

THE VIVISECTION CONTROVERSY IN AMERICA

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Rabbit being used for experimental purposes. Courtesy of the New England Anti-Vivisection Society (NEAVS).

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1. Introduction and Note on the Text

Vivisection and animal experimentation constitute one of the institutionalized pillars of animal exploitation, and they bear a long history of political, ethical and social

controversies. Vivisection must not be considered as solely the moment in which an animal's body is cut into; as will soon become evident, vivisection and animal experimentation include a whole array of procedures that are not limited to the act of severing (see Item 2 of the MAIN PAGE, hereinafter referred to as the MP), and should as well include as part of their signification the previous and subsequent conditions to the procedures in which the animals are in. It is quite difficult to ascertain the number of nonhuman others that are annually used in the United States for scientific and educational purposes, mainly due to the neglect in recording information regarding invertebrate specimens. According to the Last Chance for Animals website, the US Department of Agriculture, Animal and Plant Health Inspection Service reported that in the year 2009 1.13 million animals were used in experiments. These numbers did not include rats, mice, birds, reptiles, amphibians, and agricultural animals used for agricultural experiments. To this, an estimate of 100 million rats and mice were added. There is no reason to believe that these digits have in any way decreased in the last five years (for updated details on the use of primates, prosimians and simians both in the US and in the EU see the PhD thesis by Gloria Fernández Lázaro in WORKS CITED).

The object of this case study is to introduce students and scholars approaching the topic of animal experimentation or the fields of animal rights and animal welfare to the historically grounded controversy surrounding vivisection in America. Through a cultural studies perspective, it is structured in such a way that may aid the reader in learning about what kind of issues were involved in the process towards institutionalizing vivisection and its subsequent ramifications into other forms of invasive procedures for either research or educational purposes. From ethical concerns regarding the utility and cruelty associated to certain experiments to the ties between national sentiment and scientific practice, and from how the anti-vivisection cause was strongly bound to the women's movement to how anti-vivisection stances translated into activism and aesthetic responses, the overall focus offers a comprehensive, historiographical account of how America absorbed European scientific influences and attempted to negotiate its position within them.

Precisely because the transatlantic influence cannot be evaded in a project with such scope, the initial items of the MP are dedicated to a general overview of the historical origins of vivisection, the emergence of experimental physiology and the social controversy that vivisection aroused in nineteenth-century Britain. The remaining items of the MP offer a comprehensive account of the cultural and ethical context within which vivisection was 'imported' to America, an exposition of the leading figures enmeshed in the nineteenth and early twentieth-century pro- and anti-vivisection controversy, and analysis of key texts, and present the medical issues that were of particular concern during the period and the research undertaken as a response. The MP closes with the downfall of the anti-vivisection movement in the first decades of the twentieth century.

The two following sections, titled GUIDING STUDENT DISCUSSION (hereinafter GSD) and SCHOLARS' DEBATE (hereinafter SD), are structured as a series of short items, each of which presents a short introduction to a particular topic related to the vivisection controversy in America and provides specific research material for readers to develop their critical skills and knowledge. In these sections, readers will become acquainted with current regulations and legislation regarding animal experimentation, with the contrast between the animal rights and liberation movement and the nineteenth-

century animal protection movement, with the links between animal cruelty, racism and child abuse, with the American literary and film productions related to animal experimentation and animal liberation activism, with product testing and with forms of research beyond the medical field, among other topics.

Regarding the text itself, readers are informed that the term ‘animal(s)’ has generally been used as a substitute of the term ‘nonhuman other(s)’ to refer to animal species other than human for the sake of simplification. In addition to this, the text is consistent with the spelling of the term ‘anti-vivisection,’ but quoted excerpts that may include an alternative spelling are left untouched. In order to facilitate the connections and cross-references between different sections and different items, indications are given as to where to find the related information (with the abbreviations of the sections – MP, GSD, SD). Regarding the WORKS CITED section, entries might sometimes be listed in accordance to the title of the publication when the author is not known, particularly in the case of newspaper articles and reports (note that some publications may begin with the word ‘The’). Regarding the LINKS TO ONLINE SOURCES section, the websites that have been listed are mostly those of a number of animal rights and liberation organizations that offer revealing information about animal experimentation today. In most of the cases, each of these websites offers links to other sources that may be of further use for readers. Finally, readers are warned that some of the excerpts quoted and especially some of the footage accessed through links provided in this case study are very graphic and may contain images of animal cruelty; viewer discretion is advised.

2. Definition of the Term ‘Vivisection’

The etymology of the compound noun ‘vivisection’ can be traced back to the Latin ‘vivus’ (living) and ‘sectio’ (cutting). In their brilliant essay on the evolution of vivisection from antiquity to the end of the eighteenth century, Maehle and Tröhler identify the precursors to the term:

Its early Latin forerunners were ‘incidere vivorum corpora’ (cutting the bodies of the living) in Roman Antiquity and ‘vivi animantis sectio’ (cutting of a living being), ‘vivorum sectio’ (cutting of the living) or ‘viva sectio’ (cutting alive) in the Renaissance. (1987: 14)

They go on to add subsequent expressions that were to come into use during the seventeenth century and that for the first time seemed to have marked a distinction based on the subject used in the practice: ‘vivorum anatomia,’ ‘animantium dissection,’ ‘vivorum dissectio’ and ‘vivorum sectio’ were used to refer to the sectioning of living beings in general, whereas ‘vivorum hominum section’ referred to the cutting of living human beings and ‘vivorum brutorum sectio’ to the cutting of living animals (Maehle and Tröhler 1987: 14). The earliest instance of the term in English has been fairly recently found by Sugg (2007: 161) in the 1698 work by surgeon and anatomist William Cowper, *The Anatomy of Human Bodies*.

Although etymologically not associated to the act of experimentation, modern connotations suggest a profound link with such types of procedures, particularly since the mid-late nineteenth century and the emergence of experimental physiology. And yet, for all its denotations of ‘cutting,’ vivisection has, especially throughout the twentieth

century, also come to designate forms of experimentation that are not necessarily limited to surgical or anatomical intervention. As Rupke (1987a) notes, nowadays the list of fields that are attached to vivisection stretch beyond biological sciences such as physiology, pharmacology, or microbiology, among others, and beyond clinical medicine such as immunology, pathology, or surgical studies to include not just behavioral experimentation, but the more alarming research on the cosmetic, drink and tobacco industries, and even the testing and trials of common household products for cleaning, disinfecting, etc.

Without a doubt it is this incessant expansion of fields in which animals are tested which has rendered the term 'animal experimentation' as the more adequately suited (and perhaps more public-friendly designation?) to refer to the invasive intervention on animals' bodies and/or minds, as opposed to 'vivisection' (J. Turner 1980: 166), which has somewhat fallen into disuse. By favoring this term experimenters have condoned a relational link between their disparate procedures and hence, to some extent, have fortified their justification. Cancer research would potentially nominally fall into the same category as behavioral and psychological studies on the effects of, for instance, profound isolation. The latter example may not necessarily require any 'cutting,' transfusions, deliberate infections, or forced administration of hazardous drugs on the subject; yet, in a way, the sharing of the term 'animal experimentation' equates the relevance of the 'means' to that of cancer research, however distinct both their ends may be. Cancer research being perceived as a clear matter of public urgency, behavioral research with captive animals may find itself blessed by any attachment to its Promethean impetus. However, these connections built on nomenclature have also worked for the benefit of animal advocates who, by the same token, may disregard the ends to construct an argument based on the means. If animal testing is to be accepted as morally unjustifiable for its violation of sentient beings' rights, then the umbrella term may more easily connect the separate procedures as a single manifestation of speciesism.

This is not to say that the term 'vivisection' has been at all obliterated from our current vocabulary, for it is still widely applied by researchers and animal rightists and welfarists alike. What is meant is that 'animal experimentation' or 'animal research' have grown as the preferential designations that are inclusive of far many other practices than perhaps the name 'vivisection,' which once became so prominent during the nineteenth century, can offer. During the nineteenth century, both terms co-existed, as they do now, but it was 'vivisection' which more clearly stood out in press headlines, pamphlets and speeches. In historical and historiographical studies of animal experimentation, 'vivisection' appears to be recurrent throughout, and such studies, especially in the nineteenth century, resurrect the term to the forefront of the discussion. It is perhaps the transparency of the etymology as well which in a way stigmatizes the practice, as it more readily instills an image of a bloodier invasive procedure than do the more elusive concepts of 'experimentation' and 'research.' In a way, where 'vivisection' reveals, 'experimentation' conceals. Nonetheless, and as argued above, 'experimentation' allows for the construction of a rightist argument as well, and prominent writers such as David DeGrazia (2002) have shown to be more inclined towards its use.

Nor is this to suggest that the relational connectivity between fields based on the term 'animal experimentation' is devised for the purpose of justifying the cause, whether this

be for or against research. Rather, it is to be regarded as a side effect of the umbrella term of which the usefulness has probably been realized by experimenters and rightists. The success of this strategy is, in any event, rather weak, for it would be reductive and ridiculous to assume that the public would automatically disregard the differences between procedures on the grounds of a common name. In any debate about animal research, superficial as it may be, chances are that at least one of the parties involved will without much trouble point out the fundamental ethical difference between cancer research and the testing of cosmetics, for example. By bringing the ends to the forefront, in other words, the connections between the means are exposed and become easily dismissed.

Throughout this case study, both terms ('vivisection' and 'animal experimentation') will be used to refer to types of research in which animals are used. 'Vivisection' will more specifically signify upon the type of animal experimentation that involves a surgical or anatomical procedure, though due commentary on other forms of experimentation will appear throughout. 'Vivisection,' therefore, can be defined as the act of performing experiments or exploring living bodies through an invasive approach that usually involves cutting. 'Dissection,' on the other hand, commonly refers to the performance of these invasive procedures (and usually, the dismemberment and separation of tissues for examination) on dead bodies, although the term has regularly appeared as a synonym to vivisection.

3. A Brief Historical Overview of Vivisection in Europe

3.1. Ancient Origins of Vivisection

Vivisection is an ancient practice. Although impossible to pinpoint the exact moment in which live beings were first subjected to experimentation (whether for epistemological purposes or merely to satisfy curiosity), records of its existence date as far back as to around 500 B.C. with Alcmaeon of Croton's cutting of the optic nerve on animals for the study of vision. As Phelps (2007: 320) suggests, actual proof of his vivisection procedures remains obscure. Nonetheless, if Alcmaeon (who is believed by some scholars to have been a pupil of Pythagoras) did engage in such experiments, it is very much possible that, along with dissection, such procedures may have originated during even earlier times.

It was not long before the questions about the usefulness and relevance of vivisection methods emerged, along with the troubling matter of dissecting lifeless human bodies. Guerrini points out that out of the several sects that flourished in Alexandria, it was the empirics and the dogmatists who, in their quest to unearth whether it was observation, theory or practical examination which was of importance, centered the debate on the intellectualism of medics, subsequently touching upon moral issues. Empirics, in the line of Greek physician Hippocrates, opposed both dissection and vivisection, emphasizing the need for observation instead. In vivisection, the subject died anyway in the course of the operation, and the act of vivisection itself caused pathological changes that brought the validity of observation into question. Observation of wounds during the course of treating them could give the same information without deliberately injuring a fellow human being. (Guerrini 2003: 7)

Dogmatists, on the other hand, “believed that a knowledge of anatomy was critical to medical practice. They dissected to learn more about the body’s internal workings, because mere observation of its exterior, even if supplemented by glimpses of wounds, was inadequate” (Guerrini 2003: 7). Heirs to the Aristotelian approach to nature, dogmatists Herophilus (circa 330-circa 260 BC) and Erasistratus (304-245 BC) made animal dissection and vivisection their principal method of examination and research, and believed that they were the most adequate alternatives to the dissection of human corpses, a taboo in ancient Greece. Nonetheless, around three centuries later, the Roman historian and encyclopedist Aulus Cornelius Celsus declared in his work *De medicina* that Herophilus and Erasistratus had cut open the live body of a criminal held at the prisons of the Ptolemaic Kings.

Maehle and Tröhler argue that it was perhaps Celsus’s allegations against the dogmatists that led to Galen of Pergamon’s careful selection of specimens as subjects. Galen (circa 129-circa 199 AD), physician to Marcus Aurelius, based his research on the cardiopulmonary system and on the brain and spinal cord function, and described his vivisection methods in *De anatomicis administrationibus*. Rooted in the belief that man was the only creature to possess reason was Galen’s profound stoicism, a philosophical stance that not only cautioned man against the detrimental effects of excessive emotion and passions, but which, concomitantly, dismissed animals as lesser beings. It was his stoicism and the influence of Celsus which were instrumental in Galen’s choice of subjects: “To Galen, vivisection could be disturbing, but only *aesthetically* so. That is why he refused to dissect the sexual organs of living animals or to dissect even dead animals in an upright, man-like position” (Maehle and Tröhler 1987: 16). As Wootton (2006: 5) indicates, Galen was a dogmatist and simultaneously a follower of Hippocrates, and it is likely that, as a result of Celsus’s attacks against Herophilus and Erasistratus, “[he] took all possible precautions against any potential accusation of human vivisection” (Maehle and Tröhler 1987: 16) by avoiding subjects resembling human beings.



Galen performing vivisection on a pig. Image appearing in the 1541 Junta edition of *Galen's Works*.

3.2. From the Renaissance to the Age of Enlightenment

The Medieval period’s central concern for the divine over worldly matters explains the sparse records of vivisection practices (except for toxicological tests), which were to be sporadic until the Renaissance (Maehle and Tröhler 1987: 17; Monamy 2009: 9). This is not to say that philosophical explorations of the ontology of man and animal were

absent, for it is during this crucial period in Christian thought when much of the theory regarding man's domination of nature is developed.

Renewed interest in vivisection surfaced with the study of anatomy during the Renaissance, with explorations carried out by Berengario da Carpi, Giambattista Canano and Volcher Coiter. It was to be the Flemish anatomist and physician Andreas Vesalius (1514-1564) who would revise and correct (and also confirm) many of Galen's assumptions in *De humani corporis fabrica libri septem* (1543), based on his lectures at the University of Padua. Dissection of live animal bodies and human cadavers were common methods employed by Vesalius to unearth the inner workings of organs and the human structure: "Physicians ought to make use not only of the bones of man, but, for the sake of Galen, of those of the ape and dog," he wrote. Dogs were a particular favorite species of his, "since the supply of them was never failing" (Qtd. O'Malley 1964: 117-118). Canines were also to be much 'favored' by Vesalius's successor at the Padua chair of anatomy, Realdo Colombo (1516-1559), for his study of the pulmonary transit of blood. His research was collected in the posthumously published *De re anatomica* (1559), though he had already been granted due credit for his discoveries by his pupil Juan Valverde in *De la composición del cuerpo humano* (1556). This new generation of medics justified their methods through two related arguments: firstly, the acquisition and advancement of anatomical knowledge was invariably dependent upon actual examination of live organs at work. Secondly, because, under the prevailing anthropocentric thought, experimentation on live human bodies was deemed as a moral and religious atrocity worthy of worldly and divine punishment, physicians were left to do their research on those lesser beings that were assumed to be the rightful dominion of man.



De humani corporis fabrica libri septem (1543), by Vesalius.

Such stance remained the substance of the defense of vivisection throughout the seventeenth century, with a list of European experimenters that continued to challenge Galen's physiology and which included Robert Boyle, Philippe Verheyen, Werner Rolfinck and Gaspare Aselli, among others. British Lord Chancellor Francis Bacon (1561-1626) stressed the importance of sensory knowledge and strongly encouraged the systematization of natural histories and taxonomies of diseases. It was in *De augmentis scientiarum* (1605) where he continued empowering the anthropocentric stance and justifying the necessity of animal vivisection:

Wherefore that utility may be considered as well as humanity, the anatomy of the living subject is not to be relinquished altogether . . . since it may well be discharged by the dissection of beast alive, which, notwithstanding the dissimilitude of their parts to human, may with the help of a little judgment, sufficiently satisfy this inquiry. (Qtd. Rowan 1984: 43)

In 1628 William Harvey (1578-1657) published his discoveries on the circulation of blood, completely revolutionizing physiological knowledge and unleashing a frenzy of demonstrations throughout Europe for the exhibition of his findings. *De motu cordis* amended Galen's mistake of concluding that it was in the liver where blood was produced. Harvey's meticulous study of the amount of blood discharged by the rhythmically contracting heart was carried out on human cadavers and especially on live animals.

On the grounds of anatomical differences between man and animal and the unnaturalness of the subject's state during procedures, it was not uncommon for a number of physicians to point to the questionable validity of vivisection. These, however, paled in comparison to the imperious growth in the utilization of animals for research in the hands of anatomists and physicians. Although initially of a secondary nature in the advocacy against vivisection, concern for the moral implications of animal experimentation was also progressively growing as a pressing matter in need of urgent response. Even Robert Boyle and Robert Hooke showed signs of remorse for the pain and suffering they had caused, the latter going to the extent of declaring that he would cease one of his trials for the study of pulmonary and cardio movement. Some physicians reacted adversely to the practice, such as the Irish doctor Edmund O'Meara, who in 1665 openly attacked vivisection for its cruelty and its arguable certainty of results. Yet sadly for those who yielded to a compassionate attitude towards the subjects, a new demiurge of science was at the same time revolutionizing western thought; it was to become the age of René Descartes (1596-1650).

Descartes's legacy to western science and philosophy came in the form of a mechanistic conception of natural structures, one that subverted and perverted previous organicist stabilities (Merchant 1980). Conceived as clock-work machinery, nature could be deciphered into a series of predictable formulas that scientific research could decode through processes of experimentation and observation. At a time when more anatomical similarities between man and animal were being discovered and when hints of a common capacity to suffer were starting to crystallize, Cartesian thought struck hard with its fundamentalist dualism between man and brute by contextualizing reason within Christian doctrine. Both man and animal were creatures of God, yet it was man's capacity to reason and to project such gifts through the power of language which attested to the irrefutable existence of his soul. The now clichéd signature phrase *cogito*

ergo sum summarized man's privileged and superior ontology beyond the limitations of perfunctory natural objects – he had been graced with a consciousness. Animals, on the other hand, were little more than a conglomeration of reflexes; they were automata. The capacity to articulate and communicate stood as evidence of consciousness, of reason. In the words of Descartes in Part V of *Discours de la méthode* (1637), this linguistic dissimilarity “proves not only that the brutes have less reason than man, but that they have none at all.” In his view, “feeble minds [are led] astray from the straight path of virtue [by] the supposition that the soul of the brutes is of the same nature with our own” (2004: 16, 17). As automata, animals were incapable of experiencing neither pain, nor pleasure: “When burnt with a hot iron or cut with a knife their writhing and screaming are like the creaking of a hinge, no more” (Ryder 2000/1989: 53). In their accommodation within Cartesian thought, experimenters shocked those who were inclined towards compassion, such as Nicholas Fontaine, who recollected the following:

They administered beatings to dogs with perfect indifference, and made fun of those who pitied the creatures as if they felt pain. They said the animals were clocks; that the cries they emitted when struck were only the noise of a little spring that had been touched, but that the whole body was without feeling. They nailed poor animals up on boards by their four paws to vivisect them and see the circulation of blood which was a great conversation. (Qtd. Ryder 2000/1989: 53)

Demonstrations of Harvey's discovery of blood circulation, along with other anatomical and physiological experiments (Boyle's air pump for the study of respiration also became immensely popular) were increasingly enmeshed within mechanist principles, hence reinstating a sense of absurdity in the acknowledgement of animal suffering, but also at the same time nurturing the animosity of detractors. By the eighteenth century, European men of letters were expressing their contempt against the horrors of vivisection. Prominent amongst these advocates were Alexander Pope, Joseph Addison and Samuel Johnson in England, and Voltaire and Rousseau in France, who articulated their repulsion of mechanism and the belief that animals, as automata, were immune to suffering and pain. Rousseau declared on his *Discourse on the Origin of Inequality* (1755) that “if I am obliged not to injure any being like myself, it is not so much because he is a reasonable being, as because he is a sensible being” (Qtd. Donovan 1993: 171).

Maehle and Tröhler note that “in the eighteenth century the discussion of animal experimentation had obviously reached a point where the argument of benefit was accepted or rejected depending on a person's subjective view of medical science” (1987: 36). They identify this period as the genesis of theriocentrism, the point of view “which considered the protection of animals *for their own sake*” (Maehle and Tröhler 1897: 38). In contrast to the Kantian anthropocentrism by which infliction of pain and suffering on animals should be minimal so as to avoid the moral degradation of man (and subsequently, of mankind at large), the theriocentric argument overthrew the Cartesian antinomy between man and animal on the basis of reason and placed suffering at the ontological axis. In this line of thought, Jeremy Bentham (1748-1832) famously wrote in 1789 what would in time become the fundamental maxim of utilitarianism within the animal liberation movement “The question is not, Can they *reason*? nor, Can they *talk*? but, *Can they suffer*?” (2005: 311).

3.3. Vivisection in the Nineteenth and Early Twentieth Century

The nineteenth century represents the institutionalization and establishment of modern vivisection as it is known today for two principal reasons: the emergence of experimental physiology and the formation of anti-vivisection societies, which included prominent spokespersons among its ranks. It is no wonder, therefore, that scholars and historians have primarily focused on the nineteenth-century vivisection debate in France and in Britain: the former nation represents the birthplace of experimental physiology and the platform for the development of biological sciences, while Britain, immersed within an excellent period of coexistence of favorable social, political and economic circumstance, led the rest of the world in anti-vivisection advocacy. For the sake of brevity, we shall concentrate on contextualizing the animal experimentation controversy within these two nations, though readers are reminded that, although perhaps not canonical to a general history of vivisection, the practice in other countries (particularly in Germany) was undoubtedly influential in the development of experimental sciences and the rise of its deterrents. Recommended readings include chapters by Guarnieri on Venice, Tröhler and Maehle on Germany and Switzerland, and Bromander on Sweden; all of them collected in Rupke's brilliant study, *Vivisection in Historical Perspective* (1987).

3.3.1. France and Experimental Physiology

New developments in the scientific fields had come about with the French Revolution, ramifying medicine into multiple areas of knowledge (Weiner and Sauter 2003). Among other innovations, the veterinary schools that had first been founded in Lyon and in Paris in the 1760s were reformed and animal specimens on which to practice procedures were well in stock (Elliott 1987: 52). Aside from the veterinary faculties, the new medical schools that developed at the turn of the century were populated by students eager to acquire a practical experience that, in continuing with the tradition of Harvey and Descartes, only distanced itself from the less invasive (and soon enough, outdated) methods of research based on observation. The aim of experimental physiology was not necessarily surgical: although a deeper understanding of bodily functions could of course be useful for the advancement of medicine and operating techniques, and although surgical practice was indispensable for the acquisition of skills, it is important to point out that knowledge in itself stood, in many ways, at the top of the epistemological objective. According to Lesch, it was Xavier Bichat (1771-1802), pupil to the anatomist and surgeon Pierre-Joseph Desault (1738-1795), whose studies on anatomy and histology and doctrine of vital properties set the referential point for continuing research: "Confirmed or criticized, extended, modified, or rejected, Bichat's writings and teaching provided the French medical world with a glimpse of what physiology might be, or what it might aspire to" (Lesch 1984: 80). Bichat's contribution to science was intimately coupled with the emphasis on vivisection as the means of research, a method which would be propagated and further exacerbated for generations to come: Legallois, Nysten, Dupuytren, Magendie, Bernard, Pasteur and Bert, among scores of others, were indebted to the new approach towards medicine. Out of these, it was Magendie and his pupil, Bernard, who initially gained more international notoriety for their experiments and helped to establish France as the quintessential nation of vivisectionists.

François Magendie (1783-1855) received his training at the École de Médecine of Paris, and in time would become full professor at the Collège de France as well as member of the Académie des Sciences, one of the highest honors within the field. Magendie, though in theoretical disagreement with previous researchers such as Bichat or Barthez, was in great part responsible for further spreading vivisection within medical sciences and advancing experimental physiology. Many of the eye-witness testimonies that remain today, however, depict the actions of a man with loose skills and uncertainty of procedural methods, an approach which made the victimization of the experimental subjects all the more evident. A fellow physician, for instance, recalled in an 1863 issue of the *British Medical Journal* the Frenchman's indifference to the suffering of a dog who, in a mutilated state, kept licking Magendie's face as if begging for his life (Ryder 1983: 122). It is no wonder that Magendie and the torturous type of experimental physiology he embodied (effective anesthesia was yet to be discovered) were to become the object of sharp criticism in English anti-vivisectionist circles. Spectators were profoundly shocked when he made his London demonstrations in 1824, an event that resulted in extensive press coverage and in Irish Member of Parliament Richard Martin's denunciation at the House of Commons (see *John Bull* and *The Morning Chronicle* entries in WORKS CITED).

Claude Bernard (1813-1878) succeeded Magendie both as chair at the Collège de France and as a target for anti-vivisectionists. His declarations in *Introduction à l'étude de la médecine expérimentale* (1865) did little to curtail the by-then stereotyped image of the physiologist as a cold-hearted – and even sadistic – practitioner of science who wrongfully prioritized research over morality. He described the physiologist as “a man of science” who “no longer hears the cry of animals [nor] sees the blood that flows,” as he is utterly absorbed in “his idea and the purpose of his operation” (Bernard 1957: 103).



Paulin Jean Baptiste Guerin, *François Magendie 1783-1855*



Léon Augustin L'Hermitte. *The Lesson of Claude Bernard*. Photograph of an oil painted on canvas (1889). Académie Nationale de Médecine, Paris.

3.3.2. Vivisection in Britain: from Marshall Hall to Frances Power Cobbe

The exportation and internationalization of French experimental physiology was profoundly controversial in Britain, which for the greater part of the nineteenth century was still very much attached to natural theology and more traditional approaches to medicine where there was little room for research. Adding to this context was the shared sense of some civil forms of protection of animals through the Society for the Prevention of Cruelty to Animals (SPCA), founded in 1824 (and subsequently becoming the Royal Society for the Prevention of Cruelty to Animals when receiving the Queen's patronage in 1840). Aware of the developments that were taking place in continental Europe and the difficulty that such experimental practices posed within their nation, a generous number of English medical students made their way to Paris to immerse themselves in the field of physiology.

Still, experimental physiology was slowly seeping within British borders. Amongst the leading proponents of vivisection within the nation were Charles Bell (1774-1842) and Marshall Hall (1790-1857), who studied at the University of Edinburgh. Hall's research was centered on the circulation of blood and reflexes, and it was because of the heated response that his highly graphic experiments elicited that towards the mid-nineteenth century he twice countered with proposals for the regulation of vivisection. Although unsuccessful in his attempt to form a physiological society, Hall's recommendation represents an interesting case study in that it not only foreshadowed most of the fundamental measures that would be adopted in subsequent regulation, but also in that it calls for an exegesis of the troublesome object of these laws themselves. As historical response to the regulation of vivisection and other forms of animal experimentation has shown, it is essential to understand that such measures should not necessarily be interpreted as a mode through which to suppress and reduce animal suffering, but might instead be devised as means through which to legitimize and protect the researcher and the institution to which he or she is affiliated. Hall's original stipulations for the

formation of a society have been collected and described by Manuel and can be briefly summarized as follows:

- (i) “The experiment should never be resorted to if the necessary information could be gained by observation.”
- (ii) “Without a clearly defined and attainable object no experiment should be performed.”
- (iii) “Unwarranted repetition of an experiment” should be avoided, “especially if already performed by physiologists of reputation.”
- (iv) Justifiable experiments should involve “the least possible infliction of suffering”; hence the recommendation of using “less sentient animals such as batrachians reptiles” as subjects.
- (v) “Every physiological experiment should be performed ‘under such circumstances as will secure a due observation and attestation of its results, and so obviate, as much as possible, the necessity for its repetition.’”

(1987: 86)

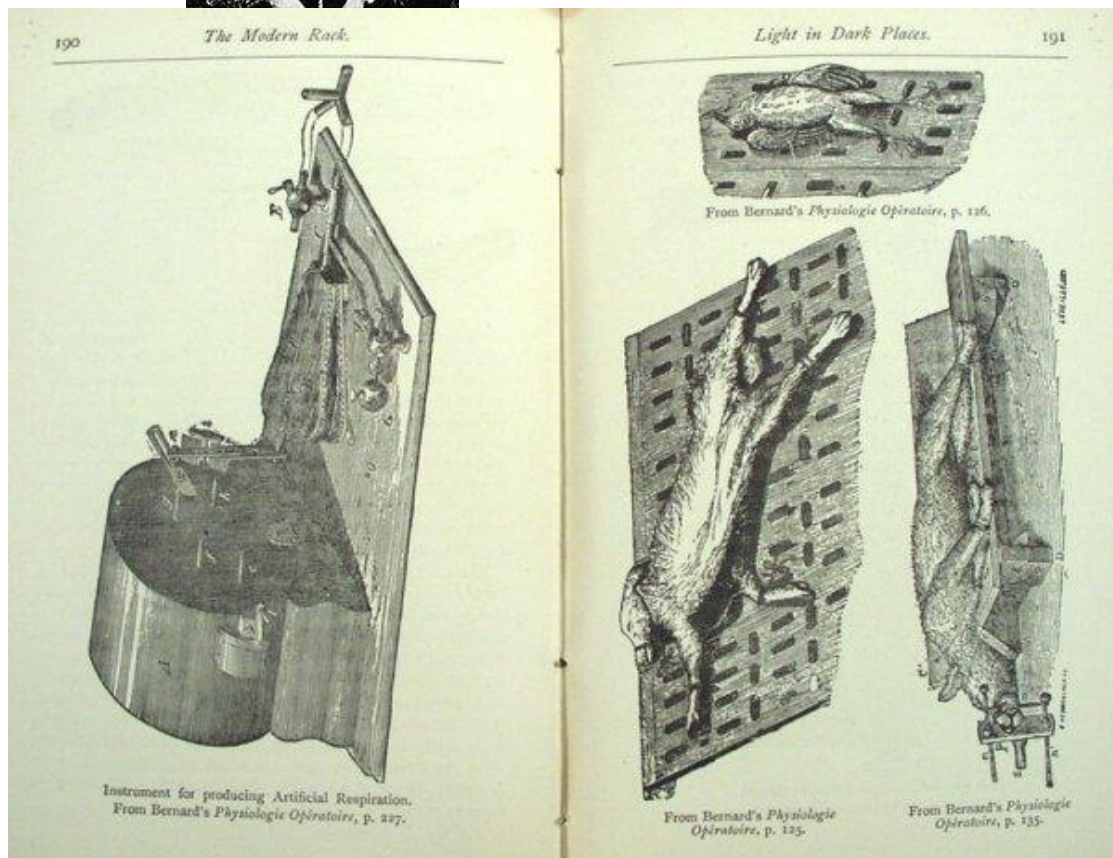
Although yet to further spread within Britain, by the mid-1800s much public confrontation on the topic of vivisection had been aroused. French experimental physiology continued being the target of priority, particularly due to the reports about the procedures practiced and condoned at the Alfort veterinary school near Paris. News about Alfort had already spread internationally in the 1840s, but it was during the late 1850s and early 1860s that such accounts backfired with tremendous effect, further strengthening anti-French sentiment abroad. The suffragette Frances Power Cobbe (1822-1904) took on the cause with her prodigiously spirited writing. Cobbe’s “The Rights of Man and the Claims of Brutes” (1863) represented a vigorous attack against Alfort and French medical practice at large, exposing the veterinary academy for its perpetration of procedures which lacked utility and were only performed to satisfy the students’ and the faculty’s curiosity. Such procedures (such as the removal of a hoof) were carelessly done at the expense of the extreme suffering of the unanesthetized animals, which were used time and again for different interventions until their bodies surrendered to death.

Cobbe’s transnational criticism, however, was by no means limited to the French. Around the same time that “The Rights of Man and the Claims of Brutes” was published, she also initiated in Florence, Italy, a public campaign of sorts against the German professor Moritz Schiff, who was doing his research in the city. In subsequent years, Cobbe would continue striking hard, provisioning the anti-vivisection movement with canonical texts. “The Moral Aspects of Vivisection” (1875) is perhaps her most discursively complex piece on account of its intersecting of animal advocacy, feminism, Darwinism and anti-materialism (Ferguson 1998: 116). The highly provocative essay also distinguished between the moral responsibility of sportsmen and other hypothetical animal tormentors and that of the vivisectors. It was precisely the latter’s detailed knowledge of physiological functions which provided him with a first-hand insight into the realities of pain and suffering. Cobbe suggested that there was a disturbing moral anomaly attached to the vivisector’s lack of sensitiveness and empathy, one which was unfortunately incremented by his zealous fascination with the animal body as a mere machine (Cobbe 1881: 8). This argument was sustained throughout her subsequent publications, from which “Bernard’s Martyrs” (1879) and “Light in Dark Places”

(1883) became the most notorious, featuring the reprinting of vivid vivisection images extracted from physiologists' publications.



Portrait of Frances Power Cobbe (1822-1904).



Images reproduced in "Light in Dark Places" (1883) by Frances Power Cobbe.

Along with Cobbe, the SPCA (later to become the RSPCA) was instrumental in progressively centralizing the matter of vivisection as one in need of immediate intervention. For years the Society had lobbied against animal cruelty of all sorts (with particular emphasis on sports). Richard Martin, who had successfully passed his anticruelty bill (known as Martin's Act) in the House of Commons in the early 1820s, united forces with abolitionists Thomas Foxwell Buxton and William Wilberforce and undertook the task of prosecuting wanton cruel behavior. Throughout the ensuing decades, vivisection increasingly became one of the RSPCA's central targets. French experimental physiology was yet to receive another blow in 1875 when Dr. George Hoggan, who for four months had been studying under the tutelage of Bernard, published a letter in the *Morning Post* condemning the atrocities he had witnessed in Paris, and joined Cobbe in her crusade against vivisection (Ryder 1983: 134).

3.3.3. The Cruelty to Animals Act

In 1871 the British Association for the Advancement of Science published a number of recommended guidelines that very clearly echoed Hall's principles for the establishment of a physiological society. This, however, was insufficient and proved to be far from the practical standard when in 1873 the two-volume *Handbook for the Physiologist*, edited by John Scott Burdon Sanderson, was published. Contributors included acknowledged professionals and academics such as Emanuel Klein and Lauder Brunton, and, among other innovations, the *Handbook* was the first book in the English language aimed at instructing readers in the field of physiology through a calculated combination of text and plates. Soon enough the *Handbook* was openly vilified by anti-vivisectionists, as practically no reference to the use of anesthetics was made, despite the British Association for the Advancement of Science's contemplations on the duties towards minimizing pain and suffering. "There were many infractions of the policy's first recommendations that 'No experiment which can be performed under the influence of an anesthetic ought to be done without it,'" Orlans explains. "Not only was this policy not followed, it was not even referred to" (Orlans 1993: 16). Indeed, no mention was made as to whether anesthetics had been used in an overwhelming number of the experiments described, and several of them were performed under the effects of curare, which "produce[d] motor paralysis but no afferent insensibility" (Richards 1987: 136). All in all, the *Handbook*, in the view of anti-vivisectionists, not only disregarded pain and suffering but threatened to promote such heinous procedures amongst younger generations of medical students. Fueling the controversy were Klein's polemical words: when asked about his consideration of the pain of the subjects, Klein infamously replied "Not at all" (Richards 1987: 135).

In 1874 the RSPCA President Dudley Ryder (Earl of Harrowby) received a letter from the Queen expressing her concern about the experiment victims along with a generous private donation (Ryder 1983: 134). The RSPCA's cautious actions, however, did not prove to be enough for Cobbe, and in January 1875 she used her social connections to urge the Society to pressurize government officials in the regulation (and possible abolishment) of animal experimentation. Impatient with the RSPCA's decision to study the matter more closely through a committee, Cobbe turned to Dr. Hoggan and to other influential supporters for the preparation of a bill. Tensions rose in May when only eight days apart two bills were presented: Cobbe's in the House of Lords and another bill securing the interests of pro-vivisectionists in the House of Commons. To investigate the matter more closely before a resolution, a Royal Commission was appointed. Evidently skeptical of the results such Commission could produce, Cobbe and Hoggan founded in December 1875 the Society for the Protection of Animals Liable to Vivisection. The organization was later renamed the Victoria Street Society, and finally the National Anti-Vivisection Society (NAVS). It was the first organization erected to campaign and lobby against animal experimentation.

