivisection may seem, at first blush, tone deaf in the context of the happy occasion at hand. The medical procedure of vivisection is the live dissection of a living creature for experimentation and study:

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hardly a topic fit for flowers and celebration.<sup>3</sup> However, Keen correctly judged the direction in which American political winds blew. That same year, Pennsylvania's legislature voted down the state's first animal experimentation restriction bill. Over the next three decades, vivisection became one of the most extensively debated medical issues in the public sphere, rivaled only by vaccination. Indeed, the two issues shared much. Both practices were opposed in the late nineteenth century by vocal organizations, led and staffed largely by women, which launched public campaigns decrying the immorality of doctors who vaccinated and vivisected. Doctors formed the vanguard of support for the procedures and claimed the two operations had great potential to solve society's ills. Yet, while the Progressive Era debate on vaccination has seen much scholarly attention in recent years, historians have not subjected vivisection and the controversies surrounding the practice to similarly robust and multifaceted historical analysis.<sup>4</sup>

This article illuminates how the debate over vivisection, though ostensibly concerned with the welfare of animals, had important implications for the solidification of what sociologist Paul Starr called social and cultural authority among American allopathic doctors (or, doctors who rooted their practices in science and could be considered "modern" by twenty-first-century standards), as well as reinforcing their occupational control in the field of medicine.<sup>5</sup> Antivivisection was also an important step in the animal rights movement. However, historians have missed its primacy in the process of medicine's ascent in public perception. Medicine throughout much of nineteenth-century America consisted of many competing practices, epistemologies, and methodologies ranging from precursors to twenty-first-century medicine to folk remedies to outright quackery. Much of the nineteenth-century public viewed doctors with distrust. Medical professionals themselves lacked both the high income and the respectability afforded to their counterparts in the twentieth century. This changed over the course of the mid-nineteenth century because of internal factors within the medical community such as the formation of the American Medical Association (AMA) as well as forays into the public sphere, in particular the crusade to enact nationwide antiabortion legislation. This latter movement had broad public and political support and helped shore up allopathic medicine's social and cultural authority. The vivisection question, however, lacked any particular public consensus outside the pro- and antivivisection camps and as a result posed entirely new problems for the American medical professionals: coalition building and what modern political pundits might call "spinning" the narrative. In short, the public debate over the practice of vivisection spurred the medical profession toward greater cohesion, public legitimacy, and political engagement and had important implications beyond the scope intended by antivivisection activists. These unintended consequences actually strengthened the so-called political doctors whose power antivivisectionists sought to curtail.

Historians have long recognized the end of the nineteenth century as the period in which doctors consolidated their political and social power. Leslie Reagan argued that the antiabortion activism of doctors throughout the mid-nineteenth century was an attempt to control the contours of their profession through legislative means.<sup>6</sup> Doctors mustered sufficient political muscle to enforce their views and exert control over professional medical knowledge, practice, and class membership. Similarly, historian James Mohr pointed to the 1847 founding and subsequent work of the American Medical Association (AMA) as a primary factor in promoting doctors' policy preferences.<sup>7</sup> However, while the historiography on the linkage between doctors, professional organization, and

antiabortion legislation is well developed, the connections between antivivisection activism and the occupational control, cultural authority, and overall professional status of allopathic medicine have not previously been asserted.

There was one other critical distinction between the mid-nineteenth-century antiabortion fight and the late nineteenth-century campaign over vivisection. The antiabortion legislation lawmakers signed into practice during the 1870s tapped into a moral fear among white, middle- and upper-class men who held political and social capital in American society. In Michigan, for example, antiabortion legislation in 1871 banned the publication of any material promoting abortion, a law Mohr classified as “proto-Comstock [and] antimut.”<sup>8</sup> The 1872 so-called Comstock bills outlawed citizens from using the postal service to transport materials deemed obscene or immoral. Nineteenth-century antiabortion legislation tapped into much the same moral outrage and encountered very limited effective resistance as a result. Whereas the later antivivisection crusade involved hundreds of well-organized people launching legislative and public relations campaigns, the pro-abortion movement of the prior generation was largely silent and certainly ineffective to stop the rising tide of moral and medical concern. The antiabortion fight, due to its ease of success, helped doctors to coalesce into a politically powerful bloc but left them relatively unprepared to fight a coordinated, organized foe like antivivisection activists. Antiabortion doctors never needed to court public opinion to the degree they would have to during the antivivisection fight. By bringing a largely unconvinced public into the mix, the argument about vivisection took on a very different character than that over abortion.

The controversy over animal experimentation in the United States reached its first apex from roughly 1885 to 1915, with a critical moment in 1900. That year, the United States Senate Committee on the District of Columbia held hearings on the question of banning vivisection within the nation’s capital.<sup>9</sup> In the aftermath, the political profile of the American medical community grew substantially, while the antivivisection movement spurned the legislative process almost entirely for the next half century. These three decades around the turn of the century were a crucial time for the medical community, coming on the heels of a half century of substantial change and their initial legislative victories regulating and criminalizing abortion. Many medical practitioners saw antivivisection as a major attack on medicine’s newly won social legitimacy and sprang into political action in favor of vivisection. By supporting vivisection, the allopathic medical community spurred greater cohesion among its members who subsequently had an even louder voice in politics and augmented cultural authority and occupational control. Historians of Progressive Era vivisection debates miss this crucial aspect of the story. This article shifts the historiography away from the words and ideology of antivivisectionists and toward the unintended consequences of their movement.

Over the last forty years, historians have very capably covered the broad narrative of the nineteenth- and early twentieth-century American debate over vivisection. Histories of antivivisection campaigns in the Progressive Era fall largely into two intellectual categories: the first, and most thoroughly developed, folds the practice into the broader debate and evolution of animal rights.<sup>10</sup> This Whiggish approach positions antivivisection as a step toward Peter Singer’s *Animal Liberation* and the modern animal rights movement, ignoring historical contingency and the broader questions raised by the public debate over practices like vivisection.<sup>11</sup> This school of thought cannot be wholly dismissed, however. Antivivisection did have considerable influence in the

development of animal rights movements of the later twentieth century. Among the best of these accounts is *The Animal Rights Movement in America* by Lawrence and Susan Finsen, which traces the animal rights movement back to Enlightenment Great Britain.<sup>12</sup> Finsen and Finsen noted a split between the more conservative “humane” movement, whose goal is to prevent the suffering of animals, and true “animal rights” activism that questions the biological superiority of humans over other life forms. This schism occurred in the United States around 1900, the year the American Humane Association voted to expel antivivisectionists from its organization, and the year antivivisection faced a major defeat in the U.S. Senate. However, *The Animal Rights Movement in America* only gives antivivisection a cursory treatment, and much of the work is devoted to a history of later twentieth-century animal rights activism and philosophy. This is one of the major pitfalls of the Whiggish school of vivisection historiography: its lack of historical context and inattention to the larger implications of the debate.

The second major historiographical group highlights the role of women in antivivisection as a progressive reform movement and emphasizes the class dynamics at work in the largely middle-class movement. This “social” school of thought is more concerned with how historical context and individual actors affected the antivivisection movement (namely, middle-class, white women; the somewhat smaller cohort of white men; and the class dynamics involved within the movement). Craig Buettinger’s 1997 article, “Women and Vivisection in Late Nineteenth Century America” embodies this school of vivisection literature.<sup>13</sup> Buettinger’s analysis explores the role women played in antivivisection organizations and the important effects social networks had in giving power to Progressive Era women in movements such as antivivisection. Yet, while the roles of women in antivivisection is crucial to fully understanding of the movement’s importance, Buettinger, like those who write about antivivisection from the Whiggish perspective, focuses heavily on the manner in which antivivisection advocated against cruelty to animals. Certainly, the end of experimentation on live creatures was antivivisection’s stated goal and activists’ primary motivation, but looking at antivivisection within a broader context highlights the movement’s central role in larger debates over the place of medicine and science in society itself.

