

**OPEN SECRET
MACHADO DE ASSIS AND THE
ANTIVIVISECTION MOVEMENT**

Nádia Farageⁱ

An analogy between the biomedical practice of vivisection and the contemporary, literary realism of the second half of the 19th century was advanced by Menke (2000), when examining the literary project of George Elliot and her pro-vivisection partner, George Henry Lewes. According to Menke’s argument, both biomedical and literary practices sprang from the same impulse—a drive to examine the internal and/or deep causes of phenomena, be they of body or soul. Realist analysis would, then, stand as the functional equivalent of the vivisectionist’s scalpel, dissecting the hidden causes of social and psychological processes. In fact, the argument was not alien to the 19th century, for Zola had already claimed the link between literature and experimental science in his essay “Le Roman Expérimental”(1880), taking the physiologist Claude Bernard as his source and model.

No doubt, “looking through”—the quest for the hidden, the unconfessable and, as a rule, the sordid in social and personal lives—seems to be the self-imposed task of 19th century realist and naturalist authors, running in parallel with the biomedical experimental model. As de Fontenay (1998) put it, vivisection was indeed the epitome of “looking through” in Western modernity. A very important trend in Western modern epistemology was then at stake, as pointed out by Foucault (2006) and, most notably, Deleuze (1974:5-12) who challenged the privileging of depth or thoroughness as the place of knowledge *par excellence* in Western epistemology, ignoring that which surface can tell and produce.

In what follows, I will try to discuss the position of Machado de Assis in respect of this extensive political, not only literary, debate of his time. It is certain that Machado de Assis, despite his critical appraisal of Romantic aesthetics in his later works (Gledson, 1984:176-177), also reacted against what he considered to be an abusive propensity toward the sordid side of private life in the realist novel. In his controversial review of *O Primo Basílio* (Cousin Bazilio), Machado de Assis ([1878] 1997(III):912) reproached Eça de Queirós' excess of sensual description and morally empty characterisation, saying: "I do not demand weary images of decadent Romanticism (...) But to quit one excess while falling into another is not to regenerate anything, it is just to change the agent of corruption". In that review, Machado de Assis even advises young writers to keep their eyes on social reality, while avoiding Realism (Machado de Assis [1878] 1997(III):913; see Schwarcz, 1990; Chalhoub, 2003:91-92).

However, the writer not only criticizes the scalpel in literature, but also in science. In order to understand his position on vivisection, I will provide a reading of two short-stories of the 80s—"The Hidden Cause" ([1885] 1896) and "An Alexandrian Tale" ([1883] 1884)ⁱⁱ—addressing their historicity, by which I mean, specifically, the dialogue they establish with the contemporary international antivivisection movement and, within this larger frame, the eventual incidence of the Romantic ethical legacy in Machado de Assis' reflection on modern experimental science and biopower.

The chronotopical lab

"The Hidden Cause", a short-story published originally in 1885, sketches a love triangle:

Garcia was standing, staring at his fingernails and cracking his knuckles from time to time; Fortunato, in a rocking chair, looked at the ceiling; Maria Luisa, near the window, was finishing off some needlework. For five minutes none of them had said a thing. They'd talked about the weather, which had

been very pleasant—about Catumbi, where Fortunato and his wife lived, and about a private hospital, something we'll explain later ([1885] 2008:167).

Two male friends and a woman: the wife of one, desired by the other. Although love triangles, as we know, constitute a recurrent *topos* in Machadian fiction, the vortex of this triangle is not love. Textually undefined, “the hidden cause” is something of an antipode to love, the definition of which has already attracted a fair amount of attention in literary criticism (Candido, [1970]1995; Moraes, 2009).

First, let us look at the encounters that came to establish the friendship between the two men:

Garcia had graduated in medicine in the previous year, 1861. In 1860, when he was still a student, he met Fortunato for the first time, in the doorway of the Santa Casa hospital; as he was going in, the other man was coming out ([1885]2008:167-168).

The second encounter happened in an almost empty theatre:

The play was a melodrama, clumsily put together, bristling with daggers, curses and pangs of conscience; but Fortunato watched with a singular interest. At painful moments, he was doubly attentive; his eyes eagerly went from one character to another, so intently that the student thought the play must be stirring personal memories. The melodrama was followed by a farce; but Fortunato didn't see it through ([1885]2008:168).

The expression “bristling with daggers”, redolent of blood and sharp-edged metal blades, should not pass unnoticed in the building of the character of Fortunato.

So, from the start, the story establishes a personage who has an “odd interest” in drama, pain and remorse. The third encounter widens this register: one night, Garcia watches the

arrival of a neighbour, covered in blood, brought by Fortunato. Afterwards, Garcia comes to understand that the neighbour has been attacked by a “*capoeira* gang”.ⁱⁱⁱ The entrance of Fortunato follows:

The man was being carried up the stairs, covered in blood. His black servant hurried to open the door; he was groaning, and there was a confusion of voices in the semidarkness. Once he'd been laid out on the bed, Garcia said they should call a doctor. 'Here's one,' someone volunteered.

Garcia looked: it was the man from the Santa Casa and the theatre. He thought he might be a relative or a friend of the patient; but discarded the notion when he heard him ask if the man had any family or a close friend nearby. The servant said not. He then took charge of affairs ([1885]2008:168-169).

Indeed, Fortunato manages all the necessary matters with the police and the doctor; then, he assumes a nursing post at the patient's bedside:

While the doctor was putting the dressings on, assisted by the student, Fortunato acted as servant, holding the bowl, the candle, the cloths, keeping out of the way, looking coldly at the patient, who was groaning out loud.

(...) Garcia was astonished. He looked at him, saw him calmly sit down, stretch out his legs, put his hands in his trouser pockets, and stare at the sick man. His eyes were pale, the colour of lead; they moved slowly, and had a hard, dry, cold expression.

(...) Garcia felt repelled as well as curious; there was no denying he was witnessing an act of rare dedication, and if Fortunato was as disinterested as he seemed, the conclusion seemed to be that the human heart is a well of mysteries.

Fortunato left a little before one in the morning; he came back during the next few days, but the

recovery was quick, and before it was complete he disappeared ([1885]2008:169-170).

The healing, as with the farce, does not catch Fortunato's attention. The wounded man, when recovered, goes to thank him, but his gratitude is rebuffed with such boredom and disdain, as to provoke even greater astonishment in the young doctor, Garcia. After a period without seeing each other, Fortunato and Garcia will become friends: in the interval, Fortunato marries Maria Luísa, a young lady "slim, graceful, with soft, submissive eyes". Garcia soon notices that as to husband and wife:

there was a kind of lack of harmony in their characters, little or no moral affinity, and on the woman's side there were some signs of feelings that went beyond respect, and looked more like resignation or fear ([1885]2008:172).

More than friends, Garcia and Fortunato become partners in a hospital, which Fortunato directs:

When the hospital was open he was the administrator and chief nurse, inspected everything, organized everything, stores and soups, pills and accounts.

Then Garcia was able to observe that the dedication to Gouveia was not an isolated case; it was inherent in the man's very nature. He watched him carry out his duties with more dedication than the servants themselves. He flinched at nothing; there was no disease too painful or repellent; he was ready for anything, at any time of the day or night. Everyone was amazed and delighted. Fortunato studied and followed the operations ([1885]2008:174).

With the three of them constantly together, Garcia falls in love with Maria Luísa; Fortunato, on his part, conducts scientific experiments, that greatly disturb his wife:

Fortunato had started studying anatomy and physiology, and spent his spare time poisoning cats and dogs and cutting them up. As the animals' squeals unnerved the patients, he moved his laboratory to their house, and his wife, with her nervous disposition, had to put up with them. One day, however, unable to bear it any longer, she went to Garcia and asked him, as a favour to her, to get her husband to stop these experiments.

(...) "Of course, he'd say I'm a child. What I want from you, as a doctor, is to tell him that it's doing me harm; and it is, believe me" ([1885]2008:174-175).

Lansbury (1985:162; see also Rudacille, 2000:251) refers to the personal drama of Claude Bernard—the scientist who established the bases of modern physiology on the experimental method in living bodies—whose wife and daughters left home, terrified by the experiments on animals made by their husband and father. They were not alone: reportedly, painful and/or lethal experiments on animals caused widespread moral outrage in the second half of the 19th century, most notably in Great Britain. I shall return to this point below. For now, I must observe that, until the last decades of 19th century, biomedical experiments on living bodies were neither institutionalized, nor regulated by law. Amateurs could perform them in any place, be they public, such as schools and hospitals, or in private homes. On most occasions, animals were tied up and cut while conscious; to avoid their cries, often they had their vocal chords cut (Schär-Manzoli, 1995). These practices, it must be said, did not change much, when experiments became confined to laboratories and medicine schools. This can be seen from a sarcastic comment in the Brazilian press for the year 1883, concerning a visit of the Emperor to the School of Medicine and the neighbouring

School for the Blind in Rio de Janeiro, suggesting that the deaf, not the blind, should be in the neighbourhood of the School of Medicine, in order not to be terrified by the noise of the dogs suffering surgical experiments (*Gazeta de Notícias*, 23.07.1883).