The Commission reported back on January 8, 1876 with a number of recommendations as to the regulation (not abolishment) of the practice. During the following months, active pro- and anti-vivisection lobbying ensued, including the Victorian Street Society's proposal of yet another bill with legislative suggestions which received the support of the RSPCA, and a counter-response from 3,000 members of the medical profession petitioning its revocation or modification.



Cartoon ridiculing anti-vivisectionists and "dedicated to the Royal Commission to be appointed by the Government." Printed in the London periodical *Funny Folks*, issue 26 (June 5, 1875): 69.

The final legislative outcome came in the form of the Cruelty to Animals Act (1876), a law that only contemplated vertebrate animals. From thereon, experimenters had to apply for a license issued by the Home Secretary to carry out their procedures, and they had to obtain a special certificate for the authorization of experiments without anesthesia or lectures involving vivisection. The Act did little to pacify tensions: pro-vivisectionists frowned upon a bureaucratic process that controlled their research and were embittered by the possibility of their applications being rejected. As Rupke (1987b) suggests, although seldom voiced publicly, restrictions on vivisection also signified the control of the social status that the prestigious biomedical community exercised within Victorian culture. Meanwhile, anti-vivisection advocates regarded it as a measure that all too well sheltered experimenters from prosecution. As a *carte blanche* of sorts, licenses and special certificates endowed vivisectionists with unrestricted power over the animals. Discouraged but not defeated, the Victoria Street Society would thereafter (and until Cobbe's departure in the late 1890s) campaign for the full prohibition of vivisection in Britain. Cobbe related her despair and subsequent resolution in her autobiography as follows:

When we found that the compromise which we proposed had failed, and that our Bill providing the *minimum* of protection for animals at all acceptable by their friends, was twisted into a Bill protecting their tormentors, we were driven to raise our demands to the total prohibition of the practice, and to determine to work upon that basis for any number of years till public opinion be ripe for our measure. (2012: 663)

As disputes continued flourishing, more measures were undertaken on both sides. In 1876 the Physiological Society of Great Britain was organized, and in 1881 the International Medical Congress (IMR) took place in London, hosting a scenario that encouraged and championed vivisection within medical practice. A year later pro-vivisection influence culminated with the establishment of the Association for the Advancement of Medicine by Research (AAMR), an organization whose main objective was to repeal the Cruelty to Animals Act. Strategies to persuade the public as to the positive gains from vivisection were put to practice by Richard Owen in *Experimental Physiology: Its Benefits to Mankind*, where the breakthroughs of Bernard, Pasteur and other researchers were well collected.

On the side of anti-vivisectionists, countless essays and pamphlets were circulated to draw attention to the excesses of experimenters, still portrayed as cold-hearted scientists who were to be distrusted as medical practitioners. Of particular relevance were those publications by physicians who resented vivisection, as they represented the dissenting voices within the core of the scientific field. Amongst them, Charles Bell Taylor, M.D. and his paper "Vivisection: Is It Justifiable" (1892) efficiently recollected excerpts from physiologists and other experimenters that exposed their perverse fanaticism and whose accounts could not be mistaken as procedures with reasonable purposes.

In 1897 Stephen Coleridge became secretary of NAVS, undertaking a more moderate position than Cobbe's. Displeased with the new direction, Cobbe left NAVS to demand absolute eradication of animal experimentation through the British Union for the Abolition of Vivisection, (BUAV) which was strongly supported by George Bernard Shaw. Shaw was as well in close contact with the humanitarian and socialist Henry Salt (1851-1939), who although active in animal welfare advocacy, had little contact with

Cobbe herself on account of their political differences (Ryder 2000/1989: 123). Salt was a practitioner of the philosophy of Thoreau; his writings even helped shape Gandhi's peaceful non-cooperation movement. His commitment to the animal protection cause materialized through the foundation of the Humanitarian League in 1891 and the publication of *Animals' Rights Considered in Relation to Social Progress* in 1894. Salt aimed at dismantling the utility argument where pro-vivisectionists sheltered their defense, and counterbalanced utility with moral implications. He continued in this line of thought and tackled the pro-vivisection discursive formula of comparing the relevance of science to that of other forms of animal exploitation:

One of the most notable and ominous features in the apologies offered for vivisection is the assertion, so commonly made by scientific writers, that it is "no worse" than certain kindred practices. When the upholders of any accused institution begin to plead that it is "no worse" than other institutions, we may feel quite assured that the case is a very bad one indeed – it is the drowning man catching at the last straw and shred of argument. (Salt 2010: 79-80)

3.3.4. Women and Anti-Vivisection: From Cobbe to the 'Brown Dog Affair'

The strong presence of women within the anti-vivisection campaigns of the nineteenth century has been duly noted by scholars (Lansbury 1985; Elston 1987; Kean 1995; Buettinger 1997; Bittel 2005; Pollock 2005; Miller 2009; Finn 2012). The attraction to the topic should not be undermined: the overwhelming participation of women in the animal protection movement both in Britain and in the United States reveals the pervading Victorian tensions regarding gender roles and its concomitant division of private and public spheres as much as it illuminates the different positions within the women's movement itself. Thus far, we have pinpointed Frances Power Cobbe as the most outstanding feminist advocating against experimental physiology. Ever the feminist, she combined her political involvement in the fight for women's vote with anti-vivisectionism, shoving her way into the public sphere and opening a path in activism for women to follow. But we may also add to the list the names of Marie Huot and the anti-feminist Rachilde in France (Finn 2012), Anna Kingsford and Ouida in England, and Cobbe's Swedish protégés of sorts, Louisa Lind-af-Hageby and Leisa Schartau.

These female advocates were instrumental in identifying the links between the oppression of women and the injurious treatment of laboratory animals. Although pro-vivisectionists were quick to dismiss their discourse and their campaigns as sentimental and passionate (as opposed to the male-centered approach to progress and science through reason and empiricism, a dichotomy which is still very much alive in the animal rights debate today), these women exposed the ranging diversity of positions in association or independent from the feminist movement, proving that their writing was not only well-documented, but also that they resisted reductive interpretations based on sexism.

If so many women participated in the animal protection and anti-vivisection movements it is mostly because they identified the cause as their own. Animals and women were subjugated to violent androcentrism and objectification in the hands of physicians, and

laboratories represented a space where men with sadistic inclinations were free to exercise torturous procedures in the name of science. In the midst of the vivisection debate was the controversy surrounding ovariectomy in the 1870s and 1880s, which linked the brutal surgery to physiological studies on animals. Women's sympathy for animals became evident as "the metaphor of medical science, and medical practice on women, as rape, became a dominant theme in anti-vivisection literature, especially that written by women . . . Women were explicitly invited to identify themselves with the animals, as potential victims of sexual assault by materialist medical men" (Elston 1987: 279). Isabella Ford, anti-vivisectionist, chair of the Leeds RSPCA branch and a socialist feminist, evoked "the experience of non-human animals to illuminate the experience of women" (Kean 1995: 29) in her pamphlet "Women and Socialism" (1907): "In order to obtain a race of docile, brainless creatures, whose flesh and skins we can use with impunity, we have for ages past exterminated all those who show signs of too much insubordination and independence of mind" (Qtd. Kean 1995: 29), she wrote. As Lansbury (1985) contends, the alleged sadistic pleasure that experimentalists experienced when immobilizing, cutting into, and listening to the animals' helpless, painful screaming resembled, in women's popular imagination, the arousal of such men while subduing sexual victims. Thus, pornography and vivisection became fused within a single narrative pattern whereupon the cycle of cutting (or beating), debilitating, taming and forcing is ever repeated: "This is the icon of pornography, the image varying only by name in obsessive repetition. And when she is flogged and violated, the woman does not simply protest and scream – she howls, mews, screeches, and yelps" (Lansbury 1985: 425). To further strengthen the connection, feminists have also invoked the alienation that the wives of Descartes and Bernard felt as a result of their husbands' research.

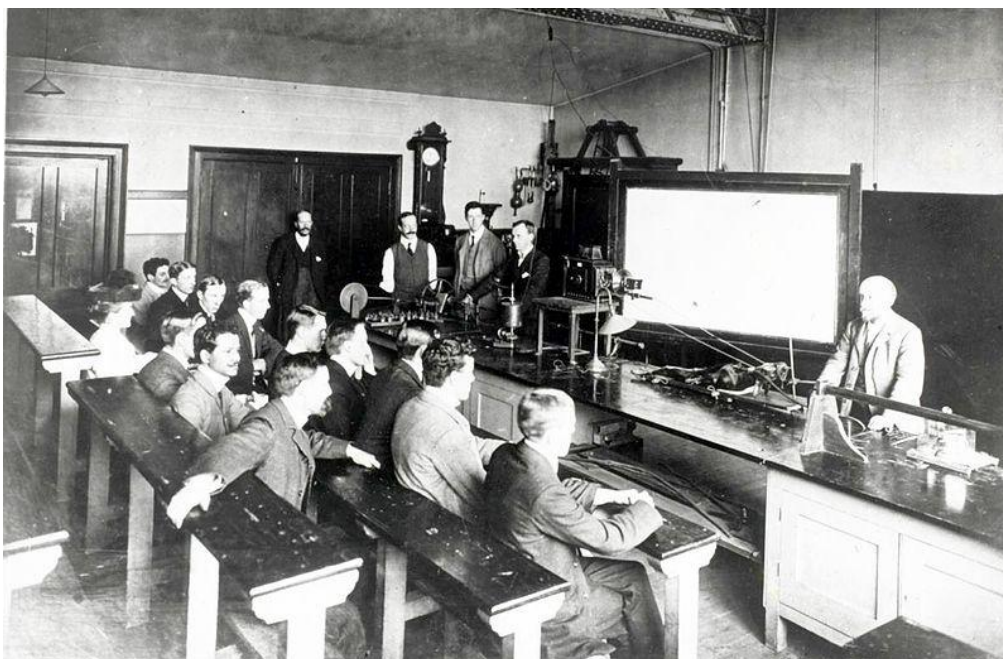
Amongst the feminists active in articulating the correlation between women and animals, it was perhaps Anna Kingsford (1846-1888) and Ouida, the penname of Maria Louisa Ramé (1839-1908), whose work is best remembered. Kingsford studied medicine in Paris, thus gaining first-hand experience in the science of physiology, an advantage that Cobbe, on the other hand, lacked. Kingsford combined her theories on vegetarianism (the topic of her thesis) with her esoteric views to produce a unique discourse of anti-vivisectionism which she used to attack medical materialism at an international level. Ouida also actively wrote about animal cruelty and the barbarities of experimental physiology. As Pollock (2005) analyzes, her extensive corpus of adult and children's stories and novels in which dogs appeared as leading or prominent characters tended towards an anti-vivisectionist statement through different literary strategies. Perhaps, though, her most memorable legacy is her 1893 pamphlet *The New Priesthood*, a graphic and bitter publication cataloguing the tortures animals were subjected to in the hands of experimental physicians. Well-established motifs such as the experimenters' objection to anesthetics, the hardening of their souls and the correlation between animal and human experimentation peaked within Ouida's highly passionate writing skills. In a quasi-apocalyptic envisioning, she argues that in the machine age "doctors and scientists have taken over the powers of the Church – and instead of the Inquisition, when priests at least thought they were saving souls, there is the certainty of animal torture and the prospect of the torture of human beings" (Pollock 2005: 153).

Two other figures of the Edwardian era which deserve due recognition within the movement are Louisa Lind-af-Hageby and Leisa Schartau, two members of the Swedish Anti-Vivisection League. In 1900 they visited the Pasteur Institute in Paris, an

experience that motivated them to enroll at the London School of Medicine for Women to become better acquainted with the medical methods employed within the educational system. As unexpected infiltrators of sorts (and in contact with Cobbe), Lind-af-Hageby and Schartau published their experiences as medical students in the publicly-acclaimed *The Shambles of Science* (1903), reigniting the vivisection debate full-force. The book was to become the proponent of what would eventually be known as ‘the brown dog affair.’

The Shambles of Science included the poignant chronicle of a brown terrier-type dog who was the subject of several procedures in 1902 and 1903. The description was used by Coleridge to make a fierce public statement against the experimenters’ violation of the Cruelty to Animals Act (not only had the dog been used more than once for experimental purposes, but anesthesia had not been adequately administered). As a result, one of the experimenters, W.M. Bayliss sued Coleridge for libel. Although Bayliss came out the victor (Coleridge was indeed sentenced to award him two thousand pounds in damages), the trial not only exposed grave irregularities in the school (particularly regarding whether anesthesia had been used and how the dog had been finally put out of his misery), but also served to increase the publicity surrounding anti-vivisection. Undeterred, Lind-af-Hageby founded the Animal Defence and Anti-Vivisection Society in 1906, and with the support of Anna Louisa Woodward (founder of the World League Against Vivisection) and the Battersea Council, erected a bronze statue designed by Joseph Whitehead at Battersea Park. The statue bore an inscription that read as follows:

In memory of the brown Terrier Dog done to death in the laboratories of University College in February 1903 after having endured vivisection over more than two months and having been handed over from one vivisector to another till death came to his release. Also in memory of the 232 dogs vivisected in the same place during the year 1902. Men and women of England: How long shall these things be? (Qtd. Ryder 2000/1989: 135-136)



Reconstruction for the court of the procedures carried out by Bayliss on the brown dog.

The statue became the cause of riots and the object of vandalism in succeeding years, generating yet even more publicity which made fairly evident that a great part of English society sided with the anti-vivisectionist cause. Twice in December 1907 was there a violent attempt on the part of hundreds of medical students to take down the memorial, and the events were further peppered by other strategic pro-vivisection demonstrations. The statue was finally removed in March 1910 and subsequently destroyed. Three thousand anti-vivisectionists held a protest meeting at Trafalgar Square in response, but to no avail.

In 1985 a new statue was erected at Battersea; this time not only to commemorate the terrier but to remind new generations of the riots surrounding the brown dog affair. The statue was commissioned by the NAVS and the BUAV, and was designed by Nicola Hicks. To the original inscription, the new plaque added:

This monument replaces the original memorial of the brown dog erected by public subscription in Latchmere Recreation Ground, Battersea in 1906. The sufferings of the brown dog at the hands of the vivisectors generated much protest and mass demonstrations. It represented the revulsion of the people of London to vivisection and animal experimentation. This new monument is dedicated to the continuing struggle to end these practices. After much controversy the former monument was removed in the early hours of 10 March 1910. This was the result of a decision taken by the then Battersea Metropolitan Borough Council, the previous council having supported the erection of the memorial.

Animal experimentation is one of the greatest moral issues of our time and should have no place in a civilized society. In 1903, 19,084 animals suffered and died in British laboratories. During 1984, 3,497,355 animals were burned, blinded, irradiated, poisoned and subjected to countless other horrifyingly cruel experiments in Great Britain. (Qtd. P. Mason 1997: 106)



Photograph taken by the National Anti-Vivisection Society of the original statue of the 'Brown Dog,' erected in 1906 in Battersea, London.



Photograph of the new statue of the 'Brown Dog,' erected in 1985 in Battersea Park.

4. Understanding the American Cultural Panorama: Contextualizing Cruelty

Even though historians have, for the most part and as stated earlier, generally focused the core of their research on France and Britain as the epicenters of the vivisection controversy, notable scholarship as to the developments of the matter in the United States have also surfaced in recent decades. One of the pioneering in-depth studies on the effects of vivisection in American Victorian culture is James Turner, whose study *Reckoning with the Beast* (1980), already cited above, investigates in great deal the assimilation and importation of British response to animal experimentation within US borders. Although such mirroring responses were generally delayed by almost a decade, it is important not to minimize the extent to which British anti-vivisectionism became a model to the one that developed on the other side of the Atlantic, in much the same way that other aspects of Victorian culture and social norm impregnated American conventions.

4.1. Early Considerations: From the Puritans to Vegetarianism

One of Turner's most thought-provoking observations, collected at the beginning of his study, is the problem posed by what exactly it means to cruelly inflict suffering or pain. That is, when and how does cruelty as such become an issue of social concern and how does it seep into a culture's institutionalizing of hierarchical value dualisms? In referring to premodern Europe, Turner states that animals for blood sports were not subjected to cruelty as such, as "cruelty implies a desire to inflict pain and thus presupposes an empathetic appreciation of the suffering of the object of cruelty" (1980: 2). In other words, cruelty cannot exist unless there is a conscious acknowledgement of the other's pain and suffering on the part of the inflictor or that contextual society at large. This is not to say that witnesses to deliberate harm perpetrated upon individual animals or entire species groups have not, throughout history, recoiled in disgust and/or horror as a reaction before such scenes, nor that in premodern Europe there pervasively

lacked a sense of compassion towards animals unjustly treated. What Turner points out is that “the sighs apparently stopped there” (1980: 2), suggesting that cruelty in itself was still to develop as a behavioral and definitive concept measuring (un)acceptable social norm. Cruelty, in other words, fully comes into existence within the context of animal ethics once a certain level of kinship between humans and nonhuman others is assimilated.

Certainly for long there have existed other arguments dictating the immorality of inflicting pain on animals. If one is to approach the scriptures of world religions, one will generally find a passage of sorts advocating kindness towards fellow creatures on the grounds of them also being the supreme deity’s creation, even if contradicting passages may validate usage of such animals for the benefit of man (usually through a ritualized reverence of respect). Subsequent Christian-oriented modern philosophies such as Kant’s have as well predicated against unjustifiable harm to animals under the belief that such acts would inevitably lead to the degeneracy of man’s character. That is, cruelty to animals is a sure path to cruelty towards fellow men. These still anthropocentric (versus, as described earlier, theriocentric) postulations present a step beyond religious dogmas in that they do more overtly acknowledge, however little, a level of empathy with animals beyond merely the kindred of all being God’s creations.

The history of the vivisection controversy in America is, for the most part, a faithful (though deferred) replica of the developments in Europe, particularly in Britain, and as such, the discourse of cruelty towards animals was not to fully take shape until the era of urbanization and industrialization. Nonetheless, precedents of the anticruelty stance of the Victorian era can be gathered in the seventeenth century when, even if vaguely, the taint of immorality in the mistreatment of animals may be hinted. Historians often allude to the statutes collected in Liberties 92 and 93 of the first legal code of the Massachusetts Bay Colony, “The Body of Liberties” (1641). These statutes did not necessarily become a successful model elsewhere, as little did they spread in the territory. Nonetheless, they stand as the foundational legislative measures for animal protection in America. Written for the General Court of Massachusetts by Nathaniel Ward, the liberties declared as follows:

OFF THE BRUTE CREATURE

Liberty 92. No man shall exercise any Tirranny or Crueltie towards any brute Creature which are usuallie kept for man’s use.

Liberty 93. If any man shall have occasion to leade or drive Cattel from place to place that is far of, so that they be weary, or hungry, or fall sick, or lambe, It shall be lawful to rest or refresh them, for a competent time, in any open place that is not Corne, meadow, or inclosed for some peculiar use. (*The Colonial Laws* 1889/1641: 53)

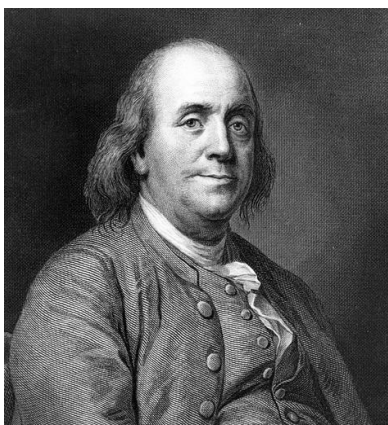
The Puritan emphasis on charity, discipline, virtue and predestination was, in theory, antithetical to excesses in rough handlings of animals. Nonetheless, as Beers points out, there existed ulterior motives to the Puritans’ practical ethics, ones that were more related to the maintaining of social order than to actual concern for the well being of animals. “Puritans and society as a whole at that time generally accepted the notion that domesticated animals were the property of humans,” Beers writes. “In part, then,

outlawing cruelty was simply an attempt to protect an individual's property, particularly from potential attacks by other humans" (Beers 2006: 20).

Individual or small-scale community vegetarianism in the eighteenth century, also appearing in Britain and in continental Europe at the time, provides significant evidence as to the evolution of the conception of cruelty towards animals. Vegetarianism indeed does not shape itself as a socially noteworthy movement until the nineteenth and the twentieth centuries, but prominent figures in western history have abstained themselves from meat consumption since ancient times. Pythagoras rejected the consumption of flesh on account of his belief in metempsychosis (reincarnation), by which the departed souls, immortal as they were, entered other bodies in a perpetual wheel of athanasia. This implied that other beings were nothing less than our kin, and thus, meat-eating violated the taboo of cannibalism and could even result in the devouring of one's own family members (Shevelov 2008: 170-171). In the eighteenth century, vegetarianism was taken up by intellectuals such as Voltaire and Rousseau in France, David Hartley, the printer George Nicholson, the Scottish-born celebrity-doctor George Cheney and William Paley in England, and the Scottish atheist poet and sympathizer with the French Revolution, John Oswald. Reasons for meat abstinence were diverse and did not necessarily stem from a consideration of animal suffering (temperance and health seemed, in general, the priority), although compassion did find its niche in the writings of Nicholson or in those of Oswald.

In America, vegetarianism is believed to have been practiced by at least two Native American tribes (Iacobbo and Iacobbo 2004: 1) and it may have been practiced by individual colonialists as well. But it is Benjamin Franklin (1706-1790) who is generally credited as the first American vegetarian, even if only for a period in his fruitful life. At the age of sixteen, after reading *The Way to Health* (1691) by the English author Thomas Tryon, who had been strongly influenced by Hinduism, he began a meat-free diet which he maintained for some time. Two things seem to have steered him away from absolute vegetarianism during a voyage: the smell of frying cod and the witnessing of smaller fish having been ingested by larger ones. As Franklin recollected in his autobiography, during the journey he initially "had stuck to my resolution of not eating animal food, and on this occasion, I consider'd, with my Master Tryon, the taking every fish as a kind of unprovoked murder, since none of them had, or ever could do us any injury that might justify the slaughter" (2008/1793: 33). When temptation swept in in the form of scent, he "balanc'd some time between principle and inclination" until he saw how the fish were cut open and "smaller fish [were] taken out of their stomachs" (2008/1793: 33). Franklin's compassion for the more vulnerable beings was overthrown by rationale and survival logics when he concluded, as if confiding to the fish, that "if you eat one another, I don't see why we mayn't eat you. . .

So convenient a thing it is to be a reasonable creature, since it enables one to find or make reason for everything one has a mind to do" (2008/1793: 33).



Portrait of Benjamin Franklin by Joseph Duplessis (circa 1785), credited as one of the first American vegetarians.

The notion that spiritual progress and elevation of character were greatly attached to moral benevolence towards fellow creatures was the legacy of Tryon. Under similar beliefs, vegetarian practitioners sprouted here and there in America, although full empirical records of their absolute devotion to such diets remain obscure. The German immigrant Johann Conrad Beissel, founder of the Seventh-Day Baptists and the Ephrata Cloister in Pennsylvania, is believed to have started a vegan community both as a retreat from the moral corruption of civilization and as a way to commune with the other creatures of God. Towards the end of the eighteenth century, the Dorrelite community, founded by William Dorrell in Vermont, preached a lifestyle of care for animals that included vegetarianism and the banishing of leather or animal skin products. Forms of animal protection also appeared within the Quaker communities: John Woolman and the minister Joshua Evans promoted a form of respect and anticruelty ethics filtering from Christ's ominous goodness and mercy. At the beginning of the nineteenth century, yet another Christian community advocated vegetarianism from Philadelphia: the Bible Christians, led by William Metcalfe, who in 1827 published *Abstinence from the Flesh of Animals*.

Respect for the well being of animals (as analogous to the respect towards someone else's property) and the tadpole signs of vegetarianism are oft-quoted examples that illustrate the germination of anti-animal cruelty discourse in America. Philosophizing about empathy towards nonhuman others was well under way by the mid-eighteenth century in Europe and somewhat in America, as intellectuals explored religious, anthropocentric and theriocentric motives. Such discourse still had a long way to go, both within a context of growing urbanization and secularization of principles and within a context of increasing scientific advancement. Britain, as stated earlier and as will shortly become evident, would remain the main referential imitative model throughout.

It has been necessary, in order to set the cultural precedents to the vivisection controversy in America, to provide a sketch of the fundamentals originally underlying the embryo of animal protection. Such overview enables a better comprehension of how animal experimentation extended and raised the debate to an unprecedented level within the nation.

4.2. The Meaning of Cruelty in the Nineteenth Century

The concern for cruelty, its moral and behavioral implications and how it affected man's relationship to animals became more central than ever within Anglo-American social structures during the nineteenth century. Historians generally point to two fundamental shifts that occurred during this period and that inevitably brought on a re-conceptualization and re-questioning of the ontological gap between humans and nonhuman animals: the rise of Darwinism and the growing industrialization and urbanization of spaces. Of course, neither of these shifts appeared out of the blue – they were the product of historical transformations that for long had been altering traditional structures and conceptions of man's place in the universe, his relation to God, and his role among his brethren and fellow creatures. Nonetheless, Darwinism, urbanization (and its effect on the modern division of private and public spheres) are of essence for our comprehension of the cultural impact of vivisection because they reveal the roots of some of the ethical issues that are still present today as much as they help to explain some of the reasons why women acquired such a central role in the anti-vivisection cause.

4.2.1. Understanding Darwinism and Evolutionary Theory

Charles Darwin's stirring publications on evolutionary theory, *On the Origin of Species* (1859) and *Descent of Man* (1871), in which he more clearly focused on the inclusion of man within the evolutionary chain, fueled the fire of vivisectionists and anti-vivisectionists alike, first in England and soon enough reaching the United States as well. The hypothesis that men and animals were bound by a common ancestry inoculated discussions from the scientific, medical, theological, sociological and anthropological fields all the way up to aesthetic discourses. For animal protectionists, such an emphatic conviction on the kinship between humans and animals afforded invaluable argumentative possibilities, as one was no longer being cruel towards an inferior, insignificant object, but towards a long-lost relative.

What can be more curious than that the hand of a man, formed for grasping, that of a mole for digging, the leg of the horse, the paddle of the porpoise, and the wing of the bat, should all be constructed on the same pattern, and should include similar bones, in the same relative positions? (Darwin 2010/1859: 324)

Each species had adapted to its environment, to the natural scheme, to the best of its abilities and possibilities; human and animal were now the crusaders of something that for many proved far more convincing than the Christian imperative of moral sublimity: survival instinct. All creatures were genetically 'programmed' for but one purpose: to perpetuate the species, to adapt and to persevere. The focus was no longer on the next world; Heaven and Hell were not the consequence of worldly choices and behaviors: all progresses, all choices, all acts were meaningful within this world. To a great extent, all creatures were passive objects dependent upon the whims of nature; 'descent with modification' was only viable when variations were advantageous and therefore sustainable. Greatness, then, was to be found in adaptability, in the species' capability of 'fitting' spatio-temporal circumstance, in submitting to variation. Natural selection guaranteed the co-existence of the fittest species at the same time that it safeguarded resource availability.

In *The Descent of Man*, Darwin postulated that the resemblance between animal and man went beyond mere physicality and physiology and into the cognitive and the emotional:

The difference in mind between man and the higher animals, great as it is, is certainly one of degree and not of kind. We have seen that the senses and intuitions, the various emotions and faculties, such as love, memory, attention, curiosity, imitation, reason &c., of which man boasts, may be found in an incipient, or even sometimes in a well-developed condition, in the lower animals. (1981/1871: 105)

The root of morality, Darwin suggested, was to be found in social instincts, clearly more developed in the higher animals (including human beings). Such social instincts included parental and filial affection, sympathy and intellectual faculties. “Sympathy is the key element in the development of a moral sense or conscience, though the acquisition of language plays an important role by facilitating the inculcation of rules of behaviour for the welfare of the community” (A. Taylor 2003: 51). That man and animal could become reunited in a past meeting point could be interpreted in two ways: were animals being elevated into a superior status or was man being degraded into an inferior one? For pro-Darwinian animal protectionists it was clearly a matter of the former, whereas those resistant to evolutionary theory scorned the possibility of man just being one among the multiple creatures available in nature.

And yet not all animal protectionists embraced Darwinism. In fact, Frances Power Cobbe, of all anti-vivisectionists and for all of her theism, expressed her profound disappointment in Darwin’s conviction that moral conscience was but the polished outcome of a biologically inherited instinct. If Darwin was right, then the very act of sympathizing and empathizing could not be perceived as a matter of goodness, but as one resulting from species interest. Reluctance on the part of animal protectionists to accept Darwinism could also stem from the fact that his theory was antithetical not only to Christian doctrine, but also to the practicality of Victorian social structures. If the nineteenth-century ideology of class distinction (particularly accentuated by middle-class consciousness), which indulged in discourses about sensibilities, etiquettes, manners and exquisite upbringings, already shrunk at the idea of social miscegenation, then the possibility of species kinship represented nothing less than absolute chaos. Let us remember that animal protectionism in Britain (and, as we will shortly see, in America), is for the most part led by middle and upper-middle class advocates who, although genuine reformists against cruelty, also delighted in the privileges that a position of distinction afforded.

4.2.2. Urbanization and the Domestic Ethos of Kindness

Another socio-cultural phenomenon stemming in great part from eighteenth-century philosophical and aesthetic developments dealing with the moral treatment of animals was instrumental in determining the course that the (anti)vivisection discourse would take, both in America and in Europe. This was the (domestic) ethos of kindness of the nineteenth century, which became culturally reflected in a very characteristic type of anti-animal cruelty rhetoric, aesthetic manifestations (such as children’s literature and prints), and socio-political propaganda (pamphlets, journals and press reports).

As Turner argues, compassion and subsequent protection of animals must be regarded within the context of the urban-industrial transformation in America and in England. Such innovative distributions of labor, space and gender roles generated new profound sensibilities associated with the meaning of pain, suffering and sentience. The new world order represented by factory labor, condensed population within cities and machinery progressively devoured the rural lifestyle and its conception of animals' relation to humans. In America, like in Britain, blood sports such as baiting increasingly became an activity performed in the poorer sections of cities by the less privileged (and so did associations between baiting and the more barbarous, less civilized classes become more commonplace). Here and there, there sporadically sprouted public outrages against wanton cruel behavior: in the 1790s a man was indicted in Boston for beating his horse, and in 1818 a New York Court declared its righteous defense of animals if faced with abuse or mistreatment cases (J. Turner 1980: 20). Compassion towards animals represented an extension of the strife towards temperance that went hand in hand with a maturing factory labor ethic. The new urbanized America, with growing cities such as New York, Boston, or Philadelphia, propelled, as in England, a new work ethic whereby diligent discipline, self-improvement and elevation of character became the principles upon which to operate and strengthen civilization. Concomitant to such widespread worldview was the inevitable sense of alienation from a lost agricultural past, now dulcified into pastoral imagery and nostalgic glances towards a time when man was in communion with nature. In America, romantic and transcendentalist literature, the nationalistic drive to aesthetically come to terms with the concept of wilderness, and landscape painting (such as that by Thomas Cole and the Hudson River School) looked beyond into the possibilities afforded by nature and battled against the supremacy of reason that was plaguing modernity. The relentless destruction of the old ways of life, therefore, also brought forth a deep awareness of the victims of industrialization (from children inhabiting slums to animals) at the same time that it solidified the symbolic value of nature and all of nature's creatures as emblems of emotion and attachment to the land.

There is little wonder in the fact, therefore, that changing attitudes towards animals in urban areas (regulations against baiting and practices such as dog fights) had profound effects within what was forging itself as the nucleus of civilization and genteel society: the family. As the nineteenth century and Victorian culture widened the gap between the masculine, public sphere and the feminine domestic realm, so did the urge towards moral improvement penetrate all aspects of middle and upper-middle class aspirations. As the home increasingly came to embody the emotional, the private, the familial, and the protective from the aggressive economic domain of the public sphere, not only did it dramatically develop as a gendered space where the virtue of bourgeois norm was cultivated and practiced; it furthermore absorbed animals as instrumental participants within this 'subculture.' The pet was progressively becoming the live expression of civilization, the trans-species proof of female virtue as the moveable and expressive bearer of domestic values. It was not just the species itself that marked the pet's status as an animal who was given an individual name and was not eaten; its individuality was invariably dependent on its adherence to a home. Stray or feral (that is, animals reverting from domestic to wild) cats and dogs were still ceremoniously exterminated (for instance, in the American dog days of summer). According to Brantz, "these cultural classifications divided the animal kingdom into the tame and the wild, the clean and the dirty, and the desired and the unwanted, with the result that some animals were cherished while others were forcefully eliminated" (2007: 80).



***The Cares of a Family* (1856) by Arthur Fitzwilliam Tait, reflects the cultural belief in that the domestic ethos of kindness could also be practiced by some animal species, particularly by birds.**

The household animal/pet served to connote, legitimize and institutionalize a precise feminine ethos of Christian virtue, motherhood and caretaking. Grier suggests that “as each woman presided over her ‘state in miniature,’” kindness to sentient creatures “became a marker of class identity” (2002: 318). The bourgeois woman’s caretaking, nurturing and gentleness to animals attested to the high moral purpose to which she answered and presented a reversion to the condemnation of original sin. As Jennifer Mason points out, the Genesis creation myth stated that “all animals were tame (and like Adam and Eve, noncarnivorous) when first created” (2005: 8). With the Fall, such tameness was lost, and “the degree to which an animal was wild, fierce, or implacable to human desires indicated the degree to which that animal had degenerated from an original and ideal state” (J. Mason 2005: 8). Women’s benevolence and compassion towards helpless creatures represented a form of domestication of the highest order: feminine bourgeois civility served to redeem humanity from the consequences of the original disobedience of the divine, and moreover, such domestication was performed with the utmost excellence of her gentle nature, particularly at a time when the division of social roles was desirable for the accentuation of one’s femininity. It was not the crude form of unapologetic dominion that women sought to exercise, but a form of stewardship that catered women’s innate disposition towards moral enhancement.

As sentient beings familiarized with the genteel, feminine world of the household, the pet acquired, by virtue of its environment, a series of traits that insulated it from its wild cousins. The ability to feel happiness, sorrow, anxiety, or anger could potentially be acknowledged within wild specimens; the pet, however, because of its integration within the family, could furthermore potentially distinguish between wrong and right actions. Hence the woman’s sanctifying of the home included the inoculation of some moral sense into animals: “Advocates for kindness insisted that animals were entitled to

special care because of their wholeness as sentient beings, including the emotions they clearly felt and the moral standards that seemed to guide their behavior” (Grier 2006: 154). Dogs were examples of fidelity to the owner (thus embodying the faithfulness and loyalty between family members) and the exquisite environmental demands of the housecat for cleanness and hygiene set an example for children. Notable female writers of the time, such as Ouida, Anna Sewell, Lydia H. Sigourney, Lydia Maria Child or Harriet Beecher Stowe appealed to a humane treatment of animals on the basis of their exemplary conduct: “Look at Rover there. He is never nervous, never cross, never snaps or snarls, and is ready, the moment after the grossest affront, to wag the tail of forgiveness . . . The foundation of all intellectual and moral worth must be laid in a good healthy animal” (Stowe 1869: 68).

Thus domestic animals could reciprocate by bringing out kindness in humans (especially the malleable and vulnerable children) and setting the bar for personal excellence. Grier (2002) collects excerpts from very telling literature aimed at instilling kindness within children so as to quell whatever natural predispositions towards cruelty they may display. From parental guidance manuals to children’s stories and parables, these texts served mothers in their quest to steer their children away from habits that could potentially derive in recklessness and cruelty. Among other things, this literature dissuaded children from taking “passionate revenge on ‘injurious’ animals” (Grier 2002: 328), from taking eggs from birds’ nests, from taking up hunting for sport, and from making helpless creatures the object of ridicule. Stories would often feature a young boy or girl who thoughtlessly torments an innocent animal but then falls into deep repentance.