People involved in antivivisection undoubtedly cared deeply about the animals they sought to protect. However, their goals were not solely to protect animals, but also to exert greater control over the moral core of American society.<sup>14</sup> They argued that the medical practice of vivisection was morally bankrupt not simply because of the pain it inflicted on animals, but because it threatened to initiate the moral decline of society as a whole. Antivivisection advocates did not see allopathic medicine as bearing any authority to claim what was good or right for American society. Theirs was a worldview in which the ends did not justify the means in medical advancement and doctors who believed otherwise were not worthy of any cultural authority. The ferocity with which antivivisectionists challenged doctors’ claims on medical knowledge and occupational control emerged from a belief that vivisection was not only harmful to animals, but to American morality writ large. To doctors, meanwhile, there was no moral quandary in harming a dog to save scores of humans. The latter justified the former and the result was an unalloyed good for American society. Between these two ideologies, no compromise on vivisection could be met. Antivivisectionists and their opponents wrestled over the future of American morality, scientific research, and medical epistemology and how they would advance into the twentieth century.

The movement against vivisection did not exist in a vacuum. It came into being in the United States just as the American medical community embraced scientific methodology, gained public legitimacy, and professionalized. In the process, medical doctors who joined the AMA rejected competing claims to medical epistemology.<sup>15</sup> The vivisection debate of the years 1885 to 1910 marked a major challenge to the three-decade-old AMA's hegemonic control over medicine's authority. AMA-affiliated doctors saw antivivisection as just as serious a threat to their public credibility as competing medical epistemologies. These included homeopathy and osteopathy, practitioners of which they excluded from their organizational ranks in the second half of the nineteenth century. Because of the threat that doctors perceived antivivisection to pose to allopathic medicine, the AMA increased the presence of the medical profession in the sphere of public politics. The battle between the AMA and antivivisection advanced the acceptance of allopathic medicine's cultural and occupational authority and further politicized the professional class of American doctors.

#### PROPRIETY OR OUTRAGE? VIVISECTION AS A MORAL CONCERN AND MEDICAL PRACTICE IN THE UNITED STATES

Beginning in the mid-nineteenth century, reformers in Britain began a campaign to end the practice of vivisection, which at the time was increasing in popularity on both the European continent and the British Isles. Concurrently, professional medicine in both Britain and the United States underwent a series of important changes that helped give the profession a level of social authority and occupational control far greater than it held before. Doctors saw these gains as tenuous, and they deemed antivivisection a threat to professional allopathic medicine. The American debate mirrored that of Britain in both context and action. Indeed, the question of vivisection's morality itself was nothing new in either nineteenth-century America or Britain. Philosophers had questioned the ethics of animal abuse and animal experimentation as far back as medieval Europe.<sup>16</sup> Over the course of the early and mid-nineteenth century, reformers in Britain acted on these concerns and organized to put a stop to the practice. The Victorian British campaign concluded in 1876 with a compromise measure that left neither scientists nor antivivisection reformers quite happy. Transatlantic educational connections brought the practice of vivisection to American shores at nearly the same time as reformers and doctors debated in Britain. Similar linkages between reform-minded activists across the Atlantic put vivisection under moral scrutiny in the United States beginning in the 1870s, scrutiny which grew more intense during the following decade. In both cases, the antivivisection movement arose from substantial changes in the medical community itself, including consolidation of disparate actors into professional groups and the growing sociocultural authority of scientifically grounded allopathy.

It was also thanks to interpersonal transatlantic connections that antivivisection developed in the United States. Beginning in the 1860s and early 1870s, Caroline Earle White took up the cause of antivivisection in part at the suggestion of her friend, British antivivisection leader Frances Power Cobbe. White (1833–1916) was the daughter of Thomas Earle, outspoken Quaker abolitionist and 1840 vice-presidential candidate with the anti-slavery Liberty Party. Her family was an early advocate of abolition and young Caroline was exposed to human rights advocacy at an early age.<sup>17</sup> White

became involved in the anti-animal cruelty movement in 1866 through her friendship with Henry Bergh, son of a wealthy New York shipbuilding family. Bergh visited the RSPCA in London in the early 1860s and became involved in the British antivivisection movement soon thereafter. Later, he founded the American Society for the Prevention of Cruelty to Animals, partially as a means of forestalling the development of experimental vivisection in the United States (at that time still a rare practice outside of Europe). Bergh attempted the first legislative restriction of vivisection in 1867 to no avail and had the same experience in 1880. Up to that point, however, the ASPCA was primarily concerned with preventing cruelty to animals in other areas, notably livestock sale and transportation. At the urging of both Bergh and Cobbe, with whom Caroline White maintained a correspondence, White founded the first American Anti-Vivisection Society (AAVS) in Philadelphia in 1883. Unlike the ASPCA, the sole purpose of the AAVS was to prevent vivisection in all its forms. White recruited like-minded men and especially women to her cause and carried out extensive publicity and legislative campaigns throughout the 1880s.

Hoping for legislative success akin to (though preferably more sweeping than) her British counterpart, White and the AAVS used similar tactics as Cobbe and the Victoria Street Society in their campaign to raise public awareness about vivisection, indicating the transatlantic links formed by antivivisection activism. The AAVS recruited sympathetic legislative advocates, launched leaflet campaigns, and staged marches. Cobbe's Victoria Street Society published *Zoophilist*, a monthly periodical devoted to the cause of antivivisection. The AAVS published the *Journal of Zoophily* with the same aim. Both movements made use of existing networks of reform organizations. In the American case, the AAVS recruited Mary Frances Lovell, superintendent of the Women's Christian Temperance Union, to its cause. By the 1890s, the AAVS saw success in spreading its message. In 1895, for instance, activists founded the New England Anti-Vivisection Society, increasing the visibility of the movement outside the major cities of the mid-Atlantic. By 1896, antivivisection in the United States was prepared to launch its first major push for national legislation by introducing a bill to the Senate Committee of the District of Columbia restricting vivisection within the nation's capital. This particular committee was headed by Jacob Gallinger, a New Hampshire senator sympathetic to the AAVS. Yet it was at these committee hearings that the AAVS and its supporters ran head first into the burgeoning political bulwark of the American medical community.<sup>18</sup>

As in Great Britain, antivivisection in the United States emerged in response to substantial changes in professional medicine in the first half of the nineteenth century, specifically an increase in the number of doctors performing experimental medicine for scientific research and the development of professional organizations. At the annual convention of the various state medical societies in New York in 1846, the assembled doctors resolved “that it is expedient for the Medical Profession of the United States, to institute a *National Medical Association*, for the protection of their interests.”<sup>19</sup> Among the resolutions placed before the gathering at that first meeting was a call for increased professional training: “Resolved, That it is desirable that a uniform and elevated standard of the requirements for the degree of M.D. should be adopted by all the medical schools of the United States.”<sup>20</sup> That a considerable portion of the physicians in attendance were on the faculty of a variety of the nation's leading medical colleges (including Yale, the College of Physicians and Surgeons, and the Vermont Medical College) meant this



resolution was no idle threat. Increased standards represented a major shift in how Americans thought about medicine. Mid-nineteenth-century medicine was still largely the purview of amateurs, working mainly at the local level. Much like in Great Britain, medical training in America up to this point consisted largely of lecture and rote learning of various medical theories. The medical community realized that more stringent standards would mean increased respectability for their craft.