Scientific specialization, alongside the institutionalization of vivisection occurred first in Great Britain in the 1870s. The pressure of social movement also resulted in some protective measures towards animals, notably the obligatory use of anaesthetics in experimental procedures (French, 1975; Turner, 1981).

Brazil soon followed the European model of institutionalization, first bringing experiments on living animals to medical schools in the 1880s. This movement can be gleaned from the local press. In 1883, the Rio de Janeiro newspaper, *Gazeta de Notícias*, announced:

Dr Kossut Vinelli will open the physiology course in the theatre of physics in the School of Medicine tomorrow, at ten in the morning (*Gazeta de Notícias*, 09.05.1883)

In 1885, an advertisement placed by the School of Medicine, in the same newspaper, shows the extent to which experimental practices had become part and parcel of the apprenticeship of medicine:

Faculty of Medicine. The registration for the exams for the position of Associate to the Chair of Physiology is still open in the secretary's office, and will close on the 23th of April of the current year. On that day, all candidates must present a report on a notable laboratory experience (...) or will be excluded from the exams (*Gazeta de Notícias*, 01.02.1885).

Vivisection, on which the biomedical model was based, and which would soon be practised in the public laboratories established in those years, springing first from the Hygiene

Laboratory set up in the medical school, where, to the dismay of critics, research and training in the method were enmeshed (*Gazeta de Notícias*, 17.09.1883). At the turn of the century, the experimental model came to be paradigmatic for research, especially fuelled by bacteriological experiments toward the production of the smallpox vaccine (Benchimol & Teixeira, 1994). Nevertheless, its foundation was laid earlier, in the 1880s, as can be seen by the transcription of a discourse at the French Academie Médicale, in homage to the Brazilian physician, Domingos Freire, for his research on a vaccine against yellow fever, using Pasteurian theory:

We also see, during our experiments, that, when under the influence of the high temperatures of those regions, the laboratories were literally invaded by microbes, and the animals, recently bought in order to be experimented upon, died naturally, while hundreds of other preventively inoculated animals resisted completely, showing signs of perfect health. I conclude asking that priority be given to Domingos Freire and promising new details soon, which always will be based on experiments (*Gazeta de Notícias*, 07.02.1885).

Short of praising Dr Freire's achievements, one may still be very impressed by the sheer numbers of animals targeted by his research. In contrast to the British case, the institutionalization of the experimental model was not accompanied by any protective measures for these animals; the use of anaesthetics in experiments was not obligatory in Brazil until the second half of the 20th century.^{iv}

So, the "The Hidden Cause" references this time of transition, from the amateur to the institutional practice of vivisection, from the experimental cabinet to the laboratory. This is demonstrated by the chronotopical marks of the story, varying from hospital to home, but note that its inverted transit also refers to a disturbed practice.

Quiet suffering, strident gaze

Let us return to the story. At Garcia's request, Fortunato's experiments cease at home. However, although prepared by the signs which betray Fortunato's hidden cause, the reader, on the side of Garcia and Maria Luísa, still suffers the full impact of the following scene:

He saw Fortunato sitting at the table, in the middle of the study, on which he had placed a saucer filled with alcohol. The burning liquid flickered. Between his thumb and index finger he held a piece of string, tied round the mouse's tail. In his right hand he held a pair of scissors. At the moment Garcia came in, Fortunato cut one of the mouse's legs off; then he lowered the poor beast into the flame, quickly, so as not to kill it, and started to do the same with the third leg; he'd already cut one off.

(...) And with an inimitable smile, the true reflection of a contented soul as it savoured inwardly the most delicious of sensations, Fortunato cut the third leg off the mouse, and for the third time lowered it into the flame. The miserable animal twisted this way and that, squealing, bleeding, scorched, and still it didn't die. (...) There was one leg left; Fortunato cut it very slowly, following the scissors with his eyes; the leg fell off, and he stopped to look at the half-dead mouse. As he lowered it for the fourth time to the flame, he did it deftly, so as to save, if possible, any shred of life ([1885]2008:176).

Candido ([1970]1995:36) remarks that the horrendous details of the passage are excessive, and all the more unusual as excess is so alien to Machado's textual economy. Alas, one could say that excess or bad taste pertained much more to the reality of vivisection, which the story—I dare say, intentionally—unveils. The institutionalization of experiments, in the second half of 19th century, in Brazil as much as in Britain, had the immediate effect of rendering the laboratories unapproachable by a lay public; from then on, the experiments would have only their mute victims for witnesses.

At the turn of the century, the accusations of ignorance or obscurantism had become commonplace against antivivisection activists. The uncovering of experiments on animals by two young women, former students of the school of Medicine of the University of London, in a moving book that led to street riots in 1907 (Lind-af-Hageby & Schartau, 1903), was reviewed by *The Academy and Literature* in the following unflattering terms:

These two women members of the Scandinavian Anti-Vivisection movement have attended numerous physiological demonstrations for the purpose of obtaining a degree. They changed their minds, however, and have published this book, whilst abandoning their studies as “nobody objecting to experiments on animals could have a chance of obtaining a degree”. This, of course, is nonsense; but certainly no one who could write a serious chapter on the sufferings of a decapitated frog, or the agonies of a “trembling heart” held in the observer’s hand, and entirely removed from the rest of the body, would have any chance of obtaining any distinction which depended on the possession of information. (*The Academy and Literature*, 01.08.1903, pp.107)

For their part, antivivisectionists had to deal with the burden of silence and misinformation. They had to struggle to make the issue one of public concern, as Cobbe exposed in the 1880s:

(...) the severity of the experiments in common use, appears from the Treatises and Reports (always including the English “Handbook”, Transactions and the Journal of Physiology) to be truly frightful. Sawing across the backbone, dissecting out and irritating all the great nerves, driving catheters along the veins and arteries, innoculating with the most dreadful diseases, cutting out pieces of the intestine, baking, stewing, pouring boiling water into the stomach, freezing to death, reducing the brain to the condition of a “lately-hoed potato field”; these

and similarly terrible experiments form the staple of some of them, and a significant feature in all.

But turning to the popular articles, we find Dr Lauder Brunton assuring the readers of the Nineteenth Century that “he has calculated that about twenty-four out of every 100 of the experiments (in the Parliamentary Returns), might have given pain. But of these twenty-four, four-fifths are like vaccination, the pain of which is of no great moment. In about one-seventh of the cases the animal only suffered from the healing of a wound”.

(...) Again, as to the number of animals dissected alive, the Treatises make us suppose it to be enormous. M. Paul Bert gives cases of terrible experiments on dogs placed under the compression of eight atmospheres and coming out stiffened “so that the animal may be carried by one paw just as a piece of wood”—and cats which, when dissected after death, showed a “marrow which flowed like cream”; and of these experiments he gives the public instances up to number 286. Schiff is calculated to have “used” 14.000 dogs and nearly 50.000 other animals during his ten years’ work in Florence. Flourens told Blatin that Magendie had sacrificed 4.000 dogs to prove Bell’s theory of the nerves, and 4.000 more to disprove the same; and that he, Flourens, had proved Bell was right by sacrificing some thousand more. Dr Lauder-Brunton himself told the Royal Commission (Q.5.721) that in one series, out of three on one subject, he had sacrificed (without result) ninety cats in an experiment during which they lingered four or five hours after the chloroform (Q.5.724) with their intestines “operated upon”. He also carried on another series of 150 experiments on various animals, very painful, and notoriously without results (Q.5.748). This is the scale on which vivisections abroad or at home are carried on, if we are to be guided by the Treatises.

Turn we now to the popular Articles; and we find mention only of the very smallest numbers. Sir William Gull minimizes Bernard’s stove-baked dogs to six (...) and Professor Yeo brings down those of Professor

Rutherford's victims to twelve (...) every reference to numbers being apparently, like those of the Fuegians, limited to the digits of the physiologists (Cobbe 1882:612-613)

In Britain, a successful antivivisection campaign compelled the establishment of a Royal Commission of Enquiry that led to the Anti-Cruelty Act in 1876. However, the legal regime brought about by this legislation, focusing mainly on the obligation of anaesthetisation and inspection by Government officers, caused concern and dismay for all parties, both for and against vivisection (French, 1975; Turner, 1981). The vivisectionists objected to official inspections of the laboratories, claiming that control in this regard should be left in their own hands. In his exposé, pro-vivisectionist Noah K. Davis concluded that:

It would seem wiser, however, to license, not the experiment, but the experimenter, and him only upon the recommendation of some recognized college of medical men, he being then left by law entirely free to work in his own way and to whatever extent he finds needful, but limited to scientific investigation. He should be left in this to his own conscience and compassion, and to the good or bad opinion of his professional peers, who alone are competent to judge his working, and whose restraining judgement he dare not disregard. The law should prohibit all public exhibition, and all mere demonstration as distinguished from investigation. Such limitations would protect animals from being dealt upon by untrained and incompetent persons, they being amenable to the laws against cruelty, and would guard the public from shocking and demoralising spectacles (1885: 203).