Once Darwinism had well seeped within Victorian culture, animal protectionists also took the opportunity to portray the domestic sphere as the most viable scenario where the close kinship between humans and higher animals could be explored, and to present the act of domestication as the effort to reach the sublimity of species brotherhood. As Colonel E.B. Hamley declared in the significantly titled essay *Our Poor Relations* (published in Boston in 1872):

Who shall say what new unforeseen relations might not have been established between us and our humble friends on this basis of confidence and affection? Who shall say that they might not have revealed to us that secret which they have guarded since the creation – the secret of their instincts and their ways; what their notions are of the world, of each other, and of man; and how far they look before and after it? . . . Every one who has domesticated some strange, shy creature can testify to the wealth of character which it came to display in the ripening warmth of intimacy. (1872: 9)



***Papa's Pet* lithograph by Currier & Ives, 1857-1872. Another instance of the aesthetic reflection of the domestic ethos of kindness, displaying children's caretaking and nurturing of animals.**

5. Vivisection in Nineteenth and Early Twentieth-Century America

It is within this socio-cultural context of Darwinism and the domestic ethos of kindness when the vivisection controversy reaches America. As will be made evident, the discussion for the most part echoes the struggle in Britain to reach a consensus on the matter, although an agreement that would satisfy both pro- and anti-vivisectionists has not been reached up to the present day. The fact that Darwin himself, for all his claims on the human-animal link through evolutionary theory, failed to condemn vivisection (Preece 2002: 279) further complicated matters. Through its wide array of testing and exploration, experimental physiology reinforced the evolutionary kinship between man and animal – biologically and physiologically: the similitude between species could not, after all, be ignored. Needless to say, however, evolutionary theory posed a problem as to the extent to which kinship should be considered a determining factor in justifying

research. Rachels articulates the Darwinian problem and its relation to vivisection as follows:

The researchers are caught in a logical trap: in order to defend the usefulness of the research, they have to emphasize the similarities between the animals and the humans, but in order to defend it ethically, they must emphasize the differences. The problem is that one cannot have it both ways. (1990: 220)

Even though Darwinism did not take a hold of American society until later in the century, much of the issues that surfaced in the vivisection debate around mid-century certainly foreshadowed the ethical dilemmas eventually solidified by evolutionary theory. In this Item we shall examine how experimental physiology made its way into American culture and how the vivisection controversy was to develop throughout the nineteenth century. Through a series of profiles of prominent figures in the medical fields and anti-vivisection movement, and case studies on landmark texts and events, we shall investigate the leading discursive concerns around which the problem revolved: concerns relating to cruelty, medical advancements, moral imperatives and the role of womanhood within the movement.

5.1. John Call Dalton and William Beaumont

Contrary to the developments in Europe propounded by the emergence of experimental physiology and microbiology, the actual practice of vivisection was rather rare in the United States for the greater part of the nineteenth century, though by no means nonexistent. Experimental physiology managed to seep into American culture and medical schools through the work of two physicians born in Massachusetts: Austin Flint (1836-1915), of whom more will be said in the next Item, and John Call Dalton (1825-1889), who temporarily studied under Claude Bernard. Dalton attended Harvard College and Harvard Medical School, graduating in 1847 and already reaching considerable acclaim in 1851, when the American Medical Association awarded him a prize for an essay on the corpus luteum of pregnancy. The influence that Bernard's lectures had on him during his travel to Paris was instrumental in steering Dalton away from medical practice to focus on experimental physiology, opening a new gateway within American science. The methods of physiology, vivisection and dissection, were thus imported by Dalton into his native land. In the early 1850s, after returning from France, he took increasingly prestigious positions in medical schools in Buffalo, Vermont and Long Island, and in 1854 he apparently carried out the first vivisectional demonstration in America (Lederer 1987: 237). Using a dog as a subject, Dalton produced a gastric fistula in order to illustrate one of the many experiments that William Beaumont (1785-1853), the United States Army surgeon and "Father of Gastric Physiology," had performed on Alexis St. Martin.

Interestingly enough, experimentation on a live human being in the hands of a surgeon had already taken place in the United States several decades before Dalton began to establish vivisection on animals as the optimal method for research. From the mid-1820s to the early 1830s, Beaumont experimented on St. Martin, a young French-Canadian worker of the American Fur Company who had been accidentally shot in the stomach. Beaumont had initially treated the wound, and although St. Martin survived, the hole or fistula never closed. Beaumont seized the unique opportunity of this visible

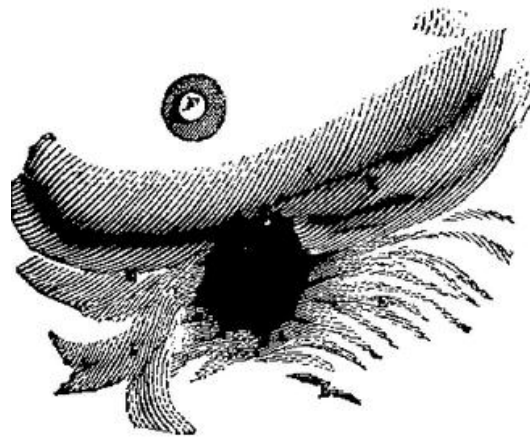
opening into a man's stomach and for years performed experiments on St. Martin, now his servant, to investigate the digestive system. Beaumont would publish his findings in *Experiments and Observations on the Gastric Juice, and the Physiology of Digestion* (1833), reaching nationwide fame.

As Guerrini argues, the relationship between doctor/master and experimental subject/servant was rather complex (St. Martin escaped a number of times to Canada and refused to continue collaborating with Beaumont after 1833, despite the latter's alleged caring treatment of him), and a closer case-study look at the joint histories of Beaumont and St. Martin is enough to raise a myriad of ethical matters pertaining to the power relations between experimenter and subject. What is of interest for our case, for now, is the fact that "contemporaries found St. Martin's case to be far more defensible ethically than experimentation on animals, and no one mentioned St. Martin's rights in the matter" (Guerrini 2003: 84). Indeed, if one is to read, for instance, the editor's preface of the first British reprint of *Experiments and Observations*, one will unsurprisingly find a humbling characterization of Beaumont as a man uncontaminated by any scientific zeal that could bias his observations or blind him from the subject's potential suffering. St. Martin is said to have led and to continue to lead a "laborious life" full of "vigorous health"; Beaumont is described as a candid scientist whose "devotion to truth, and freedom from the trammels of theory or prejudice" (Combe 1838: vi) were unmatched. The editor then went on to briefly address the issue of animal vivisection, arguing not only that the anatomical differences between humans and "lower animals" impeded fully reliable results that could benefit humans, but also casually demarking a contrast between the more objectionable ethics of animal experimentation and what, until then, had been presented as an ideal and righteous collaboration between humans.

Although the uncertainty of results obtained from animal experimentation is clearly the editor's prime concern, it is revealing that, in contrast to the decency and righteousness that he sees in Beaumont's procedures on St. Martin, he claims the following: "Not to mention the cruelty inseparable from the performance of such experiments, the pain which the animal suffers necessarily disturbs the regularity of the function under examination" (Combe 1838: viii). The key issues here being cruelty, pain and suffering, it goes to show the extent to which sentience had already greatly gravitated towards the center of the ethical debate implicit to vivisection, even when facing a comparison between human and animal experimentation.

For the editor, as probably for many others, the ethical difference in what subjects to use is not so much dependent upon species and ontology (which negatively affect the experiment to the extent that the results may be fruitless for humans) as it is upon more utilitarian-oriented principles of avoidance of pain. In contrast to the suffering animals, St. Martin is portrayed as a healthy and capable man, one who (it is implied) can reason his consent to the experiments.

Not only, therefore, is St. Martin the most resplendent subject because he has a human body, but also because pain and suffering of a living being can be somewhat averted.



This engraving represents the appearance of the aperture with the valve depressed.

A A A Edges of the aperture through the integuments and intercostals, on the inside and around which is the union of the lacerated edges of the perforated coats of the stomach with the intercostals and skin.

B The cavity of the stomach, when the valve is depressed.

C Valve, depressed within the cavity of the stomach.

E E E F Cicatrice of the original wound.

F The nipple.

One of Beaumont's engravings in *Experiments and Observations* (1833).

When Dalton began leading America into the trends of European physiology, he received harsher criticism than Beaumont ever had. He initiated a progressively spreading trend, introducing vivisection in the New York College of Physicians and Surgeons in the late 1860s. In 1871, Harvard opened Henry Bowditch's laboratory for experimental medicine and in subsequent years multiple American medical schools (including the prestigious Johns Hopkins University) began featuring experimental physiology coupled with vivisectional practices as part of their course catalogues. It would not be until the 1890s, however, that America would truly become a major center for animal experimentation and journals propagating the advancements of experimental research (*Journal of Experimental Medicine*, *Journal of Medical Research*, *American Journal of Physiology*) would become integrated as part of a rising professionals' digest.

Dalton continued doing research on the gastric system and the properties of the bile in the mid and late 1850s, and in 1859 he published a text book, *A Treatise on Human Physiology*, which by the early 1880s had gone through up to seven editions. The book regularly cited experiments performed by Bernard, Magendie, Bell, Flourens, Longet, and a handful of other European physiologists whose research he reproduced and sometimes challenged. Beyond the gastric system, Dalton illustrated procedures on the nervous system, the circulatory apparatus, the brain, the spinal cord, etc. and tackled on the dynamics of reproduction, adding up to a highly encyclopedic physiological study. In discussing Beaumont's experiments on St. Martin, he argued that the observation of

procedures were in some respects “more satisfactory when made upon the lower animals, than upon the human subject; since animals are entirely under the control of the experimenter and all sources of deception and mistake are avoided, while investigation is, at the same time, greatly facilitated by the simple character of their food” (1871: 124). Using animal subjects, therefore and in his view, was in some ways advantageous over using humans, even if experimental physiology’s ultimate aim was to contribute to human medical advancements.

Dalton would go on to become Professor of Physiology at the College of Physicians and Surgeons of New York, Vice-President of the New York Academy of Medicine (1874-1877) and was as well elected to the National Academy of Sciences in 1864. His earnest vivisection work did not result in a significant scientific contribution; however, he is recorded in the annals of history as the key figure to introduce such practices within the United States, an enterprise which did not go unnoticed by his contemporaries. In such way he was characterized by S. Weir Mitchell in his biographical memoir, where he credited Dalton for being the “first professional physiologist” (1890/1895: 179) in the nation and for his excelling qualities as a teacher. It is significant that Mitchell acknowledged the fact that Dalton’s name was best known to the public because of the anti-vivisectionist dispute that materialized in print and in committees. For Mitchell, Henry Bergh and “such others as wished to carry legislative interference even beyond the follies of the British law” (1890/1895: 185) were always defeated by Dalton. “For this fierce and able battle we owe him much” (1890/1895: 185), Mitchell claimed.

5.2. Foundations of the Anti-vivisection Cause in America: Henry Bergh and the SPCAs

Just what kind of battle was the one that Mitchell alluded to and how did it come to be? Austin Flint as much as Dalton caught the attention of the fairly new humane movement in the late 1860s, initiating a prolonged public war between pro- and anti-vivisectionists in America that, although struggling through periods of more or less scientific urgency, has managed to reach the present day

Henry Bergh (1813-1888) seemed like an unlikely candidate to take on the animal protection movement in America. A New York City native and Columbia University student, he took full advantage of the shipyard family business and used his fortune to travel around Europe. It was in St. Petersburg while briefly working as Secretary to the American legation where he first showed signs of his displeasure at the mistreatment of animals. After a period of two years in Russia, he continued travelling and in 1865 attended the RSPCA’s annual meeting in London. Upon his return to the States in June of that year, he began considering the possibility of creating a society for the protection of animals in America. James Turner profiles Bergh as a unique character self-conscious about his quaint physical appearance and naturally inclined to delight in the pleasures of the elite societies. These may have indeed been the underlying motives for his earnest dedication to the protection of animals: a compelling sense of empathy with those who were ill-treated (Bergh’s domineering seriousness and self-dignity, Turner argues, were probably a defensive strategy to what at heart revealed a vulnerable and susceptible mind) and a weakness for the comforts and conventions of the upper middle classes, which made the possibility of forming a humane society all the more appealing. Bergh indeed exemplifies the type of advocate that evades the often-exploited

accusation of sentimentalism. As Turner states, “Bergh’s softer feelings had never before extended to animals. He had no use for dogs, hated cats . . . However, his personal distaste for animals did not mean that he liked to see them abused” (1980: 47). Interestingly enough, a somewhat similar, if milder, personal predisposition would be recorded by one of the leading philosophers of animal utilitarianism a century later, Peter Singer, in his landmark book *Animal Liberation* (1975). When introducing the reasons for the writing of his book he states that neither he nor his wife “had ever been inordinately fond of dogs, cats, or horses in the way that many people are. We didn’t ‘love’ animals. We simply wanted them treated as the independent sentient beings they are, and not as a means to human ends” (1990/1975: ii). That Bergh and especially Singer have rightfully earned a prominent position as historical and contemporary referents goes to show the extent to which advocates can evade the stereotype of ‘animal lovers’ that very often is used against the animal protection, rights and liberation causes.

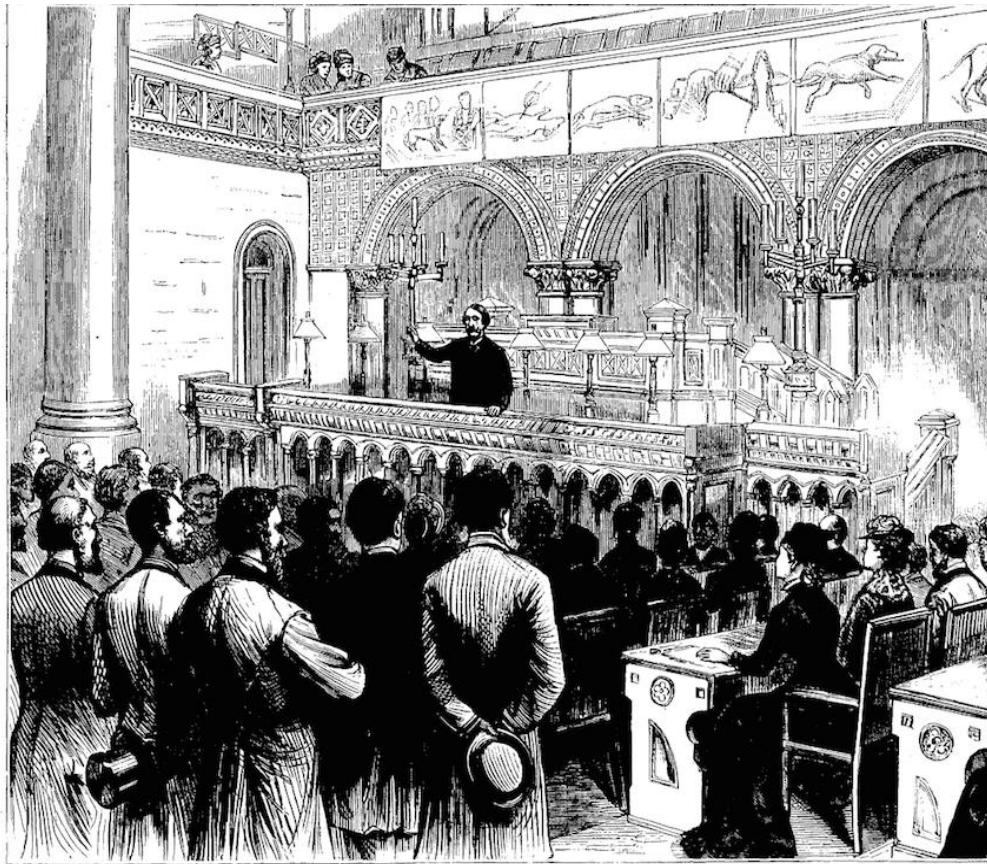
Bergh began his enterprise in New York, delivering lectures, pushing for anticruelty legislation and inviting influential acquaintances to join forces. Soon enough, in April 1866, the American Society for the Prevention of Cruelty to Animals (ASPCA) was founded with Bergh as president and with an exclusive membership at its ranks. In ensuing years, the New York example stirred upper-class advocates from other major metropolises and states to organize other branches: Caroline White, who shall be discussed later on, proved to be the engine behind the Pennsylvania Society for the Prevention of Cruelty to Animals (PSPCA) in 1867, though official recognition of her efficiency and leadership skills would not arrive until two years later with her presidency of the Women’s Branch (WPSPCA). Around the same time, George Angell founded the Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) and initiated a new era of anti-animal cruelty propaganda with the widespread publication of the magazine *Our Dumb Animals*. Other SPCAs flourished as well, including San Francisco (1868) and New Jersey (1868).

Although other forms of abuse seem to have initially been the SPCAs’ prime concerns during their initial stages, it did not take long for vivisection to take up part of their efforts. In 1867 Bergh received inside information from one of Flint’s students at Bellevue Hospital revealing that the professor had failed to apply ether for a surgical experiment on a pigeon, causing unnecessary suffering that could have been avoided. As Lederer (1995: 31) points out, the student was not trying to denounce animal experimentation altogether, but seeking the ASPCA’s help to regulate the use of anesthetics that could relieve animals from pain and suffering. As aforementioned, at the time vivisection was still a rather infrequent practice in America. Bergh, nonetheless (and perhaps greatly motivated by the controversy that he had witnessed around the topic on the other side of the Atlantic), spearheaded an attack (perhaps preventatively) against the New York medical community’s growing interest in experimental physiology by slipping an anti-vivisectionist clause within a state legislature anticruelty bill. Bergh’s quixotic attempt failed, and resentment on both sides dramatically incremented. Dalton became an active spokesman of the benefits of experimental physiology, accusing Bergh’s anti-vivisectionist appeals to be based on “extravagant misrepresentation, calculated to mislead the members of the Legislature, and to injure in a serious manner the interests of medical science, and the cause of medical education” (Qtd. Bergh 1867: 5). In that same 1867 speech before the Medical Society of the State of New York, Dalton further protested against Bergh’s rhetorical tactics and his

penchant to draw upon European models and resuscitate the atrocities committed at the Alfort Veterinary School, still very much vivid within the anti-vivisectionist discourse both in Europe and its American counterpart. As Dalton allegedly stated,

A picture is drawn of veterinary operations as they existed in a foreign country nearly a quarter of a century ago, and is presented as a truthful description of what takes place there to-day. But this is not all. It is further stated in [Bergh's address to the members of the State Legislature] that *similar barbarities are enacted in America, and that* the system of horrors, like those described at Alfort, is defended by medical professors, under the name of vivisection, in our own country. Nothing can be more false than this statement. (Qtd. Bergh 1867: 5)

Bergh retaliated by declaring – perhaps somewhat unconvincingly – that the bill in question had made no mention of vivisection and was simply aiming to suppress cruelty from all forms of experimentation. He then retreated again to the European example, detailing the Alfort barbarities which, contrary to Dalton's dismissal, were still going on in the early 1860s. Like his English models, first-hand testimonies constituted the core of his persuasive argument, and like them as well, he again drew on the figure of Magendie as “the detestable monster” of the “infernal hand” (1867: 5). Evidence that such horrendous doings were being committed in America had been collected by two SPCA agents who had infiltrated experimental demonstrations and lectures.



NEW YORK.—HENRY BERGH ADDRESSING A LEGISLATIVE COMMITTEE ON “VIVISECTION,” AT ALBANY.—FROM SKETCHES BY W. PARKER DODFISH.—

Henry Bergh addressing a legislative committee on vivisection at Albany. Sketch printed in the New York publication *Frank Leslie's Illustrated Newspaper*, issue 1,276 (March 13, 1880):

The Dalton-Bergh dispute was dragged well on into the next decade, the former detailing in his lectures representative European experiments and the latter continuing to model his discourse on British anti-vivisectionism, both in terms of structure and content. In 1875, a year after Bergh had created an anti-vivisection program within the ASPCA, Dalton published *Experimentation on Animals as a Means of Knowledge in Physiology, Pathology and Practical Medicine*, where he strategically directed his attention against what he viewed as myths fleshed out through “extremely violent and denunciatory language” (1875: iv). He structured his chapters as an arranged response to habitual accusations, with particular attention to utility and necessity. In much the same way that Bergh used European testimonials to illustrate the horrifying methods of vivisection, Dalton closed his writing with a collection of short reflections on the research and scientific benefits brought on by the discipline of experimental physiology. Except for the few remarks made by Harvard professor Edward H. Clarke, these statements belonged to distinguished men of the medical field in France and Britain, men who held positions at such prestigious institutions as the University of London, the Alfort Veterinary School, the French Academy of Medicine or the Paris Medical Faculty.

Despite the professor’s eloquence, Bergh was not one to be deterred by Dalton nor by the medical students’ sabotaging of his lectures, as described by articles in the *New York Times* in 1881 and 1882 (see *New York Times* entry in WORKS CITED for these reports). The 1876 Cruelty to Animals Act surely had not met the expectations of the anti-vivisectionists in Great Britain including, as we have seen, Frances Power Cobbe. Nonetheless, the regulation provided Bergh with yet another European model to strengthen his arguments. After all, if Britain, which had a longer and profounder history of animal experimentation, had taken legal measures in the matter, then there was an evident hint that vivisection should not continue in America without restrictive control. Although all efforts seemed to no avail (the first law regulating vivisection would actually not be passed in the United States until 1966 – see Item 1 in GSD), and although experimental physiology did not really solidify as a common practice in medical schools until the 1890s, Bergh and his supporters did succeed to a great extent in opening the ethical debate within the public sphere.

5.3. The Role of Women in the Movement

5.3.1. Caroline Earle White and the Anti-Vivisection Societies

It was not Bergh, but Caroline Earle White (1833-1916) who started to work on a full-fledged organization to combat the changes that American scientific research was undertaking, and in 1883 she formed in Philadelphia the American Anti-Vivisection Society. The daughter of an abolitionist lawyer and Quaker, White received a progressive and privileged education that would in time become fruitfully reflected in her prolific humanitarian and philanthropic writing. She traced the roots of her sympathy for animals back to her childhood, when she became horrified at the sight of the pitiful and abusive conditions to which carriage and other labor horses were subjected to in the streets of Philadelphia (as for Bergh, the welfare of horses would in fact become one of the most urgent concerns for the SPCAs). Through her marriage to

the distinguished attorney Richard P. White, she not only converted into Catholicism, but also became more actively involved in clubwoman endeavors. Her compassion for animals, coupled with her husband's support, led her to seek Bergh in 1866 for advice on opening an SPCA branch in Philadelphia. White enthusiastically followed his counseling, began mobilizing the city's elite members and joined forces with M. Richards Mucklé, an executive of the *Philadelphia Public Ledger* and S. Morris Waln, another wealthy citizen. Both men had also shown an interest in establishing an animal protection society a few years earlier, and their collaboration with White resulted in the creation of the PSPCA in 1867. As a woman, White was not a suitable candidate neither for presidency (Dr. Wilson C. Swann was elected) nor for the Board of Directors. White's husband served as a member of the Board instead, protecting the interests and aims of his wife. White's earnestness and leadership as an animal advocate would materialize into an official position when the women's branch of the PSPCA was formed in 1869, which she would preside for decades to come and in strong partnership with her corresponding secretary, Mary Frances Lovell.



Photographic portrait of Caroline Earle White (1833-1916).



White and another WSPCA member show the proper bandaging of a horse.

White's urge to form a society exclusively dedicated to the issue of vivisection was in part prompted by a disturbing letter she received in 1871 from Dr. Silas Weir Mitchell

inquiring about the possibility of letting his research hospital take custody over the unwanted dogs that were kept at the PSPCA's shelters. White prided herself and the WSPCA for the few steps they had accomplished thus far, both in the treatment of horses and in the creation of shelters to protect stray dogs and cats (the Morris Refuge Association for Homeless and Suffering Animals would, in fact, become the first official shelter in the United States in 1874). Undoubtedly, Mitchell's disturbing letter must have motivated White to seek advice from another prominent figure in the animal protection cause – this time at the other side of the Atlantic. Frances Power Cobbe, very much experienced in the anti-vivisectionist discourse and well aware of women's capabilities to empower the movement, strongly encouraged White to lead American animal advocates into a society to combat the evils of vivisection. Finally, in 1883, the American Anti-Vivisection Society (AAVS) was organized in Philadelphia. Although White and the rest of the members initially battled for restriction and regulation of experiments, by 1887 they would display an inclination towards full prohibition.

The contagion of anti-vivisection organizations was not as fast as that of the SPCAs. Nonetheless, a number of societies did emerge, however slowly, in the following years. Lederer (1995: 33) lists the Illinois Anti-Vivisection Society (Aurora, 1892), the New England Anti-Vivisection Society (Boston, 1895), the Anti-Vivisection Society of Maryland (Baltimore, 1898), the Vivisection Reform Society (Chicago, 1903) the Society for Prevention of Abuse in Animal Experimentation (New York, 1907), the New York Anti-Vivisection Society (1908), the Vivisection Investigation League (New York, 1912), and the California Federation of Anti-Vivisection Societies (1918), among other groups. Until around the 1890s, Dalton, Austin and a few other physicians remained, for the most part, the sole American counterparts to European physiologists, and despite the fact that the imitation of European anti-vivisection models was in many ways detrimental to the anti-vivisection societies and the SPCAs, their public outcry was at least enough to get the public talking about it. As a writer for a Philadelphia publication expressed, “it is gratifying to notice that the need of legislation to regulate, if no prohibit, the practice of vivisection is being more generally recognized than it used to be” (*The North American* 1888). Although with little evidence other than testimonials of lecture attendants, efforts to prosecute were made by White and the AAVS, such as in the case of a certain doctor by the name of Ben P. Shimmel, who had used a dog to demonstrate a new method of intestinal resection (*The Daily Picayune* 1890).

White launched and edited the *Journal of Zoophily*, the critical and propagandistic product of the collaboration between the AAVS and the PSPCA, and she relied in the same rhetorical technique that Bergh and other American anti-vivisectionists were employing, that of turning to the European context as a model example. The problem in such a stance was not so much in the persuasive construction of the argument as it was in the speakers' limited capability to provide the public with information applicable to their own nation. Alfort, Magendie, Bernard and Moritz were all very illustrative *leit motifs*, and were certainly effective for making audiences shudder; but unless solid evidence could be provided that such practices were systematically held and condoned within American medical schools, there was little to which the public could relate to. Furthermore, pro-vivisectionists and journalists often made it a point, as in Europe, to ridicule the inconsistencies in anti-vivisectionists' alleged compassion for animals. Some women suffered the same fate as Frances Power Cobbe when she was criticized for adding an ostrich plume to her attire. The same year that the AAVS was founded, a reporter for a Houston newspaper lambasted “a literary lady” whose ardent eloquence

against vivisection all too clearly clashed with her appetite for oysters and lobsters that had been boiled alive. For the reporter, the irony of the scene was further grotesquely exacerbated by the woman's unfortunate dress style: "How can I listen to a woman who decorates herself in sealskin and humming birds make a speech against vivisectionists?" (*The Galveston Daily News* 1883).

Indeed, accusations against anti-vivisectionist women's attire and dietary habits, along with conspicuous remarks against the sentimentality that women were allegedly prone to marked much of the pro-vivisection public discourse. The matter of sentimentality and domesticity itself could not so easily be dismissed, as it is doubtful that female campaigners even wanted to liberate themselves from such institutionalized stereotype. As Buettinger (1997) points out, women active in anti-vivisection were typically members of the Women's Christian Temperance Union (WCTU), especially around the 1890s. White herself had joined in the 1870s, and the WCTU aimed at social reform through evangelical Christianity and with the chief agenda of purifying the country into abstinence. Strongly influenced by the ideology of sanitation, it delved into anti-alcohol campaigning and public health matters, including prostitution. Although it opened a space within the public sphere for women to organize socially and politically, it nonetheless remained ideologically conservative: the WCTU protected the image of women's role as nurturers and providers and the sanctification of the domestic sphere. In other words, "crusaders to uplift vivisectionists, drunkards, or other reprobates banked on their moral authority as Christians and mothers, and shied away from insisting on women's rights as individuals, which de-emphasized the roles on which that authority rested" (Buettinger 1997: 861). There was, therefore, little effort in America to combine animal protection with women's suffrage, the side-effect being partly that sentimentality as part of women's nature was an acceptable image. In the 1890s the WCTU established the Department of Mercy, in which anticruelty literature for children under the auspices of the middle-class ethos of domesticity was fostered. It was American women's critical interest in maintaining and consolidating the associations between women, Christianity, motherhood and domesticity that, in the view of Buettinger, distanced the movement from female anti-vivisectionism in Britain. While Cobbe personified the movement as a surrogate to feminism, and while other female writers (as argued in Item 3.3.4. of the MP) associated vivisection to pornography, ovariectomy and the medical 'rape' of women, children and the poor, the women of the AAVS "conceptualized their cause to be much like that of the WCTU," by which it was understood that "as Christians and mothers their goal was to uplift society, not to champion women's rights as individuals" (Buettinger 1997: 863). Unsurprisingly, it was the abolition of vivisection within school grounds that stood out as one of the leading missions of the AAVS. In an effort to protect children from the brutalizing effects of vivisection, the AAVS and the Massachusetts branch of the SPCA succeeded in passing a bill in that state prohibiting such practice in public schools in 1894.

5.3.2. Opposing Views: Mary Putnam Jacobi and William Williams Keen

The AAVS's prime adherence to the principles exemplified by the WCTU is not without its complications. We must remember that at the time women were beginning to carve their way into male-centered professional fields, and this did not exempt medicine. Mary Putnam Jacobi (1842-1906), one of the most acknowledged female physicians in America at the time and a strong advocate of laboratory and experimental

research, attempted to politicize the medical field by promoting women's critical, rational thinking and praising their capacity to work just as well as men. Jacobi received part of her training in Paris, and was in fact the first woman to enroll in the École de Médecine. By the 1870s she was a professor at the Women's Medical College of the New York Infirmary, a member of the American Medical Association, had organized the Association for the Advancement of the Medical Education of Women, and had married pioneering pediatrician Abraham Jacobi. Further distinction came in 1876, when she was awarded the Boylston Prize by Harvard University for her original essay on women's menstruation. As her discourse evolved into suffragist interests in the mid-1880s, so did her emphasis on the right for women to receive an equal education as men within colleges become more empowered. Her own vivisection and dissection procedures imploded the cultural construct of the laboratory as a strictly masculine domain, and although her position clashed with that of other female physicians such as Elizabeth Blackwell (the first woman to receive a medical degree in the United States), who countered experimentation, she rightfully earned a respected position amongst her male colleagues who learned to regard her as an equal. Moreover, although her views were contrary to those of Elizabeth Blackwell, they did coincide with the latter's younger sister and co-founder of the Women's Medical College Infirmary, Emily Blackwell, whose position, despite the fact that it was milder than that of Jacobi's, was still pro-vivisectionist.

The contestation between female physicians such as the outspoken Jacobi and those more oriented towards interests similar to those of the WCTU should not be undermined, as they reveal the complexities not only of anti-vivisection discourse, but also those inherent to the shaping of women's place in modernity. That Jacobi regarded the women of the AAVS as detrimental to the progress of the sex can be gathered from her overt contempt against their campaigning. For her, such women hindered the equality of the sexes in education, politics and society. For long she had worked hard for women to have access to experimental research and to reinvent their image as physicians, as shown in her 1882 essay "Shall Women Practice Medicine?" As Bittel notes, however,

Although Jacobi attacked women antivivisectionists, she did not blame them for being politically misguided. Instead, she blamed their subordination and status as second-class citizens. If women had political rights, she claimed, they would not have to be "meddling" in these trifling matters, but would turn their attention to more meaningful public issues than the sentimental defense of animals. Woman suffrage held out the promise that it would redirect women's activism away from trivial subjects and toward civic matters of greater importance. (2005: 692)



Portrait of Mary Putnam Jacobi.

The pervading view of women as sentimental paved its way well into the twentieth century. Paradoxically, and as Bittel points out, when Putnam was asked to report for the District of Columbia Hearings (see Item 5.6.2. of the MP), probably as a strategic move on the part of the pro-vivisectionists to present their adherence to the rational, progressive side of womanhood, she was dismissed by Alfred Leffingwell on account of her “unconventional gender position,” professing that “she was a woman who advocated unthinkable acts” (Bittel 2005: 691). More than a decade later, William Williams Keen, the eminent surgeon who had also participated at the Hearings, continued to point out the gravity of giving in to women’s emotional distress when it came to the topic of vivisection. In essays and lectures such as “What Vivisection Has Done for Humanity” (1910), “The Influence of Antivivisection on Character” (1912) or his response to the 1914 anti-vivisection exhibit in Philadelphia, he immerses himself in deepening the gender dichotomy. Having exposed the therapeutic benefits of certain treatments discovered through vivisection, he asked: “Which method will any man of common sense or any woman with a human heart choose?” (2009/1914: 227). Reacting to the vilifications and threats he received from women (often anonymous), he drenched his remarks in deep cultural irony: “The most violent and vindictive passions have been aroused and fostered, especially among women – the very flower of our modern civilization” (2009/1914: 234). Keen was heavily sarcastic when it came to women in the movement, and the contradictions inherent to the ethos of domesticity were certainly not lost on him. He attacked the fact that these same women protected their homes by trapping, poisoning, or unleashing cats upon pests of mice, but “[held] up their hands in holy horror when any proposal is made to terminate the lives of other rats and mice,” that is, laboratory material. In another passage he continues in this line of thought by declaring:

That sentiment rather than principle is at the bottom of the antivivisection crusade is shown by what I in common with many others believe to be true, that if experimental research could be carried out on on [sic] other animals without using dogs and cats there would scarcely have been any antivivisection movement. (2009/1914: 263)

As history and historiography in time have shown, Keen's belief that it was such ethos of domestic values (and not feminism) that wheeled in great part women's contempt against experimentation in America, was, for the most part accurate. Nonetheless, his delight in hyperbolizing the gender antinomy led to many assumptions that women at the time (especially White) looked scornfully upon. Keen not only undermined, but also underestimated to a great extent the lengths that women in America in time would go to abolish and sabotage vivisection.

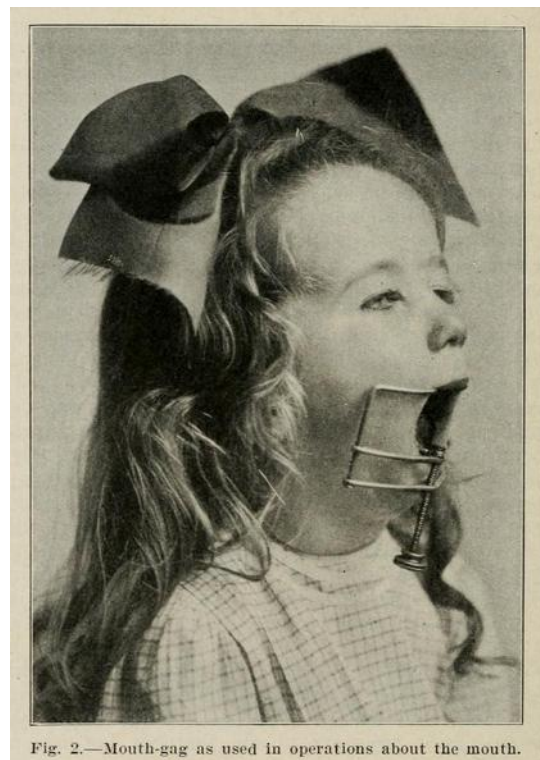


Fig. 2.—Mouth-gag as used in operations about the mouth.

Left: Portrait of William Williams Keen. **Right:** Photograph of Keen's granddaughter with a mouth-gag printed in his essay "The Influence of Antivivisection on Character" (1912) [reprinted in *Animal Experimentation and Medical Progress* in 1914]. The image was intended as proof of the harmlessness of the gag, used also on animals for research procedures.

