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Towards the recognition of animal rights: is animal exploitation connected to gender inequality?

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Abstract

La presente tesi si propone di analizzare l'origine e la diffusione dello sfruttamento animale, ponendo le basi per una riflessione critica verso l'elaborazione di un diritto che tuteli in modo effettivo la categoria degli animali non umani. Al centro dell'indagine si colloca la dinamica di potere che caratterizza la relazione tra chi detiene il potere e chi ne risulta vittima, ipotizzando che questa stessa struttura si rifletta nel rapporto tra umani e non umani. Lungo questo percorso, la tesi propone un parallelismo tra il maltrattamento animale e la condizione femminile, individuando significative somiglianze, in particolare l'appartenenza a categorie sociali prive di potere decisionale e soggette a forme di controllo e sfruttamento.

La prima parte del lavoro ripercorre la storia e le principali teorie che hanno affrontato la questione animale, con particolare attenzione agli sviluppi contemporanei nel campo dei "diritti degli animali" (Animals' Rights). Successivamente, la tesi si concentra sul ruolo della scienza e della sperimentazione sugli animali, mettendo in evidenza come la scienza abbia storicamente trattato le donne e gli animali come oggetti di controllo e sottolineando il parallelismo tra la violenza scientifica e le discriminazioni di genere.

Proseguendo, il lavoro si sofferma sull'industria della carne, analizzando la violenza sistemica e regolamentata che caratterizza l'allevamento intensivo e la macellazione. Questa sezione approfondisce lo sfruttamento dei corpi animali e le sue correlazioni con le dinamiche della violenza di genere, dedicando particolare attenzione all'accettazione sociale di queste pratiche, al linguaggio che ne giustifica. Infine, l'analisi si focalizza sul controllo della riproduzione, evidenziando il potere esercitato dall'uomo sulla capacità riproduttiva sia delle donne sia degli animali femmine all'interno dell'industria alimentare.

Attraverso un approccio interdisciplinare che intreccia filosofia, sociologia, diritto e studi di genere, la tesi intende offrire un contributo costruttivo al dibattito contemporaneo, con l'auspicio di stimolare una maggiore consapevolezza sulle dinamiche di potere che regolano il rapporto tra uomo e animale e sulla necessità di un cambiamento verso relazioni più eque e rispettose.

Introduction

This thesis aims at offering a critical exploration of the multifaceted forms of animal exploitation in contemporary society, framed within a broader interrogation of the ideological, legal, and cultural systems that normalize and sustain such practices. Anchored in the interdisciplinary domains of critical animal studies, feminist theory, and legal philosophy, this work aims to deconstruct the anthropocentric and patriarchal narratives that underpin the commodification of non-human life.

A central premise of the thesis is the intersectionality between the oppression of non-human animals and the historical subjugation of women, with particular attention to the ways in which bodies—both human and animal—are objectified, fragmented, and rendered invisible within systems of power. By situating the treatment of animals within the framework of feminist critique, this research underscores the symbolic and material functions of gendered violence, especially in contexts such as industrial farming and scientific experimentation.

The thesis unfolds in three substantive chapters. The first chapter reconstructs the historical and philosophical foundations of human-animal relations in Western legal and ethical traditions, examining how the ontological distinction between humans and animals has served as a cornerstone for legitimizing violence. The second chapter focuses on the role of animals in scientific experimentation, analyzing both the legislative responses to such practices and their troubling parallels with the medical exploitation of women throughout history. The third chapter interrogates the industrial meat complex, exploring the gendered mythology surrounding meat consumption, the legal frameworks regulating intensive farming, and the discursive practices that mask violence through language.

Ultimately, this thesis contends that the struggle for animal liberation is inseparable from the broader pursuit of social justice. Through a synthesis of legal critique and cultural analysis, it invites a rethinking of normative ethical boundaries and advocates for the expansion of moral and legal consideration to encompass all sentient life.

Chapter 1. A connection between animal and women exploitation

1.1 Introduction

The exploitation of animals has been considered and still is considered a natural concept, in the same way that women inferiority to men has been considered (and in some culture still is) the natural order of humanity. The “naturalness” of these concepts has justified in the past, and again still is justifying, many behaviours of violence and abuse both on non-human animals and on women, but has not excluded, over the centuries, people of colour, people belonging to the LGBTQI+ community, and many other minorities. A clear example of this common association between discrimination of animals and other minorities groups can be found in the speech of former president of the United States Donald Trump, where in May 2018 he talked about illegal migration in the US, referring to illegal migrants in these terms: “You wouldn’t believe how bad these people are. These aren’t people. These are animals”.¹ Anne Peters in her article “*Rights of Human and Nonhuman Animals*” (2018) underline how it is common belief that animal related terms indicate negative aspects of humans. As this dissertation will further analyse, languages are often the reflection of their society and also clearly express the connection between animal-human relations and animal and women connection.

The aim of this first chapter is that to, firstly, analyse the human-animals relationship, and demonstrate that, not only there is no natural reason why humans should exploit animals to meet their own needs, but also how this concept has been historically and culturally produced, and will give a theoretical overview of such historical process. As a consequence of recognising that human has no rights over animals’ life, the chapter will argue in favour of the possibility to establish concrete “animal rights”, that will see animals as subjects of rights, and not as object belonging to humans, and to protect their freedom of life. In doing so, it will give a brief image of today’s legislation in the matter.

Secondly, this chapter address the idea that at the top of the dynamics of violence perpetrated on animals and women (this work will only focus on animals and women, but many other groups, as already stated, are also subjects to such disparity) is the power relation that sees a hierarchy in our society where who is at the top (in this case men) feels superior and entitle to take advantage of who is considered in an inferiority position. Such model of thought is the product of centuries of patriarchal tradition, and it still needs to be tackled today as the situation is not yet one of parity and equality. Such dynamic is the responsible of a dualistic division of our society, putting

¹ Anne Peters, *Rights of Human and Nonhuman Animals*. Cambridge University Press, 2018, p 109.

both animals and women in the group “to exploit” as a resources. This paragraph will do so, while examine the roots and the meaning of speciesism and of the justification we still use today to continue to treat animals as objects.

Thirdly, in this chapter it will be examined the correlation between animal rights and feminist advocacy. In particular the analysis will focus on the predominance of women in the fight for animals’ rights, showing how the violence perpetrated in our society is an interconnected and intersectional matter that not only concern women or animals, but all the people considered minorities in the dualistic order of our society, and that feminist has been very active in including animals rights fight in their own agenda; while trying to understand the reasons behind a deeper involvement of women in animal rights advocacy. It will then conclude with an interesting point for reflection, that will show another way in which violence on both these categories is connected.

1.2 An introduction to animal rights

Today we are, more than ever, aware of the great intersectionality of all living beings (human and non-human), yet the conditions to which we force non-human animals into today are more and more cruel and inhuman. The damages humans cause animals today happens firstly through the crisis caused by climate changes created by man and the capitalist model of society that we have developed, which by changing and compromising fundamental natural habitats also puts at risk the survival of many animal species. Secondly (in an even more direct way) humans still perpetrate the system of exploitation and mistreatment in which millions of animals are trapped, subjected to terrible suffering, and killed for food or experimentation, and this not only continues to exist, but it is still growing and considered normal by the majority of the population. The exploitation of animals is, in fact, a systematic issue in our society: the human-animal relationship is one of ownership for profit, in this way humans take care or abuse or kill animals according to what profit they can get.² It is the goal of this dissertation to investigate why and how humans still justify this relationship with animals, supporting the need of a switch of perspective from an oppression system to a path leading to the recognition of rights to non-human animals.

The idea that animals' needs should be taken in more considerations is not new. The needs of a shifting in the perception about how animals should be treated led to the creation of animal movements throughout time. The concern about animals' treatment can be traced to begin approximatively during the Industrial Revolution, which brought significant changes in Europe and North America, including the revision of the ways of farming, replacing traditional farming with massive industrial slaughter facilities that focused on profits.³ Still today, many people are mobilizing actions in defence of animals' wellbeing, at the same time widening the studies available on animals, and it is interesting to trace a brief path of what is and has been the train of thoughts behind the realization of animals' identity as living being. Animals advocates' objectives have in fact changed over time: if earlier initiatives focused on promoting animal compassion, more modern movements are now focusing on limiting (or ending) human practice that result in harming animals (such as experimentation of food production), and today latest attempts concentrated on obtaining legal protection.⁴

The fundamental belief of animal rights advocates today is that animals should be allowed to live in accordance with their natural selves, by ending the institutionalized use of animals for human

² Steven McMullen, *Is Capitalism to Blame? Animal Lives in the Marketplace*. Journal of Animal Ethics, Vol. 5, No. 2. University of Illinois Press in partnership with the Ferrater Mora Oxford Centre for Animal Ethics.

³ Darlim Selena, *Animal Rights Movement: Understanding when and why it started*. Animal Charity Evaluators, August 28, 2023

⁴ Darlim Selena, *note 3*.

purposes, such as food, clothing, entertainment, and research. This concept is possible thanks to the idea that animals have an inherent right to exist without being exploited by humans, as they are "subjects of a life", as Regan⁵ stated and will be better examined later. In other words rights are based on interests and it is quite intuitive to say that sentient animals have interests, at least not to suffer (as will be shown later, being free from pain is in the interest of every sentient being, as many will discuss). To give an illustration of this, Max Horkheimer, a German philosopher and sociologist, that in his theories criticizes the capitalistic system and denounce the separation between individual and society, in 1970 supported that avoiding suffering, pain, injury, and death are reasonable desires for any sentient individual, stating clearly that: "In pain, everything becomes level, everyone becomes the same as everyone else, human and human, human and animal", and humans are aware today of the vulnerability of animal bodies.⁶

In order to better understand the position of animal rights activism, it is important to deeply recognize the roots of humans-animals relation and how it has evolved in the evolution of societies through time. In the same way the history of animal welfare is a complex and evolving narrative that has seen significant developments over the centuries. While the modern animal rights movement has gained momentum in the 20th century, the roots of our relationship with animals can be tracked to ancient times. In other words, as Peter Singer affirms in his "Animal Liberation" the violence that we perpetrate on animals is not a series of isolated phenomena, but rather they are a consequence of the ideology of our species or the mental attitudes that we, as dominant animals, have towards other animals.⁷ In other words, the human-animals relation is social and culturally created, and justified by our beliefs, that according to Singer humans created throughout history, as will be better explained in the next paragraph.

Going back to the idea of animal dignity, as a concrete consequence of the first discourse on animal suffering some attempts were made to advance some form of law proposition. In 1800, a draft prohibiting the sport of fighting between dogs and bulls, was submitted to the House of Commons. The proposition was rejected as it was considered not worthy of attention since the fighting was damaging animals exclusively.⁸ This is just an example that underlines how it was necessary the fight to promote the recognition of animals as subjects of life, and therefore worthy of a different treatment, but in an anthropocentric view of the world, this was not yet considered deserving of attention. As will later show, anthropocentrism still has the central role in today's society.

⁵ Tom Regan, *I diritti animali*, Milano, Garzanti, 1990, p. 92.

⁶ Bujok Melanie, *Animals, Women and Social Hierarchies: Reflections on Power Relation*. DEP. Femminismo e questione animale, Luglio 2013, n23.

⁷ Peter Singer, *Liberazione Animale*, Milano, Il Saggiatore, 2015, p. 215.

⁸ Peter Singer, *note 7*.

However, the 19th century saw the emergence of anti-cruelty movements in various countries. In 1822, the world's first animal welfare organization, the Royal Society for the Prevention of Cruelty to Animals, was founded in England by Richard Martin and William Wilberforce. The society was created after Martin had approved, for the first time in 1822, the mistreatment of certain animals as a punishable offence. This was only referred to some animals owned by people, the rule was in fact passed as protection of property in the interests on the owner and not for the protection of animals. Another limit was obviously the inability of non-human beings to appear and defend themselves in front of a court, and that was the main goal of the Royal Society for the Prevention of Cruelty to Animals, to collect information on mistreatment of animals and to report them in front of the law.⁹ Following this steps, since the 19th century, for the first time, groups have been formed to discuss the animal question, especially in Great Britain and the United States, where a first stage can be identified in 1866 when Henry Bergh founded the American Society for the Prevention of Cruelty to Animals (ASPCA), playing a crucial role in advocating for the humane treatment of animals and influencing legislation to protect them. Not much later, in 1883, the foundation of the American Antivivisectionist Society (AAS) is another example of how humans started to organize themselves in order to defend animals' lives. A big part on the defence of animal's rights (as will be explained later) came from the antivivisectionist movement, both in Europe and Nord America, as for example the creation of the New York Antivivisectionist Society (NYAS) in 1911.¹⁰

It is from the mid-20th century that it is possible to see the emergence of more radical views on animal rights. It is in this period that Peter Singer, as one of the most famous Animal Rights philosophers, started the argument on the moral consideration of animals in his work "Animal Liberation" (1975) already cited before. Referring to his view, it is essential to modify the western thought (a thought that is 2 thousand years old) that allows the "exploitation of nonhumans for human purposes".¹¹ This approach to animals is hard to redefine, as it is created since childhood. It is self-explanatory the fact that we start to eat meat at an age when we cannot even understand where what we eat derives from (from the body of a sentient being), and in this way we do not make a conscious and informed choice. Our eating habits are influenced by society, and the dissertation will more deeply examine this crucial aspect in a chapter dedicated to the meat industry.