However, by no means was scientific medicine predominant in the United States in the mid-nineteenth century. The years 1800 to 1850 saw a proliferation of schools of medical knowledge. Samuel Thomson (1769–1843) was an itinerant herbal healer in rural New Hampshire who rejected orthodox medicine and gained considerable popularity, especially after his 1822 publication, *A New Guide to Health*, appeared in libraries around the United States. Thomsonian medicine appeared alongside homeopathy (founded by Samuel Christian Hahnemann (1755–1843) in 1810) and the Eclectic School of Medicine (founded by Wooster Beach (1794–1859) in 1827).<sup>21</sup> The body of knowledge twenty-first-century Americans would think of as “modern,” was only one among competing medical epistemologies when the AMA first met in the middle of the nineteenth century. Thomsonianism, eclecticism, and especially homeopathy, were extremely popular alternatives to the often bloody, painful, and sometimes ineffective tactics of nineteenth-century allopathic physicians. Thus, the AMA formed at a moment of crisis for scientific medicine and its members quickly agreed that sweeping changes had to be made.

Robert Wiebe perhaps put it best in describing these vast changes in nineteenth-century professional trades. In the first half of the century, medicine was democratized to such a degree that “almost anyone could, and a great variety did, enter what had once been a profession,” and “Doctors of the people ... roamed the land at their will” spreading folk remedies like Thomsonianism.<sup>22</sup> Indeed, in 1844 the New York State Legislature passed a law that, as one newspaper reported, “abolish[ed] all regulations and restrictions whatever on the practice of medicine.”<sup>23</sup> The 1846 meeting in New York of the nation’s allopathic, academic doctors was a response to this democratization and deregulation. More formalized medical training was among the reforms deemed necessary. Better medical schools could create doctors better trained in the allopathic medical community’s body of knowledge. If the public came to trust doctors trained in these schools, it would bring significant benefits in prestige and with it, of course, greater fiscal rewards.

In the mid-nineteenth century, the state of America’s medical schools was one of disrepair. Some of the resolutions suggested at the 1846 meeting included a suggestion to “the various Medical Institutions of the country, to adopt some efficient means of ascertaining that their students are actually in attendance upon their lectures” and a survey of how many actual “practitioners of medicine” existed in each state.<sup>24</sup> The field had fallen to such an extent that in 1846, doctors could not keep track of their students or ascertain how many doctors practiced in America. The American Medical Association (after officially adopting the name in 1848) took it upon itself to change the atomized, disorganized state of American medicine through an active process of centralization, accreditation and standardization. Dr. Nathaniel Chapman, first president of the AMA, exhorted at the first official AMA meeting in Baltimore in 1848 that it was time for the medical profession to awake from “slumbers too long indulged” and reform a profession he saw as “corrupt, and degenerate, to the forfeiture of its social position.”<sup>25</sup>

Progress in this endeavor to gain occupational authority was slow. In 1860, AMA president Dr. Henry Miller admitted, "The grand object of our Association, the elevation of the great body of the medical profession to greater respectability ... is still far from being accomplished."<sup>26</sup> As late as 1870, the AMA still felt it necessary to make a "defence" of allopathic medicine in the organization's keynote speech, since doctors were still "assailed from all sides" by poets, writers, theologians, and other non-practitioners.<sup>27</sup> AMA doctors mustered this defense of their cultural authority in part through a process of expulsion. In 1873, the Massachusetts Medical Society found a number of its members guilty of "conduct unbecoming and unworthy an honorable physician," specifically, "practicing homeopathy." These members were excluded from the Society in what one newspaper dubbed the "war of the doctors."<sup>28</sup> This "war" was an internal debate within the medical field over the occupational authority of allopathic and homeopathic doctors. Who was allowed to add to medical knowledge and determine the future of professional medicine was a hotly debated question throughout the second half of the nineteenth century. Despite the AMA's decision in 1851 to eliminate homeopathic doctors from its membership rolls, an 1870 court case in New York deemed homeopathy in equal footing with allopathy, ruling it libel to call homeopathic medicine "quackery."<sup>29</sup> Despite gains in public legitimacy and occupational authority fought for by the AMA and similar allopathic organizations, medical knowledge and social legitimacy was by no means secure by the last quarter of the nineteenth century. In his 1876 presidential address at the AMA annual meeting in Buffalo, New York, then-president T. G. Richardson, M.D., spoke at length at the continued work the organization had ahead of it in convincing the public of allopathic medicine's supremacy. "Unless we succeed in elevating the tone and sentiment of the masses of the profession," Richardson argued, "we have no right to expect support in our efforts to advance medical teaching" and gain the other necessary reforms he saw necessary in solidifying the AMA's recent gains in public trust.<sup>30</sup> In other words, the public had to be convinced of allopathy's primacy before the field of medicine could progress. Thus in the 1870s, as antivivisection gained traction in Great Britain in response to British medicine's professionalization, America's allopathic doctors, led by the AMA, perceived their profession as standing on unstable ground.

American medicine as represented by the AMA gained occupational authority, in part, by excluding dissenting members from its ranks, especially those who practiced alternative medicine, such as homeopaths. Better and more stringently regulated medical schools, as well as acts requiring state licensing also helped the AMA gain greater control over who practiced medicine and how they did so.<sup>31</sup> By embracing scientific medicine, American doctors also embraced a form of medicine based on experimentation. This opened the door in the 1870s and 1880s for increased use of vivisection in the American medical community, especially in proliferation medical schools. By 1883, the year Caroline White founded the AAVS, vivisection was routinely discussed in AMA annual meetings, including in eulogies to doctors noted for their skill.<sup>32</sup> This was the medical community Keen addressed in his commencement at the Woman's Medical College in 1885: professional and rooted firmly in experimental science; open about its use of vivisection to advance their expertise, but on the defensive after a century of battling for epistemological hegemony and public respectability. Allopathic medicine's monopoly on knowledge and practice was still up in the air, and the



public's confidence still wary. Political victories around abortion law gave doctors confidence, but they knew how routinely people broke these laws.<sup>33</sup> This sense of standing on unsteady ground helped shape the medical community's response to White and the AAVS after 1883.

#### DOCTORS, HERO DOGS, AND BOY SCOUTS: PRO- AND ANTIVIVISECTION CAMPAIGNS IN THE UNITED STATES

Beginning in the 1880s, both the antivivisectionists and their opponents in the medical community made their cases directly to the American public. Antivivisection activists largely couched their arguments in terms of moral propriety that threatened allopathic medicine's recently won cultural authority. Caroline Earle White and other antivivisection leaders wondered in editorials and in public remarks about the moral slippery slope American society set itself upon if they allowed the practice to continue; if doctors willingly subjected dogs to experimentation, could humans be next? (see [Figure 1](#)). Moreover, antivivisectionists questioned whether allopathic medicine and professional organizations like the AMA could truly act as moral arbiters of medical knowledge. This in particular set off alarm bells in the halls of the AMA as doctors, among them William Keen, saw their social status and seemingly secure epistemological hegemony under threat. In response, the AMA and its constituent medical professionals doubled down and argued for vivisection's centrality to their practice, and indeed, to the future of medical advancement.