5.4. Cobbe Strikes America

In 1890 Frances Power Cobbe and Benjamin Bryan released a new anti-vivisection pamphlet. This time, the propaganda was aimed against American medical schools: “Vivisection in America: I. How It Is Taught II. How It Is Practiced” clearly denoted not only concern about the methods employed themselves, but also about the forum of the classroom and the lecture hall, and it was clearly Austin Flint and his five-volume work *The Physiology of Man* (first published in 1875 and by 1890 running its third edition), which became the object of attack. Cobbe and Bryan quoted Flint’s volume to denounce the reckless cruelty that was being perpetuated through the habit of repeating the same procedures that had already served their research purpose. To carry out surgeries and experiments for the mere sake of making repetitive demonstrations before students was the last drop in an ethical debate that no longer only had to question the utility of the experiment (that is, justify the scientific need for that particular research), but now as well the very nature of what was meant by utility itself. As vivisection was increasingly becoming institutionalized in American and European medical schools, there grew an imminent danger in the tendency of establishing demonstrations of previous ‘celebrated’ experiments as a teaching routine. If the demonstrator and the students already knew what the expected results were, what was the point of subjecting more sentient creatures to these tortures? In a way, this turn of affairs posed by the matter of utility conjured the philosophical tension between *a priori* facts and empirical truths, whereby part of the debate was now to be centered on the pedagogical tactics of medical education themselves. Anti-vivisectionists largely feared that medical colleges were headed towards a system of education in which knowledge was always to be obtained through direct experience, rendering previous collected data from such experiments as rather useless. That Flint had in this frame of mind and for purely instructive purposes repeated experiments by Flourens, Chauveau, Faivre, Marey, Legallois, Brachet, Bernard, Schiff, Cyon and an additional array of physiologists evinced the teaching tradition that was slowly becoming institutionalized. The appearance of physiological text books such as Dalton’s and Flint’s in 1875 (Flint would also publish three decades later the *Handbook of Physiology for Students and Practitioners of Medicine*) echoed in some respects the reactions in Britain to Sanderson’s 1873 *Handbook*, though at a smaller scale. Text books, with their detailed descriptions and vivid illustrations, represented manuals that threatened to perpetuate a tradition of imitation and repetition, without necessarily there being another research motive to investigate. “In short, the whole of Professor Flint’s treatise may be taken as a rehearsal and description of the worst vivisections of French, German and Italian physiologists . . . for the *emulation* of American youth” (Cobbe and Bryan 1890: 32).

The ‘contamination’ of young American physicians was coupled with yet another disturbing observation. Quoting Dr. Albert Leffingwell, which will be discussed in the following Item, Cobbe and Bryan went as far as to suggest that medical practice in America was perhaps even crueler and more immoral than in Europe. According to Leffingwell in an 1884 article in *Lippincott’s Magazine*, one of Flint’s demonstrations epitomized cruelty in its absolute form: the repetition of a horrendous experiment by Magendie in which the spinal cord of a dog was exposed to show the function of the spinal nerves. The cruelty of that experiment was of such magnitude that even in Great Britain teachers refused to repeat it, and yet Flint attested to having frequently made the

procedure part of his public demonstrations. However, it was not just the ruthlessness of American doctors that had to be feared: the fact that the repetition of Magendie's experiment had not triggered any complaint from students, medical authorities or the public was a grave cause for alarm. "THIS *experiment has been performed publicly again and again in American medical colleges,*" Leffingwell stressed, "without exciting, so far as we know, even a whisper of protest or the faintest murmur of remonstrance!" (Qtd. Cobbe and Bryan 1890: 33). Thus America represented a nation of moral corruption, protective of a retrograde stage of the human race, threatening to drag civilization. As Leffingwell stated, "we must necessarily conclude that the sentiment of compassion is far greater in Britain than in America. Have we drifted backward in humanity? Have American students learned to witness, without protest, tortures at the sight of which English students would rebel?" (Qtd. Cobbe and Bryan 1890: 33-34). To this, Cobbe and Bryan chimed in: "we are driven to the mournful conclusion that, as regards the *Teaching of Vivisection*, America stands even lower than England; lower, if possible, than Germany itself" (1890: 34).

The AAVS and Caroline White evidently found in the Victoria Street Society a dedicated ally, and Cobbe once more proved that her sympathy for animals knew no borders. However, the extent to which the AAVS and other anti-vivisection societies actually succeeded is challenged by James Turner (1980: 94), who claims that the AAVS played a secondary role in pressuring authorities for restriction. Indeed, the anti-vivisection societies were rather small in membership, partly as a result of the division of opinions regarding experimentation, as many believed that such procedures could in the end lead to medical discoveries and thus were uncertain as to what type of regulation was to be sought. It is likely that those affiliated with the animal protection cause found more security within the SPCAs (which were by then consolidated as respectable organizations and held more moderate ideals that could better comply with their yet much unexplored ethical standards as to experimentation) than within the overtly anti-vivisectionist groups.

5.5. Towards a Moderate Stance: Albert Leffingwell and the Problem of National Identity

That Cobbe and Bryan chose to reference Albert Tracy Leffingwell (1845-1916), a physician from Aurora, New York, among the array of public spokespeople against vivisection in America, was no coincidence. Leffingwell had been active in the cause since the 1880s, and it soon became evident that the effect of a physician's opinion on the matter (especially if extensively articulated through books, articles and reports) far outweighed those of the lay public and animal protectionists who had little to do with scientific circles. As Bittel states, "Leffingwell realized the weight of his own role, as a man inside the profession" (2009: 198), and he founded and became the first secretary of the American Society for the Regulation of Vivisection (*New York Times* 1916: 16). Contrary to White and to the more radical Cobbe that emerged after the Cruelty to Animals Act, Leffingwell was more moderate in his ideals, advocating for a strong regulation subjected to surveillance, but not aiming towards full prohibition. His articulateness as well as being a reliable witness-source, nonetheless, certainly worked in Cobbe's favor.

The fact that Leffingwell held a more temperate, scientifically well-founded opinion represented an additional threat to the pro-vivisectionists. Non-scientists who battled for full prohibition could more easily be dismissed on the grounds of medical ignorance, and there were also a number of physicians whose repudiation of vivisection could be identified as a mere persistent longing to adhere to traditional (and by then outdated) practice. Having a physician undertake a less extremist position, on the other hand, had a profound impact on the public who refused to form an opinion in black and white terms. Leffingwell's judgment was firm in its convictions that if vivisection was to continue developing in America, it should be under strict regulations that could avoid the high instances of useless, unnecessary and cruel experiments that vivisectionists had proven throughout history to be prone to. In short, his propositions and recommendations perhaps more adequately revealed the extent to which the complex matter of vivisection could resist an automated, categorical interpretation of right and wrong and could, therefore, more easily serve to persuade those who were deepening their knowledge on the topic.

In his 1880 article in *Scribner's Monthly*, under the provocative title of "Does Vivisection Pay?" (later republished as "The Vivisection Question"), Leffingwell posed most of the arguments that he would continue to develop for decades to come. The matter was from the beginning spun into a problem of national identity: did American society wish to exercise their responsibility towards lower animals and towards fellow-men by deciding that vivisection was to be altogether abolished? Did they desire to model themselves on the British and their regulatory stance? Or were France and Germany the ones that should set the example? American society and its representative authorities had to choose (for such was their obligation, whether materialized through action or inaction), and in order to decide, one had to get the facts straight. Such facts were addressed by Leffingwell in accordance to the same issues that had troubled the British, namely (1) to what extent (or at what cost) was vivisection justifiable, particularly when the aim was to repeat previously performed procedures; (2) did vivisection have a degenerative effect on the moral character of the experimenter; and (3) whether vivisection had supplied or led to therapeutic discoveries that could be useful to humanity. Testimony from mainly British and French sources was provided to illustrate the magnitude of the discussion, and Leffingwell regretted to opine that American physiologists were more attuned with the French than with their British counterparts. He concluded proposing a series of regulations for a much-needed legislative intervention, which were headlined as follows:

- (i) Any experiment or operation whatever upon a living animal, during which by recognized anaesthetics it is made completely insensible to pain, must be permitted.
- (ii) Any experiment performed thus, under complete anaesthesia, though involving any degree of mutilation, if concluded by the extinction of life before consciousness is regained should also be permitted.
- (iii) In view of the great cost in suffering, as compared with the slight profit gained by the student, the repetition, for purposes of class instruction of any experiment involving pain to a vertebrate animal should be forbidden by law.
- (iv) In view of the slight gain to practical medicine resulting from innumerable past experiments of this kind, a painful experiment upon a living vertebrate animal should be permitted solely for purposes of original investigation, and

then only under the most rigid surveillance, and preceded by the strictest precautions.

(Leffingwell 1889/1880: 49, 50, 51, 52)

Except for (iii), each of the proposals included further reflection or explanatory guidelines noting advisable legal steps. In the case of proposal (iv), Leffingwell, following once more the English model, suggested that a State Board should be empowered to grant or decline license applications which should always specify “(1) the object of the proposed investigation, (2) the nature and method of the operation, (3) the species of animal to be sacrificed, and (4) the shortest period during which pain will probably be felt” (1889/1880: 52).

In 1894 Leffingwell published the highly-acclaimed essay “Vivisection in America,” which continued to develop many of the issues aforementioned and brought in fresh testimonials to contribute as evidence. Among his concerns was to really prove that, regulation being inexistent, medical schools in the country were the sole arbiters left to assess what procedures could be carried out in their campuses and the methods of such. Through extracts from letters by representatives from educational institutions such as Harvard, Yale, Princeton, Syracuse University, Tufts, the University of Chicago, Amherst, Ithaca, Oberlin College or the University of California, among scores of others, Leffingwell cogently left little doubt as to the mainstream management of vivisection. In an overwhelming number of cases (if not all but one), these representatives of sorts coincided in the practical method of relegating such responsibility upon the professor imparting the course at hand. In addition, practically none of the institutions had established any norms as to the limits in the infliction of pain – a decision which once again befell upon the professor’s own criteria. “That which in England would be a crime,” Leffingwell declared bitterly, “in America would not be even the infraction of a college rule!” (2010/1894: 163). The pro-vivisectionist pretext that demonstrations of already established facts were necessary to aid the memory of students was also contrasted to the moral expense consequential to such acts. It was not only the cost of pain that had to be weighed up, but also the repercussions over the ethical character of the student, a consideration which was inevitably attached to the influence the professors exerted over their disciples. What was again being questioned was the physician’s role in society as the benign, bed-side doctor with therapeutic solutions. Leffingwell echoed British anti-vivisectionists in his claims that the institutionalization of the medical practitioner as a scientist-physiologist led to excesses of cruelty that clearly distorted the conduct and the significance of the classic physician. Beyond the veil of science, furthermore, there laid concealed the sadistic impulse nurtured by the bestial satisfaction resulting from the tormenting of creatures. Several testimonies provided by American and European professors attested to this fact, although it was the words of the late doctor Henry Jacob Bigelow, Professor of Surgery at Harvard, which more compellingly resonated in anti-vivisectionists circles: “Watch the students at a vivisection. It is the blood and suffering, not the science, that rivets their breathless attention” (Qtd. Leffingwell 2010/1894: 143). Indeed, one of Leffingwell’s most recurrent expositions was the need to prohibit any form of demonstration performed to merely illustrate certain physiological truths from which no new information could be derived, thus following the prescriptive indications of the Royal College of Physicians in England.

What was it that could steer America away from the French and German models? Part of the solution was to appeal to the socio-historical values upon which the nation had been founded. Leffingwell trusted that “once aroused, public sentiment in America is irresistible when based on Right” (2010/1894: 146); however, there were other inclinations – namely the coveting of wealth – that competed within this ethical debate. America had succeeded in regulating all affairs pertaining to financial management of institutions, a reflection of the state intervention to protect the rights of citizens. And yet there were those who, although supportive of such financial regulations, would not hesitate to express their rancor towards a legislation that would protect the well being of lower animals as much as the moral character of students. Leffingwell best antagonized these positions by professing his criticism against teachers resentful of any form of ‘censorship’ over their lectures or research. Paralleling the teachers’ demands for absolute control to autocracy, he observed that:

Absolutism, whether on the imperial throne or in the physiological laboratory, has not offered the world the highest type of conduct. What, for instance, would be thought of the president of a great and wealthy university who should proclaim that, as regards the expenditure of the treasurer, no restraints or restrictions were ever imposed; that complete confidence in personal character took place of all vouchers and receipts? . . . There is not an institution in the land where such financial mismanagement would not be condemned. Yet why so many precautions against the prodigality of money, and such acute sensitiveness toward the slightest impediment against prodigality of pain? (2010/1894: 163-164).



“OH, MAMMA, COME AND SEE YEGGIE FOTTER’S APPENDIX BEFORE HE COMES TO! IT’S JUST LIKE THE ONE THE TEACHER SHOWED US!”

***The Advance of Vivisection* reflected the social concern as to how the inclusion of vivisection within the education system could brutalize children. Printed in *Life*, vol. 32, issue 820 (August 25, 1898): 153.**

Leffingwell not so subtly accused the academic system of moral corruption through their prioritizing of financial affairs over the safeguarding of their students and research subjects. The fact that vivisection remained to be regulated thus represented an atavism of pre-democratic governance, a shaming and bewildering reminder of absolutism in its most excruciating form. The many American medical schools that adopted vivisection as a regular practice and that became truly consolidated in the 1890s had thus far failed to comply with the ethical standards of Britain, and such insistence to follow in the footsteps of France and Germany had precluded the natural legislative continuum that should consider pain and suffering at least as equally important as financial regulations. By adopting the French and German models, therefore, the country was, in a way, relapsing into un-Americaness. The menace of losing a national identity in the process of medical training could, however, be amended by instilling in students a sense of admiration towards other American and British models whose moral immaculateness made them worthy of emulation and whose spirit could be extended into the field of science. The following quote is lengthy but delineative of this point:

What are the ideals held up before American students in American colleges? What are the names whose mention is to fire youth with enthusiasm, with longing for like achievement and similar success? Is it Richet, “bending over palpitating entrails, surrounded by groaning creatures,” not, as he tells us, with any thought of benefit to mankind, but simply “to seek out a new fact, to verify a disputed point?” Is it Mantegazza, watching day by day, “*con molto amore e pazienza moltissima*” . . . the agonies of his crucified animals? Is it Brown-Séguard, ending a long life devoted to the torment of living things, with the invention of a nostrum that earned him nothing but contempt? . . . Surely in these names, and such as these, there can be no uplift or inspiration to young men towards the amelioration of the world. . .

. . . May [men] not rather turn for their inspiration to those ideal examples of self-sacrifice which still encourage us; to Howard, risking life in prison and lazar-house, that by revelation of their infamy he might stir the conscience of Europe to the need of reform; to Wilberforce and Clarkson, toiling amid obloquy and abuse for more than twenty years to put down the African slave trade; to Garrison, waging war for thirty years that he might help to free America from the stain of human bondage . . . (Leffingwell 2010/1894: 166-167)

Such a celebration of role models attested not only to Leffingwell’s belief that alternative ethical choices were possible, but also to his comprehension of the rootedness of American values within the myth of the great man theory, whereby national history is conceived as a sequence of biographies of outstanding men who absorb and reinvent the teachings of previous models and lead the country into a more just and more democratic era. By overtly immersing his discourse within the core structure of American mythistory, Leffingwell succeeded in classifying the vivisection controversy as one inevitably bound to the wider concern for consolidating a national identity, a concern that could only more efficiently serve the need for regulation within laboratories and the lecture hall.

5.6. Interventions at the Turn of the Century

5.6.1. The 1895 Report of the American Humane Association on Vivisection in America

On September 26, 1895, the American Humane Association on Vivisection reported the results of a census study carried out by a special committee to evaluate the national pervading opinions towards vivisection. As Leffingwell had proposed, three alternatives of scaling degree were taken under consideration: total prohibition, restriction and regulation of the practice to establish its limits, and complete disregard of any legislative action, in such a way that the experimenter was left free to determine and exercise all decisions pertaining to his procedure. The committee had requested and collected the judgments and assessments of (1) physicians with a minimum of fifteen years of experience in the profession, (2) authorities within the educational and academic sphere (from university and college presidents to faculty staff), (3) clergymen with a distinguished position within the church or, as in the case of physicians, with a notable number of years in service, and (4) national and some international men of letters with considerable success or popularity. Such demographic specificities of course neglected a statistical consideration of the less educated classes' view, and focused within a very particular profile within the four categories themselves. As Lederer insightfully contends, the committee "found what they had expected to uncover, or, at least, what their inquiry was intended to elicit" (1987: 236): a biased outtake on vivisection primarily influenced by the absence of opinion of those newer generations of physicians which had taken physiological courses as part of their instruction. However tendentious the report was, nonetheless, it did shed light in the mainstream advocacy towards restricting and regulating vivisection (Lederer 1987: 236), even if, as many participants themselves noted, such measures opened an almost bottomless pit of possible resolutions to the various particularities and technicalities that befell upon the consideration of any experiment. In other words (and although most participants favoring restriction seemed to agree on certain unquestionable admonitions, such as the prohibition of experimentation for mere purposes of demonstration or for research exempt from therapeutic objectives, or the necessity to use anesthetics to relieve the subject from excruciating pain), the magnitude of issues associated to the act of regulation opened in itself a great field of additional discussions about ethics, rights, and medical progress.

The observations made by the more than two thousand participants in the survey for the most part echoed the same opinions that had been publicly made so far both to attack and to defend vivisection. It became rather evident that utility (a topic that ranged from the discussion surrounding actual medical discoveries and advancements to the ethical implications of demonstrations for mere lecturing purposes) and anesthetics constituted the main reasons for concern for the majority of the contributors, regardless of their position. These were closely followed by the often disputed matter of the students' moral degradation through physiological practice (culminating in a stage of criminality) and the traumatizing effect that watching a vivisection could have on minors, the ever pervasive question of the rights of lower animals, and the more Christian-oriented view of the need to respect all of God's creatures.



"NOW, GENTLEMEN, THIS SUBJECT IS AN EMINENT VIVISECTOR, AND HAS ALWAYS DEFENDED THE PRACTICE, THEREFORE, ALTHOUGH THE PRESENT EXPERIMENT WILL BE VERY LONG AND PAINFUL, WE MAY GO AHEAD WITH A CLEAR CONSCIENCE."

The Class in Vivisection by Kemble. Printed in *Life*, vol. 25, issue 647 (May 23, 1895): 337.

Critical allegations against the secrecy and lack of transparency of laboratory work were as well collected, and the occasional commentary favoring human vivisection over animal experimentation also sparked the intensity of the debate: "Personally, I would rather perform vivisection on human beings than on the lower animals, for the reason

that the object can be made intelligent to them” (*Report 2012/1895*: 12) stated a doctor from Buffalo. “In my opinion vivisection should be performed on criminals condemned to death” (*Report 2012/1895*: 13) professed another one from Greenbush, New York. “Persons sentenced to death would serve a most useful purpose if, before execution of the sentence, they were subjected to experimentation in testing new remedies, etc.” (*Report 2012/1895*: 23) opined yet another physician from New York City. Such standpoints certainly echoed the ancient experiment of Herophilus and Erasistratus on a criminal at the same time that they recalled Beaumont’s research through St. Martin, and, more recently, John S. Pyle’s 1893 proposition to the Tri-State Medical Society. As the Buffalo physician observed, it was a matter of consent and of the subject’s capacity to be conscious (in the sense of being able to reason) that demarked the moral status of an experiment. In the case of the other two doctors, criminals could, through their usefulness to society, redeem themselves in some way not only by virtue of avoiding the suffering of animals, but also because human experiments of course provided more accurate results for medical advancements, where the main concern was the curing of human ailments. Similarly, and in line with Pyle’s proposal before the Ohio legislature in 1894 (which was never to be passed), experimenting on criminals condemned to death would “rob the process [of the system of punishment] of the spirit of revenge and barbarity” (Lederer 1995:46). Opponents to this possibility (on both sides of the vivisection controversy) shuddered at the idea. Even Claude Bernard, one of the ‘monsters’ that had been father to modern experimental physiology, had firmly rejected using live criminals (although he readily acceded to cutting into the bodies once the condemned had been decapitated) (Bernard 1957: 101-102). What kind of image were some anti-vivisectionists conveying to the public if making sentenced prisoners the instruments of research was to be presented as the most viable, logical (and apparently, moral) alternative?

Such motions were, to say the very least, gravely polemic, and although they were expressed in the poll by advocates of regulation, they in many ways worked against the very anti-vivisection case, whether this was of a more moderate or a more radical nature. As Lederer (1995: 46) argues, many, if not most anti-vivisectionists, such as Mary Lovell, dreaded the very thought of experimentation surpassing animal subjects, for using humans would signify the triumph of the vivisector’s truly unlimited power to exercise his curiosity. Similarly, pro-vivisectionists such as the physician William Williams Keen contended that, because medical progress was necessary, and because progress was inevitably bound to testing on live bodies, the only alternative proposed by the anti-vivisectionists (whether overtly or implied), was the use of humans. In Keen’s view, such flipside enabled the most immoral and barbarous instincts of the human race. Hence there were some meeting points between extremist pro-vivisectionists and extremist anti-vivisectionists when it came to delving into the possibility of human experimentation.

A number of other remarks collected through the census also reflected some additional cultural and ideological issues of the time. A professor of nervous and mental diseases from New York City stated that

if mankind suffers from disease it is its own fault, to be cured by rectification of the causes which led to it; and it is subversive of the high and moral order of the progress of humanity to inflict pain or death upon

other living animals to abolish or minimize disease or suffering due to mankind's own faults. (*Report* 2012/1896: 5)

Although the doctor does not specify as to the precise causes for which mankind is to blame, his opinion may have been influenced by the sanitation movement of both America and England, which emphasized the necessity of prevention over treatment and which was vocalized as the antithesis to the vaccination remedy (Porter and Porter 1988) and called for increased state intervention to control contagion (B.S. Turner 2008: 73). The notion that 'man has brought disease on himself' was shared by many sanitarians who believed that a clean atmosphere and water supply could solve many of the public health problems. In their view, efforts should be invested in hindering and finding ways to anticipate diseases so as not to 'create' them; as opposed to institutionalizing a system operating through the mode of 'damage control.'

5.6.2. The District of Columbia Hearings

In 1896, more stringent efforts to regulate vivisection were undertaken by the animal protectionists when Representative James McMillan, a Republican, introduced a bill to the United States Congress to regulate vivisection in the District of Columbia. With the British 1876 Cruelty to Animals Act as a model, anti-vivisectionists (both abolitionists and the more moderate groups), in coalition with the Women's Christian Temperance Union (WCTU), six Supreme Court justices, physicians, clergymen and academics attempted to implant a legislation in the very heart of the nation, a place which was itself endowing animal experimentation through the laboratories of the Bureau of Animal Industry, the US Hygienic Laboratory and the Army Medical Museum (Lederer 1987: 240). If such bill were to be accepted within the District, then perhaps the jurisdiction of other states would in time follow the example. The anti-vivisectionists were spearheaded by the Republican Senator of New Hampshire, Jacob H. Gallinger (1837-1918), who had, prior to his political career and much to the dismay of pro-vivisectionists, studied and practiced medicine as a surgeon. According to the proposal, titled "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia" (Senate Bill 1552), researchers would have to acquire a license and be subjected to occasional inspections as part of the procedure (Nibert 2002: 156), the use of curare as an anesthetic was to be prohibited, and so were demonstrations at schools before children. Anti and pro-vivisectionists pleaded their respective cases: the former presenting notes from vivisectionists that illustrated their convictions, and the latter once again advocating the utility of experimental research and pointing out the incongruent lawfulness of other, less useful and crueler forms of animal exploitation. The much-spirited public support that the proponents of regulation received, particularly through respected representatives of the medical field and through powerful organizations and institutions, clearly alarmed those opposed to restriction, who, through their British colleagues, had been informed of the adversities and complications brought on by the 1876 Act. The pro-vivisectionists additionally aimed to discredit their antagonists by accusing them of hyperbolic misrepresentations of vivisection procedures that were, in their view, recklessly being projected into public imagination. In short, pro-vivisectionists complained about the ignorance of their opponents, both in terms of the procedures themselves and in terms of the beneficial results that experimental medicine had brought forth:

It should be borne in mind that the full significance of the importance and of the results of experimentation upon animals for the biological and the medical sciences can be adequately appreciated only by those who possess special knowledge of these sciences, and that it is only those who are thus informed who can fully realize the injury which would be inflicted upon these sciences and upon medicine by such legislation as that contemplated in this bill. (Association of American Physicians 1876: 3)

Despite the notable public support to anti-vivisection, the actual amount of irrefutable evidence that abuse and torture were taking place within American laboratories was insufficient. The bill failed to reach the floor, and after a four-year interlude during which the Spanish-American War took place, Gallinger made a comeback. On February 21, 1900 another hearing was held before the Senate Committee on the District of Columbia (*Vivisection: Hearing* 1900), which again became a forum of contradicting arguments. Leffingwell spoke on behalf of the bill, while eminent doctors such as Henry Welch (Professor of Pathology at Johns Hopkins), William Williams Keen (then President of the American Medical Association), Henry Bowditch (Professor of Physiology at Harvard), William Osler (Professor of Clinical Medicine at Johns Hopkins), and even Mary Putnam Jacobi, perhaps as an exemplary woman who marked a stark contrast with the club ladies at the ranks of anti-vivisection and which were stereotypically characterized as sentimental and even hysterical (see Item 5.3. of the MP). Pro-vivisectionists, having expanded their evidence and joined forces (for instance, through a committee on vivisection created in 1898 by the American Medical Association) to curtail public sentiment against vivisection, came out the victors. There was substantial talk about human vivisection, and the fact that such an issue was solidifying as part of the core of anti-vivisection discourse was no frivolous matter. Leffingwell had been active in investigating experimental research on human beings since approximately 1897, when he received reports of Giuseppe Sanarelli's inoculation of five patients with what he believed to be the bacillus of yellow fever in Montevideo. For him, Sanarelli epitomized the ultimate stage of medical degeneracy, one in which doctors abused their power over patients:

It is absurd to fancy that the subjects of these experiments knew what was done, when for the relief of some trifling ailment they submitted to the prick of the needle and were made "*material*" for the experimentation. If anything could add to the supreme horror belonging to such a crime, it is that disguise as a physician under which this experimenter did his work. (Leffingwell 1901/1897: 248)

Sanarelli proved that the predictions made by anti-vivisectionists on both sides of the Atlantic had come true (although, as illustrated earlier, there were those who regarded human experimentation as the more reasonable alternative to testing on animals, whether this was to be done on criminals or simply on consenting patients). Sanarelli may have been the most recent and well-known case of a doctor experimenting on humans, but reports had also surfaced in the preceding decades about procedures perpetuated on human subjects by physicians such as Robert Bartholow, William Murrell and Sydney Ringer. Facing the accusations of the American Humane Association, Osler in fact brought up Sanarelli during the 1900 hearing to condemn and denounce, on behalf of all respectable members of the medical profession, his research methods.



Engraving by Charles John Tomkins (1883) after a painting by Philadelphia-born artist John McLure titled *Vivisection – The Last Appeal* (1882). Wellcome Institute Library, London.

On March 2, 1900, Gallinger introduced to the United States Senate “A Bill for the Regulation of Scientific Experiments upon Human Beings in the District of Columbia” (S. 3424). Strategically, the emphasis was placed on human vivisection, as “the bill’s broader scope reflected the vivisectionists’ conviction that tolerance of animal research would inevitably lead to human research” (Jonsen 1998: 129). The bill was brought to no effect, though the concern for human victimization through experiments was made more overt than ever before. Among its sections the bill classified human vivisection as a crime punishable through fines and/or prison sentences and expulsion from medical practice. If the experiment resulted in death or in the acceleration of death, the charges were to be considered on the grounds of manslaughter or murder, and thus the experimenter was liable to the penalties associated to such crimes. Experimental

research on humans was only permissible through rigorous licensing and reporting, and when the subject was at least twenty years of age, “in full possession of all his or her reasoning faculties, and fully aware of the nature of the proposed experiment” (American Humane Association 1995/1900: 145). The nature of consent and the conditions under which it was produced were matters of urgent legislation in the view of anti-vivisectionists, even if such medical authorities as Osler, for all his criticism of Sanarelli, had declared such measures “as a piece of unnecessary legislation” (*Vivisection: Hearing* 1900: 65).

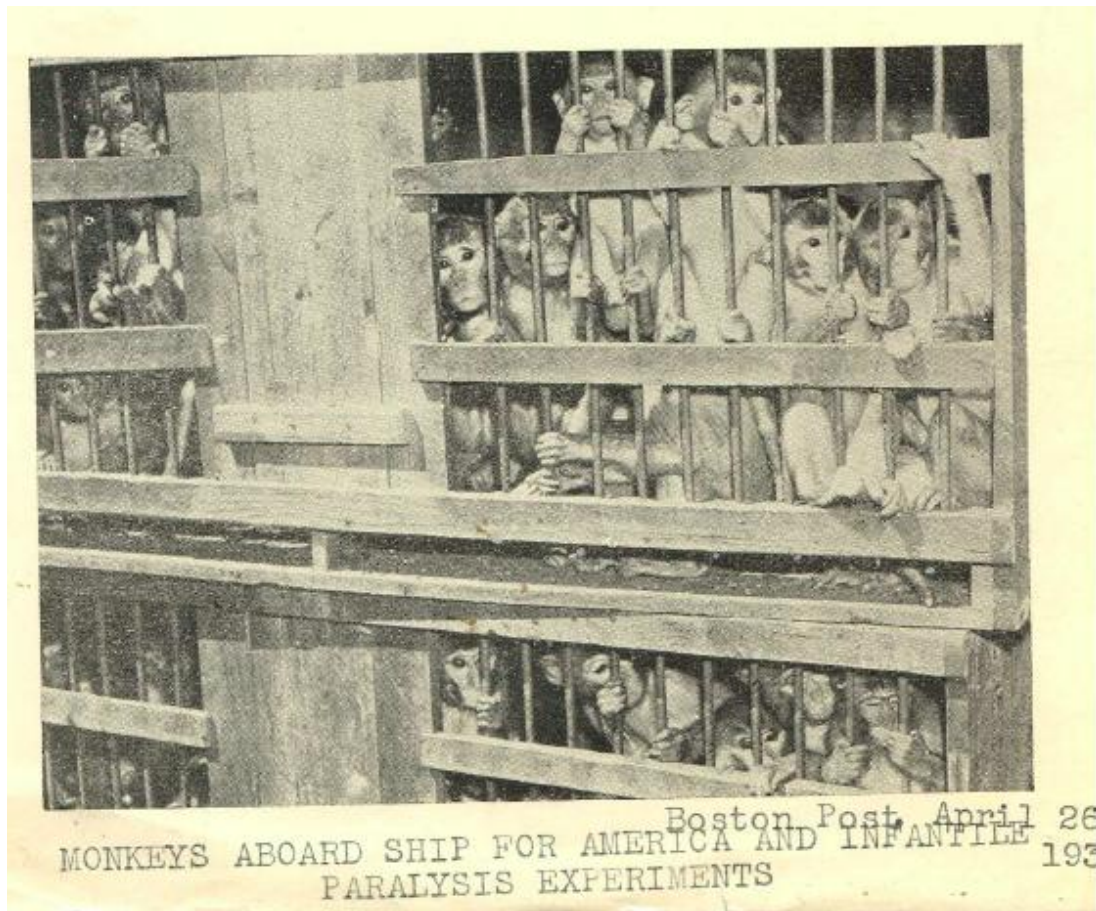
5.6.3. The Rockefeller Institute, Simon Flexner and Walter Cannon

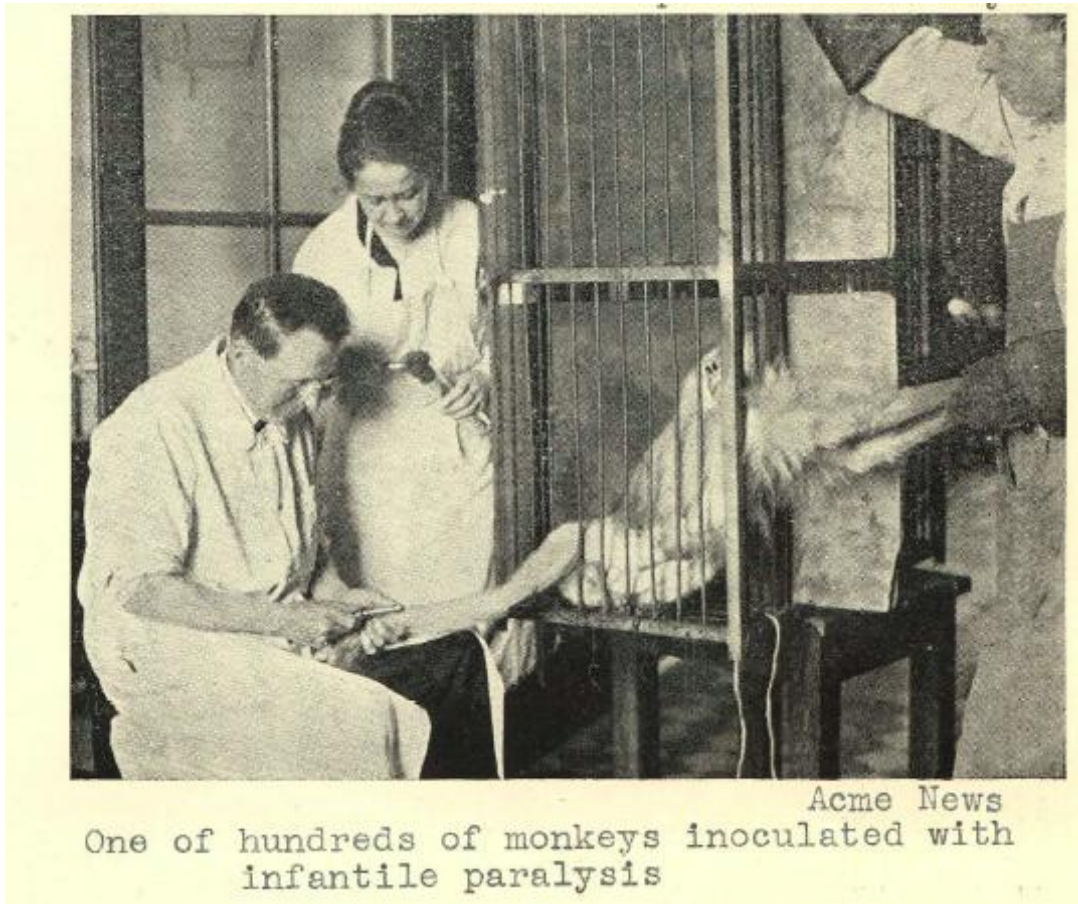
One thing that the American scientific community seemed to be lacking and which cramped the possibility of promising medical breakthroughs was the establishment of a consolidated biomedical research center. The work of the “microbe hunters” had led to the foundation of the Pasteur Institute in France (1888) and the Robert Koch Institute in Germany (1891), but it was not to be until 1901 when the first biomedical research center within the United States was founded by John D. Rockefeller, Sr.: the Rockefeller Institute for Medical Research (renamed in 1965 as Rockefeller University) in New York. Compelled by the pressing need to contest ongoing diseases and epidemics (Rockefeller himself lost a grandson to scarlet fever in early 1901), the business magnate and philanthropist Rockefeller, his advisor Frederick T. Gates, and his son, John D. Rockefeller, Jr., modeling their project on European centers, set out to propel the study of laboratory sciences within American borders and officially opened the laboratories in 1904.

The first director of the Institute was Simon Flexner, a respected physician and Professor of Experimental Pathology at the University of Pennsylvania. Flexner would remain director until 1935, and throughout his management (which he successfully combined alongside his own research, most notably his development of a serum treatment for meningitis), he strengthened the Institute’s potential as one of the leading biomedical research centers worldwide. Alongside Flexner, other notable scientists made progress in their respective research within the facilities: Hideyo Noguchi on syphilis and yellow fever, Louise Pearce on African sleeping sickness, Peyton Rous on cancer, and Oswald on pneumococcal pneumonia. Sanitation issues were also a prime concern of the Institute in its early stages, and the bacterial contamination of New York’s milk supply occupied much of the research. The growth of the Institute seemed unstoppable: in 1906 laboratories were opened in 66th Street, and in 1910 the Institute was able to combine laboratory research with bedside observation and examination thanks to the opening of the Rockefeller Institute Hospital. Some of the diseases and ailments that would soon be studied included the much-dreaded polio and diabetes, and the prestigious Institute-Hospital set the bar on what other research centers in the nation would have to model themselves upon. To the present day, a total of up to twenty-four scientists associated to the Institute/University have been Nobel laureates, and a generous number of others have been awarded with recognitions such as the Albert Lasker Medical Research Award or the National Medal of Science.