Another fundamental exponent between the Animal Rights advocates was Tom Regan. In his book "The Case for Animal Rights" Regan promoted the fundamental idea that every animal has

⁹ Peter Singer, *note 7*.

¹⁰ Morton S. Silberman, *Animal Welfare, Animal Rights: The Past, the Present, and the 21st Century*. The Journal of Zoo Animal Medicine, December 1988, Vol. 19, No.4., p 161.

¹¹ Peter Singer, *note 7*, p 243

intrinsic worth and rights, regardless of how useful they are to us humans. Based on the idea that every person has intrinsic worth, he created the philosophy of animal rights. Similar to humans, he claimed that animals had intrinsic rights that have to be respected and upheld. He promoted this idea by introducing the concept of “autonomy of preferences” according to which “individuals are autonomous if they have preferences and the ability to act for their satisfaction”.¹² Animals are included in this category of autonomy as they are able to choose if placed in front of two things the one they prefer. Mammals in particular have preferences and purposes because they are able to notice, remember, and behave in accordance with these goals.¹³ To recognise such autonomy is an important step towards a different treatment of animals. Moreover, according to Regan, in order to live a happy life, an individual has a particular set of condition that needs to be met. Being these conditions different in relation to the circumstances of lives and the environment in which individuals are located, there are some requirements that are common both for humans and for animals, such as, for instance, biological needs like adequate nutrition, water, rest, shelter and so on.¹⁴ In order to talk about welfare of animals, it would be necessary to meet all these requirements, and to do it on a regular base. Another common area of interest between animals and humans is the necessity of psychological and social needs: animals can feel fear, anxiety, rage, affection, sense of abandonment. In this perspective, Regan identifies two types of damages: a positive one that is an “act by which it is procured for someone an acute or chronic, physical or psychic suffering”¹⁵(Regan, 1990); and a deprivation damage, that is an indirect result of actions, that causes a loss of those benefits that help the well-being. Not always the victim of such damages is conscious of what is happening, and this is particularly relevant for animals, but this condition does not eliminate the damage. The example brought by Regan is that of animals kept in intensive farming: they are not aware of the possibility of a natural life, as they always lived in captivity, but this is still a damage to their well-being.¹⁶ Life in captivity, even if it does not create direct pain, prevents animals from satisfying the desire for social integration and freedom of movement; and it leads to the last of the deprivation damages, that is death. These reflections are fundamental if applied to today’s treatment of animals, in all the industries humans exploit theme, as it is clear that these requirements are not met in any of such areas.

The spreading of innovative thoughts on animal treatment, together with the formation of advocacy associations such as People for the Ethical Treatment of Animals (PETA) in 1980, brought more attention to animal rights issues. The international nonprofit charitable

¹² Tom Regan, *note 5*, p. 129.

¹³ Tom Regan, *note 5*, p. 132-133.

¹⁴ Tom Regan, *note 5*, p. 134-135.

¹⁵ Tom Regan, *note 5*, p. 141.

¹⁶ Tom Regan, *note 5*, p. 145.

organization, committed to developing and protecting animal rights, “operates under the simple principle that animals are not ours to experiment on, eat, wear, use for entertainment, or abuse in any other way”.¹⁷ PETA condemns speciesism (the idea that some species, especially humans, are more important than others and as consequence should have more rights) and concentrates its efforts in the four industries—the food industry, the entertainment industry, the apparel trade, and laboratories—where the greatest number of animals endure the worst treatment for extended periods of time. As the largest animal rights organization today, with more than 9 million members and supporters in the world, PETA “works through public education, investigative newsgathering and reporting, research, animal rescue, legislation, special events, and protest campaigns”.¹⁸ Between the numerous achievement of PETA (which will be also indicated in the next chapters) in 1982 they filed the first-ever lawsuit to become the guardian of animals used in experiments. In 1991 their Silver Spring monkeys” case marked the first animal experimentation case ever heard by the U.S. Supreme Court, with a unanimous, positive ruling.¹⁹

Connecting the discussions about the ethical treatment of animals to the possibility of rights for non-humans, Regan argued that animals have inherent value and rights regardless of their usefulness to humans. According to him, people are valuable just because they are subjects of a life, and consequently he argues in favour of a direct duty of justice towards all those individuals who have an inherent value.²⁰ According to Regan’s theory of equality of individuals, all moral actors possess intrinsic value in equal proportion. Moral agents’ value is neither something they may acquire by their actions, nor it is something that changes according on how beneficial they are to other people. To this is connected the principle of respect, that is to treat subjects of inherent value in ways that respect their inherent value. This principle requires us to not damage the inherent value of subjects, but also to help the victims of other people’s injustices. In his work, Regan claimed that animals have a basic right to be treated with respect and not to be treated merely as a means to human ends.²¹ From this theory, Regan connects to the law, since whether an individual is subject to rights depends on law and legal provisions. It introduces the concept of moral rights and legal rights. Moral rights are universal, equal (in the sense that those who have equal rights also possess them in equal measure), and they are not created by an individual or a group, but it is possible to create legal rights that protect moral rights.²² And in this sense, creating a set of Animals legal Rights could protect the inherent value of all animals, human and non-human.

¹⁷ PETA, “All about PETA”, [All About PETA | PETA](#); accessed 8th January 2024.

¹⁸ PETA, “Our Mission Statement”, [About PETA | PETA.org](#); accessed 8th January 2024.

¹⁹ PETA, “PETA’s Milestones for Animals”, [PETA’s Milestones | PETA](#); accessed 8th January 2024.

²⁰ Tom Regan, *note 5*, p. 146-147.

²¹ Tom Regan, *note 5*, p. 148.

²² Tom Regan, *note 5*, p. 149.

In this regard, some interpretation of the history in animal advocacy indicates that the forerunner of the legislation in animal welfare is the Cruelty to Animals Act approved by the British parliament in 1876, that regulated “experimentation on living vertebrates”.²³ After this, the Protection of Animals Act, passed by Parliament in 1911, was the first national rule to address animal abuse of pets and animals in captivity. After that point, over twenty different national legislation regarding research and ethical care of animals have been established in Britain. While, for what concern an important step in United States, a law was approved in 1948 giving the US Customs agents the authority to establish guidelines for shipping animals.²⁴ Then in 1966, US Congress established the Animal Welfare Act as a result of numerous allegations in society about puppy mills and charges of trafficking stolen puppies to research institutes. This is the most significant animal protection law adopted in the United States until present. Three times, in 1970, 1976, and 1985, the legislation was modified, defining, and regulating categories of the seller, performer, and experimental institutes. The Act grants the Secretary of Agriculture extensive authority to control the species that are taken in to account in the various fields; and unfortunately, currently, there are no regulations on research rats and mice or agricultural animals.²⁵ For what concern the rest of Europe, a brief image of the situation shows that Germany has established the first Anti-Maltreatment Law in 1883, changed in 1936 under Adolph Hitler's Nazi government, and again amended twice by the Federal Republic of Germany: in 1972 and 1985. The only nation with a 1936 Animal Welfare Act outlawing vivisection is Liechtenstein, while Switzerland and Sweden have the most extensive legal systems, with national legislation that tackles animal welfare concerns to a different level of efficacy. On the contrary, Eastern European countries have no legislation or very limited ones, as well as the Far and Middle East that has almost no legislations.²⁶

An interesting contemporary approach is that of Anne Peters, that in her work “Global animal law”, defines animal rights as “the sum of legal rules and principles (both state made and non-state made) governing the interaction between humans and other animals, on a domestic, local, regional, and international level”.²⁷ It includes statutes and treaties (hard laws) and standards issued by international organisations and norms of conduct (soft law). In addition, A. Peters (2020) underline the importance of the term “global”, that she uses to refer to the fact that, while the animal issue is universalistic, many aspects of it are still only discussed in (animal-related) domestic law. Why is it possible to describe the animal issue as global, or universalistic?

²³ Morton S. Silberman, *note 10*, p. 162.

²⁴ Morton S. Silberman, *note 10*, p. 162.

²⁵ Morton S. Silberman, *note 10*, p. 163.

²⁶ Morton S. Silberman, *note 10*, p. 164.

²⁷ Anne Peters, *note 1*, p. 2-3.

Between many reasons, firstly, we can point out that since the industrialization of all animal productions (such as meat, milk, eggs, fur, leather), the repercussions on the environment and the climate, but also on the social aspects, have become global. Animal use is so much present in many aspects of our lives, that it is related to today “complications” such as climate change, soil degradation, food scarcity and resistance to medicine against viruses or parasites. To make a few examples, it can be underlined the human health problem caused by the abundant use of antibiotics in animal farming for meat production, or the global arises of temperature, to which animal industry contributes, having climate change consequences everywhere in the world, as will be deeply discussed in third chapter.

A second indicator of how animal issues are more and more global is the increased attention and awareness that consumers have in regard to products they buy. Such individual and personal choices have repercussions both on the producing industries and on the governments, not only on a domestic level, but also on matter of importing animal products, as the economy is today based on a global trade. Consequently, it also increases the attention of producers that wants to export animal products in States with stronger regulations on animal welfare, as they try not to lose market shares. On the other hand, a risk connected to this increased attention of costumers, when certain States are improving their legislation in order to have more strict standards, while other have almost none if not regulations at all, is that some industry can easily escape standards on, for instance, caging and slaughter or animal experimentation, simply with the relocation of their “business” in Countries with lower standards and regulations, or cooperate with professionals that have access to these lower standard workplaces. It is a risk in the sense that it can result in to a “race to the bottom” on animal protection.²⁸ With this expression Peters delineate the possibility that a State with higher standards and regulations on animal welfare would, in order to preserve their place in the economic global market, lower such standards and accommodate to States with less restrictive rules. However, she underlines, on a more positive note, that this is not the only path these States can choose. In a better scenario, a Country that is working in favour of animal protection can lead campaigns in promotion of animal protection, proposing a unified international set of rules.²⁹ A leading strategy, for instance, is that of the European union, which has stricter standards on animal welfare comparing to other countries. In the introduction of its report COM (2018) 42 final the European Commission states that:

“The European Union (EU) has always been at the forefront in developing a solid and science-based legislative model on animal welfare. The Commission from earlier on understood that, to be sustainable, such a model should also be disseminated internationally.”³⁰

²⁸ Anne Peters, *note 1*, p. 9-10.

²⁹ Anne Peters, *note 1*, p. 11.

³⁰ European Commission, Report from the Commission to the European Parliament and the Council

It continues affirming that:

“The overall objective of the Commission's international activities on animal welfare is promoting EU values regarding animals, to raise awareness and encourage globally, particularly with EU-trading partners, high animal welfare standards, reflecting the EU model and principles. Improving animal welfare standards globally also contributes to ensure a level playing field between EU and non-EU operators”.³¹

Of course, it is clear that, being the issue at hand global, the response needs to be found in a global perspective too, in order to effectively safeguard the interests of animals.