In 1885, The American Anti-Vivisection Society initiated its first legislative push in the Pennsylvania legislature with a bill mandating the licensing all practitioners of vivisection and deeming it a misdemeanor to conduct unlicensed, un-anesthetized vivisection.<sup>34</sup> Starting with the Society's inception, antivivisection received considerable media attention. The *Philadelphia Inquirer* reported regularly on AAVS meetings, as well as on the failure of the 1885 state-level restriction bill.<sup>35</sup> The *Inquirer* generally reported on AAVS stories in a positive light. One typical article described the fourth annual AAVS meeting. After mentioning the failure of the 1885 Pennsylvania legislature bill, the *Inquirer* described the positive effects the AAVS had on Philadelphia, despite its legislative defeat. A professor was turned down for a prestigious job, the *Inquirer* reported, because of his staunch pro-vivisection stance. The article continued to editorialize, "The passion for experiments on animals all over the United States, is likely some day to demand victims from its own race."<sup>36</sup> By utilizing the slippery slope argument, the newspaper carried a primary argument of the antivivisectionists to the reading public. Moreover, the antivivisection slant of one of the nation's leading newspaper is indicative of the critical eye many Americans still had for scientific medicine.

The notion that live animal experimentation led inexorably to human experimentation was a common theme in antivivisection arguments throughout the late nineteenth and early twentieth centuries. In her published response to Keen's 1885 commencement address, Caroline Earle White asked readers to consider the ease in which "any physiologist, reasoning after Dr. Keen's fashion, having tried . . . mercury upon dogs" could have made the ethical leap "without any hesitation, to human beings."<sup>37</sup> The New York Anti-Vivisection Society (NYAVS) made a similar claim in 1903, laying the fault of society's decline at the feet of morally and even fiscally corrupt doctors. That year, the NYAVS



## HUMAN VIVISECTION IN AMERICA

*"A human life is nothing compared with a new fact in science. \* \* \* The aim of science is the advancement of human knowledge at any sacrifice of human life. \* \* \* \* If cats and guinea pigs can be put to any higher use than to advance science, we do not know what it is. We do not know of any higher use we can put a man to."—Prof. Slossom, in the New York Independent, December 12, 1895.*

More and more attention is being called to the fact that unsuspecting persons and helpless children, particularly those who are inmates of charitable institutions, are being used by members of the medical profession as subjects of experimentation. The following extracts, all from *medical journals*, show conclusively the truth of this statement:

From *Medical Brief*, April, 1906: "I made the experiments upon seventeen people between the ages of fifteen and thirty years, but in no instance could a case of consumption, scarlet fever or smallpox be produced. These experiments were made in the following manner: I sprayed the poisons of diphtheria, smallpox, scarlet fever or consumption into the throat, nose, or had them breathe them into the lungs, repeating the experiment in most cases every one or two weeks for months, with the result that no disease could be developed. *Of course, I could not let the patients know what I was doing. I was supposed to be treating them for catarrh of the nose or throat.*"

A paper from the William Pepper Clinical Lab., University of Pennsylvania, was read May 13, 1908, before the Association of American Physicians

published a pamphlet claiming, “on very good authority ... that many millions of dollars are invested in vaccine and serum plants in America” and, more nefarious yet, “Physicians are often shareholders ... although their names to not appear on the lists of shareholders.”<sup>38</sup> *Zoophilist*, the journal of Britain’s leading antivivisection society, made the same claim in February of 1905.<sup>39</sup> The *Inquirer* article of 1887 thus picked up on a primary argument antivivisectionists made: scientific medicine was corrupt and this corruption would lead humanity to a very dark place.

A favorite target of antivivisectionists was Dr. E. E. Slosson of the University of Wyoming, quoted in 1895 by the New York *Independent* as saying, “A human life is nothing compared with a new fact in science.”<sup>40</sup> This quote was prominently displayed on antivivisection pamphlets throughout the early twentieth century as a way of connecting the depravity of unrestrained professional scientific doctors to vivisection. Sometimes, the assaults on doctors as a group were direct. One early twentieth-century AAVS pamphlet implored readers: “When your wife, husband, child or parent is being treated by an advocate of vivisection, do not allow yourself to be disconcerted if the patient develop some unexpected disease.”<sup>41</sup> All doctors were at risk of losing their credibility and the public trust from the campaign of antivivisectionists. By linking vivisection and moral decline to “corrupt doctors” and scientific medical professionals, the antivivisection movement staked its claim against scientific medicine’s still tenuous monopoly on medical knowledge. Antivivisectionists positioned their movement in direct opposition to the social legitimacy of allopathic medicine; to support the latter was immoral and wholly against society’s greater good.

While antivivisection activists played on people’s fears about doctors by linking vivisection on animals to the possibility of experiments on humans, they also expressed care for animals themselves. Antivivisection journals like *Zoophilist* and its American counterpart, *The Journal of Zoophily*, often featured glowing articles about animals. The May 1913 issue of *Zoophily* contained articles about “hero dogs” and the infallibly loyal nature of animal character.<sup>42</sup> In making their case against vivisection, however, the AAVS typically relied on a narrative of moral decline: if people treated animals cruelly, American moral values would erode. In a December 1914 article entitled, “Two Boy Scouts,” the eponymous youths are warned by their Uncle Fred never to “destroy a bird’s egg, or a frog or toad, or ... snake” for to do so was “not only cruel, but is ... a deed that injures himself and all mankind.”<sup>43</sup> Animals stood as moral exemplars to humans and to willfully injure them was detrimental to personal as well as national morality, according to the AAVS. In summer 1915, during the midst of the Great War, *Zoophily* published an editorial placing world peace as a direct consequence of individual moral improvement. “The coming of world peace depends not on victorious warfare,” the article argued, “but on individual attainment [and] the repudiation of all that would harm or destroy.”<sup>44</sup> Cruelty against animals and cruelty against humans were two sides of the same coin and similarly emblematic of a general decline of social morality. Thus the cruel means of vivisection far outweighed any beneficial research results; the stakes were simply too high.<sup>45</sup>

In the face of attacks on the moral validity of allopathic medicine, doctors argued just as vociferously that vivisection was, in fact, a moral good necessary for medicine to continue to advance. Keen stated the pro-vivisectionist case in 1886: “Medicine must either grow worse, stand still, or grow better, and that as we naturally desire it to grow better, we

must perform experiments upon some living body." These experiments were too dangerous to perform on humans, thus "the only alternative we have," Keen continued, "is to try them on the lower animals."<sup>46</sup> Not only did vivisection prevent the stagnation of medical research, but it actually forestalled experimentation on humans, according to the medical community. Mainstream medicine, only recently wedded to science, was thus marshalled to combat the moral argument of antivivisectionists. Keen and other allopathic doctors argued that vivisection advanced society's moral well-being.

This line of reasoning emerged in part from doctor's political experiences earlier in the nineteenth century. Mid-nineteenth-century doctors had linked abortion to moral rot during the AMA's push to enact antiabortion legislation in the 1860s and 1870s. The 1885 opening address of the Louisiana State Medical Society, for instance, suggested doctors take an oath avowing they will never "administer poison, nor ... ever contribute to an abortion."<sup>47</sup> Abortion linked morality and medicine during the mid-nineteenth century and both pro- and antivivisectionists used this connection to make their case to the American public. Both sides in the antivivisection debate claimed to set the proper course for America's future. Antivivisectionists lamented society's doom from the total moral corruption sure to follow in the name of science. Pro-vivisection doctors retorted that animal experiments were crucial to the advancement of human knowledge generally. Thus were the arguments of both sides at the end of the nineteenth century. The beginning of the twentieth century saw a major legislative push that would have important implications for both the pro- and antivivisection camps.