Unsurprisingly and as Lederer (1987) observes, anti-vivisectionists soon enough recognized the threat that the Institute posed and underwent tactical measures to damage the reputation of the center. Local societies were particularly adamant in their

endeavors; as Lederer describes, the newly-formed New York Anti-Vivisection Society, for instance, “operated a small booth on a nearby street where they encouraged owners of lost pets to seek their animals in the Rockefeller animal houses,” and the 1907 purchase of a ninety-seven acre farm in New Brunswick, New Jersey, where laboratory animals could be produced stirred sympathetic reporters to give in to words of caution against the Institute (1987: 248). As anti-vivisectionists had long realized before, the testimony of an eye-witness remained a crucial strategy for the tainting of a center’s public image. In late 1909 and early 1910 the New York and Los Angeles *Herald* published reports of a former caretaker in the Institute by the name of William Blakeney narrating not just the cruelty with which the lab animals were treated, but also the daily dangers to which both scientists and caretakers were exposed to working side by side with aggressive or inoculated specimens. The Los Angeles *Herald* attracted readers with the vivid title of “Pictures Horror of Vivisection,” conjuring images such as that of men who were “at times bitten or scratched by the maddened beasts and thus infected with the disease from which the creatures were suffering.” Empathy for the animal-victims was again emphasized upon. In the words of the caretaker, “all these creatures live and suffer like human beings, and to see them in agony and wasting away makes a man feel that he doesn’t care what becomes of him” (*Los Angeles Herald* 1910: 8). These sorts of allegations (another much publicized case was that of Mary Kennedy, a scrubwoman whom the New York Anti-Vivisection Society ‘recruited’ as a witness to the cruelty within the Institute) did not go unnoticed by Flexner. Flexner dedicated much time to refute such accusations and to unearth possible personal and monetary interests that could perhaps have worked as ulterior motives for the former workers’ public outcry.





**The top photograph shows monkeys being massively imported to the United States for research on polio in the 1930s. The bottom picture shows the moment of inoculation.
Courtesy of the New England Anti-Vivisection Society (NEAVS).**

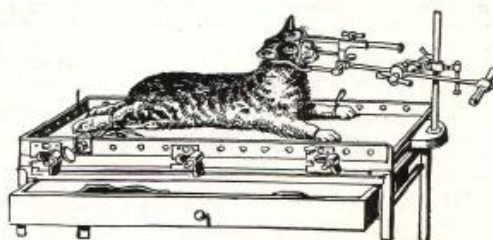
Attacks against the Institute and Rockefeller himself continued, though gradually losing its desired effects. Noguchi's experiments on animals, infants and other human patients to procure a cure for syphilis fueled anti-vivisectionist critique in the early 1910s and in the Anti-Vivisection and Animal Protection Congress, held in Washington in 1913, Edward H. Clement presented a troubling picture of the excesses made by Rockefeller: "Here in the United States is the largest mass in the world of 'tainted wealth' and the whole toppling mass stands crowned with the Rockefeller institute. There is enthroned man's superior cunning and power wreaking itself on animals as erstwhile humanity" (Qtd. *Eugene Daily Guard* 1913: 1).

The medical community was indeed by then a powerful, allied opponent against anti-vivisectionists. News of the developments in Britain (the aftermath of the Brown Dog Affair, the publications of the Research Defense Society, etc.) reached the United States, and continuing progress in faculties and the Institute as places garnering and fomenting animal experimentation were factors that helped to unify the medical community, even if at least for the sake of downplaying the animal protectionists.

VIVISECTION OF CATS
IN THE
ROCKEFELLER AND OTHER INSTITUTES



Look On This Picture



And Then On This

Note the powerful machinery to hold the animal immovably fixed for torture. Claude Bernard, notorious vivisector, relates: Muzzling a cat is by no means a simple operation, and for that reason Walter used to sew the lips together instead.

THE NEW YORK ANTI-VIVISECTION SOCIETY
456 Fourth Avenue, New York City, N. Y.

New York Anti-Vivisection Society pamphlet advocating against the Rockefeller Institute and other research centers. Courtesy of the New England Anti-Vivisection Society (NEAVS).

Flexner and Keen, perhaps two of the most vocal pro-vivisection researchers, joined as members of the Council for the Defense of Medical Research, created in 1907 by the American Medical Association and chaired by Walter Cannon. Cannon, chair of Physiology at Harvard Medical School, presided over the Council for almost two decades, making it a point not only to straightforwardly attack what the Council believed to be biased stories and accounts concocted by the anti-vivisectionists, but also to solidify and consolidate the aims and principles of medical researchers in America. In 1909 he devised a number of rules for laboratories and medical schools to follow, thus attempting to unify the treatment of experimental animals throughout the country. In 1916 he did the same for new regulations regarding experimentation on human subjects, though this proved to be a very problematic subject that required decades of discussion. From serial publications for physicians to such circulation of guidelines on the use of laboratory animals and on the content and discourse that should be applied in published research (Lederer 1987: 250-251), Cannon's tactics efficiently quelled and imploded anti-vivisectionist endeavors, weakening them step by step.

5.7. Weighing Up Medical Progress

Nineteenth-century anti-vivisection indeed made anticruelty its prime crusade, arguing that humaneness towards animals was not only beneficial for the animals themselves, but also instilled a virtuous sense of compassion in children and in society at large. The movement also transparently represented the last efforts of a community resistant to the advancements of science and to the replacing of the bedside doctor by the scientist-physician. Much of their contentions, as we have seen, were construed around this point through denunciations of the monstrosity of the experimenter. These, perhaps, were claims that could have been more resilient to the changes of modernity, if only because persuasively, anti-vivisectionists could more easily invoke terrifying images of torture chambers and secret laboratories where the use of anesthesia was overlooked. But these conjectures were to lose their force within American culture once the more vital matter of utility began to prove that experimentation on live animals was indeed garnering a series of therapeutic results. Much of the American population was indeed reluctant to trust the scientist-physician as the new authority on health issues, as his routine was marked by a catalogue of research procedures inflicting suffering and pain. But then so were they terrified by the epidemics that put their lives and their families at risk. Sanitation had diminished much of the hazards and risks, but in comparison to the research breakthroughs and their practical success on civilians, they seemed to have a less immediate impact. Once pro-vivisectionists were able to enumerate the medical advancements brought on by vivisection, once they were able to back their personal accounts with actual statistics of their merits on considerable populations, the anti-vivisectionists realized that their allegations against utility were no longer as effective as they once were. Of course, these advancements did not happen over night; but towards the end of the nineteenth and the beginning of the twentieth century it became fairly evident that they amounted to significant proportions that could no longer be ignored by neither the public nor by anti-vivisectionists. Pro-vivisectionists had for long been refuting the accusation that anesthesia was not used, contending that anti-vivisection societies deliberately omitted in their pamphlets the researchers' quotes of having sedated the animal subjects. They continued to do so, but now this argument seemed more irrelevant on account of the fact that the utility of experimentation could be proven. They were right in assuming that statistical evidence could overshadow any other argument – would the American public care for the specifics of how research was performed if experimentation actually proved to have therapeutic results? Would the successes of vivisection relieve researchers once and for all from the lobbying of societies? Let us examine some of these breakthroughs and evaluate their aftermath over the pro- versus anti-vivisection dispute.

5.7.1. The Germ Theory of Disease and Louis Pasteur

The germ theory of disease had a profound impact in Europe and in America, and it was mainly due to two researchers of continental Europe, the French chemist Louis Pasteur (1822-1895) and the German physician and founder of modern bacteriology, Robert Koch (1843-1910), that medicine began to focus on the microscopic organisms that would come to be known as microbes. Germ theory postulated that living creatures could become hosts to these infectious microorganisms, and attested to their capacity to be contagious. Its acceptance was not immediate, and many scientists and physiologists

resisted the theory on different grounds (the miasma theory of disease, more within the branch of sanitation, was a competing theoretical force), thus illustrating that although the scientific community may have been more united when under the attack of anti-vivisectionists, this did not mean that there were no internal tensions, disagreements and contradictions within the scientific groups themselves. Certainly Pasteur and Koch were not the sole researchers of microbes, nor were they the first, as their studies were heirs to a long tradition of scientific investigations.

In much the same way that Bernard had become the ‘devil incarnate’ of anti-vivisectionists after Magendie’s death, so did Pasteur emerge as their prime target when Bernard passed away. In 1859 Pasteur was awarded by the Academy of Sciences in Paris for his research on fermentation and theory on microorganisms. For the next decades, and not without experimental setbacks and counter-proof, Pasteur continued to deepen into his microbe theory through research on silk worms, the treatment of beer and milk through heat (pasteurization), cholera, swine fever and anthrax. Research on anthrax was also carried out by Koch, whose animal experiments on the etiology of the *Bacillus anthracis* and the cultivation of microbes within sterile environments led him to the proclamation of his four postulates:

The microorganism must be found in abundance in all organisms suffering from the disease, but not in healthy organisms.

The microorganism must be isolated from a diseased organism and grown in pure culture.

The cultured microorganism should cause disease when introduced into a healthy organism.

The microorganism must be from the inoculated, diseased experimental host and identified as being identical to the original specific causative agent.

(Qtd. Harding, Van Hoosier, and Grieder 2011: 3)

But it was primarily Pasteur’s discoveries about rabies which made him an international authority and which (perhaps because of the flagrant experimentation on dogs, the quintessential house pets and symbols of loyalty and faithfulness) invited such strong criticism from anti-vivisectionists. Starting in 1880, Pasteur and his assistant, Émile Roux, began working on a vaccine that would consist on a debilitated form of the microorganism (a technique borrowed from Jenner’s vaccine against smallpox, which aimed at immunization through a weakened version of the disease). Rabies was caused by a virus, which could not be made discernible through the microscope. Still, Pasteur believed that some form of microorganism was the responsible cause. In order to obtain a less virulent form of the agent, he passed the microbe through different animal bodies, employing rabbits, dogs and monkeys. By 1885 Pasteur had progressed notably, and chance would have it that a little boy by the name of Joseph Meister, who had been severely bitten by a rabid dog, asked for his help. As Guerrini notes, Pasteur’s vaccine, although a successful work-in-progress, had not provided sufficient conclusive results that would render it safe enough to be tested on humans. Nonetheless, Meister, believed by Pasteur to be condemned to an inevitable death, was treated, and the disease failed to develop. “Joseph was declared cured, and Pasteur a national hero” (Guerrini 2003: 101). Soon enough other victims of mad dog attacks were seeking Pasteur’s treatment, and in 1887 the Pasteur Institute opened in Paris for the study and research of infectious diseases.

Pasteur's general method of inoculation through injections was a less graphic affair than procedures more in the line of experimental physiology, but this did not drive anti-vivisectionists away: "Under the title of 'Pasteur Necrology' anti-vivisectionists published annotated lists of the animals dying in the course of his experiments, labelling his Institute as a 'hell of animals' and his achievements as the 'diabolus of atheism-scientism' (Bucchi 1998: 113). American anti-vivisection societies attacked Pasteur on the grounds of the conditions in which animals were kept in laboratories. In addition, the low rates of actual human deaths due to rabies were reason enough to regard such research as unjustified. Quoting a disciple of Pasteur, Caroline Earle White wrote in 1883 that in the laboratory alongside rabid dogs there were other specimens "still in the incubating period, and still caressing, with soft eyes, imploring a kind look." Indignant, she asked: "Does not this seem too painful a method of obtaining exemption from hydrophobia for the human race, in view of the fact that the disease is so rare . . . ?" (White 1886: 18).

Nonetheless, the news that a vaccine had been discovered was met with enthusiasm by most Americans, both scientists (William Williams Keen several times expressed his admiration) and the lay public. On January 3, 1886, the *New York Times* reported the return of four boys from Newark who had travelled to Paris to receive treatment. The report also warned against the danger of excessive eagerness on the part of national scientists and doctors to procure a cure. Pasteur's associates had informed that it would take at least two or three years for new hospitals to develop the "attenuated virus," and so it was preferable for the time being for patients to seek treatment in Paris. Since there were surfacing claims that such treatments would be soon available (particularly, the report emphasized, in St. Louis), the writer made it a point to deter researchers from pointlessly "cutting up dogs and boring holes in rabbits' skulls." In likely reference to St. Louis doctor Chartier (*St. Louis Globe Democrat* 1886: 9), the reporter went on to add that "those physicians who are experimenting upon dogs and rabbits and cats in the vicinity of this city should see to it that by their work they do not give the opponents of vivisection excellent arguments to use against them" (*New York Times* 1886: 6). Despite poignant criticism against physicians striving for self-glorification, America proved a faithful follower of the French chemist's breakthrough. As late as 1922, President Warren Harding would still take pride in the fact that "America was one of the first countries to put Pasteur's discoveries into practice" (Qtd. Debré 1998: 497).

5.7.2. Other Changes and Challenges to Medical Sciences

As research on vaccines, immunology, pharmacology and bacteriology progressed, so did new technologies such as the x-ray and the stomach tube occupy the new generations of medical scientists in the late nineteenth century. By the end of the nineteenth century, surgery in specific fields had taken giant steps towards ensuring the recovery of patients (Keen made it a point to always emphasize in his writings the advancements in brain surgery, for instance). The germ theory of disease was disclosing vital etiological information about cholera and tuberculosis, and other illnesses such as typhoid, leprosy and gonorrhoea were also the object of incessant research. The modern conception of the hospital not only as a place for diagnosis and treatment but as a solid institution for research was being consolidated. Medical colleges were, as stated earlier, endorsing the need of laboratory training so as to prepare students within the most

avant-garde techniques and methods of research. Scientific advancements, combined with state-of-the-art sanitary measures (such as Joseph Lister's promotion of antiseptic techniques for adequate sterilization of surgical instruments and operating rooms), were slowly delineating the traits of the benevolent surgeon and physician, as opposed to the sadistic torturer who delighted in (or was careless about) animal and patient suffering.

5.7.2.1. Tuberculosis and Diphtheria

This change of stereotype was gradual, needless to say, and often competed with other fears brought on by modernization: Lederer (1995), for instance, points out that despite the advantages of anesthesia for patients, there lingered the fear of becoming too vulnerable in the hands of surgeons. A number of factual experiments on people made such fear justifiable: losing consciousness and will, patients under the effects of anesthetics lay at the mercy of the surgeon, who could be tempted to unleash his scientific inquisitiveness over one's own helpless body, even if consent had not been granted. There were also medical downfalls to which for some time anti-vivisectionists held onto as proof of the failures that animal experimentation had ultimately led to. One representative discouraging case was that of tuberculin. After successfully managing to isolate the tuberculosis bacillus, Koch turned to procuring a cure, and in the early 1890s announced his treatment through tuberculin. As Feldberg argues, in spite of the dissenting opinions amongst both European and American physicians as to the restorative powers of the substance, Americans initially seemed "unconcerned that tuberculin had not been fully tested or might even be dangerous; optimism outweighed caution on both public and professional fronts" (1995: 62). In the end, tuberculin proved to be futile and often even hazardous to the patients' health.

Historians note that it was probably the discontent caused by tuberculin that made the public wary about claims of new breakthroughs. This skepticism, although initially vocalized by anti-vivisectionists, was for the most part short-lived, however. Coupling the immense success of Pasteur's rabies vaccine was the development of an antitoxin to the much-feared and tremendously fatal diphtheria. Due credit was given to Pasteur's assistant and collaborator, the French bacteriologist Pierre Paul Émile Roux (1853-1933), who made, alongside his team, his triumphant discovery public in 1894. Despite the fact that as early as the 1860s there existed alleged treatments to prevent and remedy the illness (a survey of nineteenth-century American periodicals shows a considerable number of public ads, presumably from quacks and con artists, announcing such curative methods), the mortality rate prior to the antitoxin was as high as forty percent. The danger was indeed very real, and diphtheria launched an array of collective images of horror and helplessness throughout the entire nation that was unfortunately further exacerbated by the fact that the victims were primarily children. Feelings of dread plagued distressed parents for decades, and reports as to the unceasing amount of children contracting the illness appeared regularly in American newspapers. "Diphtheria is raging to a fearful extent in this city. Several children have already been taken hence by the fatal scourge, which seems to baffle all physical skills," announced the *Milwaukee Daily Sentinel* in 1862. Eight years later, a San Francisco newspaper was still echoing practically the same words: "Diphtheria, with whooping cough, is raging to an alarming extent in [Salem, Oregon] among children" (*Daily Evening Bulletin* 1870). In 1874 a Maine paper published some new shocking statistics of mortality in New

York. Of the 2,152 cases reported that year, 1,344 had been fatal. “The New York *Times* states that the disease has attained the proportions of a genuine pestilence,” it declared, “and urges the importance of subjecting its causes to a thorough and scientific investigation” (*Bangor Daily Whig & Courier* 1874). By 1896, the efficacy of Roux’s antitoxin had been well proven, bringing down the mortality rates from forty to ten percent. Like the rabies vaccine, the diphtheria antitoxin was the irrefutable evidence that animal experimentation could indeed lead to practical, therapeutic results. If one of the prime arguments of the anti-vivisectionists had once been that the data collected through vivisection was, aside from immoral, useless, inconclusive and ineffective, now bacteriology, pharmacology and other medical fields that had, after all, evolved from the grand discipline of experimental physiology, were finally delivering long-awaited cures. Public opinion thus began toying with the idea that perhaps these new medical scientists were undeserving of the ‘torturer’ label after all.

5.7.2.2. The Yellow Fever Experiments

Perhaps, however, the most complex case (because of the extent of critical ethical issues that it raised) was the research carried out by the Yellow Fever Commission in Cuba. Yellow fever had been of profound concern for European and American researchers alike. In the United States, outbreaks of the disease had produced epidemics in urban spaces such as Philadelphia (1793) and New Orleans (with an estimate of between 10,000 and 11,000 people perishing in 1853). During the mid-nineteenth century, there seemed to be a general consensus regarding some of its characteristics: it was a hot-weather disease, patients exhibited symptoms such as black vomiting and yellowish complexion, and it was at first believed to be miasmatic, that is, caused by a foul environment (Hays 2005: 262). The germ theory of disease introduced the erroneous possibility of bacteria being the agent (it is actually caused by a virus), launching new experiments in both continents (Sanarelli, for instance, believed it to be caused by the *Bacillus icteroides*). The Spanish-American War in 1898 and the possibility of another outbreak among American troops in Cuba revitalized the nation’s urgency to procure a treatment. According to Brody (2012: 536), an estimate of 2,000 American soldiers died of yellow fever during the war, a particularly striking figure in comparison to the 400 who lost their lives in combat. In 1900 Surgeon General George Miller Sternberg petitioned Walter Reed of the US Army to investigate the disease, and the Yellow Fever Commission began its experiments in Cuba. The objective was to further test Carlos Finlay’s theory that the disease was transmitted through mosquitoes, as opposed to contagion being produced through contact with the sick person’s fluids.

The research team of the Commission (formed by Reed, Jesse Lazear, Aristides Agramonte, and James Carroll) could not follow the conventional process of experimentation because of the lack of an animal subject through which the disease could be studied. Usually, humans were only used as subjects of clinical trials once treatments and drugs had been thoroughly tested on animals whose physiological characteristics of relevance for the experiment resembled as much as possible those of man. Like Finlay, the Yellow Fever Commission found itself having to overlook this step and test the contagion through mosquitoes on themselves. Lazear and Carroll offered themselves for exposure (the former succumbing to the disease only a few days later), along with numerous soldiers and Spanish volunteers lured by contracts offering

monetary compensation in exchange. Reed's experiment succeeded to the extent that it proved that the *Aedes aegypti* mosquito was the vector and that no other casualties except for Lazear's had to be accounted for (the follow-up experiment to test a cure, however, did produce three victims). Beyond the breakthrough, however, the case has also gone down in American history for its re-examination of doctor-patient relationships. As Lederer (1995) and Brody (2012) note, the yellow fever experiments may be viewed as a critical turning point in developing what legitimately constitutes a full consent on the part of volunteers for clinical trials. At the turn of the century, these consent forms were only in their embryonic stages, but they were instrumental in establishing a national and international debate as to the ethics of consent. Questions such as how much information should be given to the patient, what kinds of risks are permissible and which are not, when should a trial be stopped and what type of compensations should and/or should not be made available, were only the tip of the iceberg. These matters would ramify into further complex ethical issues that easily bring in concerns about class and racial differences, and pose the sometimes difficult distinction between rational medical criterion and negligence.

5.7.3. The Downfall of the American Anti-Vivisection Movement

The medical advancements described above became assured signs of defeat for the anti-vivisectionists. True, tuberculin and other failed research attempts (such as Brown-Séguard's organotherapeutic rejuvenation formula through hypodermic injections of glands extracted from animal testicles, parodied as the 'Brown-Séguard elixir – see Item 4 in SD) were setbacks that bought the movement some time. But these cases could do little to deter the public from shifting popular conceptions swaying towards a more benevolent regard for the physician-scientist.

Reed, his collaborators and the volunteers were regarded, for the most part, as national heroes. The fact that volunteers were compensated and that, as Lederer (1995: 21) indicates, many probably signed up considering the likelihood of contracting the disease anyway (for such was the prevailing belief), was mostly downplayed in favor of an imagery connected to the self-sacrificing, patriotic nature of American soldiers. Reed actually never underwent exposure to the mosquito himself, but he was lauded worldwide for his philanthropy as a scientist and physician, and his reports of the successful discovery were disseminated in different American and colonial journals (Reed 1902). In 1953, the Army Medical School, originally founded by Sternberg in 1883, was renamed the Walter Reed Army Institute of Research in his commemoration (today it is the largest biomedical research institution of the United States Department of Defense). Lazear, on the other hand, was regarded as a martyr, and a memorial tablet with the words of President Eliot honored his sacrifice at the Johns Hopkins Hospital. Keen, ever the glorifier of the modern physician-scientist, allegorized their mission within the rhetoric of the epic: "They, yielding up their lives as leaders of a forlorn hope in the battle against disease, have made it possible to free the world from this dreadful scourge. Never was there a finer exhibition of courage!" (2009/1914: 230). Dr. James Warbasse was also among the scores of medical professionals to express his reverence to the Commission, adding to their mystification. Like Keen, he emphasized the fact that in order to acquire irrefutable evidence that yellow fever was not contracted through contact with patients, the researchers had slept in the beddings of the diseased

and worn their clothes. Warbasse declared that the Commission had “placed humanity under a lasting debt” (1910: 82). He then went on to challenge anti-vivisection sentiment:

Read the letters of Walter Reed to his wife, written from the yellow fever infected camp in Cuba, in the long nights when he kept the vigil by the side of the men who were laying down their lives for you and me and our children, and judge if animal experimentation hardened the heart of this brave gentleman! (Warbasse 1910: 83-84)

Anti-vivisectionists often attacked human experimentation on the grounds that it was performed on vulnerable victims who were either unaware of the experiments or were mentally impaired to rationally understand the procedures. Coercion and desperation for monetary compensation also played decisive roles in the potential patients’ participation for research. Sanarelli had been a favorite target for his yellow fever tests, and organizations such as the New England Anti-Vivisection Society (1898) and the American Humane Association (1900), among scores of others, had published pamphlets denouncing the immorality of his conduct. In 1906, the Vivisection Reform Society also excoriated the administering of atropia and morphia on American soldiers without their knowledge. The object was to test the body’s reactions to the drugs separately and in combination. “Very singular experiments, these, to be made by American surgeons on American soldiers!” (Vivisection Reform Society 1906: 13), they exclaimed. But the American Yellow Fever Commission had made it a point to standardize what appeared sound consents, a point which was emphasized upon continuously in every delivered update report and even by Sternberg after Reed’s death in 1902. Keen (2009/1914: 230) stated that anti-vivisectionists had not dared to attack the Yellow Fever Commission at the risk of provoking harsh responses from the public. Indeed, due to the ‘heroic’ enterprise of the research group, anti-vivisectionists seemed inclined to focus their attention on other cases of human experimentation. Many members of anti-vivisection societies had for some time expressed through hearings and reports that more useful results would come from experimenting on consenting humans, and that researchers ought to venture to use their own bodies for their experiments. Without the alternative of animal models, this is what the Commission had resolved to do, after all, thus causing some bafflement among opposing ranks.

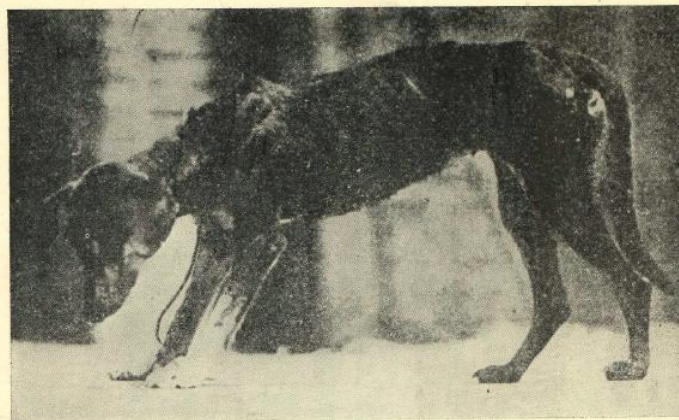
This is not to say that all experiments on consenting humans were free of criticism. Dr. George Barney, a Brooklyn doctor, was in fact vituperated by anti and pro-vivisectionists alike for his 1902 experiments with bovine tuberculosis on a woman who was fully informed of the procedure. The woman’s subsequent suicide and Barney’s refusal to inoculate himself with the disease clearly had little to do with the moral distinction of Reed’s experiments in the public eye (Lederer 1995: 24), and the possibility of being accused of reckless, unprofessional behavior continued to linger within medical circles.

Significant medical advancements, coupled with the therapeutic direction to which experimentation was now more visibly aspiring, amounted to anti-vivisection societies’ needs to reexamine, reevaluate and restructure their strategies. It was not only among the general public that the societies were losing sympathizers; the memberships themselves were either diminishing or exhibiting alarming signs of inner rupture. Not long after Bergh’s death in 1888, the ASPCA began overtly prioritizing other animal protection affairs over vivisection. Affiliates and delegates progressively strayed away

from abolitionist ideology, advocating for a more moderate and conservative stance and organizing short-lived societies unable to articulate well their position within the middle ground of restriction. Rancor and contempt were perfuming the relationships between SPCAS and persisting abolitionists such as White (or the Baroness Burdett-Coutts in England). Ultimately, in 1900, “the International Congress of animal protection societies officially expelled antivivisection organizations” (J. Turner 1980: 118). Although undeterred purists would continue the battle, during World War I and the 1920s the anti-vivisection movement would be less heard. As Lederer (1995: 101) contends, however, there did take place a resurgence of anti-vivisection sentiment in the 1930s that again catapulted stories and images of laboratories in terrible conditions and doctors oblivious to the pain and suffering of animals and ‘consenting’ human research subjects alike. The 1930s proved that the movement was disheartened, but not dead, and strong endeavors to attract the public’s attention were made. These, nonetheless, seemed like a grim shadow of the agitation produced years before; but the time would come again, with the animal liberation and animal rights movements, when vivisection and animal experimentation would occupy a wide space within public debates and within the shared, public consciousness of America.



Journal of Laboratory and Clinical
Medicine, May, 1923
DOG WITH MOUTH GAG



Journal of Laboratory and Clinical Medicine
November, 1926

One of 38 unanaesthetized dogs kept in a gas chamber from 25 to 50 minutes. 12 died in convulsions, 14 recovered after treatment, and 12 lingered in agony from 8 to 37 days. Photograph of dog 21 days after

This apparatus is used at a Boston medical school for producing convulsions in cats by means of repeated electric shocks.

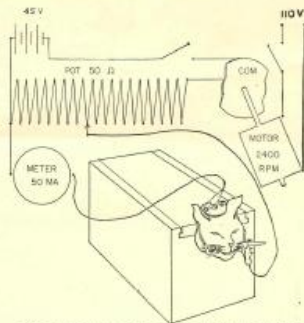


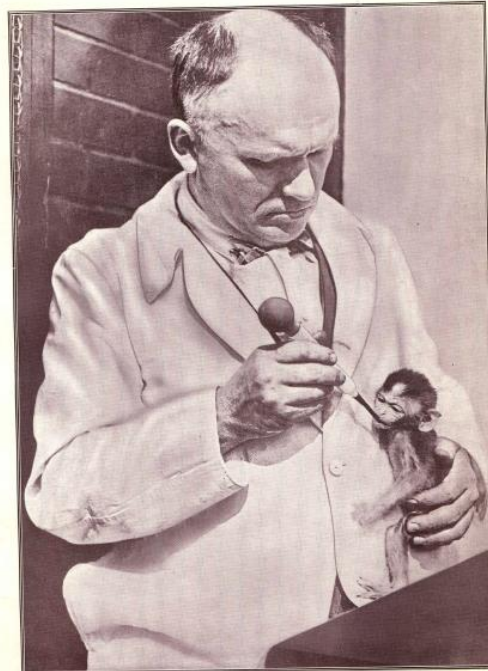
FIG. 1. Diagram of the wiring employed, permitting an interrupted current of determined amperage to be applied through an animal's head to determine the threshold for convulsions.

Science, May 28, 1937

Dog prepared for experiment in the Pavlov laboratory, Russia. An opening in the cheek shows the action of the salivary glands. With the attachments displayed animals are forced to stand motionless for hours in complete darkness and silence, except when deliberately excited. Some of them go "crazy," as described in Pavlov's book. Identical experiments

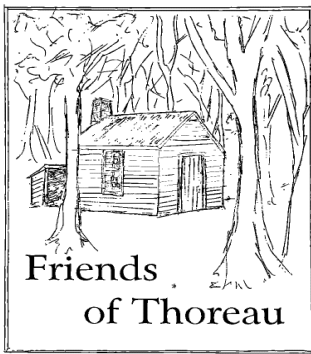


are being conducted in the United States. *Moscow News*, May 1, 1936



Feeding young monkeys bred for transplantation of sex glands to human beings at the Johns Hopkins University, Baltimore. (Pacific and Atlantic Photo) from *DER WELT SPIEGEL*, June 30th, 1928.

Pamphlets and informative clippings by American anti-vivisection societies such as these would continue battling to expose the cruelties of vivisection during the early and mid-twentieth century, despite the fact that the movement had lost much of its previous social power. Courtesy of the New England Anti-Vivisection Society (NEAVS).



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SCHOLARS' DEBATE

1.- Interlocking Xenophobia, Racism and Speciesism in the American Panorama: Notes for a Historical Analysis of the Startling Research of James Marion Sims

We have seen in Item 5.5. of the MP how Albert Leffingwell presented English abolitionists William Wilberforce and Thomas Clarkson as the more morally acceptable role models for the American youth and college students. Leffingwell's choice to conjure the anti-slavery movement, along with his profound rejection of German and French models, are illustrative of two discursive tendencies within the animal protection movement: (1) the analogy between animals and human slaves (and thus, the correlation between the heroism of animal protectionists and abolitionists), and (2) the perhaps more accidental xenophobic reaction towards certain cultures. Regarding this latter point, we have come across several examples in nineteenth-century vivisection history in which tinges of xenophobia have peppered many of the writings. Anti-vivisectionist attacks against acknowledged physicians in continental Europe (particularly in France) abounded and were often deemed as full-fledged assaults against not just the scientific community, but that nation's culture at large. In countering anti-vivisection, pro-vivisectionists also expressed their contempt against those cultures where the movement had proven more powerful. A clear example of this was Professor Moritz Schiff's heated response against Frances Power Cobbe, the English community she represented, and the Florentine aristocracy, all of which had signed the petition to have Schiff cease his experiments in 1863 (Guarnieri 1987). Indeed, xenophobia, much like class strata, bears a complex relationship to the animal protection movement. Bergh, for all of his campaigning for anticruelty towards animals, apparently "glared down upon the Irish in particular as an inferior race, whose abuse of animals evidenced a natural inclination to crime" (J. Turner 1980: 55). At a time when Darwinism was beginning to sink in in Western culture, associations between certain human races or cultures and primitivism (such as the Anglo-Saxon characterizations of the Irish as apes) further deepened the implications of xenophobia and racism.

More transparent, perhaps, has been the analogy between animals and human slaves. Needless to say, this allegory is not limited to the case of laboratory animals, although

they do constitute a fundamental part within the animal welfare and rights movements. “The day may come when the rest of the animal creation may acquire those rights which never could have been withholden from them but by the hand of tyranny,” Bentham wrote. “The French have already discovered that the blackness of skin is no reason why a human being should be abandoned without redress to the caprice of the tormentor” (Bentham 2005/1789: 311). Darwin, ever the enigmatic and distraught figure when it came to reconciling evolutionary theory with the ethics of vivisection, revealed in the privacy of his notebooks: “Animals – whom we have made our slaves we do not like to consider our equals. – Do not slave-holders wish to make the black man other kind?” (Qtd. Benton 199). In *Animal Liberation* (1975), Peter Singer magnificently revived and revitalized the correlation between racism, sexism and speciesism (a term coined by Richard Ryder) and brought it into a new era of utilitarian philosophy.

The slavery metaphor of course connotes several manners by which a relationship based on oppression and exploitation may manifest itself. The fact that legally, within a slaveocracy, the enslaved being’s status is that of being a property of sorts paves the way for a number of exploitative relationships institutionalized within the system: from laboring and sexual exploitation to other forms of injurious mistreatment (in the case of animals, these are generally categorized as (1) vivisection and scientific research, (2) the food industry, (3) the clothing industry, and (4) the entertainment industry). In England, Wilberforce and Thomas Fowell Buxton combined their abolitionist efforts with those to suppress baiting (the British slave trade would end in 1807 and slaveocracy in the empire in 1833). Within the nineteenth-century American panorama, the amount of activists invested in the abolitionist and animal protection cause (either simultaneously or at different periods in their lives) is notable: Caroline Earle White was the daughter of an abolitionist lawyer, and Harriet Beecher Stowe and Lydia Maria Child, the famous antislavery writers, also dedicated themselves to anticruelty principles (Item 4.2.2. of the MP).

A shocking historical example of just how intertwined human and animal slavery within the field of scientific research are, is the experimentation carried out by James Marion Sims (1813-1883), the “father of American gynecology,” on African American women. A native of South Carolina, Sims graduated from Jefferson Medical College in 1835, and in 1845 he opened the first private hospital for women in Alabama. For the next few years he used African American slave women for his experimental research on the vesicovaginal fistula, a condition usually resulting from complicated childbirth. During this period, Anarcha, a slave, endured up to thirty operations without anesthesia. While some historians and Sims himself claimed that this was due to the lack of knowledge and availability of anesthetics, others have argued that it was his carelessness and disregard of slaves’ pain that drove him to proceed in such manner. After all, Sims claimed that blacks did not experience pain in the same way that the white race did. In his autobiography, he described how “the poor girl, on her knees, bore the operation with heroism and bravery” (1884: 237), in contrast to white women, whose endurance was weaker. Such contentions paralleled other assumptions concerning nationality as well: Sims, along with other “frontier surgeons,” performed “new operations which, they bragged, Europeans had been too sensitive and timid to perform” (Pernick 1983: 28). The matter of consent was, of course, irrelevant, as slave owners could do as they pleased with their property. Inconsequential as well was the modest decorum ritualized between doctors and their white female patients. As Washington writes, by working with slave women, Sims “was constrained by no such delicacy. He made the women

undress completely, then kneel on hands and knees while he and several physicians took turns inserting a special speculum he had devised to open the women's vaginas fully to view" (2006: 64). Sims ventured to operate on white women (with anesthesia) only after the discoveries he had made through his slave women.

It was not just black women that Sims experimented on: although less frequently, he also operated on black men and attempted to cure tetany by puncturing and prying the skulls of slave babies to modify their bones, causing, in the end, severe damage to the child's mental development. When Sims moved to New York in the 1850s (founding in 1855 the Women's Hospital), he continued to experiment on black, immigrant and poor women. At the same time, his career continued to ascend, and during the Civil War he worked in London and in Paris, and was the surgeon of Empress Eugénie de Montijo. He returned to America in the early 1870s, and served as President of the American Medical Association between 1876 and 1877.

Students are asked to read further into Sims experimental research on African American slaves and consider some of the following topics:

(1) Experiments on animals and on humans have frequently led to medical breakthroughs. Did Sims's experiments lead to any major discoveries in the field of gynecology? If so, do you think that the ends justified the means? What about in the case of animals? Does the ideology of the American South slave system in any way redeem Sims as a product of his time? In other words, should we approach historical medical figures under contemporary or past ethical standards and why?

(2) What were some of the myths about the black race and about black women in particular and how did they relate to Darwin's evolutionary theory?

(3) We have established that the matter of consent was irrelevant when the experimental subjects were slaves. Linguistic and ontological barriers prevent the delicate matter of consent from being considered in the case of animals. What kind of ethical problems do you think this poses?

(4) Do you believe the analogy of animals as slaves is accurate? What kinds of problems do you think such analogy raises? Do you think the correlation between racism, sexism and speciesism is true? Could such equation in any way be detrimental to the animal welfare and/or rights cause? In your view, is this equality one that elevates the consideration of animals or one that lessens and impairs racial and/or sexual/gender liberation?