Even though they would benefit animals more, animal rights are still scarcely acknowledged. However, it is possible to notice that animal welfare is becoming more promoted in domestic legal systems.³² The difference between these concepts (welfare and rights) is that animal welfare rules the life and death of nonhuman creatures that people own, sell, or slaughter, based on the notion that humans have a moral right to behave in a specific way. But while we have some regulations on animal welfare (which aims though is that to alleviate the agony of animals using “compassionate treatment”) these do not seek to eliminate the usage and exploitation of animals (that is the focus of animal rights). As argued by Anne Peters, domestic jurisdiction is not sufficient, and an international set of rights would better serve animals in four main ways: firstly, in the same way of human rights, animals rights to life or to freedom should be regarded as independent of their place of births, so should be universal; secondly the international framework would set standards for domestic laws and monitor different countries’ practices; thirdly it would eliminate the barrier of domestic law that requires the parties to be standing in courts (something that is problematic in the case of animals), while “international rights are often monitored in non-adversarial reporting procedures” (Peters, 2018) where it would not be necessary for subjects to be present in a court; and lastly, as previously stated, in today globalized world animal issues are a global problem, and regulations on a domestic level would not guarantee the same standards in different countries, with the risk that industries would outsource some steps of the supply chain to countries with less regulations.³³

As previously noticed, the European Union affirms to possess an extensive animal welfare legislation: ranging from minimum standards for the protection of chickens’ bred for meat production to a ban on gestation crates, to a ban on antibiotics except to treat animals from disease. Animal welfare standards in the EU covers a range of animal species and animal welfare

on the impact of animal welfare international activities on the competitiveness of European livestock producers in a globalized world, COM(2018) 42 final, 26 January 2018

³¹ *Ibidem*.

³² Anne Peters, *note 1*, p. 109.

³³ *Ibidem*

issues and it deals with farmed animals, but also with animals used in laboratory tests and wild animals kept in zoos. A focal point in the attempt of the EU to improve such standards is the 1998 Council Directive 98/58/EC, that regulated “the protection of animals of all species kept for the production of food, wool, skin or fur or for other farming purposes”.³⁴ These rules, based on the European Convention for the Protection of Animals kept for Farming, indicate the 'Five Freedoms', namely:

- Freedom from hunger and thirst;
- Freedom from discomfort;
- Freedom from pain, injury and disease;
- Freedom to express normal behaviour;
- Freedom from fear and distress.³⁵

Another fundamental step was the Lisbon Treaty of 2009, that established the notion of animals as sentient beings. In particular, article 13 of the treaty explicitly states that animals are sentient being and that the States Members shall take into account the welfare requirements in matter of agriculture, fishing, transportation, and research.³⁶ The limitation on the treaty is clear in the fact that firstly this does not create precise obligations for the states, and secondly it still marks an exception for cultural and religious practices. This is just an example of some of the regulations we can name today on the topic, and this analyse will take in consideration many more in the next chapters, but in general this overview want to underline how the protection of animals is still very fragmented.

A brief specific focus on the steps took by the Italian law regarding the protection of animals can be an interesting example of the freedom left to the different EU Member States. An important step has been recorded with the reform of the law n. 189/2004 where clear references can be found to the suffering and the nature of the animals, beyond that of their ethological characteristics. In addition, the article title IX bis "crimes against animal sentiment" stressed the importance of taking into account animal suffering to delineate human behaviour, paving the way for the conception that the animal itself should be at the centre of legal protection. There remains an important limitation, namely in accordance with Article 19b, that these new provisions do not apply to the cases provided for in the special laws on hunting, fishing, breeding, transport, slaughter of animals, scientific experiments on them, circus activities, zoos and other

³⁴ European Commission, *Food security. Animal welfare*. Available at: https://food.ec.europa.eu/animals/animal-welfare_en. Accessed 14 January 2024.

³⁵ *Ibidem*.

³⁶ European Union, *Treaty of Lisbon Amending the Treaty on European Union and the Treaty Establishing the European Community*, 13 December 2007, 2007/C 306/01, available at: <https://eur-lex.europa.eu/eli/treaty/lis/sign>. Accessed: 14 January 2024

special animal laws.³⁷ In this sense Law no. 189/2004 itself is a clear example of anthropocentrism: excluding all animals involved in all the mentioned areas, the protection envisaged in the 2004 Law appears to be limited to ‘pets’, leaving aside animals which are typically used for nutrition, medical purposes or even entertainment, and in this way considering some species more important than others just according to what benefits humans more.

Law No. 26/2014, which implements the European Directive on vivisection, is also of high relevance. This establishes protective measures for animals employed in science or education and reduces the use of animals for scientific or educational reasons to situations when no other scientifically legitimate technique or testing strategy can be used to get the outcome. Moreover, the Italian law prohibits the use of large apes, such as gorillas, chimps, bonobos, and orang-utans, in scientific investigations.³⁸

To give a final overview of the situation of animal protection in today’s world, confirming the long way we still need to go, it is a clear image the analysis made by World Animals Protection, an international non-for-profit organisation that take care of animal welfare, with a “mission to end animal cruelty and suffering”³⁹. The organisation was born in 1981, with the name “World Society for the Protection of Animals”, from the merge of two organisations: the World Federation for the Protection of Animals (born in 1950) and the International Society for the Prevention of Cruelty to Animals (born in 1959) and changed to the actual name in 2014. One of the many campaigns of the organisation, that gives a clear picture of the international situation on animals’ welfare, is the Animal Protection Index (API), that aims at evaluates the laws and policies of 50 nations, pointing out areas for reform to better safeguard humans as well as animals. In order to create the API they evaluated 50 nations' laws and regulations concerning the protection of animals, ranking them from the highest score “A” (which no country reached, and only three of them reached the “B” score, namely Austria, Sweden and United Kingdom) to the lowest “G”, which indicates countries that still do not have the fundamental legal structure required to safeguard animals, or countries where the law does not expressly acknowledge the consciousness of animals (they attributed the “G” ranking to countries such as Morocco, Belarus, Algeria and Iran).⁴⁰ To create the ranking they divided four categories of parameters:

- The first parameter investigates whether the States have a legal recognition of animal sentience and have a certain degree of law prohibiting animal suffering.

³⁷ Legge 20 luglio 2004, n.189. *Disposizioni concernenti il divieto di maltrattamento degli animali, nonché di impiego degli stessi in combattimenti clandestini o competizioni non autorizzate*. Gazzetta Ufficiale n. 178.

³⁸ DECRETO LEGISLATIVO 4 marzo 2014, n. 26. *Attuazione della direttiva 2010/63/UE sulla protezione degli animali utilizzati a fini scientifici*.

³⁹ World Animals Protection, *About us*. Available at: <https://www.worldanimalprotection.org/about-us/>

⁴⁰ World Animals Protection, *Animal Protection Index*. Available at: <https://api.worldanimalprotection.org/>

- The second criterion explore the presence of animal welfare legislation, concerning all the field where animals are present, such as farming industry or entertainment, but also research facilities or the protection of wild species and companion animals.
- A third point is related to the extent in which the Government of a State takes accountability for animal welfare.
- The last parameter considers the support the States give to international animal welfare standards (such as OIE standards).⁴¹

OIE is the World Organisation for Animal health. Founded in 1924, OIE is an international intergovernmental agency that oversees the establishment of international standards related to the health of animals. With its headquarters located in Paris, the organization has ongoing partnerships with more than 70 regional and international groups and works through Regional and Sub-regional Offices around the globe.⁴² Their mission assumes that animal welfare is a topic intertwined in many fields, such as economy, science, ethic, society and culture, politic, and also religion. Consequently, they advocate for a change in the way humans and animals interact, bringing benefit to both categories, focusing on areas such as animals' transportation, the production system, animal health and the related use of medicines, the killing for disease control and so on. In order to obtain this change, the association focus on helping countries enhance animal protection in all situations where humans employ animals or in any contact that could have an impact on the wellbeing of animals.⁴³ As for this purpose the OIE international standards try to enhance the protection of animals in all the world, regardless of the many context nominated before (such as religion, science, etc.). Recognised by the World Trade Organisation, the standards are revised each year by the 180 Member Countries of the OIE and are divided in The Terrestrial Animal Health Code and The Aquatic Animal Health Code.⁴⁴

On a more recent note, on December 7, 2023, the European Commission proposed a reform of EU animal transport legislation, as well as new rules governing dog and cat wellbeing and traceability. It also responded to the European Citizens' Initiative 'Fur-Free Europe'. The proposal for a Regulation of the Council and European Parliament on the protection of animals during transport to replace Council Regulation (EC) No 1/2005 focuses on goals such as reduce issues caused by long trips and frequent unloading and re-loading, assure better conditions for vulnerable animals, prevent the animal exposure to elevated temperatures, help implement EU animal protection legislation, thanks to technological advancement, and improve animal welfare

⁴¹ World Animals Protection, *Animal Protection Index*. Available at: <https://api.worldanimalprotection.org/>

⁴² OIE, *Who We Are*. Available at: <https://www.woah.org/en/who-we-are/>

⁴³ WOAH, *Animal welfare: a vital asset for a more sustainable world*. Paris, 2024, <https://doi.org/10.20506/woah.3440>

⁴⁴ World Animals Protection, *Standards*. 2023. Available at: <https://www.woah.org/en/what-we-do/standards/>

for exports to non-EU nations.⁴⁵ Another proposition concern the growing demand of cats and dogs as domestic pets, and consequently the increasing trading market, that still depends on the Member States making it hard to guarantee welfare conditions, and very often take place in illegal markets. The Commission adopted a proposal for new rules on the welfare of dogs and cats and their traceability whose goals is to uniform the EU regulations on the matter, in breeding establishment, shops and shelters, but also (for the first time) in housing, through a new system of traceability requirements. In addition, member states must provide education for animal handles, and anybody purchasing or adopting a dog or cat will be taught about the significance of proper and safe care.⁴⁶

A last aspect that is interesting to mention is what concern the discourse on animal welfare at the United Nation level, considering that the UN only focuses on matter regarding the environment, but nothing specific on animals. A proposition has been made, to implement animal welfare on UN level: the UN Convention on Animal Health and Protection (UNCAHP) is a plan to try and safeguard animals on UN level, proposed by the Global Animal Law Association and drafted in 2018. The draft recommends the creation of a UN institution on animal health, protection, and welfare, giving different definitions for each term:

- Health refers to physical, mental, and social status of the animal in dealing with pathologies.
- Protection indicates animal conservation, in order to avoid the extinction of some species, as well as animal welfare.
- Welfare is here defined as the attempts of the single animal to “cope with its environment, including the absence of physical and psychological suffering, as well as the satisfaction of its biological, including physiological, ethological and social needs” (UNCAHP, 2018).⁴⁷

The principles of such proposition are based on the Five Freedom for animals, already mentioned above, and on the three Rs for animals in scientific research, namely “reduction in numbers of animals, refinement of experimental methods and replacement of animals with non-animal techniques” (UNCAHP, 2018).⁴⁸ The document obviously recognises animals as sentient being

⁴⁵ European Commission, *Protection of animals during transport. Revision of Regulation (EC) No 1/2005*. Available at: https://food.ec.europa.eu/animals/animal-welfare/animal-welfare-practice/animal-welfare-during-transport_en. Accessed: 14 January 2024.

⁴⁶ European Commission, *Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the welfare of dogs and cats and their traceability*. 7 December 2023. COM/2023/769. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2023:769:FIN>. Accessed: 14 January 2024.

⁴⁷ Animal Lal (GAL) Association, *UN CONVENTION ON Animal Health and Protection (UNCAHP)*, first pre-draft, August 23rd 2018. Objectives.

⁴⁸ Animal Lal (GAL) Association, *UN CONVENTION ON Animal Health and Protection (UNCAHP)*, first pre-draft, August 23rd 2018. Principle, art.2.

(Article 3) and as a consequence affirms principles such as “Non-cruelty” and “Good treatment” (Article 4) and underlines the interests of animals, such as the interest to a life, to freedom, to not be harmed and adding the interest of being represented, as animals are not able to defend themselves in front of the law.⁴⁹ The important changes that this propositions would bring can be found in its universal approach, considering that it would apply to all the 193 member states, gaining a legally-binding nature as well as expanding the protection practices to all categories of animals, challenging in this way the speciesism present in our society.

⁴⁹ Animal Lal (GAL) Association, *UN CONVENTION ON Animal Health and Protection (UNCAHP)*, first pre-draft, August 23rd 2018. Principles, art. 4-5.

1.3 Power relations: social hierarchies leading to exploitation.

Speciesism and other forms of oppression are related and analogous: racism, sexism (but not only) are all ideology, in the same way as speciesism, made by “a set of socially shared belief that legitimates an existing social order”, social order that is based on the exploitation and/or discrimination of oppressed groups.⁵⁰ If capitalism plays a great role in the system of oppression, and, as will later be discussed, in the dualistic organisation of our society, the cruelty and the domination acted on some groups started way before the rise of capitalism, even though it did amplify and strengthen the system of oppression. This system is in favour of the needs of a privileged group of people, that in this sense hold the power on other devalued humans and animals.