#### "VENOM AND SPITE": THE ANTIVIVISECTION BILL OF 1900 AND AMERICAN MEDICINE IN POLITICS

The end of the nineteenth century saw a turning point in the debate over the ethics of vivisection. The legislative efforts of the antivivisection campaign finally saw their most hopeful result yet: a Senate bill outlawing vivisection in the District of Columbia. The bill modeled the symbolic importance of an earlier reformist movement to ban slavery in the nation's capital and antivivisection advocates hoped that its passage would send a loud message to the American public about the moral wrong of experimenting on living animals. For their part, doctors feared the passage of such a bill would damage their credibility and moral authority won over the previous half century through debates like that over abortion, the founding of professional organizations, and the expulsion of competing epistemologies (such as homeopathy) from their ranks. Doctors used their political might to serve their cause to an extent never before seen by the medical professional class, a tactic which had important twentieth-century implications for both sides of the crusade: setting antivivisection on a course away from direct politics and further engraining the AMA into the political fabric of Washington.

By 1900, antivivisection activists were primed for a new attempt at legislative action. This time, they set their sights on the District of Columbia. Much as slavery abolitionists in the 1840s targeted the slave trade in the District as a major symbol of the nation's moral rot, so too did antivivisectionists lobby the Congressional Committee on the District of Columbia to outlaw vivisection within the nation's capital. Unlike the Pennsylvania state legislative battle of 1885 and similar state-level battles throughout the late nineteenth century, this time they had a champion in a national position of power. New Hampshire

elected Senator Jacob H. Gallinger (R) to office in the House of Representatives twice in 1884 and 1886 and to the Senate from 1891 until his death in 1918, where he served as president pro tempore on seven occasions. A contemporary account called Gallinger “one of the most popular and successful campaign orators” in New Hampshire politics and painted a portrait of a man whose easy, genteel graces made him a perfect fit for Gilded Age senatorial politics.<sup>48</sup> Along with acting as chairman on the Committee on the District of Columbia, Gallinger was also a former surgeon general of New Hampshire and a practicing homeopathic doctor. He regularly attended meetings of the New Hampshire Homeopathic Medical Society and acted as advocate of antivivisection in the U.S. Congress.<sup>49</sup> In 1900, Gallinger chaired hearings on the bill to restrict vivisection in the District of Columbia (Senate Bill 34), and engaged in a long discussion with Dr. Keen about the merits and dangers of vivisection.

Keen testified that vivisection was an absolute necessity in the contemporary medical profession: “It is our right and duty to perform it” as doctors, Keen argued, “there is not a day goes by that I do not use it for the advantage of my fellow human beings,” though, Keen admitted, he was not a practicing vivisector himself.<sup>50</sup> To be against vivisection was to be against the advancement of scientific medical knowledge and to harm humanity itself. Gallinger, though he disagreed with Keen, admitted that he was not a popular figure in the medical profession. “I have not been indifferent to the severe criticisms that have been passed upon me personally by the medical press of the country,” Gallinger said in his opening remarks. “Another suggestion that appeared in a medical journal ... [was] that my practice was not very regular when I did practice. There are none of us, perhaps, that are perfect, whatever our schools may be.”<sup>51</sup> Gallinger admitted his own controversial position in regard to the medical community, representatives of which sat before him. As a homeopathic doctor, Gallinger stood in opposition to the AMA and other professional organizations of orthodox doctors. The *Journal of the American Medical Association* was quick to point out Gallinger’s medical degree was “homeopathic.”<sup>52</sup> This was not a compliment coming from a journal that, just before the hearings, published a letter to the editor wishing “the whole fabric of homeopathy scattered to the winds” and an article affirming that medicine was “a science” and decidedly “not ... homeopathy.”<sup>53</sup> The AMA, through its official mouthpiece, made it entirely clear that homeopathy was not a credible source of medical epistemology.

Gallinger therefore presided over a bill that could, in fact, actually help his preferred medical epistemology by chipping away at the allopathic AMA’s hegemony over medical knowledge and occupational control. Professional allopathic doctors saw the risk and used the 1900 hearings as a means of entrenching themselves further. Antivivisection was the first major, public attack on professional medicine *after* respectability in the public eye had been gained. Thus, doctors at the end of the nineteenth century had a professional apparatus in place to defend their profession when they perceived it to be under attack. William Keen wielded the tool of professional organization to levy a defense against Senate Bill 34. For four months in 1899 and 1900, prior to the Senate hearings in February, 1900, Keen contacted AMA members to gain their support during this critical period. Keen, by this point president of the AMA, corresponded directly with dozens of doctors around the United States, asking for (and almost unanimously receiving) political support. Keen used the top-down structure of the AMA to contact heads of local medical chapters and inform them of the threat to medicine and



the AMA's monopoly on orthodox medical knowledge and respectability. Local doctors saw the threat immediately. Some, like Dr. Hooper of Arkansas, expressed derision at Gallinger as a homeopathic doctor: "He is a beautiful specimen of a medical man," full of "venom and spite at the regular profession."<sup>54</sup> Keen received letters from Oklahoma, Louisiana, Indiana, Texas, Minnesota, and elsewhere, from doctors who often expressed specific influence on local congressmen, senators, and other politicians.<sup>55</sup> Doctors across the country promised to wield their political power against the bill. In the end, the political pressure from the AMA was too great for Gallinger and the AAVS: the bill died in committee.

Although this was not the first major legislative success for American medical professionals, it was a victory won over a highly publicized and hotly contested issue. Unlike the antiabortion campaigns of the 1870s and 1880s, antivivisection activists, rather than doctors, had attempted to rally public support and appealed directly to the American's sense of morality. During the previous debate, medical professionals had already had the voting public on their side in believing abortion to be a moral wrong. The vivisection crisis had the added element of a largely undecided American public that could be swayed by one group or another. The debate over vivisection was therefore a debate to win the hearts and minds of the American public in a way the antiabortion debate never was. The legislative battles of the turn of the twentieth century forced doctors to confront public opinion and explain their methodology to a skeptical audience, both skills which the AMA's lobbying wing honed in later years. The antivivisection movement did not end in 1900, but by losing a major battle in a public forum, antivivisection needed to reassess how to gain further public support. Keen and the AMA doctors cast the fight against antivivisection as a moral struggle against hack medicine. They linked Gallinger, homeopathy, and antivivisectionists together as a trio of interests designed to keep medicine and, by extension, American society in pre-scientific nineteenth-century darkness. Although the AMA did not kill antivivisection in 1900, its members saw the defeat of Senate Bill 34 as an important reinforcement of allopathy's social legitimacy and its practitioner's social and cultural authority.

#### CONCLUSION: PRO- AND ANTIVIVISECTION IN THE EARLY TWENTIETH CENTURY

The debate over vivisection did not end with the defeat of the 1900 bill. Antivivisection advocates tried to push through legislation at the state level but, knocked back on their heels from the disappointment of 1900, steered clear of national legislation until the second half of the twentieth century. Instead, the AAVS and like-minded organizations enacted a large-scale public relations campaign with the goal of swaying public opinion. The AMA, on the other hand, built on the successful political action of 1900 and aimed to increase its legislative profile on a national scale. Moreover, doctors created institutions like the Council on Defense of Medical Research as a bulwark against further attempts by antivivisection, antivaccination, and other movements against allopathic social authority from ever achieving what the AAVS had prior to 1900. The long-term effects of the vivisection debate are an increased political profile for medicine in the twentieth century and a movement away from national politics for antivivisectionists.