The control of biomedical experiments came to be the main focus of the debate that extended through the last decades of the century and continued into the next. Addressing the issue in the pages of *The Contemporary Review*, in 1892, Ernest Bell, an antivivisection physician, who was very active in the first

phase of British campaign, rebuffed the vivisectionists' quest for control, saying:

The exact limit of an animal's rights may not be easily fixed; but it is certain that they cannot be made to depend on the question whether the animal is on the one side or the other of the wall of a laboratory, or whether or not the man who is accused of infringing those rights is certified as competent to do so by others engaged in the same pursuit. The present law, being founded on no definite moral principle, is unsatisfactory. It makes no attempt to place any limit either to the duration or intensity of the pain which a man may inflict on an animal when once he has a certificate, albeit the Report of the Royal Commission admitted that "it is not to be doubted that inhumanity may be found in persons of very high position as physiologists (1892:852).

In this vein, the short passage in Machado's story is equivalent to many condemnatory reports published by antivivisection societies of the same period or even after in the Edwardian period. It intends an effect of meaning similar to the antivivisection shops opened by The Animal Defence and Anti-Vivisection Society in various places in Great Britain - all initiatives that intended to call the attention of the average citizen to the pain inflicted in his or her name.^v These initiatives were all accused of bad taste by their detractors, as, for instance, Stephen Paget—the champion of vivisection in England at the beginning of the 20th century—in a complaint addressed to *The Saturday Review* about such shops:

There is nothing evil or shameful in any sort of apparatus for experiments on animals, provided that all operations on animals are performed under anaesthesia, and are performed by competent persons, for the advancement of physiology or pathology. The evil and the shame must be looked for in the shop windows which exhibit such apparatus and pictures, without saying one word about anaesthetics (*The Saturday Review*, 15.07.1911).

In reply to Paget, Lizzy Lind-af-Hageby, then the Secretary of The Animal Defence and Anti-Vivisection Society, pondered otherwise:

I quite agree that the vivisectional apparatus and the pictures of vivisectional operations, reproduced from physiological textbooks and journals, which are on view, are “very evil and shameful” things, but the remedy does not lie with the anti-vivisectionists, It is our painful duty to bring such pictures and the facts brought out in evidence before the present Royal Commission on Vivisection to the notice of the public, and we intend to continue this work of enlightenment until the cruelties of which we complain are abolished (*The Saturday Review*, 01.07.1911).

Sharper and more incisive is the reply by Edward Cahen reporting a Hyde Park anti-vivisection demonstration:

As to the offensive banners which were stopped, their number is one, and that banner the reproduction of an illustration in a medical journal (“Journal of Pathology”). That an illustration of vivisection should be of such a revolting character that it cannot be carried through the streets without fear of creating a disturbance is sufficient justification for the striking demonstration of Saturday last (*The Saturday Review*, 17.07.1909).

In “The Hidden Cause”, one should note, there is a subtle hint of the hidden character of vivisection, undertaken, as it is, behind closed doors, in the solitude of a home library. The secrecy is broken, nevertheless, by the scandalised look of Maria Luísa and Garcia, who stand, I suggest, for the lay and the specialist audience of the time, respectively. Maria Luísa, tremendously affected by the ghastly scene, offers the excuse of the frailty of her feminine condition: accused by her vivisector husband of being weak, she answers that she is a woman, and for this reason, has poor nerves.

To the contemporary reader, the interplay of these two themes encapsulates the profile of the international antivivisection movement, especially its most dense focus, Great Britain, where the decisive activism of Frances Power Cobbe, from the second half of 19th century until her death in 1903, forged an unbreakable link between suffragism and the antivivisection cause. Cobbe already had a career as a journalist and had distinguished herself as a suffragist thinker and activist, when she became acquainted with experimental practices in Italy, where she lived in the 1860's; there she organized the first street demonstrations against vivisection. Back in England, she became a leading voice of the national antivivisection campaign (Lansbury, 1985; Turner, 1981:90). This not only led to the establishment of the National Anti-Vivisection Society in London, but the campaign also quickly spread through a large antivivisection network, with committees and organizations founded in the majority of cities throughout the country.

The 1860s and 1870s came to be years of meteoric ascent for the movement, culminating in the establishment of the Royal Commission referred above, to investigate the conditions of biomedical experimentation on animals (French, 1975). In her writings of the period, Cobbe ([1878]1995) indeed made a call for women to embrace the cause of animals, both categories levelled to the condition of objects and commodities. Similarly, other suffragists entered the campaign, bringing animals into the struggle for the rights of the vulnerable, alongside prisoners, children, the mentally disabled and their own women's bodies (Hamilton, 1995; French, 1975:239). In Britain, this trend would be stressed more and more in the years to come, as socialist workers joined the antivivisection campaign, on the premise that medical experimentation affected animals as much as working-class women, whose bodies, in the first decade of the 20th century, were the target for exhibition in public classes about the recently deployed gynaecological techniques (Lansbury, 1985).

Thus, by the second half of the 19th century, the suffragist, and, in broad terms, feminine presence in the British campaign was significant, reinforced by the notable adherence of Queen

Victoria. In a letter, sent by Sir Thomas Biddulph on Victoria's behalf to Lord Harrowby, Chairman of the Royal Society for the Prevention of Cruelty against Animals, on the occasion of the jubilee of this association, in 1874, Queen Victoria addressed the issue, stating her "warm interest in the success of the efforts which are being made at home and abroad for the purpose of diminishing the cruelties practiced on dumb animals" (*New York Times*, 06.07.1874) and added that "in regard to the pursuit of science she hopes that the entire advantage of those anaesthetic discoveries from which man has derived so much benefit himself in the alleviation of suffering may be fully extended to the lower animals" (*New York Times*, 06.07.1874).

Such royal initiatives carried the enthused adherence of the aristocracy to the antivivisection campaign, which certainly meant a rude blow to vivisection's cause. Queen Victoria went further, in a personal letter to pro-vivisection surgeon Joseph Lister, asking him to cease experiments on animals. In 1876, she addressed Prime-Minister Disraeli, urging the matter be subject to regulation, which, as mentioned before, resulted, among other measures, in the obligatory use of anaesthetics in experimental practice in that year (Preece, 2011:118). And in 1881, according to Preece (2011:118), dissatisfied with the results of the law, which brought only the mercy of anaesthetics to animals under an increasing vogue of experimental practice in Britain and elsewhere, the Queen once more urged recently appointed Prime-Minister Gladstone to speak strongly "against a practice which is a disgrace to humanity and Christianity".

The feminine tone of the antivivisection movement, although it might not have corresponded to the demographic reality of the activism^{vi}, was used by vivisection supporters to their advantage and has added a long-standing imagery of the movement as embodying sentimentality, if not hysteria, against enlightened reason and science. In the same letter to *The Saturday Review* (17.07.1909), quoted above, Edward Cahen contests the view of newspapers, which implied that a recent antivivisection demonstration led by Lind-af-Hageby in the Hyde Park consisted of "hysterical women"; Cahen adds: "I

wish to state as an eye-witness that the procession contained quite as many men as women, if not more”.

From a broad perspective, the revulsion of public opinion in the last decades of the 19th century—when, I emphasise, the public was confronted with or forced to look closely at vivisection—is captured in the shocked reaction of Maria Luísa, faced with the sudden disclosure of what was hidden; her “suffocation” standing for the inability to describe what she had seen. However, the narrative voice follows her and Garcia’s gaze at the scene.

“Kill it now”, says Garcia, the physician, pleading for a common *topos* of the time, the merciful death for animals, a position in the symbolic gradient of anaesthetics. This argument, which acknowledged the need for vivisection in the advance of biomedical sciences, caused a deep rift in the antivivisection movement after the passage of the Anti-Cruelty Act. Accused of compromising with the feeble results of the Anti-Cruelty Act, Frances Power Cobbe herself broke with the National Anti-Vivisection Society and founded another association, the British Union against Vivisection, in her latter days. Fighting for the total abolition of vivisection, the dissenters argued that anaesthetics could only have the effect of anaesthetizing human consciousness, while circumventing the crucial core of vivisection, the disposal of animal lives (French, 1975; Turner, 1981). Such was the fiery debate in the 1880s.

“Kill it now” also turns the reader’s attention to the futility of Fortunato’s deeds. In fact, Garcia’s astonished, and also scandalised, gaze reveals the debate within the biomedical sciences, which opposed the newly established experimentalists against conventional clinics aligned, in significant measure, with “the old maids and abortive musicians who have shown such a sympathy for the sufferings of frogs and rabbits” (de Cyon, 1883, 43:501). A copious number of publications, enumerating the pros and cons of vivisection among professionals moved from specialised periodicals into British daily newspapers and, it is worth noting, even literary magazines, of which Machado de Assis was certainly aware.