If not in the capitalism, where it is possible to locate the origin of human-animal relations? Referring to the view of Singer, the ideology that gives human the belief that they can use animals to their personal needs originated in Europe and then spread in the rest of the world, and has its roots in Judaism and classical Greek, to be then united in Christianity that made predominant in Europe the idea that we have the right to use non-human animals for our own purposes, the one that the majority of the world still use today to justify animal exploitation. Singer, to better explain this, divides the history of such ideology in three currents of thoughts: the pre-Christian thought, the Christian thought and the Enlightenment thought.⁵¹ Retracing, even if briefly, these different historical stages can help better understand the grounding of the common beliefs on non-human animals in our society.

The pre-Christian thought is composed by two cultural roots: Judaism and classic Greek tradition. The bible, according to Singer, is the perfect metaphor to represent how the Jewish perceived the relationship between humans and animals. A passage from the Genesis 1 “The Beginning” states:

“And God said, “Let the land produce living creatures according to their kinds: the livestock, the creatures that move along the ground, and the wild animals, each according to its kind.” And it was so. God made the wild animals according to their kinds, the livestock according to their kinds, and all the creatures that move along the ground according to their kinds. And God saw that it was good.

Then God said, “Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, and over all the creatures that move along the ground.”

⁵⁰ David Alan Nibert, *Animal Rights/human Rights: Entanglements of Oppression and Liberation*, Boston, Rowman & Littlefield Publisher, 2002, p. 96-98.

⁵¹ Peter Singer, *note 7*, p 216.

God blessed them and said to them, “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground.”⁵²

The image that portrays this passage is that of humans in a position of power, as they are the only living being to resemble God. Even after the fall from the Eden of Adam and Eve—for which it is interesting to notice that the Bible blames both a woman and an animal—it became justified to murder nonhuman animals. Especially, giving animals as sacrifices to God or eradicating nearly all life during the Flood—as revenge for humankind's transgressions.⁵³ This gave the base to justify the power exerted on animals. At the same time, the Greek tradition is the other half of the origin of the western thought. Even if it was made by different schools of thought, the most relevant was the one of Plato and his disciple Aristotle. According to Aristotle, nature is a hierarchy in which beings with less rational abilities are made for those with higher levels of reasoning ability, in other words animals exists to serve human purposes.⁵⁴

The main contribution of the Christianity is the introduction of the belief, in the Roman world, that the uniqueness of the human species is to be attributed to the immortal soul of the human being, idea that leads back to the Jewish tradition. Even if this concept was an advantage for many humans, it reinforced the idea that nonhumans were to be an inferior, and for this reason submissive, category. To exemplify, Singer underline how, as a consequence, in that period gladiatorial fighting started to be considered as murder (so something not morally acceptable), while the fights, and tortures, inflicted to wild animals continued throughout all this period.⁵⁵ It is important to highlight that such folklore still exist today: in many countries, the fighting against animals is still considered as a tradition, it is enough to think about bullfight in Spain.

In the history traced by Singer, the next important school of thought in the shaping of our approach to animal's lives is the cartesian theory, in the 17th century. This theory introduced the concept that everything is made of matter, and all that is matter is governed by a mechanical force. In other words, the universe, composed of material points moving in space, is a massive machine (often compared to a clock) that obeys only its internal operating rules - the physical laws- and responds to the first impulse received. Of course, this would raise an issue: does that means that also humans are machines? To remedy this problem, the Cartesian theory introduced the concept of soul. According to Cartesians, there are two different kinds of reality in the universe (that he defined ontological dualism): the reality of physical nature (the matter), and

⁵² Genesis 1, “The Beginning” 24-25-26-28

⁵³ Peter Singer, *note 7*, p 216-217.

⁵⁴ Peter Singer, *note 7*, p. 218-219.

⁵⁵ Peter Singer, *note 7*, p 221.

soul reality, which is the reality of thinking (the mind). He then connected the human consciousness with the immortal soul, created by God, and by this capable to survive the decomposition of the physical body. This status was only granted to humans, and implied that animals lack a soul (and therefore consciousness) and are consequently seen to be mere machines incapable of feeling pain, joy, and are a simple “*Cartesian res*” that when beaten or dismembered reacted only due to a purely mechanical response.⁵⁶ As a consequence, in this period we see the beginning of the practice on animal experimentation, that will be analysed in more details in the next chapter. Opposing this theory, Tom Regan, American philosopher, and animal rights advocate, quoted, in his famous work “The Case for Animal Rights”, published in 1983, the work of Charles Darwin “Origin of species”, underline how all the animals possess the knowledge to adapt (and in this way evolve) and the will to survive, recognising the presence of consciousness in animals,⁵⁷ contrary to what was supported by Cartesian ideology.

The last stage is to be found in the Enlightenment age. Here is significative how Voltaire answer to the Cartesian Mechanism through its “*Dictionnaire philosophique*” of 1764; under the definition of “Animals” he says:

“What a pitiful, what a sorry thing to have said that animals are machines bereft of understanding and feeling, which perform their operations always in the same way, which learn nothing, perfect nothing, etc. [...] Barbarians seize this dog, which in friendship surpasses man so prodigiously; they nail it on a table, and they dissect it alive in order to show the mesenteric veins. You discover in it all the same organs of feeling that are in yourself. Answer me, machinist, has nature arranged all the means of feeling in this animal, so that it may not feel? has it nerves in order to be impassible? Do not suppose this impertinent contradiction in nature.”⁵⁸

Moreover, in this period there are the first steps towards a recognition of suffering for animals. The first to define human rule as tyranny, in 1780, was Jeremy Bentham, an English philosopher, economist, and theoretical jurist. In 1789, in his “*Introduction to the Principles of Morals and Legislation*”, Bentham claimed that one day the rest of animals being will have the rights that humans took from them. He added that we should not focus on the faculty of reasoning or perhaps that of language to determine how to treat a sentient being. Rather, the right question should be “can they (the animals) suffer?”.⁵⁹

Having established that animals can in fact suffer, and that they possess consciousness and a whole set of needs and emotions, society still view them as “cultural, economic, and symbolic

⁵⁶ Peter Singer, *note 7*, p 229-230.

⁵⁷ Tom Regan, *note 5*, p. 44-45.

⁵⁸ Voltaire, *Dizionario Filosofico*, voce “Bestie”.

⁵⁹ Jeremy Bentham, *Introduction to the Principles of Morals and Legislation*. Oxford: Clarendon Press.1907 reprint.

capital”⁶⁰, in other words they are a valuable resource for men, and as such they are a mean in human (male) dominance. In the law, humans are in fact legally classified as beings with rights, while animals are still considered objects and possessions. As mentioned above, animals are not the only group of oppressed by societal dynamics: all forms of discriminations are connected to this power dynamic, and even if there are many categories to be included in this, the focus of this research is on the particular relation of animal dominance and gender relations. Gender theories can help understand the power dynamics of animal oppression, as will be explained in the next chapter, because there are fundamental similarities between the subordination of women and animals. Animals are instrumentalized, as women bodies often are in many dynamics that characterise gender inequality. What does it mean to say they are instrumentalized? Animals interests are only considered ethically relevant by the law when there is a repercussion on humans (being that the owner of such animal, or a wider concept including generations of future kids that have the rights to live in an ecosystem with endangered species still alive). In other words, the legal system still works in order to maintain that disparity of power that keeps possible the subordination of animals and women, making their judicial interests non fully considered in one case, and hardly considered in the other.⁶¹ The interest of women to be protected from physical and psychological abuse and that of animals to be liberated from pain and death are subordinated to the interests of prevailing groups, in one instance, males, in another, people.⁶²

Another common link in this discourse is that animals and women are frequently categorized as "the natural world", also paired with other marginalized groups such as people of colour, people from Eastern nations, those with disabilities, and individuals with diverse gender identities or sexual orientation. The belonging of women and animals to the “natural world” derives from the dualistic thinking, that is constitutional and crucial in the building of the western society, and many other cultures. The Australian philosopher, Val Plumwood in “Feminism and the Mastery of Nature”, affirms that:

“Every dualism is connected to others in order to form a labyrinth of oppressive links connected by the logical structure characterized by exclusion and denial. In fact, dualism is not just a dichotomy or a hierarchy, which can be contingent and surmountable, but a way of thinking that makes equality and relationship unthinkable. A dualism is a relationship of separation and domination characterized by a radical exclusion not open to change. Religion, philosophy, science, cultural symbols, social models, sexual norms, education, economy reflect this logic of domination that puts the existence of men in the foreground, and pushes that of women in the

⁶⁰ Bujok Melanie, *note 6*, p. 33.

⁶¹ Jason Wyckoff, *Linking Sexism and Speciesism*. Hypatia, Fall 2014, Vol. 29, No. 4.

⁶² *Ibidem*.

background, and conceives it as non-essential”.⁶³

By means of the dualistic division, a specific set of highly regarded attributes are associated with men, humans, societies, culture, reason and intellect, while nonhuman animals, women, wild nature, bodies, the physical life, as well as feelings and instinct are viewed as belonging to a distinct and inferior category.⁶⁴ Individual belonging to these latter categories are more interconnected and close between each other than they are with individuals that belongs to “higher” social ranking. In particular, society understands women and nonhuman animals to be more about their physical being than their intellect, their feelings rather than their reasoning, and, of course, to be more in touch with "Mother" nature than men, that are mainly associated with the reason. For instance, males are often regarded as the foundation of civilization and the highest levels of rationality and culture, as it is possible to see by the prevalence of men among Western nations' religious authorities, influential figures, and the majority of famous artists and academics.⁶⁵ The result of this disparity in thought is society favouring those in the higher category of the hierarchy, attributing them power and control over those in inferior groups, and this concretely reflect in the form of sexism, anthropocentrism, and speciesism.

Sexism oppresses women just because they are female, in the same way anthropocentrism and speciesism assumes that all that is “human” (such as culture and rationality) is superior to all that is non-human, so nature and animals, that as inferior being becomes resources to be exploited, manipulated, and abused for human necessity.⁶⁶ In everyday life this translates to men getting better job opportunities and salaries, or being favoured for higher education, as they are more connected to reason and mind, while women, being more about emotions and bodies, are relegated to domestic labour, reproduction and care roles. In the case of animals, being cows or pigs or chicken, individuals “without reason”, it seems just to control them and exploit their body to please human needs. This process also creates a level of dependence: women often depend on men for protection and financial support and animals depend on men for being managed and provided for food and medical care. Of course, in exchange for this protection those who fits in the lower category are expected to service the needs of higher groups, that feel justify exercising control even with violence, when “necessary” to obtain what they want.⁶⁷

While the question of women has been, and is today, widely examined and discussed (although we still need several steps forward to achieve gender equality at all levels) the position of

⁶³ Bruna Bianchi, *Ecofemminismo: il pensiero, i dibattiti, le prospettive*. DEP, Deportate, esuli, profughe. Ecofemminismo, p. 4-5.

⁶⁴ Lisa Kemmerer, *Ecofeminism, Women, Environment, Animals*. DEP, Deportate, esuli, profughe. Femminismo e questione animale, p. 6-8.

⁶⁵ Lisa Kemmerer, *note 64*, p. 70.

⁶⁶ Lisa Kemmerer, *note 64*, p. 71.