In 1908, the AAVS tried again to pass antivivisection legislation in Pennsylvania, only to suffer defeat due to the “determination” of the medical profession.<sup>56</sup> Antivivisectionists tried sporadically throughout the next three decades to achieve legislation at the state level, but would not succeed on a national scale until the 1960s. After 1900, antivivisection changed their primary focus from legislation to public influence. One early twentieth-century antivivisection leaflet admitted as much, and claimed “the public must be enlightened before any legislation can be hoped for.”<sup>57</sup> As a result of this new strategy, and utilizing photographic technology cheaper than ever before, after 1900, AAVS pamphlets became much more visually striking, often featuring graphic photographs of dogs undergoing experimentation.<sup>58</sup> At a public exhibition in 1913, W. R. D. Blackwood presented graphic slides to a Philadelphia audience to raise moral outrage and public support for the AAVS.<sup>59</sup> The most prominent example of their new emphasis on marshalling public outcry was in 1907 when the AAVS rented a permanent space on Chestnut Street in downtown Philadelphia devoted to an exhibit outlining the evils of vivisection. They even took a similar exhibit on the road, showcasing it at state fairs and other public events throughout the Northeast and mid-Atlantic.<sup>60</sup> Though they did not cease legislative action entirely, the AAVS realized that, in order to combat the political might of professional medicine, antivivisection would have to be a public cause. To force it into public consciousness, they appealed directly to voters.

The AMA, empowered by the legislative victory in 1900, realized its political strength. Soon after the Senate hearings, Keen, along with his colleague Dr. Walter B. Cannon, chairman of Physiology at Harvard Medical School, founded the Council on Defense of Medical Research (CDMR). The CDMR was a lobbying arm of the AMA devoted specifically to protecting doctor’s freedom of research methods. The Council issued pamphlets for public consumption on a number of issues relating to medical research freedom with a primary focus on vivisection. The arguments in these pamphlets ran the gamut of typical pro-vivisection fare. A 1909 CDMR pamphlet claimed martyrdom for the few animals whom doctors sacrificed to experiments from which, the argument proceeded, doctors “add to our common knowledge new and important facts that will make possible ... methods for preventing suffering and loss by death in the dumb creatures.”<sup>61</sup> One unique CDMR publication entitled *Medical Control of Vivisection*, written by Dr. Cannon and published in 1910, outlined the lengths doctors themselves took to regulate the practice of animal experimentation and compared laboratory animal living conditions to those of animals regularly caught and destroyed by city governments.<sup>62</sup> These pamphlets, as well as the others in the CDMR’s series, aimed at defeating the arguments of the antivivisection campaigners in the public sphere. American doctors learned prior to the 1900 bill the power that public displays, pamphlets, protest, and demonstration could have over vivisection and responded in kind through the CDMR. Thus, as in England during the 1880s, the antivivisection campaign forced doctors to respond to public concerns in new ways after 1900.

Similarly, in response to the 1900 hearings and the triumph of the allopathic doctors, the AMA Committee on National Legislation ramped up its efforts significantly. First assembled in 1899, by 1901 the Committee on National Legislation was already proposing bills to standardize medical education in the United States as a means of further claiming monopoly on medical knowledge.<sup>63</sup> The method used in 1900 was openly discussed in committee minutes as the primary means of achieving legislative success. “As soon as

the legislators are elected,” reported Dr. George S. Armstrong at the 1901 AMA annual meeting, “we get the names of all members and the doctors who have a pull with them, and when we want anything done we notify those doctors ... and the bill passes.”<sup>64</sup> In 1906, the Legislative Committee reported seven bills presented to Congress (compared to one in 1901), along with a new push to elect AMA members to legislative office as a means of achieving even greater political goals.<sup>65</sup> The victory of 1900 gave the AMA confidence to attempt greater political prominence. By using this political leverage to push for stronger standards in medical schools, they continued to enforce their epistemological hegemony. Moreover, membership in the AMA skyrocketed. In 1895, annual dues payments to the AMA totaled \$12,055. In 1904, the AMA took in \$74,123 from dues paying members, with an increase of \$10,000 between 1903 and 1904 alone.<sup>66</sup> By the end of the decade, the AMA was the preeminent medical association in the United States, its lobbying wing solidified, and its cultural authority total.

The Rockefeller Institute for Medical Research (RIMR), today’s Rockefeller University, was one final institutional legacy of the vivisection debate of the late nineteenth century. Plans for the first American medical institution devoted entirely to research and endowed by John D. Rockefeller’s immense fortune dated back at least to 1897, but plans and funds were not turned to brick and mortar until 1903.<sup>67</sup> After the defeat of the 1900 national legislation, antivivisectionists focused their attention on the RIMR. As an institution devoted entirely to experimental medicine, the Rockefeller Institute actively and openly experimented on living animals. In 1907, the RIMR acquired a farm in rural New Jersey and a public antivivisection campaign against the so-called vivisection farm soon followed, which according to the *Inquirer* promised “vivisection on a larger scale ... than has ever been practiced.”<sup>68</sup> Antivivisection movements in New York and New Jersey latched onto the Rockefeller Institute’s widespread use of animal experimentation as a reason to introduce legislation in the New York State legislature that would ban the practice. By 1910, however, the RIMR’s research results had already gained the institution many public accolades, especially RIMR director Simon Flexner’s work on meningitis. While newspapers in New York, New Jersey, and Philadelphia all covered the controversy surrounding the RIMR’s “vivisection farm,” newspapers throughout the nation detailed the medical research performed by the Institute, providing broad support for its research goals and, implicitly, its methods.<sup>69</sup> Thus, much like the national legislation of 1900, the New York State bill failed due to medicine’s growing political clout and public support. In both the Senate bill of 1900 and the state bills of the following decade, antivivisection ran up against the social legitimacy of experimental medicine as practiced by AMA doctors.

The debate over animal rights and animal experimentation continued throughout the twentieth century. The AAVS still exists in 2017, as does the AMA. The year 1900 marked a significant moment for both organizations. Following the Senate hearings, the AAVS focused its efforts more on convincing the public of vivisection’s ability to erode American morals, rather than direct legislative lobbying. For the American allopathic medical community, 1900 was a culmination of their efforts throughout the nineteenth century to expel and discredit competing, non-scientific forms of medical knowledge. The AMA’s long-term efforts at attaining the public’s trust gave them the political power to defeat Senate Bill 34 in 1900, a victory which prompted them toward further political action. The story of antivivisection in the United States is as

much a story about the role of doctors in American society as it is about animals. Doctors, even those who did not practice vivisection directly, reaped benefits from the practice in terms of scientific advancement and professional respectability. Their legislative victory in 1900 was a triumphant outcome of fifty years of working toward respectability just as it was an important defeat for the antivivisection movement as well as their allies, homeopathic doctors like Gallinger who were barred from the AMA. Thus, by prompting the AMA toward greater political action, antivivisection at the end of the nineteenth century not only saved animals but solidified the institutional structure of American medicine as well.

## NOTES

<sup>1</sup>*Philadelphia Inquirer*, Mar. 12, 1885.

<sup>2</sup>“An Address by William W. Keen,” Records of the American Anti-Vivisection Society, Box 10.2, Folder 247, Temple University Urban Archive, Paley Library, Temple University, Philadelphia, PA (hereafter referred to as Records of the AAVS).