The example, from abroad, though, worked in parallel to local occurrences. The debate, as I mentioned before, was ablaze

in the Brazilian newspapers, most of all in the Balas de Estalo series of the *Gazeta de Notícias*, with which Machado de Assis collaborated closely. In the series, he did not address the issue himself, the task was undertaken mainly by Ferreira de Araújo and Demerval da Fonseca, physicians under the *noms de plume* Lulu Senior and Decio, respectively (Cernic, 2010).

Decio attacked the validity of the use of dogs in surgical training more than once in his Balas de Estalo articles, linking this to the arrogance of surgeons. In a good humoured pastiche dated from 1883, the chronicler registers the thanks of a fictional patient, a certain Torquato, from the suburbs of Jacarepaguá, in Rio de Janeiro, who confessed that he “owed his life to Dr Motta Maia, who cut off only one of his legs, when his certificate gave him the right to cut off both legs and the arms” (*Gazeta de Notícias*, 10.09.1883). Indeed, from 1883 to 1885, the series Balas de Estalo, signed by Decio or Lulu Senior, would relentlessly mock the use of dogs in the training of surgeons, arguing the inadequacy of the model for surgery on human beings: “the surgery professor conducts experiments to prove that in case of human beings’ diseases... he knows perfectly how to operate on dogs (...)” (*Gazeta de Notícias*, 23.07.1883). The same Lulu Senior gave Mota Maia a nickname, making a pun out of the name of the surgery professor—mata-cães, “the dog killer”—adding with strong sarcasm:

we do not even intend to propose the intervention of public powers, in a way that we can save something from the experimental surgeries of the School of Medicine—the life of a patient who underwent surgery, for instance (*Gazeta de Notícias*, 23.08.1883).

Machado de Assis himself chose a keener approach to this topic, not in chronicle form, but in fiction; “An Alexandrian Tale”, published originally in the pages of *Gazeta de Notícias*, on the 13th of May of 1883. The story is set in the ancient time/space of Alexandria, where two philosophers have developed a process—and, so the story goes, this involves experiments on animals that inflict the most excruciating

pain—on the premise that substances extracted from the tortured animal, when ingested, transfer their properties to the recipient. They themselves, on imbibing the substance of the mouse, a notorious thief, become thieves, ending up in prison. Their techniques, nevertheless, are adopted by official science, and, to advance the experiment, tested on prison inmates: the two philosophers thus fell prey to their own method and die experiencing unspeakable agony.

Such a farsighted story invoked a widespread argument at the time, that the experimental model was not confined to animals, but affected all vulnerable bodies (see Thomas, 1988). The argument was indeed current in public debate much earlier, already present in the mid-18th century, as can be seen in the *Four Stages of Cruelty* (1751), the well-known engravings by William Hogarth, which depicted cruelty as a vicious circle.



William Hogarth *The Four Stages of Cruelty: First Stage of Cruelty* 1 February 1751 Etching and engraving 380 x 320mm Courtesy Andrew Edmunds, London
(<https://www.tate.org.uk/whats-on/tate-britain/exhibition/hogarth/hogarth-hogarth-modern-moral-series/hogarth-hogarth-4>)



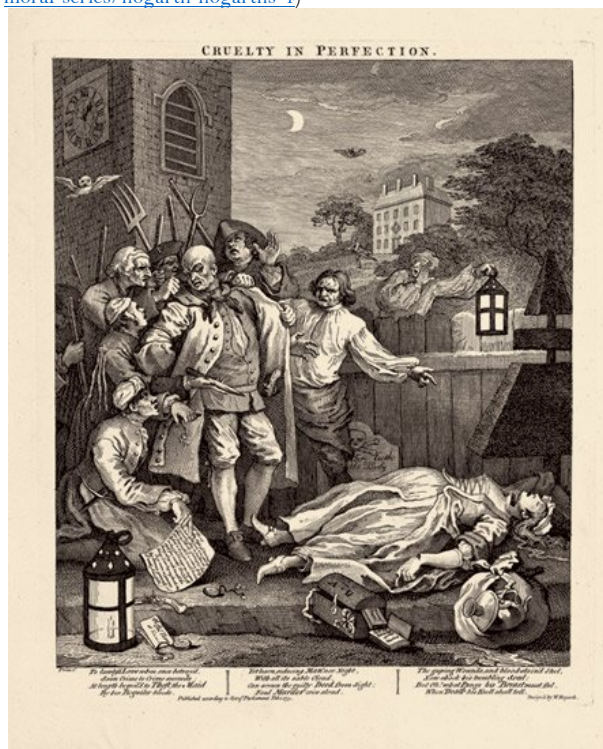
William Hogarth
The Four Stages of Cruelty: Second Stage of Cruelty 1 February 1751

Etching and engraving

458 x 385 mm

Courtesy Andrew Edmunds, London

<https://www.tate.org.uk/whats-on/tate-britain/exhibition/hogarth/hogarth-hogarth-modern-moral-series/hogarth-hogarth-4>



William Hogarth
The Four Stages of Cruelty: Cruelty in Perfection 1 February 1751

Etching and engraving

380 x 320 mm

Courtesy Andrew Edmunds, London

<https://www.tate.org.uk/whats-on/tate-britain/exhibition/hogarth/hogarth-hogarth-modern-moral-series/hogarth-hogarth-4>



William Hogarth

The Four Stages of Cruelty: The Reward of Cruelty 1 February 1751

Etching and engraving

320 x 380 mm

Courtesy Andrew Edmunds, London

<https://www.tate.org.uk/whats-on/tate-britain/exhibition/hogarth/hogarth-hogarth-modern-moral-series/hogarth-hogarth-4>

The first stage shows poor boys in the streets, having fun tormenting cocks and dogs in fights; at the bottom of the scene, a crowd pursues a bull—all practices considered popular sports in the 18th century (Lansbury, 1985; Thomas, 1988). The second stage shows Nero, the boy then grown-up, turned coachman. He is violently beating an exhausted horse on the ground, while four gentlemen try to exit the fallen carriage, unconcerned by the shocking scene around them. The whole scene exudes the violence of the extreme exploitation of cargo or consumption animals: donkeys and horses under loads way above their strength and a lamb dying of exhaustion, after a long forced journey to town, certainly to the slaughterhouse. The third stage is “Cruelty in Perfection”, as it implies the same violence directed against human beings: the boy cruel to animals becomes the man who murders his pregnant lover. The fourth and last stage closes the circle of violence: the man is hanged and, according to law, his corpse is taken to be dissected by surgeons (see Linebaugh, 1975). In first plane of the fourth engraving, the effect of a closing circle is

accomplished by the the macabre scene of a dog—the animal reference at the first stage—eating the man’s entrails in the dissection room.

“An Alexandrian Tale” unveils a similar coda, as we see—at the end, the perpetrators fall victims of their own lethal experiments. Moreover, “An Alexandrian Tale” also warned against the blind arrogance of science when built outside of moral constraint.^{vii} “The Hidden Cause”, coming, as it were, as a sequel, extends the argument around the confrontation between Garcia and Fortunato, in other words, the general practitioner and the experimentalist. For Garcia is a physician, let us remember, and his description is a clinical one, which captures symptoms and, as a rule, allied to the narrative voice, composes an intelligible description for the reader:

“The young man had the beginnings of a capacity to decipher men’s characters and examine them; he was fond of analysing , and enjoyed the pleasure, than which he knew no greater, of cutting through many moral layers till he felt the living heart of an organism” ([1885]2008:171).

Such a clash between the two paradigms of biomedical knowledge had a well-known precedent in George Elliot’s novel, *Middlemarch* (1874), which certainly partakes of the intertextuality of Machado de Assis’ story. Furthering Elliot’s sketch, Machado de Assis comes to give precedence to the clinic, just as much as the clinical gaze of Garcia little by little describes and diagnoses, and so encompasses the vivisector’s gaze. It could be said, as a tentative answer to the question posed by Menke (2000), from which the present reflection departed, that literature, in “The Hidden Cause”, aligns itself to the clinic, both being in search of symptoms which flourish at the surface of the bodies and events.

Yet, the vivisector’s gaze—that gaze as cold as metal—deserves closer examination, which I shall attempt below. Let us turn to the fourth protagonist of the scene, the silent suffering and victimised mouse.

The choice of a mouse as the victim of torture and painful death unveils a whole set of Romantic references, which cannot pass unnoticed. Indeed, the short-story seems to echo Robert Burns' poem, "To a Mouse" (1785), illustrating in prose that "the best-laid plans of mice and men go oft awry". In this vein, the story also retains, by inversion, the cherished Romantic theme of compassion for animals as an index of humanity, as the poem by Anna Laetitia Aikins Barbauld, "The Mouse's Petition" (1773) exemplifies so well:

Or, if this transient gleam of day
 Be all of life we share,
 Let pity plead within thy breast,
 That little all to spare.

...