⁶⁷ Lisa Kemmerer, *note 64*, p. 72.

nonhuman animals in society and in the hierarchy of power is still poorly taken into account. To put it in another way, thanks to the introduction of women in the discourse, it is today clear that there is no disparity between genders on a “natural” base, what make the difference in power is a result of society created “power relations”. While for animals this is not accepted yet: non-human animals are still regarded as inferior “by nature”, in other words it is their nature to benefit human’s necessities. Despite this, there are multiple parallels between animal exploitation and the condition of women in society, historically, which also continue to have consequences in modern times. In Western society, women and animals represent the opposing and socially undervalued pole to males and, hence, to all the attributes associated with men. The traits that are attributed to “nature,” including lack of reason, passivity, immaturity, brutishness, wildness, libidinousness, and ultimately danger is associated with include women and animals, as opposite to men that are linked to rationality and civilization. Thus, the dominance of nature—both the “inner nature” of humans and the “outer nature” of animals—was the foundation for the progress of Western cultures. Western culture saw the dominance of “inner nature”—self-control, rationality of life, repression of urges and mimetic impulses—as necessary for civilization, which meant economic progress that served the interests of power. As the opposite, again, is people that are not purpose-driven nor adapted to the social structure, and those people are told to be acting like “animals” (using this word can signify a dehumanization of individuals, excluding them from morality), so once again the comparison is with the irrationality of nature.⁶⁸ The sharp division between the two reinforces the dynamics of power and submission, and is a binary system that is present in society in different shades: human/ animal, but also man/ woman, white/person of colour, and so on, legitimizing the oppression of being considered inferior by hand of who is considered superior. This binary system is a social construct, and it is the result of different processes through which certain human like women learn to accept the power relation and to internalize their position in the society, thinking that such position is just and natural.⁶⁹ The same happen in the case of animals: people perceive animals as objects as a consequence of normalization of the social construct that sees animals as source of revenue and economic capital for humans and in this way justify the violence perpetrated. The difference is that animals are not socially constrained in the same way that women are thus, the limitations placed upon them are entirely external and, consequently, very aggressive. For them, societal power is physical aggression that violates their bodily integrity rather than symbolic.⁷⁰

Animals ultimately come to represent the opposite of this civilization, culture, rationality, and advancement—even more significantly compared to women. Therefore, their enslavement and

⁶⁸ Bujok Melanie, *note 6*, p. 34-35.

⁶⁹ Bujok Melanie, *note 6*, p. 35.

⁷⁰ Bujok Melanie, *note 6*, p. 32.

employment as tangible and metaphorical tools for men's financial gain are justified by this perspective.

“At the two poles of human-animal relations, humans face animals on the one side as someone – an individual and interacting “subject of a life” – with animals on the other side as something – an object with specific meanings attributed by society and its culture” (Wiedenmann 2002).⁷¹

The violence used against animals by humans can also be brought back to the threat humans perceived from animals, as competitors in the fight for the resources. That is why society developed pulling away animals (considered dangerous), locking them in cages and killing them. Additionally, today, we keep them out of solidarity actions and justice, and in addition we employ them as sources of production, as useful resources (the same thing we do with the rest of nature), forcing animals into civilizations, that is not their nature. Animals are, in fact still today, as a species, more vulnerable to societal labels than any other social group, not due to fact that animals are not able to speak or they do not have anything to say (as they are more than capable to express their needs), rather it is the result of people failing to understand such needs. Human can indeed elevate their social status by possessing animals and using their work force or their bodies, and not only has cruelty to livestock traditionally been the foundation of the economy, but animals as well as their products continue to be vital to the exchanges of goods. However, using animals for commercial purposes does not fully capture the reality of our society; in fact, animals are symbolic assets, and controlling them promotes social acceptance. Even though we live face to face with animals in our daily life, and we can see how they are not, in reality, objects, there are many ways in which society manages to justify such treatment.⁷²

This power dynamics are generally explained in terms of a "divine" or "natural" order to make these interactions seem unchangeable and absolute.

According to Singer, as stated in the previous paragraph, the main issue that needs to be overcome in animal's exploitation is the deep-rooted idea that “humans come first”, and consequently everything that concern non-human animals is not relevant enough both on a moral and political level. This concept is what we already mentioned as speciesism. In other words, in the philosophy of animal's rights, the term speciesism indicates the practice of recognizing individuals of one species as morally superior to members of other species, often leading to the exploitation or mistreatment of certain groups. As a result, humans exploit nonhuman animals throughout their lives, using them as resources. The core of Singer theory is that discriminating against beings solely on the basis of their species is a form of prejudice, that works in the same

⁷¹ Bujok Melanie, *note 6*, p. 32-33.

⁷² Bujok Melanie, *note 6*, p. 34.

way of racism and sexism (and other forms of irrational discrimination), and is in the same way morally wrong.⁷³ It is interesting to notice that historically, there has been evidence of significant overlap between the leaders of campaigns for animal rights and those fighting against the subjugation of women and people of colour. The author of “Animal liberation” connects this to the fact that people interested in animal welfare have also been more concerned with human rights than those who did not care for animals because they did not consider it a sufficiently relevant problem.⁷⁴ This confirms how fighting for animals’ rights does not take anything away from problems concerning humans. An additional justification to the systematic violence humans perpetrates on animals can be found in the misconception we have of theme and of nature. Language plays an important role in this sense, and this study will better focus on this concept in chapter three, but for the moment it is sufficient to report an example, thinking about how a “beast” (or in Italian the word “bestiale”) is a word used to connect something evil to a human, while something “humanitarian” refers to the idea of something good. Of course this is unfounded: not only humans kill members of other species way more than the rest of the non-human animals, but we kill the major numbers of our own specie as well.⁷⁵ Most importantly, animals kill other species to survive (mainly for feeding), while humans kill animals for many other different reasons, such as sport, entertainment, embellishment, and more. So, if a human activity is amusing (like circuses or zoo and aquarium), or convenient in the way that they are generating profit (like the meat industry), then the violence and the pain suffered by animals are considered justified. Singer’s ethical concept, defined “principle of equal consideration of interests”, is his answer to speciesism. According to him, the point is not to affirm that animals and humans are equal, but rather “that the moral principle of equal consideration of interests applies to them as to humans”.⁷⁶ In essence, the concept says that all beings with the capacity for pleasure or pain should have their interests taken into account equally. This implies that if animals and humans are both capable of experiencing pleasure or pain, then their interests need to be seen equally. Singer highlights the significance of acknowledging the consciousness and interests of all organisms able to experience subjective perceptions and advocates for the expansion of ethical treatment for all the species.⁷⁷

Based on what analysed so far, it is clear that living things became subservient to material and economic interests with the advent of industrialization and the capitalist paradigm, which saw everything in the natural world as a resource for scientific and economic advancement.

⁷³ Peter Singer, *note 7*, p 250.

⁷⁴ Peter Singer, *note 7*, p 251.

⁷⁵ Peter Singer, *note 7*, p 253.

⁷⁶ Peter Singer, *note 7*, p. 256.

⁷⁷ Peter Singer, *note 7*, p. 275.

This same production dynamics are the same that regulate women's position in society: women are expected to be a part in both the production sphere and the reproduction one. As a result, they remain in lower positions in terms of career, compared to men, who access more easily to leadership roles.⁷⁸ A serious consequence of this power relations is that some women find themselves being dependent on others (usually men, fathers or husbands), or in even worst situations, they find themselves with such low income that they are forced to labour conditions similar to slavery or to live in the sexual exploitation industry. The body, both for women and animals, is considered as a resource, a consumer good, either desired or demanded from who have the power to obtain it, as will be deeper discussed in chapter three.

⁷⁸ Bujok Melanie, *note 6*, p. 35.

1.4 Feminism and anti-speciesism: are women more present in animal rights?

The feminist movement and the ecologist movement (and later on the animal's rights one) share a common viewpoint that rise from the fact that in our culture women have been (and still are in many cases) subordinated to men, causing the need to organize and fight against inequality, abuse and socio-economic disparity, and at the same time ecologists have challenged the abuse humans force on nature (and animals), highlighting the interdependence of humans and nature and the impact our actions have on both. To better explain, both movement's goals are directed on putting an end and find an alternative to women and nature exploitation and oppression.⁷⁹ A brief note can be useful to better understand the meaning of the term violence, in order to analyse the studies that will be presented. On the matter, the World Health Organization through the work of Violence Prevention Alliance (VPA), that aims at reducing and stopping violence through a coalition of civil society groups, global organizations, and WHO member states, define violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation."⁸⁰

Both women and ecologist movements put blame for the disparities and the power dynamic on the capitalist social and economic system's mode of operation, which encourages control, competitiveness, and power. In her analysis Merchant explains that for what concern ecologists, they questioned the effects of rapid and big development, that happened through capitalistic system, technological advances, urbanization, and a consequent overpopulation, trying to answer this phenomenon with a restored equilibrium between human activities and nature. On a correlated note, women's movements brought attention to the negative effects of competitive marketplace that came with capitalism, and that relegated women and nature to be resources in this dynamic, instead of active players.⁸¹

As already noted before though, the way in which women are animalized and animals feminized often in the same manner is not a new aspect of our society, and the exploitation system started way before, while is still possible to state that capitalistic method has increased such dynamics. Already in 1792, a strong example was presented of the connection society

⁷⁹ Carolyn Merchant, *The death of nature. Women, ecology, and the scientific revolution*. Harper & Row, San Francisco, 1990, p68.

⁸⁰ World Health organization, *The VAP Approach, definition and typology of violence*. Available at: <https://www.who.int/groups/violence-prevention-alliance/approach>

⁸¹ Carolyn Merchant, *The death of nature. Women, ecology, and the scientific revolution*. Harper & Row, San Francisco, 1990, p. 69.

structure make between women and animals. That year, Mary Wollstonecraft, English writer and passionate advocate of educational and social equality for women, published “A Vindication of the Rights of Women”, to which an anonymous (at the time, today it is known to be Cambridge professor Tomas Taylor) writer replied, in order to demonstrate the absurdity of Wollstonecraft’s ideas, saying that: “If one begins on this path, sooner or later the rights to animals will also be recognized”.⁸²

Feminism, as a political, socioeconomic, and cultural movement that fight for the equal treatment of women under the same political, social, and economic conditions as men, comprehend today a wide range of subgroups that has different goals, but at the same time the same aim, that is to create a society with greater equity and justice for all people, regardless of gender. Between the many goals of feminists, the main that almost all have in common, are for instance political, legal, and reproductive rights for women and equal work opportunities, the elimination of gender-based violence and abuse, the deconstruction of social expectation based on gender and intersectionality. This last one is very critical in explaining the connection between women and animal abuses. Ecofeminism, in facts, talks about intersectionality, a term coined by black feminist and activist Kimberlé Crenshaw in 1989, to define the interweaving of systems of oppression, it identifies mutuality and social construction in which social actors shape and are shaped in the oppressive dynamics.⁸³ Intersectionality aims at identifying and fight the interrelated nature of many types of discrimination, such as, for example, those based on race, class, sexual orientation. Maneesha Deckha, Professor of Law at the University of Victoria, refers to intersectionality as:

“A theory and methodology that instructs its adherents to examine the mutually generative and integrative nature of social identities as well as the power relations and the structures and hierarchies of difference to which they give rise.”⁸⁴

Now, this concept is particularly relevant in order to argue that animals’ rights should be taken in consideration by the feminist movement, as a part of women issue in the society. First of all, because intersectionality suggest that feminist theories should take into account marginalized and abused identities, something that animals still largely are in today’s society. Secondly, because animals’ rights should be considered women’s rights, as the majority of atrocious act perpetrated on animals have as subjects female specimens, that are doubly exploited for their capacity of reproduction (on this matter this dissertation will focus more on chapter four). So, animals movement's goals of regulating or abolishing industrial farming, animal

⁸² Peter Singer, *note* 7, p 29-30.

⁸³ Annalisa Zabonati, *Ecofemminismo e questione animale: una introduzione e una rassegna*. DEP, p. 177.

⁸⁴ Maneesha Deckha, *Animal Advocacy, Feminism and Intersectionality*. DEP, Deportate, esuli, profughe. Femminismo e questione animale, p 51.

experimentation, and entertainment should be viewed as feminist issues not only because of the connected oppression of animals and women, but also because women are the main participant in animal rights campaign, and also in this field their experience is influenced by gender bias.⁸⁵

Animal concern has been a part of the Feminist advocacy and fight since the beginning of the movement, especially through anti-vivisectionist campaigns, who saw as protagonists, between many other women, Anna B. Kingsford, who graduated in medicine in 1880, refusing to practice vivisection (which she considered a form of extreme violence), with a thesis on vegetarian nutrition; Frances Power Cobbe, writer and social reformer, she founded the National Anti-Vivisection Society in 1875, and in 1898 the British Union for the abolition of vivisection.⁸⁶ Francis Cobbe, in her feminist fights, gathered women to protest vivisection by connecting it to mistreatment of women and by comparing Medical studies on animals to testing method on women.⁸⁷ This is only a few examples of women involved in the fight against discrimination (both for women's and for animals' rights), and that spoke up during the anti-vivisection motion of the 1900s about the parallels between intrusive gynaecologic treatments and the "research" conducted on women and the brutal treatment of animals in scientific labs.

On the base of the analysis made so far, it is possible to say that women have been at the core of the fight for animal rights since the 1800s, and to back up this concept, contemporary research suggest that they form 68-80 percent of the movements today.⁸⁸ Women seems to be more involved in the advocacy for animals' rights in comparison to men. What is the reason behind this big presence of women, and the low presence of men is a question Emily Gaarder tried to answer with qualitative research in which she studied the opinion of twenty-seven women who are animal rights activist, asking them how they make sense of their majority status in the movement. Some of the answers she gave through her research gives some interesting points of reflection.