(5) As a twentieth-century follow-up to the example set by Sims, students are asked to research the famous Tuskegee Syphilis Experiments, conducted between 1932 and 1972. How was the study performed, and what were the objectives? How does racism come into play, and how does it relate to Sims's research? Sociologically and medically speaking, what is the aftermath of the Experiments and how does it relate to a portion of the African American community's distrust of medicine in America? What historical associations can be drawn between the Tuskegee Experiments, Sims's research and the African American image of the "night doctor" identified by Gladys-Marie Fry (1975)? What issues were at stake that can again allow us to establish a comparison between racial and species others as subjects of experimentation?

2.- Connecting Animal Protection to Child Protection: the Case of Mary Ellen Wilson

We have seen the strong connections between anti-vivisection and the nineteenth-century women's movement as collected in the writings and actions of such notable women as Caroline Earle White, Mary Frances Lovell, Emily Appleton and Mary Butler Shearer in America, and Frances Power Cobbe and Ouida in Britain. Let us recall that part of the Victorian women's movement involved the development of the so-called ethos of domesticity, whereby the female figure was not only to define and exercise the dynamics associated to the private sphere, but also held a key role in the inculcation of benevolence and compassion over the young (see Item 4.2.2. of the MP). The extensive corpus of children's books, sermons and prints published in the second half of the nineteenth century attest to the cultural trend of instilling a humane treatment towards animals upon minors. The SPCAs, particularly, made it a point to steer children away from blood sports and other leisure activities that could result in the harming of animals through publications and educational programs (one of the objectives of the anti-vivisectionists was indeed to suppress any vivisection practices from schools so as to not taint the innocence of youngsters, as such trauma could later in life reveal itself through sadism or wanton cruelty).

But the wider frame of animal protection as it relates to children's place in society must also be viewed in the light of the historical roots of the organizations for the prevention of cruelty to children. At a time of growing industrialization and the formation of slums in American cities, when anxieties about pain, suffering, health, temperance and vice, were so strongly aroused and mixed within the urban popular imaginarium, the romantic notion of the child as a tragic victim of corrupt society nurtured contextual associations with the situation of abused animals. England, as always, was the pioneer in enacting child protection laws during the first half of the nineteenth century, especially because of the insalubrious and exploitative conditions under which they labored at mills or factories. The United States would follow beginning around mid-century, with Massachusetts laws regulating child labor.

It was not until the case of Mary Ellen Wilson, however, that the American public truly awakened to the ill treatment of thousands of children around the country. On April 9, 1874, a member of the American Society for the Prevention of Cruelty to Animals carried eight year-old Mary Ellen out of her New York home, where she had been enduring ceaseless beatings and other forms of abuse from those who had been her guardians for about six years, Francis and Mary Connolly. Her rescue was the culmination of a long quest on the part of Etta Wheeler, a volunteer for St. Luke's Methodist Mission, to secure the child away from the apartment where she was practically being held captive. Wheeler had for some time been investigating into the matter through neighbor reports and had even witnessed herself the horrible state in which Mary Ellen was, both mentally and physically, when she once accessed the house. All efforts to protect the child seemed fruitless: neither charities nor the police (who were reluctant to act without further evidence) were willing to take matters into their hands, even though there was a state law permitting the intervention of authorities under such circumstances. Wheeler then turned to the president of the American Society for the Prevention of Cruelty to Animals (ASPCA), Henry Bergh (see Item 5.2. of the

MP). Bergh and his lawyer, Elbridge T. Gerry, became the unexpected heroes when they were able to secure a court order to escort the child away from the Connollys.

The case was taken to the New York Supreme Court and the *New York Times*, which was contacted by Bergh, took an interest in the matter, reproducing the details of the abuse as delivered by witnesses and rendering the case as one of public concern. Through Wheeler, a sick neighbor testified that “she heard Mrs. Connolly whip the child every day,” sometimes even “twice a day” and that when her guardians were out, Mary Ellen was left “locked in, and not a sound was ever heard, so that it could hardly be believed that a child was there at all” (*New York Times* 1874: 12). The foster mother, Mary Connolly, was convicted of felonious assault and battery, and sentenced to one year in prison.

The trial had been an inspiration to Bergh, and in December of that year, the Society for the Prevention of Cruelty for Children was formed (incorporated in 1875 as the New York Society for the Prevention of Cruelty to Children), with John D. Wright as President and Bergh and Gerry as Vice-Presidents. The first American SPCC, therefore, was created approximately nine years after Bergh had launched ASPCA. Soon other SPCCs would follow. “By 1908, there were 354 active anticruelty organizations in the United States. Of these, the plurality, 185 of them, were humane, or dual societies; 104 were exclusively animal societies; and 45 were dedicated solely to child protection” (Pearson 2011: 2-3).

The case of Mary Ellen Wilson represents a pivotal moment in American history for several reasons. Students are asked to investigate into the events surrounding the trial and answer the following questions:

(1) What propelled Bergh to intervene in the case? Why did Wheeler resort to Bergh? Did the abuse of Mary Ellen in any way relate to the conditions many animals were kept in? How?

(2) What legislative measures for the protection of animals had Bergh accomplished so far? Was the press critical of Bergh’s focus on animals as opposed to women and children before the case?

(3) Mary Ellen’s rescue was enacted under the Habeas Corpus Act of 1679 (Shelman and Lazoritz 2005: 33). What does the Act state and does it or does it not involve animals? Compare the legal status of animals and children in the second half of the nineteenth century. How was such status affected by the conceptual division between private and public spheres?

(4) What is the connection between SPCAs and SPCCs in America today? Can you find any other ground-breaking cases in which SPCAs and SPCCs are interrelated and cooperate in some way?



Mary Ellen Wilson (also known as Mary Ellen McCormack) in 1874.

3.- Discourse Analysis of Contesting Opinions in the Late Nineteenth Century: William Williams Keen vs. Caroline Earle White

William Williams Keen (1837-1932) was one of the most eminent American surgeons in the late nineteenth century and the first decades of the twentieth century (see Item 5.3.2. of the MP). Keen graduated from Brown University in 1859 and continued his studies at Jefferson Medical College in his native Philadelphia. During the Civil War he performed his duties as assistant surgeon for the army alongside Silas Weir Mitchell, the same physician who in 1871 would petition Caroline White to use the dogs held at the city shelter for vivisection (see Item 5.3.1. of the MP). Keen then furthered his studies in Paris, Berlin and Vienna (1863-1866), where he was to deepen his knowledge in the advancements made in experimental medical research. Upon his return he lectured at Jefferson, at the Philadelphia School of Anatomy (where he served as president from 1875 to 1889), at the Pennsylvania Academy of Fine Arts and at the Women's Medical College. In 1889 he was appointed Professor of Surgery at Jefferson, and a decade later he would serve as President of the American Surgical Association and the American Medical Association.

His research and practice revolved mainly around neurosurgery, and his excellence came through in his many successful removals of brain tumors and in his innovative procedures, such as the drainage of the cerebral ventricles. A distinguished member of the new generation of physicians that became active in the last decades of the nineteenth

century, Keen was an outspoken advocate of experimental research and technological innovation. Enthused by Joseph Lister's principles on antisepsis (itself the product of further research on Louis Pasteur's studies on microorganisms), Keen also contributed to the cutting-edge modernization of surgical practice that was brought on by germ theory by writing and lecturing about sterilization of operating rooms and disinfection of potentially noxious elements (surgical instruments, the physician's hands, etc.). His trust in the benefits of vivisection for human therapeutic purposes guaranteed his position alongside William Henry Welch to prepare a counterattack against anti-vivisectionists for the 1900 District of Columbia Hearing.

Keen was a prolific writer, and between books, articles and editorials his work resulted in more than 650 publications altogether, including his contribution to *An American Text-book of Surgery, Principles and Practice of Surgery*, and a revision of the American edition of Gray's *Anatomy*. He also published a collection of pro-vivisection essays written since 1885, titled *Animal Experimentation and Medical Progress* (1914). Another milestone in his career included the secret operation to remove a tumor from the jaw of President Grover Cleveland in 1893. Keen assisted Joseph Bryant during the procedure, which proved a success, but would not be made public until 1917.

Given his recognition and expertise (he would go on to receive honorary degrees from more than ten different universities), it is no wonder that, as Rutko notes, "few in the medical community could challenge the views of a man of Keen's stature" (2010: 136). One who did challenge him, however, was none other than Caroline Earle White, president of the Women's Branch of the Pennsylvania Society for the Prevention of Cruelty to Animals (WSPCA).

Opening Keen's *Animal Experimentation and Medical Progress* is one of his earliest and most well-known pro-vivisection pieces, "Our Recent Debts to Vivisection," originally prepared as an address at the Women's Medical College in March 1885. In it, Keen situates medicine before three possible future outcomes (to grow worse, to stand still, or to grow better) and proclaims its dependency upon animal experimentation for improvement. White quickly responded to Keen's lecture with "An Answer to Dr. Keen's Address Entitled 'Our Recent Debts to Vivisection'," refuting many of his claims and bringing in further evidence to support anti-vivisection.

As representative examples of the public altercations and the heterogeneousness of the dialogical responses between opposing views, students are asked to read both essays to

(1) identify the salient discursive strategies employed by both writers that are emblematic of their respective cause; (2) identify and analyze the stylistic properties of the texts that, in the students' opinion, may reveal why the personal rhetoric of each of the writers had such a persuasive effect over listeners (semantic choices, author reliability, tone, syntactic choices, text structure and order of contents, etc.); and (3) consider which of the positions has a more persuasive effect: students must reflect about whether or not they feel themselves siding with Keen or with White, whether the texts have at all changed their prior perspectives and why.

To read online or for free downloading of the texts, go to:

- Keen's "Our Recent Debts to Vivisection":

<http://archive.org/details/ourrecentdebtsto00keen>

- White's "An Answer to Dr. Keen's Address Entitled 'Our Recent Debts to Vivisection'":
<http://archive.org/details/answertodrkeensa00whit>

4.- From Vivisection to Rejuvenation: The Brown-Séquard Elixir and Organotherapy

The French-American Charles-Édouard Brown-Séquard (1817-1894) first seemed an unlikely candidate to become the object of satire and ridicule for the anti-vivisectionists. Born in Mauritius to an American father and a French mother, Brown-Séquard studied medicine in Paris, initiating a career that would take him back and forth across the Atlantic. For some time he was appointed to the faculty of the Medical College of Virginia, and he was also appointed Professor of Physiology and Neuropathology at Harvard University. In Europe, he practiced medicine at the National Hospital for the Paralysed and Epileptic (London) and in 1878 he succeeded Claude Bernard as Professor of Experimental Medicine at the Collège de France. Brown-Séquard's physiological research throughout his prime gained him international recognition within the fields of experimental physiology and medicine.

Brown-Séquard's experiments mainly revolved around the spinal cord and the nervous system (the Brown-Séquard syndrome, also known as spinal hemiparaplegia, refers to the absence of sensation and motor function resulting from the cutting – or hemisection – of the spinal cord). It was him who reached the correct conclusion that sensory fibers decussate in the cord (Clarke and O'Malley 1996/1968: 307). Among other experiments that stung deep within the heart of anti-vivisection were the demonstrations carried out by Brown-Séquard to show how damaging certain cerebral nerves resulted in limited motor functions. Leffingwell, who witnessed first-hand some of Brown-Séquard's procedures in Paris, denounced his use of a guinea pig, a kitten and a rabbit to show how injuring a certain part of the brain made the animals helplessly move in circles. Leffingwell was particularly struck by the suffering of the last subject, a dog whose dreadful fate only came through after the torturous preliminary preparations:

Lastly, an unfortunate poodle was introduced, its muzzle tied with stout whip-cord, wound round and round so tightly that necessarily it must have caused severe pain. It was forced to walk back and forth on the long table, during which it cast looks on every side, as though seeking a possible avenue of escape. Being fastened on the operating trough, an incision was made to the bone, flaps turned back, an opening made in the skull, and enlarged by breaking away some portions with forceps. During these various processes no attempt whatever was made to cause unconsciousness by means of anaesthetics, and the half-articulate, half-smothered cries of the creature in its agony were terrible to hear, even to one not unaccustomed to vivisections. The experiment was a "success"; the animal after its mutilation did describe certain circular movements. (Leffingwell 1889/1880: 26)

As exemplified by the academic appraisal of his expertise, Brown-Séquard was indeed a notable authority: a figure that commanded respect amongst his peers and a serious threat to the anti-vivisection cause. But when Brown-Séquard announced in 1889 before the Paris Société de Biologie that he had successfully reinvigorated his debilitated body (he was 72 at the time) through hypodermic injections of a substance extracted from the testicles of a guinea pig and a dog, he stirred a commotion within medical circles (*New York Times* 1889: 2) and became the object of mockery for anti-vivisectionists. Part of his research had also revolved around the adrenal glands and around the substances in the bloodstream today known as hormones (sex hormones would not be identified until the 1920s and 1930s), and for some years he had been exploring the theoretical possibility of injecting animal sperm into elder male human specimens. As he himself stated, “I put forward the idea that if it were possible without danger to inject semen into the blood of old men, we should probably obtain manifestations of increased activity as regards to mental and the various physical powers” (Brown-Séquard and Dunbar 1889: 22-23). When, after multiple experiments on animals, Brown-Séquard ventured to inject himself with the resulting substance (described by him as a crushed and filtered mixture of water, blood of the testicular veins, semen and juice extracted from a testicle – all guinea pig and dog fluids), he claimed that the effects had been of revitalization and physical strengthening, which he recorded in detail. Brown-Séquard overtly refused to believe that the positive effects stemmed from the “influence of the mind over the body” (the commonly called placebo) and sustained, despite contesting medical views, that restoration (or at least substantial improvement) of mental and physical power was possible. A physician by the name of Dr. G. Variot performed trials of his own to put his claims to the test, and injected the liquid into men who were oblivious to the controversy and were only told that they were receiving fortifying treatments (Brown-Séquard and Dunbar 1889; *Daily Evening Bulletin* 1889: 4). He allegedly reached similar results, for the most part, which Brown-Séquard readily welcomed.



Hopeless Cases. Satirical cartoon by Grant Hamilton of Brown-Séquard and his elixir in an 1889 issue of *Judge*, an American weekly magazine that ran from 1881-1947. As Hansen

(2009: 83) indicates, the image was also intended as a sharp criticism against the Democratic Party.

The treatment did, in the end, prove ineffective, and before sound scientific evidence could discredit the experiment, anti-vivisectionists as much as countless press reports were already parodying and sneering at what they regarded as a ludicrous enterprise. Brown-Séguard refused to profit from his discovery, offering the substance for free to interested physicians. But quacks and charlatans, as Aminoff (2011: 241) notes, jumped at the opportunity for an easy income, and the fad developed somewhat on both sides of the Atlantic. An 1889 issue of the *Scientific American Supplement*, for instance, lamented a prediction of the unfortunate consequences:

The number of elderly people who are anxious to be made young and happy again is almost countless, and there is likely to be an epidemic desire among them to try the new medicine. A golden harvest seems to be in view for the doctors. (Qtd. Aminoff 2011: 241)

For a few years, organotherapy (that is, treatment through animal endocrine organs or other glandular extracts) became the new curative craze thanks mostly to Brown-Séguard. Partly through scientific conjectures and partly blinded by placebo effects, doctors and experimenters attempted to reach the next organotherapeutic breakthrough of their own:

Thus thyroid gland was used to treat myxoedema (hypothyroidism), brain for neurasthenia . . . pancreas for diabetes, kidney for uremia, muscle for muscular atrophy, heart for heart disease, and testicles for debility, epilepsy, cancer, cholera, tuberculosis, leprosy and asthma. By the end of the decade, it was clear that most of these treatments did not work – only thyroid extract was proven to be effective – and organotherapy fell into disrepute. (Watkins 2007: 14)

Although Brown-Séguard had been wrong, he did provide new information about internal secretions that have been vital for further research. Historically speaking, organotherapy and grafting may be viewed as the predecessors to hormone replacement therapy today, and the manner by which it reached a commercial status strongly relates to the hormone market of pharmaceutical companies that has been developing since the 1920s (Hoberman 2005: 39).

Students are asked to investigate different aspects surrounding and relating to Brown-Séguard's elixir:

(1) Find instances of the criticism and satirizing of Brown-Séguard's experiment in the American press and anti-vivisection writings of the time: what are some of the common rhetorical figures and arguments that these remarks share?

(2) Investigate the Victorian beliefs surrounding male seminal fluids and masturbation and how such beliefs permeated within the American context. How do these convictions and presuppositions relate to Brown-Séguard's specific attempts to rejuvenate an aging body?

(3) Find other cases of alleged revitalizing treatments that may have surfaced in America as a result of the trend initiated by Brown-Séguard. Are the supposed treatments related to organotherapy? Are animals used as well?

(4) How is the current 'hormone market' structured in America and what are some of its main featured treatments? What are some of the characteristics, procedures and results of hormone replacement therapy today?

5.- American Writers and the Anti-Vivisection Cause: Mark Twain's "A Dog's Tale"

In *Animal Revolution* (2000/1989), Ryder includes some discussion about British writers involved in the anti-vivisection cause and other men of letters who expressed either their support or disdain of the practice. Classics such as H.G. Wells's *The Island of Doctor Moreau* (1896) are generally cited by scholars as literary pieces exciting the imagination produced by the tension between Darwinism and modern medicine. Irish playwright George Bernard Shaw, friend to Henry Salt and supporter of the British Union for the Abolition of Vivisection (BUAV), prolifically wrote against vivisection and other animal protection causes. His 1906 play *The Doctor's Dilemma* condenses anti-vivisectionism with the rapid developments of the germ theory of disease, the contagion of tuberculosis, socialism, and the ethics of human experimentation. Earlier and contemporary sympathizers included Mary Wollstonecraft, Mary Shelley (*Frankenstein* itself invites a profound anti-vivisection critique of science) and Lewis Carroll, among others.

Perhaps in America the participation of men of letters within the ranks of pro- or anti-vivisectionism was not as profound as in Britain, though references were of course made here and there. As early as 1854, Henry David Thoreau wrote in his journal thoughts resulting from the confrontation between naturalists and the emergence of modern scientific methods: "The inhumanity of science concerns me, as when I was tempted to kill a rare snake that I may ascertain its species. I feel that this is not the means of acquiring true knowledge" (1990: 63). In 1904, the feminist Elizabeth Stuart Phelps publishes the anti-vivisection novel *Trixy*, the writing of which was in great part the result of the author's tense correspondence with William Williams Keen about the regulation of the practice (Kelly 2010). About twenty years later, Sinclair Lewis published *Arrowsmith* (1925), a novel on the contemporary scientific culture of the United States which depicted the conflicts encountered by a medical doctor in training. One of the main characters, Max Gottlieb, was greatly based on prominent researchers at the Rockefeller Institute, and experimentation is one of the themes around which the novel revolves.

But if there is one name that stands out amongst the list of American writers concerned with the advancements of experimental medicine it is that of Mark Twain (1835-1910). Always fascinated by the animal kingdom (many species indeed occupied some of his most memorable pieces), Twain dedicated much effort to the animal protection cause. He publicly lauded the American Society for the Prevention of Cruelty to Animals not long after its foundation, applauding Henry Bergh's efforts to prosecute wanton cruelty. "Nothing that concerns the happiness of a brute is a trifling matter to him," Twain wrote

about Bergh, “no brute of whatever position or standing, however plebeian or insignificant, is beneath the range of his merciful interest” (2010/1867: 46). At the height of the vivisection controversy in the late nineteenth century, Twain’s compassion for animals wheeled his attacks against vivisection at the same time that his “darker” aesthetic voice gave way to a profound criticism against the cruel and cynical nature of the human condition. For Twain, the usefulness of animal experimentation was irrelevant; the brutality of vivisection was to be discussed as solely an ethical issue. In a letter to the London Anti-Vivisection Society, he begins with the straightforward statement that “I am not interested to know whether Vivisection produces results that are profitable to the human race or doesn’t. To know that the results are profitable to the race would not remove my hostility to it” (2010/1899: 139). The letter was published as a pamphlet both by the New York and the New England Anti-Vivisection Societies, and reprinted in several British and US newspapers (Fishkin 2010: 26-27).

Twain’s most vindictive piece, however, came in the form of the compelling short story “A Dog’s Tale,” first published in *Harper’s* in 1903. The story is narrated by an innocent, self-sacrificing female dog whose nobility, coupled with her linguistic and semantic limitations, prevents her from comprehending and assimilating the heartlessness of her master, a family man and scientist with an interest in physiology and in the nature of reason versus instinct. Beneath the apparently simple, heart-wrenching narrative voice, Twain shapes a world of animal enslavement and cruelty, reaching from the Cartesian fundamentals of the man/animal divide to the darkness embodied by the masculine presence within the domestic realm (spatially represented through the laboratory). It is, paradoxically, the Christian proclamation of the human/animal dichotomy that reveals the moral supremacy of dog over man. The narrator assumes her position of servility through the lessons taught by her mother:

[My mother] said we were sent into this world for a wise and good purpose, and must do our duties without repining, take our life as we might find it, live it for the best good of others, and never mind about the results, they were not our affair. She said men who did like this would have a noble and beautiful reward by and by in another world, and although we animals would not go there, to do well and right *without* reward would give to our brief lives a worthiness and dignity which in itself would be a reward. (2010/1903: 167)

Nobly accepting such placing within the world of man, the narrator is unable to fathom just how far such servility will objectify creatures such as herself, and the extent to which man can stretch the meaning of a “wise and good purpose” into scientific ambitions, however futile and irrelevant these may be.

Students are asked to read Twain’s “A Dog’s Tale” and answer and discuss the following matters:

(1) Contextualize the story within Twain’s biography. In these last stages of Twain’s writings, what kind of presence do animals have and what kind of tone is the author prone to? Can you find other information about Twain’s implication in the animal protection or anti-vivisectionist cause? What famous and highly publicized controversy involving a dog was taking place in London around the same time that “A Dog’s Tale”

was published? Can you find any evidence as to whether such events inspired or in any way influenced Twain to write this story?

Illustrations included in the first Harper & Brothers edition of "A Dog's Tale" (1904)



(2) Having read the story and the present case study, identify some arguments and issues that are strongly criticized by both Twain and late nineteenth-century anti-vivisection societies. How are scientists depicted? How is the laboratory described by

the narrator in the story and what kind of images does it actually convey to the reader? How does the story relate to the nineteenth-century conception of the domestic space and the domestic ethos of kindness? How are gender roles spatially defined in the story?

(3) The nineteenth century showed a growing trend in the publication of “autobiographical” accounts of animals (Ryder 2000/1989: 89). Although stories told from the point of view of an animal were not necessarily new, the animal protection movement created the necessary atmosphere for writings aiming to stir compassion and kindness towards fellow-creatures, particularly birds and domesticated animals such as dogs and horses. Can you find other famous instances of such types of narratives in the United States and in Britain? What kinds of possibilities in terms of social criticism can an animal narrator open? What kind of criticism can these narratives be subjected to? Would you say that having an animal narrator makes the piece more sentimental? Do such pieces inevitably fall into anthropomorphism? Read Twain’s “Letters from a Dog to Another Dog Explaining and Accounting for Man” (1891) and compare it with “A Dog’s Tale.” What kind of thematic and stylistic parallelisms can you find? How do you interpret the central motif of the pragmatic and semantic dimension of language in “A Dog’s Tale”?

Full text of “A Dog’s Tale” online: <http://www.authorama.com/a-dogs-tale-1.html>

6.- Mid-twentieth Century Research on Psychology: Harry Harlow’s Monkeys

The roots of experimental psychology in America are generally traced back to the last quarter of the nineteenth century, when the first research laboratory on the field opened at Johns Hopkins in 1883, setting the model for other universities to follow. In comparison to experimental physiology and the following developments in bacteriology, psychological research attracted less attention from anti-vivisectionists. But when Harry Harlow came into the scene in the mid-twentieth century, and particularly when Peter Singer included in *Animal Liberation* extensive quotes from Harlow himself as to his procedures, everything changed. Today Harlow’s experiments are time and again cited by anti-vivisectionists and animal rightists as the quintessential example of the viciousness of one who, during his time, was widely acknowledged and venerated within the field of psychology in America.

Harry Harlow (1905-1981) studied at Stanford University under the guidance of renowned educational psychologist Lewis Terman, and became faculty member at the University of Wisconsin-Madison in 1930. It was here where Harlow initiated his research, exploring and recording what he believed were higher cognitive and emotional faculties that primates and monkeys possessed and were yet unacknowledged by scientists. His work was in time narrowed down to the study of the behavioral effects of maternal deprivation and utter isolation. Harlow used rhesus macaques and established one of the first breeding colonies. Rhesus monkeys were, at the same time, being massively imported from India and used for the development of a polio vaccine; but Harlow’s research was quite different.

Harlow observed that the monkeys who grew isolated developed behavioral dysfunctions and seemed to lack the tools for social interaction when exposed to others.

It was his creation of surrogate mothers, however, which stretched his interest in the mother-infant bond to its limit. Harlow and his student Stephen Suomi crafted these 'mothers' combining different materials and mechanizing their 'bodies' to display behaviors that switched from 'comforting' (if only because the 'mother' remained passive and inactive) to menacing. Harlow and Suomi recorded how, no matter how treacherous the 'mother,' the infant always displayed a predisposition to coil and seek protection from it. The two scientists described their sequence of surrogate mothers as follows:

The first of these monsters was a cloth monkey mother who, upon schedule or demand, would eject high-pressure compressed air. It would blow the animal's skin practically off its body. What did the baby monkey do? It simply clung tighter and tighter to the mother, because a frightened infant clings to its mother at all costs. We did not achieve any psychopathology.

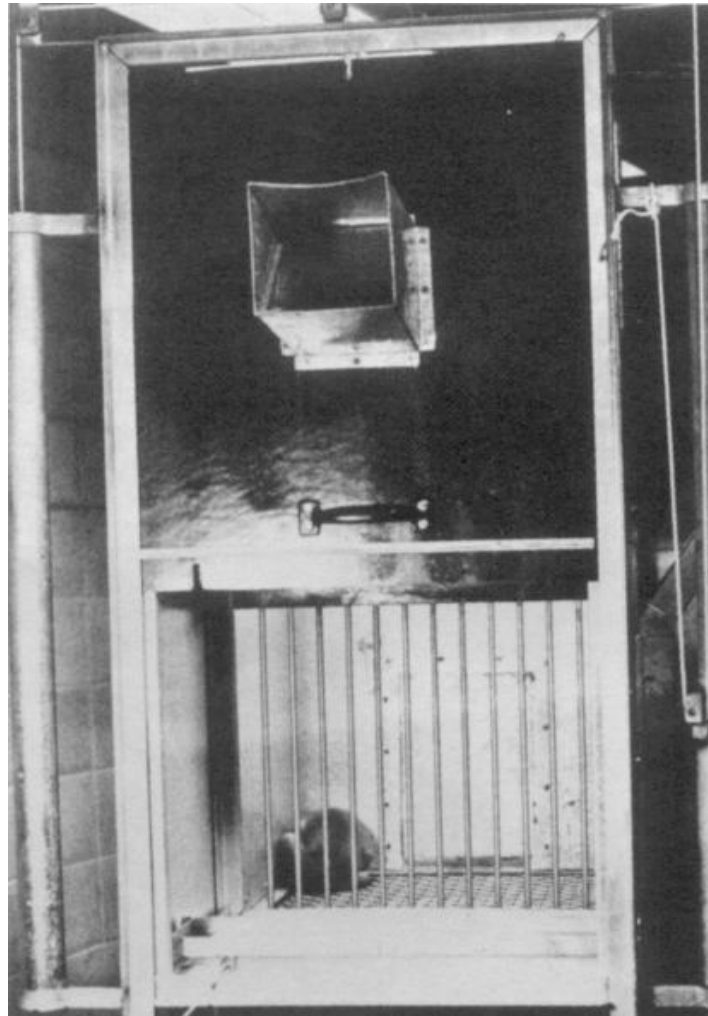
However, we did not give up. We built another surrogate monster mother that would rock so violently that the baby's head and teeth would rattle. All the baby did was cling tighter and tighter to the surrogate. The third monster we built had an embedded wire frame within its body which would spring forward and eject the infant from its ventral surface. The infant would subsequently pick itself off the floor, wait for the frame to return into the cloth body, and then cling again to the surrogate. Finally, we built our porcupine mother. On command, this mother would eject sharp brass spikes over all the ventral surface of its body. Although the infants were distressed by these pointed rebuffs, they simply waited until the spikes receded and then returned and clung to the mother. (Qtd. Singer 1990/1975: 33)

Harlow's experiments would continue: he recorded the violent, 'un-motherly' traits of female monkeys who had been brought up in isolation and had been inseminated with the help of "rape racks," as their upbringing had caused irreparable damage to their sexual instincts. In the 1970s, he additionally concocted what he termed the "pit of despair," a vertical chamber of sorts with slippery walls, a pyramidal ceiling and a wire floor. Infant and young monkeys spanning from three months to three years of age were separated from their mothers and put in the chamber for several weeks, but it was only after a few days that the subjects surrendered themselves and huddled motionless at the bottom of the pit. The baby monkeys indeed succeeded in exhibiting exactly what Harlow was attempting to provoke: hopelessness and despair, clear symptoms of depression. Harlow himself was prone to clinical depression, especially after the death of his wife in 1971.

Students must perform further research on the historical relevance of Harry Harlow within the context of the field of psychology in America and within the animal liberation and rights movement and discuss the following matters:

(1) Investigate Harlow's career as a psychologist and the extent of his presence as a prominent scientist. Considering the socio-political changes that America was going through in the years following World War II and during the Cold War, why do you think that Harlow's research on the bond between mothers and offspring was of interest? How did Harlow connect the discoveries he made through his animal subjects with human psycho-emotional properties?

(2) Guerrini writes that “Harlow’s flippant language in his reports often makes the reader cringe: not only were his isolation chambers ‘pits of despair,’ but he also referred to the ‘rape-rack’ he used to immobilize isolation-reared females for insemination, and to ‘hot mamas’” (2003: 133). Indeed, his choice of words conveyed an imagery that pro-vivisectionists earlier in the century (remember Walter Cannon’s recommendations as to how researchers should express themselves – Item 5.6.3. of the MP) had attempted to vanquish from scientific discourse. The term “pit of despair” was actually not Harlow’s first choice for his device, as even more suggestive names had stirred his imagination. Students must familiarize themselves with the type of discourse employed by Harlow by reading excerpts from his works. Considering the long tradition of anti-vivisectionists’ quoting from physiologists and scientists’ writings to support the protection or liberation of animals, underline those expressions in those excerpts that you believe could be of use to prove the anti-vivisectionists’ point. Finally, contrast the public image Harlow enjoyed before the general American public during his time with the type of profile that was later portrayed by animal liberationists. What types of citations from his work appear in each case?





Infant rhesus monkeys subjected to Harlow's experiments. The first picture shows a monkey coiled in desperation in one of Harlow's isolation chambers. The second picture shows another monkey clinging to one of its surrogate mothers.

(3) Create a group discussion about the ethics of Harlow's experiments with the following thoughts as starting points: (a) If, indeed, Harlow believed and insisted in the higher emotional and cognitive capabilities of animals and particularly primates, how is the performance of such psychologically harmful experiments justifiable? In other words, if primates resemble humans' cognition in so many levels, how can the species difference that condones experimentation on primates be ethically and morally solid? (b) Animal behaviorist Marc Bekoff writes that:

Labs can be useful as controlled environments in which to conduct research on how animal minds work, but if you really want to know how animals live, think, and feel from their point of view, then you need to join them in their world. Outside. Also, from an ethologist's perspective, it's important to conduct research in conditions that are as close as possible to the natural environments in which natural selection occurred or is occurring. Finally, the study of captive animals itself raises some difficult questions, ranging from the ethics of performing research on caged animals to questions about the validity of research on stressed individuals who are kept in impoverished conditions. (2007: 38)

In contrast, Harlow (as many others within the field of psychology) manipulated the 'environment' to such an extent that he purposely produced anomalies, claiming along

the way that valuable knowledge about the rhesus monkeys was obtained. Do you think that, as Bekoff suggests, research on animal behavior (and subsequent research on the parallelisms between animal and human cognitive features) would provide more accurate data if the subjects were studied in their natural environment and under natural conditions? Can you think of well-known American field scientists who perform their research by co-inhabiting the same environment as their subjects? Are you familiar with the names of Dian Fossey (from America), Biruté Galdikas (from Germany) and Jane Goodall (from the United Kingdom), popularly known as ‘Leakey’s Angels’?

7.- Using Dogs for Vivisection I: The Dog-Stealing Market in America

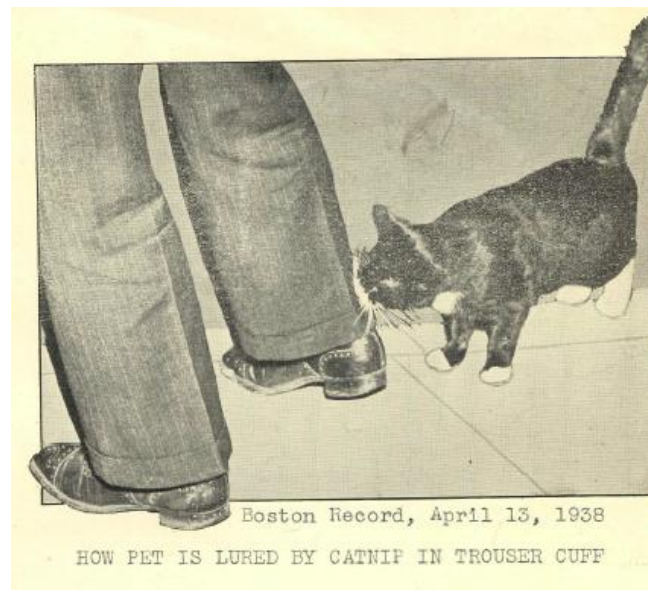
Throughout this case study, it has probably become fairly evident that dogs, perhaps more so than any other animal, hold a central position within the vivisection controversy. Using dogs for anatomical purposes, as we have seen in the case of Vesalius and Colombo, was common enough in early research, even if at least on account of the ready availability of them (see Item 3.2. of the MP). In the nineteenth and early twentieth century, as has also been discussed, dogs symbolized a particular sort of vulnerability, and much literature on the part of animal protectionists was dedicated to them: from Stowe and Ouida (see Items 3.3.4. and 4.2.2. of the MP) to Twain across the Atlantic (see Item 5 in SD), dogs appear as the ultimate victim on whom the greatest of betrayals is bestowed upon, precisely because of their historical proximity to man through domestication. They embodied a live expression of the ethos of domesticity and kindness, and their unconditional loyalty and faithfulness towards their masters was certainly not lost on anti-vivisectionists, who made sure that their pamphlets, articles and interventions before committees included the horrendous procedures performed on canines and descriptions of the sorry conditions in which they were kept. Whether attacking Magendie or Pasteur, dogs seemed more effective an object of commentary than rabbits, mice, frogs, etc. Indeed, Lind-af-Hageby and Schartau could not have chosen a better martyr than the brown terrier dog to plea for kindness towards animals (see Item 3.3.4. of the MP). Nor were these tactics lost on pro-vivisectionists: Keen, as already discussed, accused the anti-vivisectionists of favoritism amongst experimental animal subjects, arguing that the same women who went up in arms about a dog did not blink twice at the possibility of exterminating household pests or wearing furs and feathers.

In his brilliant article “Flush and the *Banditti*: Dog-stealing in Victorian London,” Philip Howell unearths the multiple issues that were at stake in the business of dog-knapping in the 1840s. Stealing dogs and demanding a generous ransom became a profitable affair (particularly in the Whitechapel area) because it traded in on the affections of the owners, particularly those of women. At a time when bourgeois culture was strongly promoting the role of the pet within the domestic sphere and when legislation as to the status of canines as property was still largely imprecise, the circuit of dog-stealing “ultimately suggested the inversion of social hierarchies, putting human dependence on animals at the centre of the problem; people were dominated and exploited through their dependence on animals and their affections and sentiments, which could not be excluded wholly from their lives” (Howell 2000: 42). Although Howell does not comment on how, later on in the century, Britain’s drift towards experimental physiology affected such dog-stealing circuit, there is profound evidence from the

period that testifies to the owners' terror of their dog being snatched and used for vivisection.



Picture and caption used to raise awareness about the use of stray dogs for vivisection. Courtesy of the New England Anti-Vivisection Society (NEAVS).