<sup>3</sup>The Oxford English Dictionary defines “vivisection” as “The action of cutting or dissecting some part of a living organism; *spec.* the action or practice of performing dissection, or other painful experiment, upon living animals as a method of physiological or pathological study.” This article uses the terms “vivisection” and “animal experimentation” synonymously. Both are used here to indicate the practice of conducting surgery or other medical practice as a means to determine how living bodies operate. “Antivivisection” is used to denote people and organizations opposed to such practice”; “vivisection, n.,” OED Online.

<sup>4</sup>The history of vaccination and opposition to vaccination is a burgeoning field of inquiry. For British vaccination history, see Nadja Durbach, *Bodily Matters: The Anti-Vaccination Movement in England, 1853–1907* (Durham, NC: Duke University Press, 2005); and Stanley Williamson, *The Vaccination Controversy: The Rise, Reign and Fall of Compulsory Vaccination for Smallpox* (Liverpool, UK: Liverpool University Press, 2007). The recent historiography on the procedure in the American context is particularly robust. See Robert D. Johnston, *The Radical Middle Class: Populist Democracy and the Question of Capitalism in Progressive Era Portland, Oregon* (Princeton, NJ: Princeton University University Press, 2003); James Keith Colgrove, *State of Immunity: The Politics of Vaccination in Twentieth Century America* (Berkeley: University of California Press, 2006); Michael Willrich, *Pox: An American History* (New York: Penguin, 2011); and Karen Walloch, *The Anti-Vaccine Heresy: Jacobson v. Massachusetts and the Troubled History of Compulsory Vaccination in the United States* (Rochester, NY: University of Rochester Press, 2015).

<sup>5</sup>Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: BasicBooks, 1982), 13–29. Social authority, according to Starr, is the means by which doctors are at the top rung of a ladder of practice, with nurses, technicians, and others who act on their behalf based on the doctor’s expertise. Cultural authority is, in Starr’s words, “the authority to interpret signs and symptoms ... [and] shaping the patients’ understanding of their own experience” (Starr, p. 14). Finally, occupational control in the medical context is exercised through the ability of professional organizations like the AMA to police its own ranks through licensure, educational standardization, and institutional practices.

<sup>6</sup>Leslie J. Reagan, *When Abortion Was a Crime: Women, Medicine and the Law in the United States, 1867–1973*, (Berkeley: University of California Press, 1997).

<sup>7</sup>James C. Mohr, *Abortion in America: The Origins and Evolution of National Policy, 1800–1900* (Oxford, UK: Oxford University Press, 1978), 148.

<sup>8</sup>Mohr, *Abortion in America*, 220.

<sup>9</sup>Both pro-vivisection and antivivisection movements referred to this legislation as “Senate Bill 34.”

<sup>10</sup>This historiography includes James Turner, *Reckoning with the Beast: Animals, Pain and Humanity in the Victorian Mind* (Baltimore: Johns Hopkins University Press, 1980); Diane L. Beers, *For the Prevention of Cruelty: The History and Legacy of Animal Rights Activism in the United States* (Athens, OH: Ohio University Press/Swallow Press, 2006); and, to a lesser extent, Susan J. Pearson, *The Rights of the Defenseless: Protecting*

*Children and Animals in Gilded Age America* (Chicago: University of Chicago Press, 2011) though Pearson barely mentions antivivisection at all.

<sup>11</sup>Historian Kathleen Kete summarized this school of thinking and the problems it poses in “Animals and Ideology: The Politics of Animal Protection” in Nigel Rothfels, ed., *Representing Animals* (Bloomington: Indiana University Press, 2002), 21.

<sup>12</sup>Lawrence and Susan Finsen, *The Animal Rights Movement in America: From Compassion to Respect* (New York, Twane Publishers, 1994), 50.

<sup>13</sup>Craig Buettinger, “Women and Antivivisection in Late Nineteenth Century America” in *Journal of Social History* 30:4 (1997): 857–72. See also Mary Anne Elston, “Women and Anti-vivisection in Victorian England, 1870–1900” in Nicolaas A. Rupke, ed., *Vivisection in Historical Perspective* (London: Croom Helm, 1987), 259–94; and Coral Lansbury, *The Old Brown Dog: Women, Workers, and Vivisection in Edwardian England* (Madison: University of Wisconsin Press, 1985).

<sup>14</sup>Some historians of Progressive Era movements highlight the degree to which reformers aimed to reshape society to fit their morality. See Michael McGerr, *A Fierce Discontent: The Rise and Fall of the Progressive Movement in America, 1870–1920* (New York: The Free Press, 2003). However, progressivism also contained strains of intense pragmatism, rationality, and secularism, none of which particularly fit the Christian overtones and moralism of antivivisection activists. The movement to end animal experimentation thus sits uncomfortably in the pantheon of Progressive Era reforms. For studies of pragmatic progressivism, see James Kloppenberg, *Uncertain Victory: Social Democracy and Progressivism in European and American Thought, 1870–1920*, (New York: Oxford University Press, 1988); and Robert B. Westbrook, *John Dewey and American Democracy* (Ithaca, NY: Cornell University Press, 1993).

<sup>15</sup>For professionalization during the Progressive Era, see Richard Hofstadter, *The Age of Reform: From Bryan to F.D.R.* (New York: Knopf, 1972); and Robert Wiebe, *The Search for Order: 1877–1920* (New York: Hill and Wang, 1967). Hofstadter and Wiebe emphasize status uncertainty among professional classes such as lawyers and doctors as helping introduce them to the progressive movement. These older works take progressivism as a conceptual given, a notion which later received some pushback. Daniel T. Rodgers in 1982 made a convincing case that “Progressivism” as a movement is a fiction itself (Daniel T. Rodgers, “In Search of Progressivism” in *Reviews in American History* 10:4 (1982): 113–32.) Wiebe and Hofstadter are far better tools for engaging with the *effects* of progressive reforms than their causes.

<sup>16</sup>For the deep roots of antivivisection, see Andreas-Holger Maehle and Ulrich Trohler, “Animal Experimentation from Antiquity to the End of the Eighteenth Century: Attitudes and Arguments” in Rupke, *Vivisection in Historical Context*. Contention over vivisection as a scientific practice has a long history. The arguments both in favor of and opposed to the practice date back to antiquity and gained a moment of particular salience in Enlightenment Europe. William Hogarth’s 1751 engraving, *The Four Stages of Cruelty* depicted animal cruelty as a moral outrage while University of Leipzig professor Christlob Mylius (1722–1754) argued vociferously for the practice’s scientific benefits. These debates, however, were largely contained to elite circles and all occurred before the medical profession gained cultural authority in Starr’s sense of the term.

<sup>17</sup>*Philadelphia Inquirer*, Sept. 8, 1916. A thorough biography of White remains to be written, but her activism in the AAVS, Pennsylvania Society for the Prevention of Cruelty to Animals (PSCPA) as well as the child protection movement warrants further insight as to her role as a hub of progressivism in Philadelphia.

<sup>18</sup>Susan E. Lederer, “The Controversy Over Animal Experimentation in America, 1880–1914” in Rupke, *Vivisection in Historical Context*, 236–58. Lederer provides an excellent narrative of the American antivivisection movement, which I have summarized here.

<sup>19</sup>“Proceedings of the National Medical Conventions Held in New York, May, 1846 and Philadelphia, May, 1847,” 17, in the Archive of the American Medical Association Online Collection, <http://ama.nmtvault.com/jsp/browse.jsp> (hereafter referred to as AMA Online Collection).