- “Gender-role socialization influences emotional response”: man may be less involved in animal advocacy as this is seen as a very emotional movement, so something that risk being considered “unmasculine”. This is because masculinity at a social level is connected with “strength and emotional distance” while the compassion towards animals is associated with weakness. On the contrary, the higher presence of women in defending animals confirm the common gender role assumption to be attentive to sentiments of others, and to be gentle and caring. Women additionally compose up the

⁸⁵ Maneesha Deckha, note 84, p 53.

⁸⁶ Annalisa Zaborati, note 83, p. 178.

⁸⁷ Gaarder, Emily, *Where the Boys Aren't: The Predominance of Women in Animal Rights Activism*, 2011, p 58.

⁸⁸ Gaarder, Emily, note 87, p. 55.

largest percentage of volunteers at animal shelters and recovery organizations, all of which are likely to be exposed to animal rights views and showing the larger empathy and sense of care expected by women from society.⁸⁹ Of the twenty-seven women that Emily Gaarder interviewed for her research, twelve of them agreed on this theory to explain the gender difference in participation to activism, underline how society in certain ways “impose” men to be tough and women to be caring. Some of these women pointed out another interesting consequence of society gender expectation, namely the view that food intake is today a gendered issue. Women live under the intense pressure to be perceived as thin to be beautiful and socially more accepted, making it easier to put control on the food they eat, and in this case also easier to start a vegetarian or vegan diet, that eliminate a big portion of what is considered the main way of sustenance. On the contrary men are associated with strength, and strength is associated in turn with eating big quantities of meat, making it harder for men to choose a vegetarian or vegan diet and still maintain a high enough masculinity according to society. One of the women interviewed for the study stressed this concept saying: “It's not manly to say, 'Can I have a veggie burger?'”.⁹⁰

- The Ecofeminist perspective finds the motive of women's presence in animals' rights fight in the experience of “hierarchical domination” that makes them feel more connected to nature and animals, as they all are subject of domination. At the same time, women are less inclined to think of nature or animals as objects to be dominated, managed, or murdered. Gaarder calls this possibility “empathy based on shared inequities”, in other words, this expresses the concept that women can identify with animals as they experience comparable dynamics of “objectification, subordination, and abuse”, as is very common that oppression may generate sympathy and empathy among individuals who have faced comparable situations. During the interview conducted by Gaarder, twelve of the women activists agreed with this ecofeminist perspective, affirming they believe (and some of them experienced) that women are in fact more likely to understand and relate to animals' abuse as a result of their own experiences of oppression. The testimonies found linkages between women's and animals' social statuses in a variety of ways, including exposure to sexual and physical abuse, having no sense of voice or influence in politics, being overlooked, being dominated, and being treated as objects or possessions.⁹¹

⁸⁹ Gaarder, Emily, *note 87*, p. 71.

⁹⁰ Gaarder, Emily, *note 87*, p. 65.

⁹¹ Gaarder, Emily, *note 87*, p. 67-68.

- Lastly, a group of ten women argued in favour of a biological explanation, affirming that men have a major presence of testosterone making while a woman has a nurturing instinct. In this case, Gaarder noticed how women supporting this thesis were older compared to the rest of the study group, assuming that younger women had the chance to be more exposed to new cultural discourse on gender roles and learn more about social structures and theories about inequality, compared to the main “biological destiny” rhetoric the older women probably grew up listening to.⁹²

It is interesting to notice that being the majority of animal advocates women, the majority of leader roles are however covered by men, underling even in this case the gender-role division that society accustomed us to perceive as normal. Women activists continue to voice concern that the animal rights movement's primary leadership is represented by men, while the workforce and the volunteers that are mainly women perform practical support for animals and keep the organization's everyday activities running smoothly. This reality can be connected to the dichotomy reason-emotion, that as formerly discussed, has its origin in the Cartesian dualistic philosophy that excluded some categories of people and nonhumans from moral and legal status based on their rationality and social standing. This thought is still present today, and, as it focuses on reason and its opposite, emotion, it still has a negative impact on people and animals that are allied with emotion.⁹³ Consequently, it is perceived that women join the movement for an empathic response to violence against animals, but it was clear soon that it was also useful to use scientific and rational arguments to convince more people of the legitimacy of the cause, and it were mostly white men the ones that could convey the message giving the most rational imagine.

The patriarchal tradition is also responsible for the dualistic division of society, starting with the binary gender, and moved to other aspects; in other words, dualism has ordered the world through the use of opposites like male/female, civilization/nature, and human/animal, and of course rational/emotional. Lisa Kemmerer, a philosopher-activist that works against oppression, define dualism as something that “fosters an understanding of the world whereby anything and anyone that/who does not qualify for a particular category is excluded from that category and becomes other”.⁹⁴ As consequence, nature is what is unaffected by humanity, and being human entails civilization and culture, especially since we are accustomed to see humans as separate and disconnected from animals, in the same way that reason and emotion are separated. But the reality is that humans are actually animals, part of the nature, and this is problematic in the way it teaches us to considerate ourselves as something different than nature.

⁹² Gaarder, Emily, *note 87*, p. 66.

⁹³ Maneesha Deckha, *note 84*, p. 56.

⁹⁴ Lisa Kemmerer, *note 64*, p. 67-68.

The dichotomy between human and animals, but also between men and women, and nature and culture, and all the other dualistic category do not represent the complexity of our world, but despite this, dualistic thinking is present almost everywhere, it is enough thinking that the categorization of humans based on "male" and "female" is still the main way in which we identify people.⁹⁵ Once again, women and nature (and consequently animals) are paired. They both are at the centre of this dualistic dynamic, in the way in which nature has always been identified with a “nurturing mother”, that can provide for the sustenance of humankind (and justify the exploitation of nature as resource), but at the same time an opposed image is that of the nature as wild and unmanageable, so potentially dangerous, that need to be tamed.⁹⁶ And with modernisation came the attempt to manage and control nature, in the same way that happen to women and their contact with nature, as they both were perceived as something that is in the part of the dichotomy connected to the emotional sphere, less important than the rational and scientific sphere, that is the one dominated by men. So, feminists addressed the dualistic thinking and the inclination to establish hierarchies, that supported sexism, up until the realisation that such dynamic was clearly oppressing and discriminating women, but at the same time exploiting nature and animals. The revision of these fundamental dualisms, together with many others – such as nature/culture emotion/reason, body/mind- is the core of the ecofeminist approach.

Early in the 1970s, the term "ecofeminism" made its debut as a component of the feminist movement which was spreading around the globe to oppose male dominance, as a progressive political ideology that recognizes the connections between discrimination. This line of thought considers the relationship between the subjugation of women and the extensive use of the environment, as they both are attributed to the identical structure of authority, ranking and oppression, rooted in the patriarchal system. At the beginning of the 1980s Marti Kheel founded, together with other activists, the association Feminists for Animal Rights (FAR), dedicated to the abolition of all forms of discrimination against women and animals, and their manifesto presented it in this way:

“Feminists for Animal Rights seeks to raise the consciousness of the feminist community, the animal rights community, and the general public regarding the connections between the objectification, exploitation, and abuse of both women and animals in patriarchal society. As ecofeminists, we also are concerned about cultural and racial injustice and the devaluation and destruction of nature and the earth. We view patriarchy as a system of hierarchical domination,

⁹⁵ Lisa Kemmerer, *note 64*, p. 69.

⁹⁶ Carolyn Merchant, *The death of nature. Women, ecology, and the scientific revolution*. Harper & Row, San Francisco, 1990, p. 25-30.

a system that works for the powerful against the powerless.”⁹⁷

The key principles on which ecofeminism works are, to sum up, a criticism of male dominance and the consequence that this society structure has on both women and nature, that are, according to ecofeminism, connected as they both are subject of the exploitation of the patriarchal and capitalist systems that use them as an expendable resource. They advocate in defence of nature (that is important to remember it comprehend non-human animals) for environmental justice, addressing many issues related to climate change. And a very important point is the intersectionality view of the matter: women issues are interconnected with environmental issues, and as a consequence to animal issues, on a global perspective.

On ecofeminism Carol J. Adams says:

“Ecofeminism allows for the articulation of an ethic of care. Care is part of how we relate to the other, and that “other” isn’t just another so-called “human being,” but is potentially any part of this planet. Care is a radical political situating of ourselves in relationships to others. The ecofeminist articulation of care becomes both a radical critique of patriarchal privilege and becomes a remedy to this privilege.”⁹⁸ (Adams, 2018)

Lastly, an interesting correlation (once again connecting women and animals’ faith) has been found between animal maltreatment and domestic and interpersonal violence. A 2022 article, “Animal Abuse as an Indicator of Domestic Violence: One Health, One Welfare Approach” studied the possible correlations between the two types of violence, that are still very present in society, and often still normalized. A clear signal that women and animal abuse are interrelated has been found, for instance, in the frequency with which cruelty on domestic animals is such a common behavior of partners who act violence on women. Studies showed that such violent acts on pets can be an intimidation and an attempt to psychologically control their partners.⁹⁹ In other words, pets become an additional victim of violence in the attempt of the aggressor to establish a power dynamic, based on fear or revenge, on women and/or children, in any case on who they consider weaker and inferior. The power hold by abuser through pets is also a factor in the concern that often women face on the decision of leaving the house, or the situation, in which they live together with the violent partner, or the fear of leaving the relationship itself. It has been studied that many women decide to not leave the violent partner because of the threat of violence against the animal, but also because in the majority of shelters it is not possible for them to bring their pets, forcing women to leave their animals in the hand of the abusers.¹⁰⁰ At

⁹⁷ Annalisa Zabonati, *note 83*, p. 202.

⁹⁸ Adams Carol J., *About Ecofeminism*, 2018. Available at: <https://caroljadams.com/about-ecofeminism>.

⁹⁹ Mota-Rojas D, Monsalve S, Lezama-García K, Mora-Medina P, Domínguez-Oliva A, Ramírez-Necoechea R, Garcia RCM. Animal Abuse as an Indicator of Domestic Violence: One Health, One Welfare Approach. *Animals* (Basel). 10th April 2022.

¹⁰⁰ Ibidem

the same time, young people as children or adolescent, who has reported to have practice some sort of violence against animals, have a higher risk to act abuse also on their partners in the future, or other family members. Moreover, animal abuse as well as domestic violence are now indicators useful in the early detection of criminal persons.¹⁰¹

¹⁰¹ Mota-Rojas D, Monsalve S, Lezama-García K, Mora-Medina P, Domínguez-Oliva A, Ramírez-Necoechea R, Garcia RCM. Animal Abuse as an Indicator of Domestic Violence: One Health, One Welfare Approach. *Animals* (Basel). 10th April 2022.

1.5 Conclusions

In this chapter, the analysis has started with a focus on the origins of the concept that animals are inferior to humans, and for such reason that humans have the natural right to exploit them. Then, the discussion has moved towards two extremely relevant exponents of the Animal rights movement: Peter Singer and Tom Regan, both their ideas are the base for the animal welfare discourse. In their work they explained how in the history humans perceived their relationship with animals, but they also gave a different interpretation on the reality of animal life worth. This reflexion led to the question “are animals as sentient being worthy to be the subject of rights?”. The answer has been found in the clear fact that, being able to feel pain and to suffer, and having them needs as well as desires, they should be better protected by the law, that until today, has only protected some species, and it is only regulating the usage of animals body, not defending their right to live a life free of pain and subjugation.