Picture and caption used to raise awareness about the tactics for kidnapping pets for vivisection. Courtesy of the New England Anti-Vivisection Society (NEAVS).

In America, such terrors became very real as well. Recall that one of the events that triggered Caroline Earle White's determination to form an anti-vivisection society was the letter from Dr. Silas Weir Mitchell requesting the custody of pound dogs that were kept at the PSPCA shelter (see Item 5.3.1. of the MP). The idea that a loved pet, which may have accidentally strayed away from home and got lost, could potentially end up in the hands of a vivisector, crossed animal protectionists' mind. Recall as well that when

the Rockefeller Institute opened, the New York Anti-Vivisection Society informed owners of the possibility of finding their lost pet at the Institute, where it would be used as an experimental subject (Item 5.6.3. of the MP).

In 1919, a hearing on the prohibition of the vivisection of dogs before the Subcommittee of the Committee on the Judiciary United States Senate was carried out. Although the hearing was greatly dominated by arguments on the matter of pain, utility, and the dog's noble role in the war (see Item 8 in SD), dog-stealing also emerged as a subject of discussion. On behalf of the city pound in Philadelphia, Catherine Nicholson brought up the name of a victim to this type of thievery and spoke on the issue as follows:

I remember one case, that of Mr. Keyes, a well-known gentleman in this country, who had a pet dog that had saved his life and the life of one of his children, and when he lost the dog, he went to the university laboratory and found it. It had hardly strength to greet him. It was being starved for vivisection. . . . One thing that we investigated was the matter of street dogs. In many cases we found that in Philadelphia these dogs are really household pets that are stolen. The lowest class of men in the city are dog thieves. (Qtd. *Prohibiting Vivisection of Dogs* 2010/1919: 94, 95)

Students are asked to investigate the problem of dog-stealing in America both for the purpose of ransoming and for vivisection.

(1) What kind of measures did SPCAs and anti-vivisection societies follow to prevent and warn about the danger of dog-stealing? What does dog-stealing in the early twentieth century say about the growing urbanization of America, about middle-class consciousness and about gender roles? What universities and institutions were accused of experimenting on stolen pets? One of the arguments propounded against anti-vivisectionists was that thousands of dogs were routinely killed if they were not adopted and that such dogs could just the same be used for experimentation if they were going to be sacrificed anyway. Analyze and discuss the ethics of this contention.

(2) During the 1950s, on the other hand, the ASPCA cooperated with research centers by supplying them with shelter animals. Laboratory research soared after World War II, and the Nuremberg Code, clearly stipulating the obligation to experiment on animals before trials on consenting humans, became another support for vivisectionists. The National Society for Medical Research (eventually to be known as the National Association for Biomedical Research – NABR) ardently pressed for access to pound animals, and succeeded in several states. In 1949, Minnesota and Wisconsin passed laws provisioning the surrender of shelter animals to research centers, and were soon followed by the Metcalf-Hatch Act in New York in 1952. Students are to read about the Metcalf-Hatch Act and how Henry Spira lobbied to repeal the Act decades later (see Item 5 in GSD). How did Spira campaign against the Metcalf-Hatch Act? Can you find in what states pound seizure for research is still mandatory today and in which states it is prohibited? What are the provisions of the Pet Safety and Protection Act, which was introduced to Congress by Senator Akaka in 2001?

(3) Dog-stealing and its association with vivisection also reemerged as a national concern in the 1960s, receiving a more widespread publicity than earlier anti-vivisection societies could have fathomed. Investigate the case of the Lakavage family and their

Dalmatian Pepper (Finsen and Finsen 1994: 56-57). What happened to the dog and how and where was the story publicized by Cole Phinizy? How did the story influence Resnick's bill and how did it contribute to the passing of the Laboratory Animal Welfare Act in 1966 (see Item 1 in GSD)?

8.- Using Dogs for Vivisection II: Times of Warfare

Dogs bear a long history of participation in human warfare, being used as force fighters in battle or attacks, as messengers, trackers, intimidators, scouts, patrollers, guards and even mascots. Records exist of dogs being used in ancient times by the Egyptians, Greeks, Persians and Romans, among other civilizations, initiating a warfare subculture or tradition that has been sustained up to the present day. At certain points, some breeds have been preferred for set purposes: the Molossus dog (now extinct and believed to be the ancestor of the mastiff) was used in Greco-Roman antiquity, for instance, and the Nazis, as is well known, made particular use of German Shepherds. Historians trace the first use of war dogs within the American continent back to the 1500s with the Spanish conquistadors' mastiffs. Within the United States, it appears that canines were first used for military purposes during the Seminole wars.

As described in the previous Item, dogs' place within western culture and particularly within the emergence and consolidation of the urban middle class raised considerable sensitive issues related to the vivisection controversy. Unsurprisingly, during the 1919 hearing on the prohibition of the vivisection of dogs before the Subcommittee of the Committee on the Judiciary United States Senate, anti-vivisectionists depicted, chronicled and insisted time and again on the "patriotism" that war dogs displayed in combat in Europe. As Mrs. Eggleston, delegate of the Anti-Vivisection Society of Philadelphia stated, "we ask that the dog be exempt for the work it has done in the humane work of this war" (Qtd. *Prohibiting Vivisection of Dogs* 2010/1919: 30).

Dr. John Hutchinson also spoke on behalf of the anti-vivisectionists, offering the more reliable perspective of a physician and a man of science. Included in his testimony was a chilling parallelism between the pro-vivisectionist medical community and the enemies abroad:

It seems to me that the mere question – if you can call it small – the question of cruelty, is a most timely one at this moment. Here we have been in world conflict, trying our best to undo the barbarism that has invaded civilization; barbarism of every kind, from a country that for 40 years we have been admiring, from which we have been receiving anything that it might care to unload on us – the medical profession most distinctly; anything from Germany must be good – so that we have followed it, and we are still following it. Germany has been conquered – their own testimony to the contrary notwithstanding – but we have not conquered a good many enemies in our midst. (Qtd. *Prohibiting Vivisection of Dogs* 2010/1919: 38)

In the view of the anti-vivisectionists, experimenting on that specie that had fought side by side with American troops represented a treacherous betrayal, particularly when the ones performing the experiments were the military men themselves. Camp Leach, located within the American University premises in Washington, functioned as a

laboratory for chemical weaponry both during World War I and World War II, and used part of the property to put their discoveries to the test. In that same 1919 hearing, W.H. Lowder, a laborer in Washington, declared having heard the following story from another source:

He said they dug a pit out there [in Camp Leach] 14 feet deep and they put a big dog down in there, and they put a 4-inch shell in there and tore him to pieces. Then they had another room that they used to take dogs and shave them and rub mustard gas on them, and try different kinds of gases on them: and in the morning when he would go and look at the dog his back and all was eaten right in to his entrails. Then he said there was another place where they would take some kind of poison, and take another dog in another room and stand and look at him through some glasses. He got two handsome little dogs out of there that he couldn't stand to see this trick done to them. (Qtd. *Prohibiting Vivisection of Dogs* 2010/1919: 47)

In stark contrast to the images conjured by anti-vivisectionists as to dogs experimented on for warfare, Dr. Walter Cannon, former Lieutenant Colonel of the United States Army Medical Corps and at the time Professor of Physiology at Harvard and chair at the Council for the Defense of Medical Research (see Item 5.6.3. of the MP), put across the usefulness of certain procedures to keep troops alive, and emphasized the use of anesthetics during the experimental process. The following excerpt from his statement describes an example of such procedures. The reader might be able to discern how Cannon's discursive choices aim at crediting the medical community and shifting the category of 'victim' from the dog to the soldier:

Furthermore, a method which Dr. Crile helped to develop in the course of this work, the transfusion of blood from one living being into another, had to be applied in cases of shock in war. All last summer we were teaching men in the American Expeditionary Forces how to transfuse blood from one person to another, because in severe wounds there is likely to be a large loss of blood, and also because shock is best treated by the transfusion of blood. That is an operation difficult for anybody to perform unless he has had some practice. The one animal we could use which had blood vessels at all corresponding with those of the human being was the dog, and by use of the dog we taught medical men how to do transfusion. They went to the forward hospitals, in the performance of their duties, caring for the desperately sick men who came from the battlefield; and they made use of precisely the methods which I have described, and which they learned on dogs. I think I may confidently say that there are hundreds and perhaps thousands of men alive to-day because of the methods which were thus devised and thus taught to medical officers. (Qtd. *Prohibiting Vivisection of Dogs* 2010/1919: 57)

The use of dogs and other pet species continued to be problematic in the eyes of the public, and anti-vivisectionists brought back the issue with their resurgence in the 1930s. It is probably no coincidence that the 1938 short documentary film *Man's Greatest Friend*, produced by Metro Goldwyn Mayer, propagandistically presented the crucial role of the medical researcher for the well being of humanity while at the same time it emphasized the dog's direct and indirect aid in this matter. The film is structured

in three parts, the first of which “opened with a dramatic illustration of the love between dogs and men, harkening back to the Great War” (Lederer 2007: 292), while the remaining two focused on Pasteur’s research on rabies. Lederer (2007: 292-293) describes the dramatization of each of these historical momentums; they constitute brief narratives that acknowledge and honor dogs’ service to mankind within pivotal scenarios, that of battle and that of the laboratory. Just as the gallant nobility of the dog alongside soldiers has not fallen into oblivion, viewers are not to forget that the canines’ sacrifice for grand medical purposes is also necessary, and for such reason they are shown kept in optimal conditions in research centers. The film’s angle is of interest in that it did not attempt to downplay anti-vivisection arguments by insisting on the species separation to justify the use of dogs as experimental subjects, but rather it gave in to the popular sentiment of camaraderie between man and dog, using emotion to convince viewers of the dog’s dignity in contributing to science, in once again sacrificing itself for its human companions.

Students must perform further research on the experimental use of animals for warfare and discuss the following topics:

(1) Through a timeline structured around the great wars in which America has been involved, try to collect facts about how dogs were and continue to be put to use for warfare. Find information about the particular breeds that were used and theorize about why they were chosen to perform certain tasks. How has the modernization in warfare technology and weaponry affected or changed dogs’ missions? Can you find any information as to how they were and are trained?

(2) America has also honored dogs for their service in battle and against terror. Can you find information about war dog memorials in America? What other forms of decoration for their service have there been? Who was Sergeant Stubby and why has he gone down in American military history?

(3) Gather more information as to the types of experiments that were conducted at Camp Leach or the Walter Reed Army Institute of Research. How have the types of experiments changed from World War I and World War II to the Cold War, the Vietnam War or even the war against terror, and what do such changes reveal about the evolution of warfare? Have there been any legislative changes as to the use of dogs as experimental subjects within this particular field of research or not?

(4) How are dogs and/or other animals used for military training purposes today? Watch the footage used by PETA (with the collaboration of director Oliver Stone) to expose such methods of training and discuss in class the necessity of such procedures and their ethical implications.

Online link to “Oliver Stone Exposes Horrific Military Training Video”:

http://www.youtube.com/watch?v=KKb1pcZ_MWA

9.- Vivisection in Children’s Literature: *Mrs. Frisby and the Rats of NIMH*

As this case study has in part shown, the connections between the protection of children and that of animals cannot be overlooked when discussing the cultural impact of

vivisection. Item 4.2.2. of the MP illustrated the emergence and consolidation of the domestic ethos of kindness in Victorian culture on both sides of the Atlantic, and how part of the feminine upbringing of children within the household consisted in an inculcation of Christian kindness towards helpless animals. Care-taking and nurturing of creatures (particularly birds or pet species) would steer the infant away from developing a fascination for blood sports and violence; that is, it would suppress any destructive drive that the child could potentially display away from the protection of the domestic sphere. A virtuous education that taught the values of stewardship of animals, therefore, presented the necessary context not just for a practical understanding of the notion of sentience, but also for a rearing that would somewhat guarantee the moral impeccability of the children themselves. Although perhaps the best known publication endorsing such values amongst young readers was Anna Sewell's *Black Beauty* (1877), the fact that American authors such as Lydia Maria Child and Harriet Beecher Stowe contributed pieces to spread the domestic ethos of kindness within the nation goes to show the extent to which abolitionism, the protection of children and the stewardship of animals were connected and shaped within a single moral framework. Indeed, as we have seen in the case of Mary Ellen Wilson (Item 2 in SD), the ASPCA served as a model for the formation of the first Society for the Prevention of Cruelty to Children.

Vivisection was very much connected to the welfare of children precisely because of the vulnerability of both animals and infants as experimental subjects. This was an anti-vivisectionist argument both in Europe and in America, and with the consolidation of clinical research in the first decades of the twentieth century, accusations against researchers' use of orphans or children whose parents 'volunteered' them for experiments flourished at a time when the implications of consent were still being very much explored. Lederer (1995) brings to light a number of cases (such as Noguchi's lutein experiments in the early 1910s or the unearthing of the experiments on children at the New York orphan asylum in the early 1920s) which more explicitly and dramatically urged the need to control and regulate the situation of children within the context of scientific research. Was a child at all mature enough to understand the implications of the procedure and to rationally accept or deny being used as a subject? At what age could such maturity be reached? Should non-therapeutic procedures (that is, those performed not with the object of curing the subject, but with the object of acquiring further scientific information) such as deliberate inoculation be allowed on children? What about the responsibility of the parents towards their child? How could one guarantee that the procedure, consented to by the guardian or parent, was in the best interest of the child and not performed for financial compensation? What about in the case of orphans?

As we can see, in considering the historical connections between animals, children and vivisection, a number of issues consistently show up. But what about teaching youngsters about vivisection itself through literature? Mark Twain's "A Dog's Tale" (see Item 5 in SD) certainly qualifies in many ways as a children's story, although beneath the apparently simple language, there of course lays the multilayered exegetical complexity characteristic of the author that garners the work as one for adult readership. Further on in time, a widely recognized piece for young readership by an American author depicting the topic of vivisection is Robert C. O'Brien's *Mrs. Frisby and the Rats of NIMH*, published in 1971 and winner of the 1972 Newbery Medal.

The novel tells the story of Mrs. Frisby, a field mouse, who in order to save her family from the spring plowing at Mr. Fitzgibbon's farm must seek the help of the rats of NIMH, who inhabit the farm's rosebush. Mrs. Frisby soon learns that the rats are highly intelligent beings that are able to read and write and manage electricity, among other things. Their intellectual and social superiority is the result of the experiments they were subjected to at the National Institute of Mental Health (NIMH), experiments which have led to their literacy and have made them immortal. The rats managed to escape NIMH and for years continued learning and cultivating themselves. Their plan is to continue growing as a civilization, but doing so independently, that is, without stealing from humans and developing instead their own sustainable resources to fulfill their need for self-sufficiency. They have become a culture, and their objection to scourging and relying on other species is not just an ethical issue, but also the evolutionary result of a group having expanded its population.

As Wray Herbert (1982) points out, although not much is known about how O'Brien (the penname of the *National Geographic* journalist Robert Conly) came about the plot, there is profound evidence to suggest that the story of the rats is largely based on the experiments carried out by the American behavioral researcher John B. Calhoun. Calhoun had been working in NIMH since the mid-1950s, and had already for a few years been immersed in the study of rat population densities to learn about revealing behaviors that would also be visible in human populations. There are overt similarities between Calhoun's procedures and control groups and the fictional developments in the children's novel (from the physical appearance of the rat leader to the instruments used by Calhoun and described by the fictional rats). "But the most telling resemblance between the actual and the fictional rats of NIMH," Herbert states, "is their culture" (1982: 92). Indeed, there are strong parallelisms between how O'Brien's rats grow as a colony and the data collected by Calhoun; a resemblance which also serves O'Brien to make critical observations about the notion of progress. Chronicling their history for Mrs. Frisby, Nicodemus, the rat leader, states that once having escaped NIMH and inhabited the underground cave and the rosebush in the farm, the colony became pointlessly ambitious:

After the first burst of energy, the moving in of the machines, the digging of the tunnels and rooms – after that was done, a feeling of discontent settled upon us like some creeping disease.

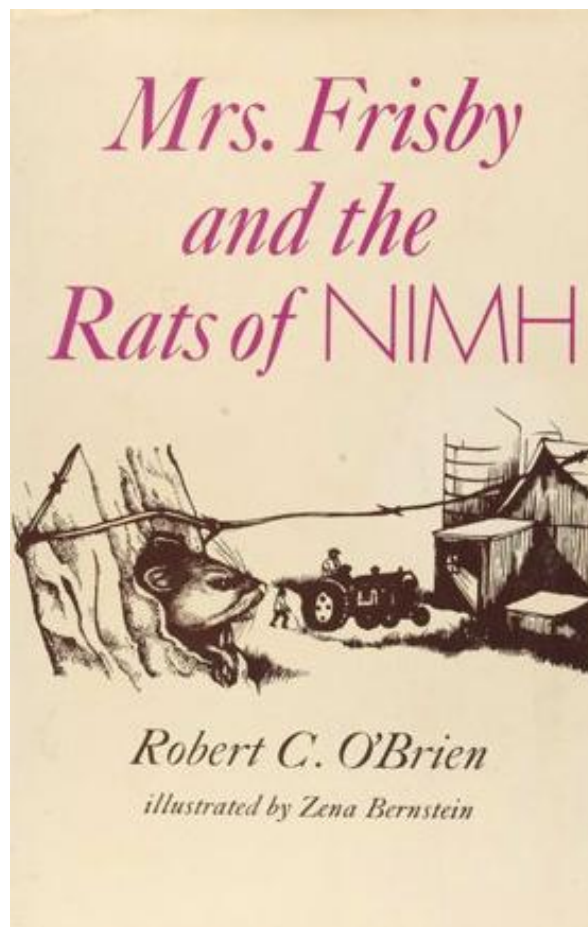
We were reluctant to admit it at first. We tried to ignore the feeling or to fight it off by building more things – bigger rooms, fancier furniture, carpeted hallways, things we did not really need. I was reminded of a story I had read at the Boniface Estate when I was looking for things reading about rats. It was about a woman in a small town who bought a vacuum cleaner. Her name was Mrs. Jones, and up until then she, like all of her neighbors, had kept her house spotlessly clean by using a broom and a mop. But the vacuum cleaner did it faster and better, and soon Mrs. Jones was the envy of all the other housewives in town – so they bought vacuum cleaners, too. (O'Brien 1971: 169).

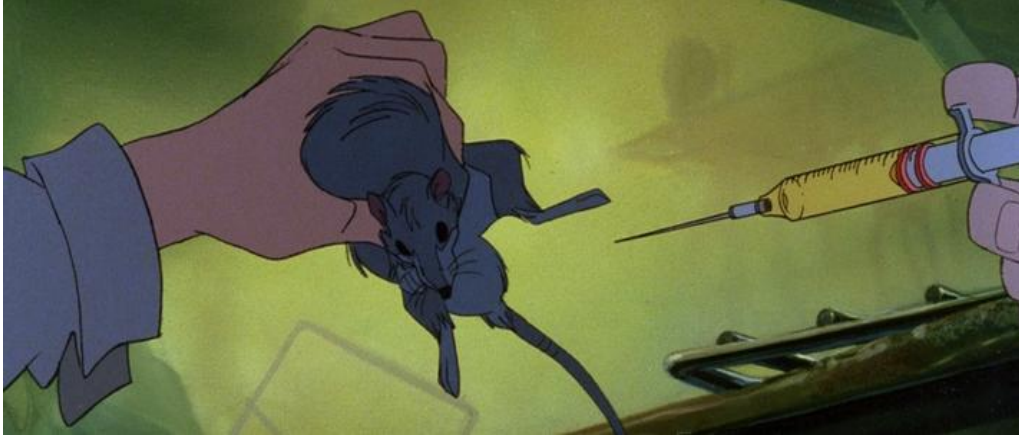
The discontent experienced by the intellectually-insatiable rats is of course also visible in the consistent attempts on the part of the fictional scientists to make a ground-breaking discovery to distinguish themselves. For a book intended for young readers,

the message is sobering enough and, as Bernice E. Cullinan reflected not long after its publication, it contained “excessive measures of grief and despair with no prospect of better things to come,” as the rat colony “could find no place for themselves in this world” (1974: 416). As such, the book raises a myriad of problematic issues that stretch from questioning the ethics and utility of animal experimentation to evaluating the extent to which children should be exposed, even if only through fiction, to the nihilist undertones peppering the narrative.

Students are asked to thoroughly read *Mrs. Frisby and the Rats of NIMH* and critically reflect on the following topics:

(1) How does the author approach the topic of vivisection itself through the passages describing the NIMH experiments? Does the narrative voice of Nicodemus dwell on the suffering of the rats or does it distance itself from such suffering by focusing on other aspects? Without investigating the author’s background or his declarations about his book, would you actually characterize the narrative as anti-vivisectionist or do you think that animal experimentation only serves as a literary pretext for the story? Motifs in which the ‘creation’ backlash against the ‘creator’ are common enough in literary mythical paradigms (*Frankenstein* being a classic example). Considering the time the book was published, what kind of criticism about the ethics of 1950s and 1960s American society is mouthed through the rats?

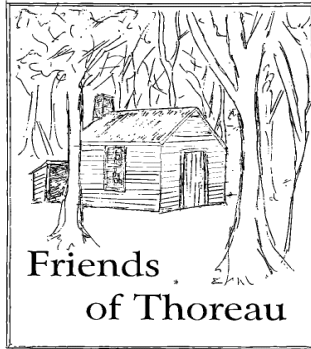




The first picture shows the first edition cover of *Mrs. Frisby and the Rats of NIMH* published by Atheneum. The picture below shows a still image of the animated film *The Secret of NIMH*.

(2) Write about the experiments performed by Calhoun and contextualize his work within the mid-century wave of behavioral research that dominated the field of psychology in American (see Item 6 in SD for further background information).

(3) Do you believe that the way the author chooses to depict animal experimentation in the novel is adequate for children? Do you believe that the book is in any way influenced by the nineteenth-century literary trend of teaching children kindness to animals? What do you believe is the message as regards to animal experimentation that the author wants to convey to young readers? Do you agree with the statement made by Cullinan above? Watch Don Bluth's 1982 animated film *The Secret of NIMH*, an adaptation of the book that includes gothic-like undertones through the inclusion of terrorizing motifs, characters with magical powers and villains. Analyze the scenes in which the experiments on the rats are performed and compare them to O'Brien's passages. Which is truer to the nineteenth and early twentieth-century images of laboratories on the part of anti-vivisectionists and why? Which of the two, in your opinion, is more faithful to the moral imperative of kindness to animals as originally instilled by animal protectionists?



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GUIDING STUDENTS' DISCUSSION

1.- The (Laboratory) Animal Welfare Act (1966)

As we have seen, the first legislative effort to regulate and control the use of animals in research was the 1876 Cruelty to Animals Act in the United Kingdom. The United States, for all the anti-vivisectionist efforts to curtail and tighten the jurisdiction on animal experimentation (when complete abolition seemed either too extremist or too utopian an endeavor), did not come around to passing official regulation until 1966.

The sixties were a crucial decade for the Civil Rights Movement, when ethnic minorities took a stand against their institutionalized unprivileged citizenship. From the fight against Jim Crow laws and the emergence of the Black Power Movement to the Chicano and American Indian protests and second-wave and radical feminism, it became evident that the consequences of racial and sexual and gender discrimination demanded mending. The environmental movement had also evolved from the early twentieth-century conservationism practiced during the Roosevelt administration, calling for remedial actions to protect and preserve the environment against modern ecological threats such as oil spills, nuclear destruction, and toxicity and contamination resulting from deliberate pollution. Rachel Carson's denunciation of DDT pesticide in *Silent Spring* (1962) was widely disseminated, popularizing the connection between damage to the environment and ultimately, its effects on human health. Although the Animal Rights Movement would not take off until the 1970s (particularly with the publication of Singer's *Animal Liberation*, where discriminatory power relations such as racism and sexism were extended into speciesism), attempts to 'improve' or at least regulate some of the institutionalized exploitative acts against nonhuman others did take place during these years. Thus, although the 1960s cannot truly be remembered as a representative decade for the animal welfare or the animal rights movement, the civil unrest that permeated those years may be regarded as the contextual scenario that made certain advancements possible.

Historians generally trace the immediate roots of the Laboratory Animal Welfare Act to the public outcry triggered by the publication in *Sports Illustrated* and *Life Magazine* of the brutal conditions of dogs in the hands of dog-dealers in 1965 and early 1966. The articles referred to the phenomenon of dog-stealing and the painful ordeal the Lakavage family had had to endure with the theft of their Dalmatian (see Item 7 in SD). Congress had, since the beginning of the decade, now and then been exploring and discussing the issue of laboratory animal welfare. But the fact that the publications on dog theft and ‘dog concentration camps’ happened at a time when the establishment was the hot target of so many protests, probably pushed authorities to precipitate some form of surveillance over the supply chain of research centers and the welfare of the live ‘material.’ Congressman Joseph Resnick first presented a bill to prevent dog theft through a licensing control system for both dealers and research centers. Pro-divisionists moved fast to avoid restrictions, but ultimately the Laboratory Animal Welfare Act was signed into law by President Lyndon B. Johnson on August 24, 1966.

The original 1966 Laboratory Animal Welfare Act (later simplified into the Animal Welfare Act – AWA) introduced several provisions under federal law, which can mainly be summarized into three essential points: firstly, all animal dealers were to be registered in the US Department of Agriculture and had to acquire a license for their commercialization. Aside from a mandatory application for a license, dealers also faced new regulations, such as the obligation to not sell or dispose of any dog or cat within a period of days since the purchase of the animal (or within a timeframe established by the Secretary of Agriculture). With the problem of dog-stealing fresh in mind, the object of this provision was to ensure that owners would have a reasonable span of time to search for their lost (or possibly kidnapped) companions. Licenses could be temporarily or permanently suspended by the Secretary if the dealer in any way violated the provisions. If convicted of violating the Act, dealers could spend a maximum of one year in prison, or could be subjected to a fine of no more than \$1,000, or could suffer both punishments. Secondly, research facilities themselves also had to register at the US Department of Agriculture, and were to purchase their animals only from dealers with a valid license or from small-scale breeders who did not earn a substantial income through the transaction. Both the dealers and the research facilities had from thereon to keep records of the “purchase, sale, transportation, identification and previous ownership of dogs and cats but not monkeys, guinea pigs, hamsters, or rabbits” (*Animal Welfare Act 1966*). The emphasis was once more on the pet species that were the object of theft, and such records were to be readily available upon the Secretary’s request. Thirdly, a select number of species were to be treated “humanely” – dogs, cats, monkeys, guinea pigs, hamsters and rabbits.

Two features about the original Act have been the object of criticism from animal welfarists and rightists: the more evident fact that protection was not given to countless animal species such as reptiles, amphibians, birds, rats, mice, etc., which were also subjected to experimental research, and the impreciseness of what humane treatment means and implies. Section 13 declared as follows:

The Secretary shall establish and promulgate standards to govern the humane handling, care, treatment, and transportation of animals by dealers and research facilities. Such standards shall include minimum requirements with respect to the housing, feeding, watering, sanitation, ventilation, shelter from extremes of weather and temperature, separation by species, and

adequate veterinary care. The foregoing shall not be construed as authorizing the Secretary to prescribe standards for the handling, care, or treatment of animals during actual research or experimentation by research facility as determined by such research facility. (*Animal Welfare Act 1966*)

Indeed, the vagueness of what “minimum requirements” entail is open to multiple interpretations; interpretations which could be made to protect the interests of the researchers. Additionally, such minimal requirements cannot be adequately assessed without full study of species-specific necessities, both physical and emotional.

Unsurprisingly, amendments were made in the following years. Students are asked to read the original 1966 Act and its subsequent amendments up until the present day (see the online links below), and answer the following questions:

(1) What changes did the amendments bring regarding animal species subjected to research? What changes did they bring regarding handlers and caretakers? What are Institutional Animal Care and Use Committees (IACUC) and how do they operate? What changes did the amendments bring when tackling on the issue of pain, suffering and anesthetics? What changes did they bring regarding minimal standards on transportation, caging, protection from weather conditions and extreme temperatures, exercise, etc.? Which facilities are covered by the AWA and which are not? What is the punishment for violation of the AWA as it pertains to research animals today? Aside from research, what kinds of activities where animals are exploited are contemplated?

(2) What responsibilities does the Animal and Plant Inspection Service (APHIS) have towards the AWA? What is the American Association for Accreditation of Laboratory Animal Care and how does it function? How is the veterinary specialty of laboratory animal medicine different from other veterinary branches?

Before reading responses from animal welfarists or rightists, think about and discuss whether the provisions are susceptible to interpretations that might indeed fail to protect the basic interests of the research animals (that is, overlooking the fact that merely being subjected to research in itself does not constitute a protection of the interests of the animal). In other words, think about the extent to which the provisions may be vague or specific enough and why. Afterwards, try to find and read into responses from critics to contrast your impression with theirs. Basic examples of critical responses to continuing amendments can be found in Orlans (1993), Stephens (2002) and Haynes (2008).

(3) Compare the object and conditions of the original provisions with the referential model available: the 1876 Cruelty to Animals Act (see Item 3.3.3. in the MP). Discuss the possible similarities that the two present, even if enacted in different nations and with a temporal distance of ninety years. Does the reaction to the 1876 Cruelty to Animals Act from anti and pro-vivisectionists resemble the responses to the AWA in America?

Online links to sources:

- United States Department of Agriculture. Animal Welfare Information Center:

<https://awic.nal.usda.gov/government-and-professional-resources/federal-laws/animal-welfare-act>

(This website includes all the links listed below)

- Animal Welfare Act:
<http://www.gpo.gov/fdsys/pkg/USCODE-2012-title7/html/USCODE-2012-title7-chap54.htm>
- Animal Welfare Regulations:
<http://www.gpo.gov/fdsys/pkg/CFR-2013-title9-vol1/xml/CFR-2013-title9-vol1-chapI-subchapA.xml>
- Animal Welfare Act of August 24, 1966
<https://awic.nal.usda.gov/public-law-89-544-act-august-24-1966>
- 1970 Amendments:
<https://awic.nal.usda.gov/public-law-91-579-animal-welfare-act-amendments-1970>
- 1976 Amendments:
<https://awic.nal.usda.gov/public-law-94-279-animal-welfare-act-amendments-1976>
- 1985 – Improved Standards for Laboratory Animals Act
<https://awic.nal.usda.gov/public-law-99-198-food-security-act-1985-subtitle-f-animal-welfare>
- 1990 – Protection of Pets
<https://awic.nal.usda.gov/public-law-101-624-food-agriculture-conservation-and-trade-act-1990-section-2503-protection-pets>
- 2002 Amendments
<https://awic.nal.usda.gov/public-law-107-171-farm-security-and-rural-investment-act-2002>
- 2007 – Animal Fighting Prohibition Enforcement Act
<http://www.nal.usda.gov/awic/legislat/pl110-20.pdf>
- 2008 Amendments
<https://awic.nal.usda.gov/public-law-110-246-food-conservation-and-energy-act-2008>

2.- Nonhuman Others as Moral Subjects: The Many Branches of the Animal Liberation and Rights Movements

The anti-vivisection position of the nineteenth and early twentieth century is, as has been discussed in the MP, the product of a growing concern for the well being of animals in which compassion, guardianship, and humaneness appear as the moral code that man is obliged to follow as the more powerful and intellectually superior agent. Protective caretaking of animals is certainly of great importance within the animal rights and liberation movements that emerged in the last quarter of the twentieth century, but in many ways such movements represent not necessarily an extension of nineteenth-century humaneness, but a reinvention of such. By contextualizing humanness and compassion within a non-anthropocentric philosophical framework leading to practical ethics, rightists and liberationists not only propose a revolution within the established system of animal exploitation, but also gather the necessary discursive tools to counteract speciesist arguments through reason, and therefore, free the animal protection cause from an accusation that has been plaguing it since its beginnings: the notion that humaneness and compassion towards animals was the passionate outcome of sentimentality and stereotypical femininity. By placing the relevance of the nonhuman other as a moral subject with interests or rights (to name the most representative features argued by utilitarians and rightists, respectively) at the forefront of the debate, those who advocate kindness and respect towards nonhuman others can no longer be easily reduced to simplistic dismissals as ‘animal-lovers,’ an appreciation made by Singer in *Animal Liberation*. This is not to say that explorations of animal ontology as one of moral worth were not made in the early anti-vivisection or other humane approaches. Certainly the topic had been discussed by philosophers urging a social stand against androcentrism (Bentham is often quoted at this point), and the aesthetic response from artists and writers as diverse as Ouida or Mark Twain suggests, even if tangentially, this matter. In other words, it would be reductive to merely assume a completely innovative ideological breakthrough on the part of the animal liberation and rights movement without consideration of the historical steps undertaken to reach such positions.

What the animal liberation and rights movement challenged head on was the socially, politically and institutionally shared assumption of the superiority of man over other animals, and the belief that such superiority inherently justified the exploitative use of animals. This premise, reasoned into through an exploration of the animal’s moral worth, is generally identified as the principal distinguishing point from earlier movements. As Finsen and Finsen explain, “the humane movement promoted kindness and the elimination of cruelty without challenging the assumption of human superiority or the institutions that reflect such assumption” (1994: 3). Under the new anti-speciesist principle, the animal rights and liberation movement has practically become a worldwide empowered phenomenon that has successfully coordinated philosophy and activism, resulting not only in countless scholarly publications and a growing space in university curricula, but also in a masterful use of the current media for both campaigning and building awareness. Furthermore, what the animal liberation and rights movement evinced was the inter-connectedness of the structure of animal exploitation: the system of speciesism took on many forms, and not one was more urgent than another, although each demanded changes in accordance to the type of exploitation at hand. Animal exploitation was divided in a series of general categories (some more widespread than others), each of which would then subdivide into separate, yet related, types of cases. The general categories are: (1) animals for research,

experimentation and education, (2) animal agriculture and factory farming, (3) animals in entertainment, (4) animals and the clothing industry, and (5) animals for sport and hunting.





Artistic piece representing the multiple horrors of vivisection in Boston. Courtesy of the New England Anti-Vivisection Society (NEAVS).

That animal liberationists and rightists sought and continue to seek similar goals does not at all mean that they all agree as to the reasons that make the cause a moral imperative (philosophical argument) nor as to the measures undertaken (a problematic position undertaken by activists, for instance, is whether euthanizing certain specimens, usually on account of irreparable suffering or pain, should be allowed or not). Furthermore, the more radical representatives (those who advocate the total abolition and elimination of each and every single form of animal exploitation) will in all probability view the more moderate positions (those perhaps aiming for regulation, and not necessarily abolition) as mere welfarism. In essence, an animal welfare argument posits the need to improve the conditions and maximize the well being of animals within the system of exploitation, but it does not intend to abolish the system itself. A common metaphor used to appreciate the difference between the two views is that animal welfarists fight for bigger cages, whereas animal liberationists fight for no cages at all.

As helpful as such metaphor may seem, however, the two sides are not so clear-cut, as they often overlap or a measure may appear welfarist or liberationist depending on the philosophical argument underlying the proposition. Moreover, because more revolutionary changes appear so far away, liberationists and rightists are often conflicted with whether in certain instances it is advisable or not to support more welfarist developments, at least for the time being. For example, the overall goal of the rightist might be the elimination of any type of research on laboratory animals, especially on those with a stronger sense of self-awareness. As the goal might be far-fetched, the rightist might have to weigh up whether it would be more productive or not to strive for a more immediate and viable measure that would provoke less resistance from the system and would at least remedy some of the pain and suffering of the animals: for instance, fighting to ensure minimal distress by improving the size and conditions of cages, ensuring that the animals' needs for socialization with other

members of their species are minimally met, etc. The object would be to improve the conditions of these animals while the lobbying for abolitionism continued on. The problem in ‘giving-in’ and ‘settling’ for such welfarist measures, however, is the question of whether such consent in the end indicates a validation of the system itself, an aid to its sustainability. It’s a very slippery ground for abolitionists to step on.