So when unseen destruction lurks,
 Which men like mice may share,
 May some kind angel clear thy path,
 And break the hidden snare.

I suggest that the choice of the mouse, in Romantic imagery, as much as in Machado's short-story, targets a conceptual dilemma when faced with an animal, which is a sentient mammal, like us, but, at the same time, being at the greatest social distance, raises little or no empathy in many of us. With an emphasis on shared predicates, such as suffering pain and vulnerability when faced with nature or fate, the imagery makes a statement that compassion, to deserve its name, must embrace all forms of life.

In this inventory, we should not miss Robert Browning's *Dramatic Idyls*, published in 1881, few years before Machado's short-stories, even though the image used by the author was that of the dog, with an explicit reference to vivisection. One of the Idyls—Tray—telling of a dog which saves a child from drowning and then dives into the water again to rescue the child's doll, follows the general curiosity around the dog's gesture, if not guided by instinct:

Purchase that animal for me!
 By vivisection, at expense
 Of half-an-hour and eighteenpence,
 How brain secretes dog's soul, we will see!

For dogs, not mice, were the targeted species for experiments in anatomy and physiology at the end of the 19th century, to such an extent that they raised, among other reactions, a caustic comment by Lulu Senior, saying that the student of anatomy and surgery had to swear to spend his life only anaesthetizing dogs, in order to get a certificate (*Gazeta de Notícias*, 15.03.1885).

Let us linger on the following chronicle, signed by Decio, dated 1883:

we never realized how happy is the human species, for being represented in these experimental surgeries by... defenceless dogs!

(...)

The students, attracted by the moving howlings, by fainting moans, can not help but attend the class en mass

(...)

Inside the classroom, they find the professor surrounded by a number of victims to the sacrifice, or better put, creatures targeted for a scientific demonstration: they are the poor, innocent, miserable dogs, whose fate could not be more sad nor cruel.

The professor, armoured in irons and science, terribly inspired, repeats the words of the book. Then, acting the object of his lesson, the compression of a vein or the cutting of a member, transforms the living dog into a dead dog. This, quickly, as the sleight of hand of a small-time prestidigitator

(...)

The dog does not contest, confines itself to shivering and dies, as a man would do.

Some dogs, the brighter ones—which some of them are, no doubt—sometimes show, by signs, that they would rather face the municipal officer than the irons of

such a surgeon. They run from him, as though they had before themselves a ball of strychnine, and show that, one torment against the other, they prefer the strychnine ball to the surgeon's devices (*Gazeta de Notícias*, 15.03.1885).

Besides pointing out the futility of painful and lethal experiments, this passage highlights the macabre connection between an overpopulation of strays and biomedical experiments, which would become the curse of dogs for the coming century.

Many complaints about overpopulation can be tracked in the press of the period, to which the municipality of Rio de Janeiro answered by means of an abundant distribution of poison, known as "balls of strychnine" (*Gazeta de Notícias*, 20.02.1884). As the chronicle warns, in a soft and steady movement, dogs informally began to be taken to their death at the School of Medicine. This informal trend came to be legalised later, in 1892, when a municipal decree stipulated that all unaccompanied dogs collected in town should be sent for scientific experiment (*Jornal do Commercio*, 25.08.1892).

In fiction, Machado de Assis addressed the very context of experimental research on dogs in "An Alexandrian Tale" ([1883]2008: 52-53):

The Alexandrians said that the rats celebrated this painful, distressing event with dancing and parties, and invited some dogs, doves, peacocks and other animals threatened with the same destiny; and that none accepted the invitation, on the advice of a dog, who said, in melancholy tones: 'The time will come when the same thing will happen to us.'

Machado de Assis raised his voice against the extermination of dogs in the Balas de Estalo series, under the *nom de plume* of Lelio. Thus, in a chronicle dated February 1885, he writes on behalf of Endymião, his dog companion, who, resembling Ouida's *Puck* (1870), is a cultivated thinker and speaker, although for anatomical reasons, he cannot write:

There will be a public submission for the supply of strychnine pills, designed to kill dogs (...) Pills is the modern name. In the old days, it was a ball. The process is the same: give the balls or pills to the municipal officers and they, walking by the roads, distribute them to the dogs, who find the precious food. Nobody—save in the case that one's own dog is killed—complains in defence of the poor devils.

I myself would not say anything, if not for a dog of my acquaintance, a cultivated person who, as he could not write due to the conformation of the paws (rare example!), asked me to set in the paper some ideas he has in mind. I offered myself in good will, not only because this dog, although he owes me some favours, never said anything bad of me, he is also the best guardian of my house (...)

Endymião (this is his name) bases his argument on the moral qualities of the dog, and the possession of a consciousness, which the naturalists acknowledge, the precious gifts that make him the best friend of man (...) and remind us that this city is not Constantinople there are not so many dogs here that could allow a Christian society destroy them coldly, in the street.

He agrees that the distribution of pills is an easy task for the officers and he is not unaware that the death of a dog, in convulsions in the street, is always a jolly spectacle for idle neighbours at the door of their houses. However, he asks, would there not be a way of replacing this fun for another, a barrel organ, for instance, with a monkey—it is a classic and, whatever they say, it is very jolly (*Gazeta de Notícias*, 01.02.1885)

With even more bitter sarcasm, Machado de Assis concludes the chronicle: “I consider it fair to give two pills to the dogs, instead of one. It is not less repugnant and it is a bigger expense” (*Gazeta de Notícias*, 01.02.1885).

As can be seen, the chronicle is pervaded by values which were supported and voiced contemporaneously by the humanitarian movement which emanated from Great Britain: first, compassion towards animals and defenceless lives, in

general, as an index of humanity or, which was regarded as synonymous in the period, civilisation; second, as a correlate, the Romantic taint of suspicion against the masses (about this last point, see Thompson, 2002). These ideas, as I hope to have demonstrated, were everywhere in the press, literary magazines and the literary production of the time. In particular, the two stories, “An Alexandrian Tale” and “The Hidden Cause”, taken as a suite, derive their full intelligibility in their dialogue with the arguments led by the international antivivisection movement.

British interlude

In 1866, Charles Dickens had already published a manifesto against vivisection—“Inhumane Inhumanity”—where he defined the practice as “idle and purposeless curiosity through the practice of cruelty”. The great influence of Dickens on Machado de Assis’ literature is well established (E.Gomes, 1976), but his approach to vivisection certainly resonates with other late British sources, as in the following decades, British literary circles were vividly engaged in the antivivisection debate, which also gave room to significant fictional production. Such fictional production was certainly followed with interest in Brazil: for instance, the works of Ouida or Wilkie Collins were consistently advertised by George Buckeridge, who, at the end of the 1870s, kept a bookshop at the elegant Ouvidor Street in Rio de Janeiro, specialising in English books, periodicals and newspapers (The Anglo-Brazilian Times, 15.11.1879 and subsequent editions).

In this setting, it is worth highlighting the novel *Heart and Science* (1883), by Wilkie Collins, a writer as popular as Dickens in the period. Indeed, there is a parallel between “The Hidden Cause” and *Heart and Science* that I shall now explore.

Heart and Science was first serialised in many British newspapers in 1882 and 1883, and then published in three volumes in 1883. The entangled novel by Collins, with its myriad of personages and parallel plots, certainly does not rival the aesthetic finish of Machado’s short-story. Far from the subtlety of Machado’s style, Collins’ novel is *engagé*, intended

to be a didactic antivivisection discourse, as the author makes clear in his preface:

It encourages me to think that we have many sympathies in common; and among them, that most of us have taken to our hearts domestic pets. Writing under this conviction, I have not forgotten my responsibility towards you, and towards my Art, in pleading the cause of the harmless and affectionate beings of God's creation. From first to last, you are purposely left in ignorance of the hideous secrets of Vivisection. The outside of the laboratory is a necessary object in my landscape—but I never once open the door and invite you to look in. I trace, in one of my characters, the result of the habitual practice of cruelty (no matter under what pretence) in fatally deteriorating the nature of man—and I leave the picture to speak for itself. My own personal feeling has throughout been held in check. Thankfully accepting the assistance rendered to me by Miss Frances Power Cobbe, by Mrs. H. M. Gordon, and by Surgeon-General Gordon, C.B., I have borne in mind (as they have borne in mind) the value of temperate advocacy to a good cause.

The mention of the assistance and “temperate advocacy” of Frances Power Cobbe, the leading voice of British antivivisection movement who we encountered earlier, sets the novel’s *parti pris*. In the passage above, it is made explicit by the comment on “the result of the habitual practice of cruelty (no matter under what pretence) in fatally deteriorating the nature of man”. As Thomas (1988) has shown, this argument, although stressed during the humanitarian movement in the 19th century Britain, was born amidst the Protestant temperance movement, in the second half of 18th century. For the temperance movement, kindness to animals was aligned with the restraint on alcohol and gambling, this last practice being closely connected to abuse of animals, as it implied, among its possibilities, bear or bull-baiting, dog or cock-fighting.^{viii} Thus, the antivivisection campaign, from its very start, obtained the support of Protestants and, being a matter

of ethics, prompted significant intervention of the Protestant clergy in public debate.