Moving forward to the way society still justify animal use, the dissertation focused on the power dynamic that regulate our society, and that comprehend not only animals, but also women and other minority groups. Animals are in our society still considered objects, or even more accurately, they are treated as resources for humans to exploit, and for the only reason of belonging to another species (other than human) they lack a real welfare and are instead part of that social inequality in which we can often find women as well. Being both part of the “nature” concept in the binary order, animals are though a step behind women: even if they can clearly feel the external imposition of force coming from men, they struggle and they do not have the means to collectively express their interests or substantially change the social dynamics that affect them.¹⁰²

On the last paragraph, it has been shown that animal advocacy is related to women fight for equality, that animal’s movement is women’s movement, and intersectionality should comprehend species as well, because animal issue is feminist issue in many ways. It has been showed how the feminist movement is already looking at other forms of discrimination other than that based on gender, in the awareness that violence is interconnected and often come from the same social roots. In this regards the paragraph reported that a connection between animal abuse and domestic and gender violence is not only possible, but increasingly taken into account as a correlated indicator of other crimes. In conclusion, both Singer and Regan, pioneer of the animal rights, stated that the right path to the animal cause is that of taking distance from the emotional aspect in favour of a more rational one, by supporting that a more

¹⁰² Bujok, Melanie, *Animals, Women and Social Hierarchies: Reflections on Power Relation*. DEP, Deportate, esuli, profughe. Femminismo e questione animale, Luglio 2013, n23

emotional (feminine) approach would have minimized its meaning and the work of advocates, a point of view that, even if aims at a good cause in favour of animals, confirm the presence of a inferiority thought for the feminine sphere. Animal rights theorist Mary Midgley however proposes a different perspective, saying that: "What makes our fellow living beings worthy of basic consideration, is certainly not their intellectual capacity, but rather emotional participation; animals express a social and emotional complexity in the formation of deep, underlying and lasting relationships".¹⁰³

¹⁰³Josephine Donovan, *Diritti animali e teoria femminista*. DEP, Deportate, esuli, profughe. Femminismo e questione animale

Chapter 2. Animals in science: experimentations practices

2.1 Introduction

“In their behaviour toward creatures, all men are Nazis. Human beings see oppression vividly when they're the victims. Otherwise, they victimize blindly and without a thought.”¹⁰⁴ This is how Peter Singer refers to animal testing in his book “Animal Liberation”, through the words of Isaac Bashevis.

To have a clearer understanding of the subject that will be analysed in this chapter, the definition of the concept “animal testing” can be understood as: a process carried out on animals to study fundamental anatomy and illnesses, evaluate the efficacy of novel medications, and evaluating the risk, for people and the ecosystem, of commercial good, including food additives, beauty products, home detergents, and many others. All operations, regardless of what is designated as "minor procedure", have the risk of causing pain to animals, both physically and psychologically. Moreover, after the conclusion of one research study, animals are either killed or utilized again and again in other procedures that will cause them more pain.¹⁰⁵

The use of animals in scientific experimentation has long been a controversial subject, balancing the pursuit of medical and technological advancements against ethical considerations regarding animal welfare. Historically, the practice of animal testing has been justified by its perceived necessity for human health and safety, with its proponents arguing that many of the most significant medical breakthroughs have relied on the use of animal models. However, this justification has been increasingly challenged by scientific, ethical, and legal perspectives that question the validity, necessity, and morality of these practices.

This chapter explores the history, methodologies, and ethical concerns surrounding animal experimentation, providing a critical examination of its evolution and contemporary implications.

The discussion begins with an overview of early experimentation and the rise of laboratory science, tracing the ideological shifts that led to the normalization of vivisection and the increasing detachment of researchers from the suffering of their test subjects, while also bringing the point of view of those who protected animals during history, up until today.

The chapter then examines key legal and ethical frameworks that have shaped the regulation of animal experimentation, including the principles of the Three Rs (Replacement, Reduction, and Refinement) and the emergence of alternative testing methods. Furthermore, parallels are

¹⁰⁴ Peter Singer, *note 7*, p. 108.

¹⁰⁵ Humane World for Animals, *About Animals Testing Again. What is animal testing? And what are the alternatives?*

drawn between the exploitation of animals in research and historical injustices in human medicine mainly concerning women, such as the forced sterilization unethical medical experiments.

By analysing these interconnected issues, the chapter seeks to highlight the fundamental question at the heart of animal experimentation: whether scientific progress can ever truly justify the suffering inflicted on sentient beings. In doing so, it challenges the assumption that animal use in research is an unavoidable necessity, urging a revaluation of how scientific inquiry can evolve to align with more humane and ethical practices.

2.2 History of experimentation on animals

One of the first times people started to realise what was really happening to animals in the laboratories happened after the release of the movie “Project X” of 1987, that gave people a first look into military experimentation on animals. While the story of the movie was made up, all of the experiments corresponded to reality and were based on the ones operated for many years in the Brooks air force base in Texas. Those experiments were made on monkeys to test a flight simulator with the goal to find out the ability to fly an airplane after being exposed to radiation and chemical agents. The experiment happens on the Primate Equilibrium Platform (PEP) that is a simulator that can replicate the movements of an airplane. Monkeys are trained to sit still on a seat and to operate a control bar, with the goal to have them use it to place the platform back to a horizontal position when in action.¹⁰⁶ To perform such an experiment, as Singer explains in his book, the animals involved undergo a great amount of pain. The training and the experiment are structured by seven phases: in the first phase the monkeys are tight up to the seat for one hour a day, in phase two the monkey is subjected to electric shocks while the platform is tilted forward, and trained to touch the hand of the scientist (that is positioned on the control bar) in order to stop the shock (this happens 100 times per day for each monkey); in a third phase it needs to learn to pull back the bar in order to stop the electric shock; in the next phases (from four to six) they learn how to pull forward the bar, and then pull back again, until they learn how to control the platform with the appropriate answer; in the last phase they now can use the bar to control the position of the platform, in order to learn to keep it horizontal, and in this last part of the training the electric shocks are less frequent and done by the scientists, in order not to risk and punish a correct answer during the training. This is only the training part, which then leads to the worst part of the process, the experiment in itself, that involves the exposure of the monkeys to lethal doses of radiation and chemical agents to see how long they can last properly using the platform.¹⁰⁷ This is an example of how animals are used for research purposes, but it is only a tiny part of the experiments practiced on animals, that are not only done by military, but also by research institutes, universities, commercial societies, pharmaceutical and cosmetic testing, and so on. The relevance of this example is that, as stated before, it was a turning point in the realisation by people of what the military (and the biggest majority of the scientific field) were conducting on animals.

Today approximately 115 million animals worldwide are thought to be utilised in scientific studies every year, but it is important to underline that only a small percentage of nations gather

¹⁰⁶ Peter Singer, *note 7*, p 47.

¹⁰⁷ Peter Singer, *note 7*, p 48-49.

and reveal information regarding animals used in experimentation.¹⁰⁸ What is intended with this expression on a general level? “Animal experiment” describes the practice of operations carried out on living animals to reach a scientific result, such as study the evolution of illnesses, evaluate the efficacy of new treatments, or test the safety of products such as beauty tools, but also cleansers, and many other industrial goods. This practice, even when considered as “minor”, causes pain and suffering to animals (physical and psychological), ending with the repetition of the distress for new experiments or to the death of the animal in the majority of cases. The pain inflicted to animals during these practices make animal experimentation different from other scientific studies, like ethnographic research conducted in natural environments, where animals are observed but not damaged.¹⁰⁹ A common term associated with the practice is that of vivisection, which was initially coined to describe the act of cutting live subjects for research, historically both humans and animals. It then became a synonym for animal experimentation in modern times, especially during the 19th century when it became a political term used by the opponents of the practice during protests.¹¹⁰

At the same time in the 19th century, science became an attitude more than just a field of study, something that needed to be objective and rational, not connected with feelings, demanding people involved to be detached from emotions and compassion. If during the 17th century there was still the idea that the result of vivisection was not reliable, since the body under such terrible treatments was not considered a normal one, during the 19th century the critique to the practice was focusing on the fact that these experiments were a violent effort to steal Nature’s secrets, contrary to the use of philosophical enquiry.¹¹¹

The use of animals in science and medical research is historically very old, and it can be traced back to Ancient Greece, when in order to understand the functioning of the human body, they used to dissect animals as well as humans, practice that gave humanity the biggest part of the knowledge of anatomy and physiology. Starting already at the time of the ancient Greek, there were those who opposed vivisection, as it was believed that the pain suffered would be both cruel and would distort the regular form of internal organs.¹¹² The Italian philosopher Croce coined the term *scientific antivivisectionism*, by which he sustained that the data obtained by animals’ experimentation were not transferable to humans, or to another species, making vivisection both

¹⁰⁸ Humane Society International, *Animal Use Statistics*, 2012. Available at: [Animal Use Statistics - Humane Society International \(hsi.org\)](https://www.hsi.org/animal-use-statistics)

¹⁰⁹ Arianna Ferrari, *Contesting Animal Experiments through Ethics and Epistemology: In Defense of a Political Critique of Animal Experimentation*. Animal Experimentation (chapter 7), Working Towards a Paradigm Change. Brill publisher, p 194.

¹¹⁰ Arianna Ferrari, *note 109*, p 195-196.

¹¹¹ A.W.H. Bates, *Anti-Vivisection and the Profession of Medicine in Britain: A Social History*. Palgrave Macmillan, London, 2017.

¹¹² Arianna Ferrari, *note 109*, p 199.

limited in the results and also potentially dangerous as it could produce misleading results.¹¹³ In other words, in many cases animal research produces false results, reported by discrepancy in the outcomes of clinical studies and animal studies.

On the other hand, the opposition based on moral and ethical issues of the practices put at the centre of the discourse the inevitable truth that animals are sentient beings that are deprived of their interests as they are killed and abused and deprived of their freedom when they are subjected to experiments. This theory opposed the Cartesian idea that perceived animals as machines and started to be very influential during the 17th and 18th centuries, when movements started protesting and scholars started to denounce the atrocities of such practices. An important part of this opposition is that animal use can not be justified, not even with his utility to humans ends.¹¹⁴

If the method of human dissection brought protests starting in the early eighteenth century, when the practice of animal experimentation started to create doubts in people's opinion? At the end of the nineteenth century, the movement against the use of animals in science started to organize real fights and protests. Anti-vivisection movements started in this period mainly in England, and especially as a consequence of the fact that vivisection often happened in public, while people could start to understand the suffering animals were undergoing to let this happen, and this display of suffering started to grow awareness in public opinion, leading to outrage, especially since the practice was forced on dogs that in that period started to be more and more considered as companion animals.¹¹⁵ An example of this happened in 1824 when a French physiologist, Francios Magendie, practiced a vivisection publicly on live animals, leading to a big protest from the people present. Vivisection is the practice of “cutting into a living body”, since many of the results expected need the animal to be alive in order to happen. Moreover, before the end of the 19th century, this was the only way possible in the practice, as anaesthesia was only invented and introduced in experimentation in that period. All of this happened in a period of big and important social changes, as in the following decades movement anti-slavery and for women’s suffrage grew as well, together with the animal protection advocacy. As a consequence of social movements, the first legislation to control animal experimentation was passed in 1876 by the British Governments, the “Cruelty to Animals Act”.¹¹⁶ This legislation tried to put a limit to animal suffering, “requiring anaesthesia and restricting the use of paralyzing agents.”, but it also gave scientists the possibility to apply for a special certificate if they needed to do certain practices. With time the antivivisectionist movement gained knowledge and strength, and with that, protests grew as well, but at the same time scientists strengthened the

¹¹³ Arianna Ferrari, *note 109*, p 199.

¹¹⁴ Arianna Ferrari, *note 109*, p 200.

¹¹⁵ Lynda Birke, Arnold Arluke, Mike Micheal, *The Sacrifice. How scientific experiments transform animals and people*. Purdue University Press, Indiana, 2007, p 6.

¹¹⁶ Lynda Birke, *note 115*, p 7.

value and the benefits of animal-based research in medicine, often supported by governments. Another change came in the 1960s when in the United States, the fight against animal use in experimentation brought to the publishment of a guide to laboratory animal welfare in 1963 and the Animal Welfare Act (AWA) in 1966, that was meant to regulate the use and transportation of some species of animals employed in laboratories (this did not include rats, mice and birds).¹¹⁷

On a more recent perspective, it is possible to start from the early 20th century, when vivisection was considered crucial in the fight against diseases, and at the same time it was a clear position in favour of science and progress. On the other hand, those who opposed vivisection were viewed as the enemies of human interests, of science and rationality, being in favour of the sentiments of pity for species other than humans.¹¹⁸ Since the 19th century laboratory research has been regarded as the best way to pursue science, thanks to the problem solving attitude that is required and the hands-on practice that helped medicine academics to get educated and develop a moral conduct to better serve human's interests. They learned that medicine should be rational, objective and detached from emotions, and feeling bad for inflicting pain to laboratory animals (when this was necessary to them to reach progress) was unprofessional as it could get in the way of scientific improvements.¹¹⁹

At the end of the century, anti-vivisectionist movements were very active as well, trying to contrast the animals use in labs, and becoming more popular and attracting more and more people to the cause, they reached an important public support and they formed a vast number of societies dedicated to animal protection (even though experimentation was not the only, nor the biggest, way in which animal were abused and killed by humans). Vivisection raised bigger moral concern from people, because the people involved in it (contrary to those involved for instance in farming) were seen as the ones responsible for the healing and care of others, and in this way expected to be of higher morality, but also for the implications it has on the morality of society and science. As a consequence of the many ethical issues connected with animals' experimentation, the movement attracted many different people from diverse backgrounds, being that political, religious or social, different people had different issues with the practices, and different values to fight for. Some were, for instance, concerned with the possibility that abusive conduct on animals could influence society to develop a "culture of violence", and affirmed that regulating the violent acts on animals was a form of defending society as well, and to prevent some people from feeling attracted to the violent impulse. Some others were instead fighting from a feminist and socialist perspective, convinced that animals were another victim of the

¹¹⁷ Lynda Birke, *note 115*, p 8-9.