With this in mind, students are asked to read about and discuss the position of the two representative (although by no means exclusive) viewpoints of the animal liberation and rights movement, those of Peter Singer and Tom Regan, and their stance on animals used for research in particular. The impact that Singer, an Australian philosopher, had in America with the publication of *Animal Liberation* in 1975 is unquestionable, and has taken utilitarianism into new frontiers in the vivisection debate. American philosopher Tom Regan, on the other hand, stands as the prime animal rightist and, contrary to the utilitarian arguments that would make certain research and experimentation acceptable, promotes total abolition. Students must attempt to answer the following questions:

(1) What does the utilitarian ‘equal consideration’ principle imply and what does Singer mean when stating that all animals have interests? Why does suffering stand as the moral starting point in calculating whether a certain action may be justifiable or not? Theoretically, when would a certain experiment be morally justifiable in the view of Singer? How does animal experimentation tie in with human experimentation in *Animal Liberation* and why has such argument generated so much controversy? In your view, what are the strengths and weaknesses of the utilitarian approach?

(2) Eight years after the publication of *Animal Liberation*, Tom Regan’s *The Case for Animal Rights* explored new terrains in the philosophical domain. What do Regan’s concepts of ‘subject of a life’ and ‘inherent value’ mean and how is a theory of animal rights shaped accordingly? What exactly is meant by the term ‘rights’? What are the strengths and weaknesses of such view? Contrast the following quote with the utilitarian position on experimentation:

In the case of the use of animals in science, the rights view is categorically abolitionist. Lab animals are not our tasters; we are not their kings. Because these animals are treated routinely, systematically as if their value were reducible to their usefulness to others, they are routinely, systematically treated with a lack of respect, and thus are their rights routinely, systematically violated. This is just as true as when they are used in trivial, duplicative, unnecessary or unwise research as it is when they are used in studies that hold our real promise of human benefits. We can’t justify harming or killing a human being . . . just for these sorts of reasons. Neither can we do so even in the case of so lowly a creature as a laboratory rat. It is not just refinement or reduction that is called for, not just larger, cleaner cages, not just more generous use of anaesthetic or the elimination of multiple surgery, not just tidying up the system. It is complete replacement. The best we can do when it comes to using animals in science is – not to use them. That is where our duty lies, according to the rights view. (Regan 1985: 24)

3.- Investigations, Evidence and ‘Going Public’: From the Silver Spring Monkeys to *Unnecessary Fuss*

If the second half of the 1970s is recalled as the years in which utilitarianism, by the hand of Singer, emerged as the new theoretical landmark that rendered anti-speciesism possible, the 1980s were the germination of several activist organizations in America. From People for the Ethical Treatment of Animals (PETA), Farm Animal Reform Movement (FARM) and Fund for Animals, to the Culture and Animals Foundation (CAF) and Last Chance for Animals (LAC), it became clear that whether aiming locally, nationally or internationally, American citizens were intent on expressing their concern for the abuse and exploitation of animals. For a full, descriptive account of the representative organizations that were founded in the 1980s, see Finsen and Finsen (1994: 74-98).

The case of the Silver Spring Monkeys is remembered not only as the first investigation to result in a laboratory raid by the police and in the conviction of an experimenter on the charge of cruelty in the United States, but also as the animal rights and liberation movement’s referential point in which strategies for successful activism were put to the test. Ingrid Newkirk and Alex Pacheco founded PETA in the 1980 in Washington, D.C., and only one year later they set about planning how to expose what was being committed within research laboratories. Because of its proximity, Alex Pacheco applied for a job at the Institute for Behavioral Research (IBR) in Silver Spring, Maryland. Pacheco was accepted as a volunteer by behavioral neuroscientist Edward Taub, and began to work alongside his student, Georgette Yakalis. At the time, Taub was conducting research on monkeys’ use of their good and impaired arms. Taub had a total of sixteen macaques and one rhesus monkey under his care, and he had purposely performed procedures to cripple them (deafferentation) and record their recovery and adaptation.

From the first encounter with the monkeys, it soon became evident to Pacheco that the conditions under which they were kept were extremely unhygienic and distressful to the research subjects, who had been captured in the wild in the Philippines. He describes his first contact with the monkeys as follows:

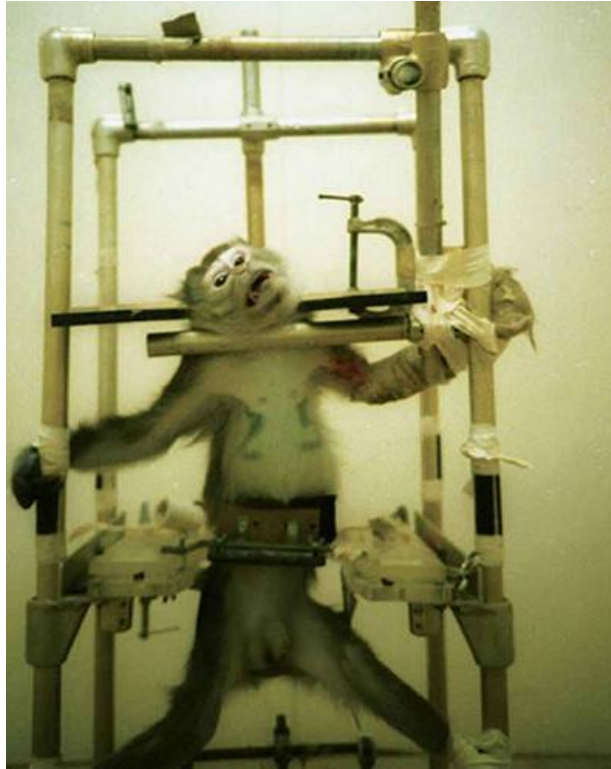
The smell was incredible, intensifying as we entered the colony room where the monkeys were kept. . . . I saw filth caked on the wires of the cages, faeces piled in the bottom of the cages, urine and rust encrusting every surface. . . . [The monkeys’] lives were limited to metal boxes just 17^{3/4} inches wide. In their desperation to assuage their hunger, they were picking forlornly at scraps and fragments of broken biscuits that had fallen through the wire into the sodden accumulations in the waste collection trays below. The cages had clearly not been cleaned properly for months. There were no dishes to keep the food away from the faeces, nothing for the animals to sit on but the jagged wires of the old cages, nothing for them to see but the filthy, faeces-splattered walls of that windowless room, only 15ft square. (Pacheco and Francione 1985: 136)

The surgery room where the subjects were intervened proved no better: dirt, filth, cockroaches, and mice and rat urine and excrements clearly showed that a sanitary and sterile environment was not on the IBR priority list. Adding to the neglectful state of the

rooms and the cages, was the fact that the monkeys were in constant pain as a result of the surgical procedures, pains which were exacerbated by the fact that no bandages were ever changed, nor was a consistent follow-up treatment followed to heal or at least clean the injuries. The grand majority of the medicaments kept, furthermore, had expired, and the monkeys did not receive any veterinary care at all. As a result of the extreme pain, untreated wounds, trauma, starvation, thirst and even boredom, the monkeys displayed abnormal behaviors such as self-inflicting injuries, neurosis, incessant masturbation and profound depression. “It was astounding that Taub and the other researchers expected to gain any reproducible, let alone reliable, data from these animals,” Pacheco notes, “considering the conditions of the animals themselves and of the colony and surgery rooms” (1985: 137).

The experiments that Pacheco witnessed were no less unmerciful, and Pacheco himself was even ordered to keep track of a food deprivation experiment for which there was no purpose other than the discovery of some sign or symptom that could earn Taub another research grant. The next procedure that Pacheco was to be in charge of was the “acute noxious stimuli test,” in which the monkeys were immobilized in a chair and parts of their bodies were clamped with surgical pliers to observe where it was that they still felt pain. Pacheco recorded how one of the monkeys “was placed in the chair and the haemostat clamps were latched as tightly as possible on to his testicles. Terrified, he thrashed violently and screamed” (1985: 139). Another experiment involved yet another immobilizing chair and the use of electrodes. As a result, “some monkeys would break their arms in desperate attempts to escape the chair and the intense electric shocks” (1985: 141).





Selection of pictures collected by Pacheco of the Silver Spring Monkeys to bring visual evidence of the cruel conditions that the experimental subjects were kept in. Courtesy of People for the Ethical Treatment of Animals (PETA).

For months Pacheco worked on documenting evidence, taking pictures and even sneaking in experts in the fields of veterinary sciences, ethology, primatology, medicine and psychology to certify and attest to the poor medical and environmental conditions the monkeys were in. Finally, in September 1981, Pacheco brought the piled evidence to the authorities, who immediately raided the IBR under the state's Prevention of Cruelty to Animals law and gave temporary custody of the monkeys to the activists. To

attract public support and indignation, PETA had made sure that the press was present at the raid.

What followed was a highly-publicized legal battle between Taub and the scientific community he represented, and the newly-formed animal rights organization. Taub was charged with seventeen counts of animal cruelty (one for each monkey) and the judge ordered for the monkeys to be returned to the IBR. The activists relocated the monkeys to avoid their return, but subsequently gave in to negotiations with the police force, as Taub could not be prosecuted without the animals present as evidence. One of the monkeys died five days after the renewed custody of Taub, and the judge ordered the rest to be removed once again and taken to the National Institute of Health (NIH). The NIH itself, in the meantime, had decided to suspend Taub's grant after an investigation and an inspection of the premises.

In November 1981 Taub was convicted of six counts of cruelty but was acquitted from the remaining eleven. Taub appealed his conviction, and a second trial took place in June 1982. The activists were disheartened by the fact that the prosecution was only allowed to present evidence relating to the six monkeys for which Taub had been convicted. Furthermore, the jury had to be unanimous in their decision of Taub being guilty or not guilty. Pacheco lamented the fact that the trial was obtusely presented before the jury:

Unfortunately, there were many things that the jury was never allowed to consider in making its decision, things it was never allowed to hear, know about or see. For example, the jury was not permitted to hear about the discovery of two 55-gallon barrels filled with the corpses of monkeys and weighted down with used auto parts and wood. The jury could not ask, "What became of them? How did they die?" The jury was never allowed to hear that Taub was denied grant application because between 80 and 90 percent of his animal subjects died before the end of his experiments. It could not see the 1979 US Department of Agriculture inspection report that read: "Floors were dirty with blood stains all over them." It was never allowed to know that Taub operated illegally, in violation of federal law, for seven years, while receiving hundreds of thousands of federal tax dollars. The jury didn't know that Caligula [one of the monkeys] suffered from gangrene and mutilated his own chest cavity, that blood splattered the wall and ceiling of the converted refrigerator chamber, that the NIH had investigated Taub and found him in violation of its own guidelines, that Charlie [one of the monkeys] had died of an unexplained "heart attack." It was never allowed to see or hear of the surgically severed monkey hand or the skull that Taub used as paperweights in his office. And, perhaps most unfortunately, the jury was never allowed to see the living evidence, the monkeys themselves. (Pacheco and Francione 1985: 145)

With these limitations, the outcome was of no surprise. Taub's six convictions were reduced to only one, and he was acquitted of the other five. Adding insult to injury, Taub's last appeal to the Maryland Court of Appeals in Baltimore resulted in his acquittal of the final one, on the grounds that the state's Prevention of Cruelty to Animals law did not apply to federally funded laboratories.

In the years that followed, PETA continued to fight for custody of the monkeys, but to no avail. They were to be still used as research subjects, and were finally exterminated

after yet more experiments involving electrodes between 1990 and 1991. Taub's reputation was irreparably damaged, but he still managed to somewhat make a name for himself through his constraint-induced movement therapy (CI) for people rehabilitating from strokes. The monkeys had been part of the material used for the development of the therapy.

But even if Taub had, through appeals, been acquitted, the initial conviction of six counts of animal cruelty represented a triumph for the animal rights community, and it had taught them the extent of the need to 'go public.' The unprecedented media effect on the case proved to be a powerful and persuasive tool to raise awareness about the abuse of animals in the hands of the scientific community, and PETA has, since then, developed countless campaigns that evince their skillful use of press coverage.

(1) Students are to collect and analyze press reports that were published at the time of the Silver Spring monkeys controversy. How do those arguments in support of Taub or in support of the activists relate to the arguments that were traditionally used in the vivisection debate of the late nineteenth and early twentieth century? Discuss the advantages that new forms of technology have for exposing what is withheld from the public inside laboratories and discuss the multimodal effect of combining image and text and why it proves to be an effective tool for raising awareness.

Online link to hear Pacheco's statement before the US House Subcommittee on Science,

Research and Technology and to see the visual evidence he collected:

<http://www.peta.org/videos/silver-spring-monkeys/>

(2) Visit PETA's section on animals used for experimentation and discuss in groups what factors may have been strategically kept in mind for the design of the website. What kinds of images are showcased and what kind of people are used as authority figures in the subject? How is the information presented? What topics appear to be PETA's priority within animal experimentation?

Online link to PETA's section on animals used for experimentation:

<http://www.peta.org/issues/animals-used-for-experimentation/>

(3) Not long after the Silver Spring monkeys trials, another landmark case in PETA's and other animal rights organizations' history took place. Students are to research the events surrounding the thirty-minute videotape *Unnecessary Fuss*, a recording of the experiments performed by Thomas Gennarelli at the University of Pennsylvania. The experiments, once again involving monkeys, were supposedly performed with the purpose of researching head traumas. In 1984 the Animal Liberation Front broke into the laboratory and retrieved approximately sixty hours of videotapes of the experiments. The tapes were handed over to PETA members, who edited them into *Unnecessary Fuss*. What were the legal proceedings that unfolded once *Unnecessary Fuss* was ready for viewing and what authorities were involved? What other animal rights organizations came to the aid of PETA and how was such joining of forces coordinated? Compare the developments with the case of the Silver Spring monkeys. What new action did activists undertake within the premises of the National Institute of Health in July 1985 and how was it publicized? Do you find such activist means effective? What were the accomplishments that came through thanks to the activists?

Online link to view *Unnecessary Fuss*: <http://www.peta.org/videos/unnecessary-fuss/>

WARNING: The films contain graphic images of animal experimentation. Viewer discretion is advised.

4.- From Documentaries to Hollywood Films: How is Vivisection Conveyed?

Unnecessary Fuss (see Item 3 in GSD) set a precedent for the type of footage that was to be of tremendous effectiveness for the animal rights community. That its showing was refused at the committees that were ordered to investigate the case at the University of Pennsylvania or at the Department of Health and Human Services (HHS) goes to show the extent to which pro-vivisectionists realize the power of image. When confronting such a transparent piece of evidence as this, those in favor of animal experimentation generally make allegations on the grounds of two arguments: firstly, by power of metonymy, the footage may be edited in such a way that only the most gruesome scenes are shown, hence omitting the images that may show an adequate caretaking of the animal(s) used. Such editing may distort the objectives and steps undertaken in the experiment, as using the exceptional moments in which animals suffer may erroneously pass as the representative developments of the entirety of the study. Furthermore, the editing may also fail to reproduce the accurate sequencing of the research developments. By depriving the recordings from a narrative under which certain progresses are made, the apparently random accumulation of images strengthens the idea that the research procedures are unmethodical. In other words, to omit, limit or in any other way mess with the linear process of the research study is to meddle with the purpose and scientific relevance of such study. Secondly, pro-vivisectionists might be against the screening or viewing of such footage because viewers are not knowledgeable enough about science or research procedures themselves, whether these belong to the medical, pharmaceutical, or cosmetic field. The politics surrounding animal trials is not something with which the general public is familiarized.

Depending on the investigation at hand, sometimes these arguments may be easily dismissed and sometimes not. One could argue that of course the most atrocious images are shown, for such is the purpose of exposing animal cruelty and abuse. And even if there were numerous other sequences and images in which researchers do comply with the law and laboratory stipulations, the fact that there is enough footage containing illegal, irregular or immoral behavior for a substantial amount of time proves that these instances are more commonplace than expected. They may not be the norm, but they are certainly not the exception. Moreover, just one violation should be enough to prosecute, or at least investigate the case. Regarding the public's unfamiliarity with scientific procedures and protocols, one may also argue that, although useful for further insight, such knowledge should not influence one's right to judge an act as morally right or wrong. Viewers are able to interpret the visible animal response to pain and cruelty regardless of their proficiency in science or even ethology. In the same way that random jurors are brought in to deliver a verdict relating to a field out of their expertise, or in the same way that a democracy allows for everyone to vote (and everyone's vote to count equally) regardless of their expertise in the political sciences, so does the public have a right to deliver a moral statement as to how animals are treated in a laboratory.

All in all, in the activists' view, the perpetrators of animal experimentation speak for themselves through their own actions as recorded through their own cameras.

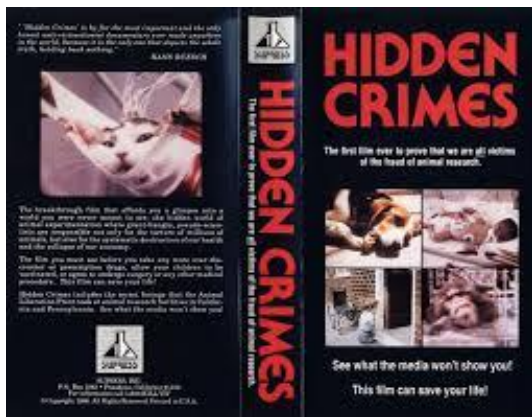
Whether retrieving recordings made by the very own scientists or whether filming undercover, what is undeniable is the fact that documenting by way of footage has become the most viable way through which to gather evidence of what actually goes on inside laboratories. As such, it is not uncommon to find filmic sequences in the webpages of more radical organizations (PETA's cooperation with the Animal Liberation Front – ALF, for one, is a guarantee that footage compromising raided research centers will go public, such as in the case of *Unnecessary Fuss*, or in another famous film titled *Britches*). What *Britches* also showed was the physical and psychological recovery of a rescued animal – the viewers hence gets a rewarding glimpse of the happiness that an animal is able to experience, thus strengthening support for the activists.

Soon enough, footage and pictures were strategically used for the development of documentary films. In 1986, Students United Protesting Research on Sentient Subjects (SUPRESS) released a documentary exposing animal experimentation in America called *Hidden Crimes*. The film was directed by Javier Burgos, and was structured through fundamentals such as (1) the pain issue, (2) the dissection issue, (3) the animal sources, (4) the scientific issue: the fraud, the evidence, (5) the money issue: the vested interests, (6) the secrecy of deception, (7) the comeuppance: the human damage, and (8) the revolution. From providing information about the legal and funding standards and pound seizure to accusations against the de-sensitizing of younger generations by way of dissection and the protocols of product testing, the narrator touches upon how animal experimentation branches into unexpected social terrains, and as such demands action from all citizens. By combining the authorial figure of narrator, talking heads of professors and other experts from fields of relevance, and statements made by students, with extremely graphic material, the film advocated for a new form of medicine. As the narrator states:

The constant talk about alternatives or even replacements to animal experiments is dangerous and misleading because it implies that animal experiments are useful and therefore worth replacing. Animal experiments are not science, and must be abolished. The only replacement is real science, which means that the truly scientific experiments which will replace animal experiments will be totally different conceptually, and therefore they cannot be even compared to the phony animal experiments, examples of which you have just witnessed. (*Hidden Crimes* Min. 8:00)

Echoing earlier anti-vivisectionism, the film emphasizes the need for research through prevention of disease and clinical study of humans who have already contracted the disease at hand. Once the connection between animal experimentation and human harm has been established, the final section of the documentary offers a small portrayal of the new anti-vivisection movement and its contemporary challenges. Finally, after the credits, it provides a few guidelines on how to cooperate with anti-vivisectionism (through public presentations of the film, refusal to dissect and vivisect within school or college classes, formation of anti-vivisection groups within education centers, boycott of products, and so on). Recruiting for the cause, therefore, went hand in hand with instructions about forming protests, picketing, organizing demonstrations and creating

an atmosphere of civil disobedience. Inform, expose, demonstrate and always call the media; these were the four steps to follow.



***Hidden Crimes* (1986) and *Earthlings* (2005): two landmark documentary films of the animal rights movement.**

***Twelve Monkeys* (1995) and *Rise of the Planet of the Apes* (2011): two classic examples of how vivisection and animal experimentation are depicted in Hollywood.**



More recently, another American documentary film that has received public acclaim is Shaun Monson's *Earthlings* (2005), an exposé of the cruelty and speciesism underlying the multiple facets of animal exploitation. *Earthlings* takes the viewers on a visual journey from the abhorrent genesis of where pets come from to behind the walls of the factory farm; from the torturous practices of the banal clothing industry to the darkness behind the glitter of entertainment, and rounds it up with a visit to the laboratories. These are the industries built by man, and they pervert and re-determine the *telos*, the fulfillment of the genetically-based and environmentally-expressed interests of each and every animal (Rollin 1998: 162). The story is that of the animals as they are being 'processed' to reach that *telos* that has been anthropocentrically determined for them: the transformation from being a living, sentient being to becoming a steak, a coat, a clown, a test subject. Although, for the most part, it is American institutionalized practices that are attacked, *Earthlings* also takes us as far as to Spain, Japan and India to appeal for a universal war against speciesism. The different industries show the webbing connections of speciesism, invoking a sense of nihilism whereupon we seem for too long to have been out of earshot. We come to the understanding that each of these individuals does not die quietly, although every effort is made to silence them. The film mainly relies on two authorial figures: it is set to the poignant music of Moby and narrated by actor Joaquin Phoenix (both avowed vegans of the entertainment industry), and it stays true to the 'equal consideration principle' of Peter Singer as it originally appeared in *Animal Liberation*.

Part 5 of *Earthlings* is dedicated to the field of science, and once again the section is structured through a compilation of graphic footage of suffering and distressed animals in their cages, animals being injected or inoculated, burned, administered electric shocks, and so on. Some of the footage is taken from *Unnecessary Fuss* and *Hidden Crimes*, and like its predecessors, it again discards the utility of animal experimentation, proposing instead clinical research investigations. "Just remember the fact that any disease deliberately provoked is unlike any disease that arises spontaneously" (*Earthlings* 1:14:40), Phoenix states.

Students are to watch *Hidden Crimes* and Part 5 of *Earthlings* (see online links below) and discuss the following matters:

(1) Compare the two films, separated by a span of almost two decades. Do you notice any argumentative differences? If so, what do you think has happened in twenty years that may have been conducive to such argumentative shift? Compare the two films with the nineteenth and early twentieth-century advocacy of anti-vivisectionists. How may the films have reinstated, changed, or reinvented the humane movement's dialectic?

(2) Which of the films do you find more compelling and persuasive and why? Remember that *Hidden Crimes* attempted to connect the different interests protected by continuing animal experimentation and as such, reached as far as into the matter of funding. *Earthlings*, on the other hand, as it deals with multiple forms of speciesism, ambitiously attempts to unify the cause into a single revolution against the entirety of the system itself. The title itself, *Earthlings*, appeals to inclusiveness, to commonness within a common space. The motto, "make the connection," does not just refer to the connection between the different industries of animal exploitation, but between beings. The two documentaries mark a contrast to other documentaries critical of animal experimentation such as the highly acclaimed British production *Project Nim* (2011)

because of the latter's focus on a single nonhuman other and the tragedy of his story as a research subject. What overall strategy do you find more effective? On the other hand, have the films in any way made you more critical of animal rights and liberation and if so, why?

(3) Animal experimentation has also been used as a subject and more frequently as a motif in feature film productions. Jonathan Kaplan's *Project X* (1987), starring Matthew Broderick and Helen Hunt, dealt with the topic of military research on the effects of radiation in primates. Animated film adaptations of books have been made for younger audiences, such as Don Bluth's *The Secret of NIMH* (1982) (see Item 9 in SD) and the British film *The Plague Dogs* (1982), based on the eponymous novel by Richard Adams. Terry Gilliam's *Twelve Monkeys* (1995), starring Bruce Willis, Madeleine Stowe and Brad Pitt, mixed animal rights radicalism with the dangers of virology. Although anti-vivisectionist sentiment on the grounds of animal sentience was not of relevance in the film, it did contribute to Hollywood's recurrence to vivisection as the triggering act leading into post-apocalyptic worlds. This motif was also used in British productions such as Danny Boyle's horror film *28 Days Later* (2002). More recently, the planet of the apes franchise has been resurrected in the form of *Rise of the Planet of the Apes* (2011), directed by Rupert Wyatt and starring James Franco and Freida Pinto. The film implodes matters such as the ethics of vivisection, the illusion of progress, the meaning of evolution and the Promethean myth. Students are to research into Hollywood's choices in depicting vivisection and present and discuss their ideas. How do such apocalyptic films relate to the fears of earlier anti-vivisectionism? How are researchers and experts within the medical field characterized and do you find traces of resemblance between them and early vivisectionists? Compare the films with more anti-vivisectionist inclinations to the documentaries. What arguments do the former pick up from the latter and how are they dramatized? Do the feature films bring in new issues relating to animal rights? Which do you find more effective for sensitizing viewers: the documentaries or the dramatic scripts of the films and why?

Online link to *Hidden Crimes* on YouTube (divided in eight parts):

<http://www.youtube.com/watch?v=bPtj89MzoZk&list=PL36595650E60D4F6F>

Online link to *Earthlings* on YouTube (Part 5: Science, begins approximately on 1:13:18):

<http://www.youtube.com/watch?v=NL5uoS7CL48>

WARNING: The documentaries contain graphic images of animal experimentation. Viewer discretion is advised.

5.- Henry Spira, Product Testing and the Three Rs of Animal Experimentation

If during the nineteenth century it was experimental physiological procedures performed by Magendie or Bernard (among scores of others), followed by germ theory experiments, which were time and again reproduced in anti-vivisectionist literature and pamphlets, the ramification of current medicine into a wide array of fields has led to countless forms of procedures that reflect the multiple forms that animal experimentation can take. In recent decades, one of the most criticized fields in America

has not precisely been that of experimental research, but that of product testing. As the very name suggests, product testing involves a series of standardized protocols through which the safety of a product is measured quantitatively and qualitatively. These products range from commodities of the cosmetic industries (makeup, lotions, sunscreens, soaps and shampoos) to industrial chemicals (for pesticides, household cleaners, antifreeze, bleaches, etc.), drugs, and so on. The toxicity of the majority of these products is determined through animal testing before heading on to human trials. As Gendin explains, the category of product testing may also take on other forms such as using mammals in crash tests “to analyze the adequacy of seat belts, helmets, and shoulder harnesses” (1986: 16).

That product testing, particularly for cosmetics, became a public target during the 1980s was mainly the result of Henry Spira’s campaigning against Revlon. In 1974 Spira had founded Animal Rights International (ARI) after attending a course on animal liberation taught by Peter Singer at New York University. Before taking on the cosmetics industry, Spira had previously succeeded in denouncing the framework of animal experimentation through his public battle against the American Museum of Natural History’s vivisection of cats, pound seizure and the Metcalf-Hatch Act in New York (see Item 7 in SD). A challenge of such magnitude to such established and respected institutions as the AMNH and a state legislation was unprecedented, and more so were the activists’ triumphs. That Spira, alongside Andrew Rowan, decided to next take on Revlon’s Draize tests was a well-planned strategy, drenched with historical input, to earn further public support. According to Rudacille,

Women had traditionally exhibited the most sensitivity to the suffering of experimental animals – the nineteenth-century antivivisection societies had been heavily female – and no doubt modern women would be appalled if they began to associate the quest for beauty and the myriad cosmetic products they used every day with animal cruelty. (2000: 161)

Well acquainted with the history of the humane movement, Spira proceeded. What exactly did these Draize tests, previously not well-known to consumers, consist on? Standardized by the Food and Drug Administration in 1944, Draize tests are an acute toxicity test in which a potentially noxious substance is externally smeared, dripped or applied on a part of an animal’s body (usually the eyes or the skin) in order to measure the product’s potential harm. Usually the test subject is a rabbit, which of course has to be restrained in order to stay immobilized. Protocol indicates that recordings of the effects of irritancy be made usually up to around a period of fourteen days. The substances cause extreme damages to the eye (ranging from swelling and discharging to severe bleeding and even blindness) that may be permanent, and needless to say, are extremely painful. If after the test the substance is washed off and the eye heals, the animal may be used again for more product testing.

By protesting against Revlon, Spira was embarrassing a titan of the cosmetics industry. He had created a coalition of more than four hundred animal rights and welfare organizations to protest against the Draize test, and on April 15, 1980, the *New York Times* published a full-page ad with a picture of a white rabbit lying next to test tubes. “How many rabbits does Revlon blind for beauty’s sake?” read the title caption. The company could not as adamantly safeguard its position, for cosmetics were “the only industry that conducted toxicity tests without being required to by law or regulation” (Finsen and Finsen 1994: 136), and Revlon became increasingly cornered by public

outrage. The pressure was intense, and Revlon resolved to mend the crisis with a \$750,000 donation to the Rockefeller Institute as funding for research on alternative forms of product testing. It was a symbolic gesture to dissipate the controversy, but it marked a precedent. When Spira turned his attention to Avon and the Cosmetics, Toiletry and Fragrance Association, the companies acquiesced with a one million dollar fund of their own (part of which went to Johns Hopkins University) to contribute to the search for alternative forms of testing.



Campaign ad against Revlon appearing in the *New York Times* in 1980.

The coalition followed up with campaigning against LD50 product testing. LD50, which stands for Lethal Dose 50%, is a form of user safety testing whereupon a set number of animals (usually from forty to up to around two hundred) are administered (usually through force-feeding) a substance to determine what dose will produce enough toxic effect to kill 50% of the test subjects. Again, a full-page ad was printed in a newspaper in May 1983, combining the picture of a helpless dog with the following caption: “Would you pay someone to kill this animal?” and “The LD50 causes agonizing death for millions of lab animals... And you pay for it!” (Singer 1998: 119). Procter and Gamble, one of the most powerful American consumer goods company, was the target. Spira’s objective was to get P&G to use their resources to continue researching for testing alternatives from the inside, as opposed to directing the funds towards universities; he was well aware that P&G, like Revlon or Avon, were very sensitive to their public image and would react once their reputation was at stake. Having purchased P&G shares, Spira attended the 1982 annual stockholders’ meeting and politely but persistently cornered the executives with questions about their responsibility towards promoting alternatives. His intervention secured him a meeting

with the Vice President for Research and Development and he was shown some of the works-in-progress to substitute (or reduce) animal testing. Ultimately, in May 1983, P&G publicly expressed their intention to replace LD50 testing with “up/down” tests, which consisted in “using high and low doses alternately on a much smaller number of animals, to find the approximate range within which a substance poisoned an animal” (Singer 1998: 125).

In the case of product testing, Spira embodied what has come to be known as the ‘alternatives movement,’ in which the objectives are best understood through the so-called ‘3Rs approach’: replacement, reduction and refinement (Waldau 2011: 117-118). Replacement refers to the researching of methods to substitute animal experimentation (such as in vitro studies). Reduction, like the transition from LD50 to up/down tests, involves the research for the use of less test subjects. Finally, refinement, aims at assuring as minimal an infliction of pain, suffering or distress to the animal as possible; in other words, it aims at maximizing their welfare as test subjects within the laboratory. Students are to further read into the ‘alternatives’ movement and approach and answer and discuss the following issues.

(1) Research the history of the Draize test. What health-related incident triggered its development and subsequent approval? Where does the Draize test legally stand today in the United States? What is the Federal Food, Drug and Cosmetic Act? What were its original provisions and what are the major amendments that have been made up until today? Recommended reading: Parascandola (1991).

(2) Research the history of the LD50 and its derivative lethal-dose tests and gather data about particular experiments through which they have been put to practice by the cosmetics and the pharmaceutical industries. What is the legal status of LD50 today in America? How do regulations regarding the Draize and the LD50 tests in America compare to European legislative efforts today?

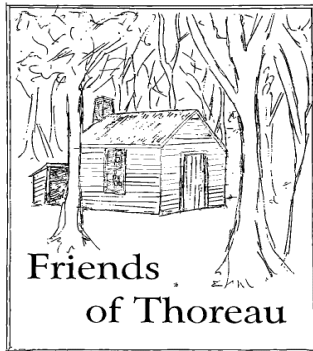
(3) What American agencies or committees are active today in the research for alternatives and what accomplishments have been made so far?

(4) Do online research on anticruelty (or cruelty-free) cosmetic products. Do cosmetic company websites include information about their testing methods, whether anticruelty or not? Do you find that cruelty-free cosmetic companies openly advertise such position? Discuss in groups the extent to which you think animal testing may affect consumers’ decision to buy cosmetics and how women’s traditional role in the humane movement affects such decisions. What about in the case of pharmaceutical drugs? To what extent do you think that consumers may oppose animal testing in this case?

(5) Watch *Henry: One Man’s Way* (1996), directed by John Swindells and written by Peter Singer, to learn more about Spira’s activist methods and techniques. Online link on YouTube:<http://www.youtube.com/watch?v=0Kip4XVDYIE>

As purported by Finsen and Finsen (1994) and Singer (1998), Spira’s invitation to Revlon, Avon or P&G to invest in researching alternatives did not necessarily sit well with more radical animal rights groups. As discussed in Item 2 of GSD, some activists view moderate change for the welfare of animals as a step strengthening the speciesist

system itself. PETA for instance disagreed with the alternatives approach tactics on the grounds that animal testing ought to be completely abolished, not redesigned in such a way that would make testing acceptable. Furthermore, PETA's compilation of information through the Freedom of Information Act revealed that during the early to mid-1980s, P&G had actually increased their use of some animals in number, and that although less animals were used for LD50 tests, the number of specimens used for other lethal-dose tests could be incrementing (Finsen and Finsen 1994: 137-138). Yet Spira had succeeded where more radical positions had failed: he had proven that cooperation between corporations and the animal rights movement was possible. Revlon and P&G were not just any companies – they were corporate giants on whom smaller companies could model themselves, and even if only for the sake of maintaining their reputation intact, they had acceded to opening a dialogue. Spira's refusal to reduce the controversy to antithetical dualisms of good and evil was realistic; he considered the interests of the animals at the same time that he used those of the cosmetics industry to his advantage. If there was to be any change at all, it could only be done gradually. Whether this may be considered a welfarist or a rightist approach is a difficult question. Students are asked to prepare a debate in which one side represents the more radical animal rights approach of complete abolitionism and the other advocates for progressive change through alternative forms of testing.



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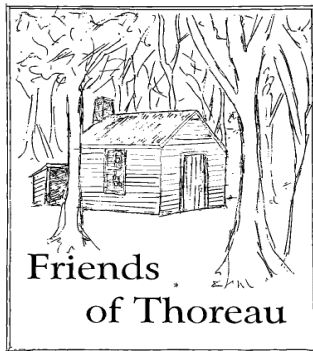
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LINKS TO ONLINE SOURCES

American Anti-Vivisection Society (AAVS): <http://www.aavs.org>

American Humane Association (AHA): <http://www.americanhumane.org>

American Society for the Prevention of Cruelty to Animals (ASPCA):
<http://www.aspca.org>

Animal Equality (AE) website on animal experimentation:
<http://www.animalequality.net/animal-experimentation>

Animal Experiments Pictures: <http://www.animalexperimentspictures.com>

Animal Liberation Front (ALF): <http://www.animalliberationfront.com>

Anti-Vivisection Coalition (AVC): <http://www.stopvivisection.org.uk>

Bold Native film website: <http://boldnative.com/>

British Union for the Abolition of Vivisection (BUAV): <http://www.buav.org>

Cruelty Free International (CFI): <http://www.crueltyfreeinternational.org/en>

Dying to Learn: <http://www.dyingtolearn.org>

Go Cruelty-Free: <http://www.gocrueltyfree.org>

Humane Society International (HSI): <http://www.hsi.org>

Earthlings film website: <http://earthlings.com>

Last Chance for Animals (LCA) website on animals used for research: <http://www.lcanimal.org/index.php/campaigns/class-b-dealers-and-pet-theft/vivisectionanimals-in-research>

Leaping Bunny. Cruelty-free products: <http://www.leapingbunny.org>

National Anti-Vivisection Society (NAVS): <http://www.navs.org.uk>

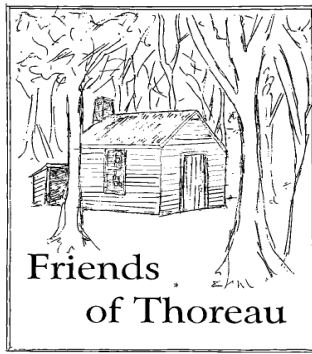
New England Anti-Vivisection Society (NEAVS): <http://www.neavs.org>

People for the Ethical Treatment of Animals (PETA) website on animal experimentation: <http://www.peta.org/issues/animals-used-for-experimentation>

Royal Society for the Prevention of Cruelty to Animals (RSPCA): <http://www.rspca.org.uk>

Stop Vivisection. European Union: <http://www.stopvivisection.eu/en>

Vivisection Information Network: <http://www.vivisectioninformation.com>



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