Collins' novel also presents a vexed love, doctors and a laboratory: the physician Ovid Veere loves his cousin Carmina, a girl brought up in Italy, but, for the sake of his health, he undertakes a long trip, leaving Carmina under the legal guardianship of his mother, a cultivated woman, learned in the dissection of flowers and insects. By means of her scientific contacts, Mrs. Galillee, Ovid's mother, befriends Benjulia, a self-proclaimed phisyologist, who vivisects animals, in search of a cure for diseases of the brain.

Benjulia's motives for scientific research are rooted in vanity and greed, which lead to cruelty, a key concept of the novel. In a racist *motif*, Benjulia is depicted as a Gipsy type who personifies academic vanity; Mrs Galillee constitutes his feminine counterpart, a weak replication of greediness. Both personages are characterized as cruel.

Benjulia, one must note, is cold. His only relationship that resembles affection, not without a hint of paedophilia, is with Zo, a ten year old girl, whose neck he likes to caress— an image that, undoubtedly, evokes the caress of an animal's back. Notwithstanding this, when asked if he loves someone, Benjulia gets startled and answers, as childishly as his friend Zo, that he does not know. The sketch clearly intends to lead to an opposition between reason and art; the text supports the latter against the former.

Benjulia is also qualified as a "scientific savage". He is said to have studied in Italy, where a "savage science" was developed with no restraints, a picture that certainly was loaded with meaning for the 19th century British reader, as the debates on vivisection in the country arose from the reaction against the introduction of the continental experimental model or "the cruelties practised by French and Italian Vivisectionists" (The Sentinel, 16.08.1880).

Expanding this image, Italy is, in its turn, characterized as a savage and emotional land, in the personage of Teresa, Carmina's nanny, who, despite her ability for deep love, does not care about animals. This figure seems to function as a reiteration of the opposed insular/continental,

Protestant/Catholic sensibilities about vivisection and animal protection in general. The presence of Frances Power Cobbe in the text is emblematic of this opposition since, as mentioned before, she started the antivivisection campaign in Italy. Collins' innuendo is that vivisection is cruelty and the very opposite of civility, a common accusation against meridional countries during 19th century Anglo-saxon context (Thomas, 1988).

The experimentalist is absorbed by the arrogant dream of acquiring alone—at the price of many lives of dogs, cats and even a chimpanzee, whose supplicating gestures almost touch him, because they are reminiscent of Zo—the diagnosis for diseases of the brain. For this reason, he does not offer healing to Carmina, when she falls ill; much to the contrary, he leaves her without treatment, with the sole intention of following the course of the disease. At the other extreme, Ovid Veere seeks the healing of the patient and obtains it, a device by which the novel openly supports general clinical practice as concerned with healing and as socially relevant. Furthermore, it raises the issue of the futility of biomedical experiments.

So, the two argumentative axes of the Victorian antivivisection movement cross the novel: in one, the novel highlights the doubtful efficacy of the experiments, stressed with sarcasm in the scientific pastiche of Mrs Galillee's idle dissection of flowers and insects; in the other, based on moral grounds, the novel asserts as unjustifiable the infliction of pain and death or, in broad terms, the use of vulnerable bodies. The crossing of these two axes delineates the conception of cruelty. Indeed, cruelty is a word that occurs many times in Collins' text, sketched imagistically as indifference to the other's suffering; unwilling or incapable of attaching value to the life of others.

According to Turner (1981), pain became a socially relevant category in 19th century Britain, following the development of its technical correlate, the process of anaesthetisation. As never before, pain could be prevented or mitigated, a key premise that outlines the concept of cruelty in a converse direction. In the vivisection battleground, all sides seem to have accepted the premise that inflicting pain and killing others was immoral;

following this line, the bone of contention was whether this were ever justifiable on account of human needs.

It is not so difficult to grasp that other legal and socially accepted modalities of exploitation of animals were brought into the debate, in order to justify and downsize the accusation of cruelty in the practice of vivisection, especially the consumption of their bodies, fishing and, most of all, sport-hunting—this last targeting, obviously, the antivivisectionist aristocracy. Among so many discourses in the press and specialised periodicals in the period, an outraged letter by Huxley (1877:855-856) to the *Journal of the Society of Arts*, commenting on the prohibition of vivisection in elementary schools, can summarise the vivisectionists' objections:

But while I should object to any experimentation which can justly be called painful, for the purpose of elementary instruction; and, while, as a member of a late Royal Commission I gladly did my best to prevent the infliction of needless pain, for any purpose; I think it is my duty to take this opportunity of expressing my regret at a condition of the law which permits a boy to troll for pike, or set lines with live frog bait, for idle amusement; and, at the same time, lays the teacher of the boy open to the penalty of fine and imprisonment if he uses the same animal for the purpose of exhibiting one of the most beautiful and instructive of physiological spectacles, the circulation in the web of the foot. No one could undertake to affirm that a frog is not inconvenienced by being wrapped up in a wet rag, and having his toes tied out; and it cannot be denied that inconvenience is a sort of pain. But you must not inflict the least pain on a vertebrated animal for scientific purposes (though you may do a good deal in that way for gain or for sport) without due license of the Secretary of State for the Home Department, granted under the authority of the Vivisection Act.

So it comes about, that in this present year of grace 1877, two persons may be charged with cruelty to animals. One has impaled a frog, and suffered the creature to writhe about in that condition for hours; the other has

pained the animal no more than one of us would be pained by tying strings round his fingers, and keeping him in the position of a hydropathic patient. The first offender says “I did it because I find fishing very amusing” and the magistrate bids him depart in peace; nay, probably wishes him good sport. The second pleads, “I wanted to impress a scientific truth, with a distinctness attainable in no other way on the minds of my scholars”, and the magistrate fines him five pounds.

I cannot but think that this is an anomalous and not wholly creditable state of things.

Years later, the debate around the concept of cruelty would go on. In 1927, an enraged letter to *The Saturday Review* (07.05.1927), evoked the extermination of rats as the crucial experiment for tracing a line of cruelty: “Mrs Beatrice E. Kidd, of the British Anti-Vivisection Society, says that ‘There is no such thing as necessary cruelty’. Where does she draw the line? Would she prohibit the use of rat poison, which undoubtedly causes pain to the rats?”

The antivivisectionist response kept the lines summarised by Coleridge in 1919:

We maintain that to kill animals and to torture them are widely different moral acts, and when we use the word “torture” we mean the infliction upon animals of severe suffering not for their own good.

Some of us, no doubt, are vegetarians, and object to the killing of animals, even painlessly, for food. And, though I am not a strict vegetarian, I think the sight of a butcher’s shop, still more a visit to a slaughter-house, is enough to make most of us feel nothing but sympathy for vegetarians, and a regret that we do not for various reasons follow in their footsteps. Theirs is a noble abstention. But all of us anti-vivisectionists maintain that if animals are killed the act of depriving them of life should invariably involve the duty of doing it without any appreciable or prolonged pain of any kind.

We are not convicted of inconsistency by Dr Bullock because farm-yard operations are permitted by law to be performed without anaesthetics.

We are not convicted of inconsistency by the recital of any other cruelties to animals
(...)

The suggestion that we ought not to be listened to by the public until farm-yard operations and other cruelties are suppressed is the old, hopeless argument that we must not stop one evil till all similar evils are stopped (Stephen Coleridge, *The Contemporary Review*, 01.07.1919)

The definition of cruelty, thus, was loaded with ambiguity, an extensive no man's land, open to a clash of interpretations. Despite, or maybe precisely due to ambiguity, cruelty became a core notion of the legal regulation of vivisection and of protective legislation for animals in the Anti-Cruelty Act of 1876, in Great Britain and elsewhere.^{ix}

A precise definition of cruelty does not emerge from the novel *Heart and Science*, as it seems superfluous to the Victorian reader: the debate on cruelty was everywhere, in the written or oral production of the period, in the press or in the pulpit. Following social debates, the main intention of the novel seems to establish a connection between useless experiments and their horrific and lethal effects, thence delineating cruelty. However, it is worthy to note Collins proposes cruelty as a by-product of immoral, but intelligible motives, like vanity or greediness. Parallel in theme and plot, Machado de Assis otherwise diverges: in "The Hidden Cause", the acquisition of pleasure from another's pain, is much more striking for its immense, imponderable futility.