<sup>20</sup>“Proceedings of the National Medical Conventions Held in New York, May, 1846 and Philadelphia, May, 1847,” AMA Online Collection,” 17.

<sup>21</sup>John Duffy, *From Humors to Medical Science: A History of American Medicine* (Chicago: University of Illinois Press, 1993), 81–83. Duffy offers a concise, thoughtful, account of the development of nineteenth-century American medicine and I have drawn from it considerably here. See also Starr, *Social Transformation of American Medicine*. For an older in-depth study, see Francis R. Packard, *History of Medicine in the United States, Vol. II* (New York: Hafner Publishing, 1931).

<sup>22</sup>Wiebe, *The Search for Order*, 114.

<sup>23</sup>*Jamestown (NY) Journal*, Oct. 28, 1870.

<sup>24</sup>“Proceedings of the National Medical Conventions Held in New York, May, 1846 and Philadelphia, May, 1847,” AMA Online Collection, 38–39.

<sup>25</sup>“The Transactions of the American Medical Association, 1848,” AMA Online Collection, 7–8.

<sup>26</sup>“The Transactions of the American Medical Association, 1860,” AMA Online Collection, 53.

<sup>27</sup>“The Transactions of the American Medical Association, 1870,” AMA Online Collection, 10.

<sup>28</sup>*Boston Evening Journal*, May 24, 1873.

<sup>29</sup>*Jamestown (NY) Journal*, Oct. 28, 1870.

<sup>30</sup>“The Transactions of the American Medical Association, 1876,” AMA Online Collection, 95.

<sup>31</sup>James C. Mohr, *Doctors and the Law: Medical Jurisprudence in Nineteenth-Century America* (Oxford: Oxford University Press, 1993), especially 225–36.

<sup>32</sup>“The Transactions of the American Medical Association, 1880,” AMA Online Collection, 1070.

<sup>33</sup>Mohr, *Abortion in America*, especially 170–79.

<sup>34</sup>“Facts in Regard to the Failure of the Bills Presented to the Legislature for the Restriction of Vivisection” in the Records of the AAVS Box 3b, Folder 12. After this failure, the AAVS changed its mission from restriction of vivisection to outright abolition. See “Annual Report of the American Anti-Vivisection Society, 1908” in Records of the AAVS, Box 2A, Folder 5, p. 6.

<sup>35</sup>*Philadelphia Inquirer*, Apr. 30, 1884, Feb. 12, 1885.

<sup>36</sup>*Philadelphia Inquirer*, Jan. 28, 1887.

<sup>37</sup>Caroline Earle White, “An Answer to Dr. Keen’s Address Entitled Our Recent Debts to Vivisection” (Philadelphia: American Society for the Restriction of Vivisection, 1886), 6.

<sup>38</sup>“Latest Fad of Vivisectors” in Records of the AAVS, Box 10.2, Folder 173.

<sup>39</sup>*The Animal’s Defender and Zoophilist*, vols. 24–25 (London: National Anti-Vivisection Society, 1905, digitized 12/2/2008), 200.

<sup>40</sup>*New York Independent*, Dec. 12, 1895.

<sup>41</sup>Untitled flyer in Records of the AAVS, Box 3b, Folder 4.

<sup>42</sup>*The Journal of Zoophily*, May, 1913, 8–9.

<sup>43</sup>*The Journal of Zoophily*, Dec. 1914, 5.

<sup>44</sup>*The Journal of Zoophily*, June 1915, 1.

<sup>45</sup>This line of reasoning was common in reform movements during the Progressive Era, including those against child labor and temperance. See, in particular, Pearson, *Rights of the Defenseless*.

<sup>46</sup>*Philadelphia Inquirer*, Feb. 3, 1886.

<sup>47</sup>*New Orleans Daily Picayune*, Apr. 23, 1885.

<sup>48</sup>“Hon. Jacob H. Gallinger, M.D.,” *Granite Monthly: A New Hampshire Magazine* 9:9 (Sept. 1886): 247.

<sup>49</sup>*New Hampshire Patriot*, June 26, 1879.

<sup>50</sup>“Testimony of William W. Keen, M.D.” in *Vivisection: Hearing Before the Senate Committee on the District of Columbia* (Washington, DC: Government Printing Office, 1900), 24–25.

<sup>51</sup>“Testimony of William W. Keen, M.D.,” 24–25.

<sup>52</sup>“Value of Vivisection to Brain Surgery” in *Journal of the American Medical Association* 24 (Dec. 1902): 1530.

<sup>53</sup>“Dr. Quine on Homeopathy” in *Journal of the American Medical Association* 23 (June 1899): 1312; and “Attitude of Physicians Toward Homeopathy” in *Journal of American Medical Association* 7 (Feb. 1896): 300.

<sup>54</sup>“Letter from P.O. Hooper,” Papers of William W. Keen, Box 4-2, Folder “H,” College of Physicians Library, Philadelphia, PA.

<sup>55</sup>These dozens letters can be found in the Papers of William W. Keen, Box 4-2, Folders A-Z, College of Physicians Library, Philadelphia, PA.

<sup>56</sup>“Annual Report of the American Anti-Vivisection Society,” 1909, p. 6, in Records of the AAVS, Box 2a.

<sup>57</sup>Untitled leaflet in Records of the AAVS, Box 3b, Folder 4.

<sup>58</sup>See, for example, “To All Lovers of Dogs” and “Vivisection—Why it Should be Prohibited” in Records of the AAVS, Box 3a, Folder 1.

<sup>59</sup>“Address by W. R. D. Blackwood” in Records of the AAVS, Box 3a, Folder 1.

<sup>60</sup>“Walter B. Cannon to William W. Keen, Dec. 13, 1909” in Papers of Walter B. Cannon, American Philosophical Society, Philadelphia, PA.

<sup>61</sup>Veranus Moore, *Animal Experimentation: The Protection it Affords to Animals Themselves and its Value to the Live-Stock Industry of the Country* (Chicago: Council on Defense of Medical Research of the American Medical Association, 1909), 4.

<sup>62</sup>Walter B. Cannon, *Medical Control of Vivisection* (Chicago: Council on Defense of Medical Research of the American Medical Association, 1910), 3–4.

<sup>63</sup>“House of Delegates Proceedings, Annual Session, 1901,” AMA Online Collection, 1639.

<sup>64</sup>“House of Delegates Proceedings, Annual Session, 1901,” AMA Online Collection, 1639.

<sup>65</sup>“House of Delegates Proceedings, Annual Session, 1907,” AMA Online Collection, 16–19.

<sup>66</sup>“House of Delegates Proceedings, Annual Session, 1896,” AMA Online Collection, 986; and “House of Delegates Proceedings, Annual Session, 1905,” AMA Online Collection, 264.

<sup>67</sup>Ron Chernow, *Titan: The Life of John D. Rockefeller, Sr.* (New York: Random House, 1998), 470–79.

<sup>68</sup>*Philadelphia Inquirer*, Oct. 20, 1907. The antivivisection leaning *Philadelphia Inquirer* repeatedly used the moniker “vivisection farm” to describe the Rockefeller Institute farm. See *Philadelphia Inquirer*, Jan. 9, 1908; and Jan. 15, 1908, for two examples.

<sup>69</sup>George W. Corner, *A History of the Rockefeller Institute: 1901–1953, Origins and Growth* (New York: The Rockefeller Institute Press, 1964), 87. Corner’s history of the RIMR is heavily slanted against the antivivisection campaign but provides a useful overall history of the Institute’s research and political operations.