A perversion for guts

Let us return to "The Hidden Cause", to the outcome of the scene of the torture and death of the mouse. The scene, described from Garcia's point of view, focuses on the delight in Fortunato's face:

No anger, no hatred; just a vast pleasure, quiet and profound; what you might get from hearing a beautiful sonata, or looking at a perfect piece of sculpture—something like a pure aesthetic sensation. It seemed to him, rightly, that Fortunato had completely forgotten he was there. If that was true, he couldn't be play-acting—this was the real thing. The flame was dying, the mouse might possibly have a little life left in it, the shadow of a shade; Fortunato turned it to good account by cutting off its nose and again lowering the flesh to the fire. Finally, he let the body drop into the saucer, and pushed the mixture of blood and burned skin away. ([1885]2008: 176-177)

The aesthetical fruition of the suffering of the mouse is followed by the fruition of the suffering of Maria Luísa, who, affected by consumption, languishes until her death:

In the final days, as he watched the girl's final struggle, her husband's nature subdued any other passion. He never left her side; he fixed his cold, dull eyes on the slow, painful decomposition of life, drank in the beautiful creature's afflictions one by one. She was thin, transparent, devoured by fever and riddled with death itself. His exacerbated egotism, hungry for sensations, did not make him hang on every minute of her agony ([1885] 2008: 178).

When death, finally, takes from Fortunato his object of pleasure, the “tin look” turns to Garcia:

Meanwhile, Garcia leaned over to kiss the dead body again, but he could control himself no longer. The kiss burst into sobs, the eyes couldn't hold back the tears, which flowed thick and fast; the tears of silent love and irremediable despair. Fortunato, at the door, where he had stopped, quietly savoured this explosion of moral pain, which lasted a long, long, deliciously long time. ([1885] 2008: 179)

The inner motivation of the central character cries out in the text, but it is left, on purpose, vague and undefined, a device by which Machado de Assis gets to amplify its effects of meaning. So, cruelty is never mentioned; the secret or hidden cause is something beyond the current concept.

There is a clue, nevertheless, left in the episode of the stabbing of a man by *capoeiras*, the one which brings Garcia closer to Fortunato's profile. In a chronicle dated the same year as the short-story, 1885, Machado de Assis approached the urban phenomenon of "capoeiragem", the Afro-Brazilian martial art, which in that period, was reportedly used to assault people in the streets, also making use of knives; the author, then, established an unexpected connection between "capoeiragem" and vivisection:

let us start by saying that I fully disagree with my contemporary fellows, about the motive that leads the capoeira to stab our tummies. They say it is the taste of making evil, of showing agility and worth, an unanimous opinion and respected as a dogma. No one sees that it is nonsense.

Indeed, I do not doubt that one or two, exceptionally, carry this perversion for guts; but human nature does not stand for such an expansion of sentiments. It is not credible that such a number of people have fun of tearing up other's bellies, only in order to do something. It is not vivisection, in what a certain abuse, as great as it can be, is always scientific, and from which only dogs suffer, and dogs are not people, as we know" (*Gazeta de Notícias*, 14.03.1885).

Irony, the trope that pervades much of Machado de Assis' writing, also gives intelligibility to this passage. The twist of meaning caused by irony claims a common semantic ground for vivisection and the fighting technique, the art of "tearing up other's bellies, only in order to do something", although vivisection may claim legitimacy, under the pretext of science. Obliquely, Machado de Assis casts doubt in his reader's mind

as to the futility of biomedical experiments on animals. One must note the irony encompasses the use of animals, and dogs particularly—a use only possible through the devaluation of their lives.

Futile, such experiments would spring from a “perversion for guts”, a strong reference to the stabbing of the assaulter, and, at the same time, to the scalpel of the vivisector. The concept of perversion, clearly expressed in the chronicle, throws light on what the fiction intentionally refrains to enunciate and leaves to the discernment of the reader.

It is worth noting that the ironic reference to a qualified perversion “for guts” in the chronicle extends the critique to the scientific fascination for depth. The passage clearly seems inspired by Jonathan Swift, since in his *Tales of a Tub*^x, Swift ([1704] 2008: 104) had already humourously warned that “in most corporeal beings which have fallen under my cognisance, the outside hath been infinitely preferable to the in”. This satirical argument has certainly an amplified resonance with the coda of “The Hidden Cause.”

Thus in a primary layer of meaning, Fortunato’s delight in pain, comparable to the delight one can experience listening to a sonata, is implicitly conceived as a perversion. The mention of perversion reiterates that the secret cause is sadism, as literary criticism has already unveiled (Moraes, 2009). The medical definition of sadism was given by Kraft-Ebing’s *Psychopathia Sexualis* only in 1886, one year after the publication of “The Hidden Cause”, although a conception of sadism might probably be current before its medical definition, especially in literary circles, as an inextricable link between lust and cruelty. Indeed, Moraes (2009), inspired by Deleuze, explores the intertextual dialogue of “The Hidden Cause” with Marquis de Sade’s work, focusing on the pervasive deitic of the detached and cold gaze of the sadist.

Fortunato is a sadist. But one should keep in mind that he is a vivisector or, better put, he is a sadist thus, a vivisector: sadism, in the vivisection of the mouse, makes explicit and foretells the relationship to the woman and, in her absence, shifts to the man frail in his pain and mourning (Candido [1970] 1995:37).^{xi} In this vein, I suggest another pact of

reading in “The Hidden Cause”, related to the core historicity of the short-story (Chalhoub, 2003). First, as I have been trying to point out, it departs from a dialogue with the antivivisection movement, which had established a firm connection between cruelty and vivisection. Machado de Assis, bringing vivisection within the scope of sadism—a surplus cruelty tainted by lust—was thus anticipating the connection that would become explicit and widespread in the British antivivisection movement, after the popularisation of the medical concept of sadism - particularly in the critical work by Lind-Hageby and Schärtau (1903) in the first decade of the 20th century.

Illuminating vivisection allows for the reading of “An Alexandrian Tale” and “The Hidden Cause” as a suite, whose core is a criticism of the biomedical experimental model. The transitivity of the experimental model, from non-human to human bodies, given in “An Alexandrian Tale”, is amplified by the characterization of a sadist impulse in *The Secret Cause*, whence vivisection comes to be ultimate and brute evidence of a power of intervention over the body—a mouse, a woman, a lover, all bodies symbolically equalised in their vulnerability in the face of power. At this point, the chronotopic marks of the hospital and the home library—related, as we saw, to the institutionalisation of medical experiments in Brazil—reveals their full value to the story’s *tessitura*, as Machado de Assis depicts a power over the living body that depends on secrecy to be fully exerted.

However, we must ask, is the vivisector’s delighted look at the sentimental practitioner a final and victorious look? From the perspective of the historical pact of reading I have been suggesting here, much to the contrary, the final look is the reader’s look, which the story invites draw closer to the obscene minutiae of biomedical experiment. In so doing, unveiling sadism as a plausible cause, Machado de Assis seems to indicate to his reader that the most terrible secret of the story is constituted by the inscrutable laboratory, whose doors were precisely closing to the eyes of the public at the time. In other words, the secret cause is secrecy—sadism would be only one, although extreme, possibility of a biopower which depended mainly, if not exclusively, on secrecy.

In a final Swiftian irony, subtle as ever, Machado de Assis makes his conclusive point against depth as the privileged or sole mode of knowledge, leading the reader to wonder if what one can only see on the surface is not a truth dreadful enough.

Notes

ⁱ I thank the Centre of Amerindian, Latin-American and Caribbean Studies, University of St. Andrews, UK, for hosting my research on English sources, and the Research Foundation of the State of São Paulo, for funding the project. My thanks to my students at the University of Campinas, Brazil, and colleagues, particularly Sidney Chalhoub, Ítala Loffredo D’Otavianno, Paulo Santilli, Luiz Marques, Claudia Leitner and Mark Harris for their comments; my special thanks to Derek Matyszak, for the help with the English version.

ⁱⁱ English versions quoted from Machado de Assis, *A Chapter of Hats: Selected Stories* (2008), translated by John Gledson.

ⁱⁱⁱ The allusion to *capoeiras*—referring to a martial art which was an urban phenomenon at the end of the 19th century in Rio de Janeiro—is not fortuitous, as I seek to demonstrate below.

^{iv} Anaesthetisation became obligatory in Brazil by Federal Law 6638 of the 8th May, 1979. This law was revoked recently, but replaced by Federal Law 11794 of the 8th October, 2008.

^v Lansbury (1985:124ss), while pointing out the symmetry between the narrative of vivisection and British pornographic literature in the second half of the 19th century, notes that there is a monotony in pain—a woman or an animal is trapped and tormented—that, in the end, provokes fatigue in the reader, not abhorrence. In order to prevent the monotony of pain, Wilkie Collins (1883) amplifies the terror effect with the unseen and unknown, keeping the door of the laboratory closed; Machado de Assis, “the wizard”, opens widely, abruptly, the door of the laboratory just once and closes it for ever, as we will see ahead.

^{vi} French (1975:239) argues for the feminine majority of the movement, although the author acknowledges his data is scanty, coming from subscription lists, prospectuses and similar material of the antivivisection movement. From these, the author was able to establish that the leadership of the movement was 40 to 60 per cent female, a percentage that, besides being confined to the leadership, can hardly be called a large majority.

^{vii} In this way, the story connects to the theme of the more famous novel of the author, *The Alienist* [O alienista (1882)].

^{viii} The Protestant efforts on temperance have, after Thompson (1967), been, as rule, interpreted as a device for disciplining the labour force, which, although true, cannot obliterate the effect on the awareness of urban workers of the issues around biopolitics that they also heralded.

^{ix} In Brazil, the first Republican decree for the protection of animals, dated 16th July, 1934, forbade cruelty towards animals. The same ambiguous notion is still in force in the Federal Constitution, art. 225, declaring a State duty to protect the environment and to prevent cruelty towards animals.

^x E.Gomes (1976:10, 44) pointed out the influence of Swift on the construction of *The Alienist*, but as the author also notes, there is a broader presence of Swift in Machado's British humour.

^{xi} With regard to the vivisection of the mouse, A.Candido ([1970] 1995:37) evokes J.Steinbeck's novel, *Of Mice and Men*, to conclude that "man, made an instrument of man, falls into the level of the violated animal". I would rather hold that the source for both authors is Edward Burns' poetry and, as in the poem *To a Mouse*, man and animal are equalised in the face of unpredictable suffering, pain and death.

References

BARBAULD, Anna Laetitia Aikin. *The Mouse's Petition, 1773* (retrieved from [http:// www.rc.umd.edu editions / contemps / barbault/poems1773/ mouses_petition.html](http://www.rc.umd.edu/editions/contemps/barbault/poems1773/mouses_petition.html))

BELL, Ernest. *The Morality of Vivisection: two replies. The Contemporary Review*, 62 (dec): 849-852, 1892.

BENCHIMOL, Jaime L. & TEIXEIRA, Luis Antonio. *Cobras, lagartos e outros bichos : uma história comparada dos institutos Oswaldo Cruz e Butantan*. Rio de Janeiro: Ed. UFRJ, 1994.

BROWNING, Robert. *Dramatic Idyls*. London, Smith, Elder & Co (google ebook), (1881) 1882.

BURNS, Robert. To a mouse. *The Complete Works of Robert Burns: containing his poems, songs and correspondence* (edited by Allan Cunningham). The Gutenberg Project ebook, (1785) 2006.

CAHEN, Edward. The Anti-Vivisection Agitation. Letter to Editor of *The Saturday Review of politics, literature, science and art*, 17.07.1909. London, 1909.

CÂNDIDO, Antonio. *Vários Escritos*. São Paulo: Duas Cidades Ed., (1970) 1995.

CHALHOUB, Sidney. *Machado de Assis, historiador*. São Paulo: Cia das Letras, 2003.

COBBE, Francis Power. Wife-Torture in England. In: S.Hamilton (ed), *Criminals, Idiots, Women and Minors: Nineteenth-Century Writing by Women on Women*, pp. 132-171. Ontario:Broadview Press, (1878) 1995.

COBBE, Francis Power. Vivisection and its Two-Faced Advocates. *The Contemporary Review* 41 (Jan-June): 610- 626, 1882.

COLERIDGE, Stephen. The Anti-Vivisection Agitation. *The Contemporary Review* 1 (July):72-73, 1919.

COLLINS, Wilkie. *Heart and Science: a Story of the Present Time*. The Gutenberg Project ebook, 1883.

CYON, Marc de. The Anti-Vivisection Agitation (ed. R.H.Hutton). *The Contemporary Review* 43: 498-516, 1883.

DAVIS, Noah K. The Moral Aspects of Vivisection. *North American Review* 140 (Jan/June): 203, 1885.

DELEUZE, Gilles. *Lógica do Sentido*. São Paulo:Ed.Perspectiva, 1974.

DICKENS, Charles. Inhumane Inhumanity. *All the Year Round* 7 (Mar 17):238-241. Google Ebooks, 1866.

ELLIOT, George. *Middlemarch: um estudo da vida provinciana*. Rio de Janeiro:Record, (1874) 1998.

FONTENAY, Elisabeth de. *Le silence de bêtes: la philosophie à l'épreuve de l'animalité*. Paris: Fayard, 1998.

FOUCAULT, Michel. *O nascimento da clínica*. Rio de Janeiro: Forense Universitária, 2006.

FRENCH, Robert. *Antivivisection and medical science in Victorian society*. Princeton: Princeton University Press, 1975.

GAZETA DE NOTÍCIAS, 09 de maio, 23 de julho, 23 de agosto, 10 e 17 de setembro de 1883; 01 e 07 de fevereiro, 14 e 15 de março de 1885. Rio de Janeiro.

GLEDSON, John. *The deceptive realism of Machado de Assis: a dissenting interpretation of Dom Casmurro*. Liverpool: Francis Cairns, 1984.

GOMES, Eugênio. *Machado de Assis: influências inglesas*. Rio de Janeiro: Pallas:INL-MEC, 1976.

HAMILTON, Susan, (ed). *Criminals, Idiots, Women and Minors: Nineteenth-Century Writing by Women on Women*. Ontario:Broadview Press, 1995.

HUXLEY, T.H. Elementary instruction in physiology. *Journal of the Society of Arts* 25 (August, 3): 855-856, 1877.

JORNAL DO COMMERCIO, 25.08.1892. Rio de Janeiro.

LANSBURY, Coral. *The Old Brown Dog: Women, Workers, and Vivisection in Edwardian England*. Madison: The University of Wisconsin Press, 1985.

LIND-AF-HAGEBY, Louise. Anti-Vivisection Shops. Letter to the Editor of *The Saturday Review*, 01.07.1911. London.

LIND-AF-HAGEBY, Louise & SCHARTAU, Liese K. *The shambles of science: extracts from the diary of two students of physiology*. London:E.Bell, 1903.

LINEBAUGH, Peter. The Tyburn Riot against the Surgeons. In: THOMPSON, Edward Paul et alii (eds), *Albion's Fatal Tree: Crime and Society in Eighteenth-Century England*, pp.65-117. London:Penguin Books, 1975.

MACHADO DE ASSIS, Joaquim Maria. An Alexandrian Tale. In: *A Chapter of Hats: Selected Stories*, pp. 41-53. Translated from Portuguese by John Gledson. London: Bloomsbury Publishing, (1883/1884) 2008.

MACHADO DE ASSIS, Joaquim Maria. The Hidden Cause. In: *A Chapter of Hats: Selected Stories*, pp.167-179. Translated from Portuguese by John Gledson. London: Bloomsbury Publishing, (1885/1896) 2008.

MACHADO DE ASSIS, Joaquim Maria. (1878) 1997 *Eça de Queirós: O Primo Basílio. Obra Completa*, vol.III: 903-913. Rio de Janeiro: Nova Aguillar.

MENKE, Richard. Fiction as Vivisection: G.H.Lewes and George Elliot. *English Literary History* 67 (2):617-653, 2000.

MORAES, Eliane Robert. "Um vasto prazer, quieto e profundo". *Estudos Avançados* 23 (65):271-288, 2009.

NEW YORK TIMES, 6.07.1874. New York.

OUIDA. *Puck: his vicissitudes, adventures, observations, conclusions, friendships and philosophies, related by himself and edited by Ouida*. 3 vols. London: Chapman and Hall, 1870.

PAGET, Stephen. Anti-Vivisection Shops. Letter to Editor of *The Saturday Review*, 15.07.1911. London.

PREECE, Rod. *Animal sensibility and inclusive justice in the age of Bernard Shaw*. Vancouver: UBC Press, 2011.

RUDACILLE, Deborah. *The scalpel and the butterfly: the war between animal research and animal protection*. New York: Farrar, Strauss and Giroux, 2000.

SCHÄR-MANZOLI, Milly. *Holocausto*. São Paulo: ATRA-AG STG, 1995.

SCHWARCZ, Roberto. *Um mestre na periferia do capitalismo: Machado de Assis*. São Paulo: Livraria Duas Cidades, 1990.

SWIFT, Jonanthan. *A Tale of a Tub*. Electronic Classics Series: Pennsylvania State University, (1704) 2008.

THE ANGLO-BRAZILIAN TIMES, 15.11.1879. Rio de Janeiro.

THE ACADEMY AND LITERATURE, 01.08.1903, London.

THE SATURDAY REVIEW, July, 17, 1909; May, 7, 1927.

THE SENTINEL, 16.08.1880.

THOMAS, Keith. *O homem e o mundo natural: mudanças de atitude em relação às plantas e os animais, 1500-1800*. São Paulo: Companhia das Letras, 1988.

THOMPSON, Edward Paul. Time, Work-discipline and Industrial Capitalism. *Past and Present*, 38 (Dec.):56-97, 1967.

THOMPSON, Edward Paul. *Os Românticos: a Inglaterra na era revolucionária*. Rio de Janeiro: Civilização Brasileira, 2002.

TURNER, James. *Reckoning with the beast: Animals, Pain and Humanity in Victorian Mind*. Baltimore: The John Hopkins University Press, 1980.

ZOLA, Émile. *Le Roman Expérimental*, 1880 (retrieved from www.archive.org).