¹¹⁸ A.W.H. Bates, *note 111*.

¹¹⁹ A.W.H. Bates, *note 111*.

power relation disadvantaging “weaker” groups of humans as well.¹²⁰ For what concern the medical field, in this period there was not an official position in regards of vivisection, as the profession was not properly regulated almost everywhere, so some of the medical staff signed up as anti-vivisectionist testimonials believing that the practice could give a bad reputation to the category of doctors. Some of them also believed that patients would prefer doctors that were opposing vivisection, as some people believed at that time that vivisectionists could want to experiment on humans as well, especially when the medical care concerned the charity work: in other words, the poorer people opposed the practice as they were scared they could be the next subjects of experimentation. Moreover, people tend to choose (still today) doctors on the basis of not only technical skills, but also on character aspects of compassion and humanity, characteristics that were not associated with people practicing torture on animals. In the UK in 1833 the Animals’ Friend Society stated five reasons against vivisection, namely they believed that causing suffering to animal was a moral failure, that it was dangerous for scientists as they could be subject of public enrage, it could encourage cruelty on humans as well, it could distract from charitable causes and was considered an offence to God.¹²¹ It is interesting to notice that once again when discussing animal’s “rights”, the worries on animal experimentation were focused on humans’ issues, on the ethics of society and on the repercussions the practice could have on scientists, not on animals suffering.

And to confirm this anthropocentric approach, the biggest reason for criticism at the time underlined that the animal physiology was not the same as humans', with the consequence that results could not be compared to human issues, meaning not being useful to humans’ needs. The significance of this stance lies in the difficulty scientists faced in challenging it: on one hand if animals were different from humans there was no point in putting them through experiments, making the practice objectless; on the other hand, if animals had in fact similar physiology to humans, that they would have a similar capacity to sufferance and feel pain, making the whole process extremely painful and cruel. Of course, the solution was found in the simple fact that vivisectionists did not care for animal pain at all. Mainly because, especially later in time, vivisection was considered fundamental in the right places, and it was not possible to access big and important teaching hospitals if one was against animals’ experimentation, creating a reality where only pro vivisection students and professionals could end up in directive and authority positions. So much so that their power could reach the governments, as being the scientific position on animals’ experimentation so clear and strong, a government not supporting would also be a government that does not care about national security and advancement.¹²²

¹²⁰ A.W.H. Bates, *note 111*.

¹²¹ A.W.H. Bates, *note 111*.

¹²² A.W.H. Bates, *note 111*.

This thought reflected with time also on people fighting against vivisection, as they were perceived as selfish and putting the interests of other species before their own. Another aggravation of the position of anti-vivisection came with the Second World War, as the experimentation on animals was promoted as helping people at war and reducing the possibility for the spread of diseases, and later on it also symbolised the progress and advancement of countries in space research. Additionally, since at the beginning of its government the Nazis regime in Germany banned vivisection in 1933, the anti-vivisectionist movement became associated with fascist theories in other European countries. Of course, the regime did not have problems in performing experiments on both animals and humans, when they needed it for their objectives. Actually the war period was a negative one for lab animals: after a brief first period of reduction in the experiments due to a lack of fundings and the closing of some research institutes, a lot of animals were used in military experiments, and it is impossible to give a number of how many animals were sacrificed considering that during wartime the experiments were producing less reports and were performed under secrecy in order to protect data from enemies. But it is possible to give an idea of the cruelty of such practices: it is enough to consider that a lot of these experiments were trying to reproduce the traumas people could get during war. As a consequence there were tortures on many animals to see the effect of being near high explosions, were they were either killed directly by the explosion or later from traumatic haemorrhage, experiments that did not have a clear purpose since the animals were too small to compare injuries with humans, and plenty of people were actually reporting these wounds every day during war, and it was possible to study the effects of explosion on the field. A similar example came from the Oxford's anatomy department tried to inflict wounds on guinea pigs' leg, to see how it would develop, and many other institutes tried to recreate the effect of war through brutal experiments, in the biggest majority of cases the animals were under anaesthesia when injured, but they could feel the effect of the fracture and the trauma when they woke up from it, and often they were subjects to other practices if they survived.¹²³

This is not, unfortunately, the only way animals were abused by science in history. A very famous example of violence reserved to animals was invented in 1927 by Dr Trevan: a test that was meant to calculate the dosage required to kill half of the animal that was exposed to a certain drug or pharmaceuticals, that was in fact called the “dosis letalis” 50%, or LD50. The test, thought to be useful to study standardised drugs that could be dangerous for overdose, required a much higher number of animals, and was considered so useful to be utilised not only in drugs tests, but also for other products, like domestic ones, chemical and cosmetics. Today we know that the test is not reliable, since the ability to respond to toxins differs across species, and the

¹²³ A.W.H. Bates, *note 111*.

results could have been distorted by a single atypical result.¹²⁴

As for the post war period, there was an engagement to enhance and reinforce human rights, especially with the institution of the Universal Declaration of Human Rights in 1948, and this tendency brought the idea that human rights and animal welfare were two competing fields, as animal testing were seen as fundamental in the run to achieve higher standards of health and wellness for humans. At this point the only change that happened was that animal experimentation, and all that was happening in research labs, were more and more governed and regulated by the state. In this sense, the vivisection supporter won the moral battle against the anti-vivisectionist at that time, managing to convince the public that research was fundamental in order to save humans' life and to help their countries to develop faster, making research quantitative testing and raising the quantity of animals used in experimentation, that was now a bureaucratic matter demanded by the state.¹²⁵

This also led to the breeding programmes that were necessary to meet the demand of higher numbers of animals. This process has its roots in the 19th century as well, when experimental biology began to gain prominence, while early researchers often relied on animals captured from the wild, a practice that introduced significant variability into their experiments due to uncontrolled genetic and environmental factors.¹²⁶ It consists in the controlled breeding of laboratory animals, with the aim of obtaining specimens with specific genetic characteristics, often to replicate human pathological conditions or to study particular biological aspects, a practice still considered crucial to ensure the standardisation and reproducibility of scientific experiments. Why is it important for animals to be bred? With experimental biology came a set of requirements considered useful for the research. Between those, it became important for science to make experiments replicable, and to obtain that standardization was crucial. This also comprehends of course standardized animals, making for example rats the ideal fit for the job, as they are “mass-produced in large numbers”. Of course, this process of standardizing animals separates them even more from being considered “real animals”, sentient beings, in this way they belong to a particular group of animals intended for labs and experiments.¹²⁷

As stated before, in the post war period the demand for animal models grew, driven by advancements in pharmacology, toxicology, and molecular biology, and breeding seemed the rights answer to such necessity, since it saw an advancement as well during the early 20th century, due to the establishment of inbred strains of mice. Therefore, this period brought the creation of

¹²⁴ A.W.H. Bates, *note 111*.

¹²⁵ A.W.H. Bates, *note 111*.

¹²⁶ Gauthier and Griffin, *Animal Breeding in Research: A Historical Perspective*. *Journal of Laboratory Animal Science*, vol. 50, no. 1, 2004, p 23.

¹²⁷ Lynda Birke, *note 115*, p 26.

specialized breeding facilities to supply animals for research, ensuring consistent quality and genetic traits, but alongside these developments, the ethical implications of breeding practices began to gain attention, culminating in the introduction of the above mentioned 3Rs principle, in the late 20th century.¹²⁸

All of this is possible, according to Singer, because of society's inability to take seriously the pain suffered by any species that is not human. But it is important to underline that the same supporters of experimentation do recognise such suffering, and they cannot deny it because it is important, in order to justify their action, to sustain similarities between animals and humans, and in this way sustain that the pain inflicted will at least be useful to humans. The strong power of research institutes and societies, that gain a lot of money from selling animals and all the equipment necessary to conduct the experiments, helped in the creation of a rhetoric that depict animals advocates as fanatics that consider animals' life more important than that of humans, and this common belief has reached the public as well as the legislation.¹²⁹

Moreover, today animals are still used in education, in areas such as biomedical and veterinary studies, psychology and behavioural studies, but also in testing for many diseases (mostly humans ones), as parts useful to obtain cells, tissues or organs for transplant humans.¹³⁰

A field of study that practices between the most painful and cruel experiments on animals is that of psychology studies. Here animals undergo atrocious practices in order for the researchers to study the brain (and its manipulation), the effects of drugs on behaviour, or the effects of sleep deprivation, of anxiety or fear, and so on. The factor common to all experiments is that they all happen through the use of electric shocks, either used to experiment classical conditioning of "learned helplessness" or to induce aggressive behaviour in animals. Once again this is only a small part of the physical pain animals suffer in these experiments, and what is tragic is that the great majority of the reports on results of such experiments stated that those results were trivial and obvious.¹³¹

Something interesting that is possible to extrapolate from the reports of these procedures is also the use of a technical language, that makes it easier to hide the real meaning of cruelty happening in the lab and make it easier for researchers to detach themselves from the reality of the experiments. They possess a complete set of words that refers to painful practice without giving the impression of actual pain, so tortures like electric shock or water deprivation become an

¹²⁸ Russell and Burch, *The Principles of Humane Experimental Technique*. Methuen, 1959, p 34.

¹²⁹ Peter Singer, *note 7*, p 62-63.

¹³⁰ Arianna Ferrari, *note 109*, p 194.

¹³¹ Peter Singer, *note 7*, p 71-72.

“extinction” technique, whipping an animal becomes partial reinforcement.¹³²

It is interesting to have a brief focus on the use of terms in laboratories in recent times. A clear example is with the term “sacrifice”, that scientists use in a technical way, but it becomes a practice that comprehends a range of techniques used to end animals’ life before, during or after their usage as test participants. The way in which a term becomes almost associated with a ritual (kind like the use of sacrifice in religions) is a justification to normalize the use of painful, violent and many times pointless methods of killing animals.¹³³ If the animal per se is not considered a sacred object, the body becomes the carrier of learning opportunities and discoveries, thanks to a set of procedures that transform that sentient being into a body to be examined. To better understand the process, M. Lynch describes the two different concepts society and science have on animals: a “naturalistic animal” and an “analytic animal”, and how science transform the first one into the second one, into objects used for investigation, through the practice they call sacrifice. With “naturalistic animal” Lynch refers to concept people commonly have of animal, how they perceived it and interact with it on a daily basis, the sentience and sensitive being that is at the centre of animal’s rights advocacy and movements.¹³⁴ On the other hand, the “analytical animal” refers to a production as a result of scientist activity, which through the processes shape a lab animal.¹³⁵ In his observations of laboratory practices and reports, Lynch was able to notice the behaviour and the language of people involved. Often scientists refer to animals as numbers, to create distance with the emotions that can come in interacting with them if thoughts as living beings. Another interesting aspect he notices is that they often commented whether or not that number (in reality an animal) was a good animal, meaning that the animal behaved in a docile way during the experiment and also that the data gained from the procedure were of good quality, in other words the results were clear and in line with expectations. On the other hand, bad animals were those who did not produce expected results.¹³⁶ Whether bad or good, an animal becomes an object in the lab, for scientists they are a set of information way more important and bigger than just the existence of their body or brain.¹³⁷ Here comes the importance of the sacrifice: this is the practice that makes possible the switch from a natural animal to an analytical object that happens in a series of stages. The sacrifice in this sense becomes not only the final act of killing the animals, but also the process of training and design of lab animals, the project of the experiments, and the process itself. The aim is that of reconcile the goals of the study with the

¹³² Peter Singer, *note 7*, 2015, p 73-74.

¹³³ Michael E. Lynch, *Sacrifice and the Transformation of the Animal Body into a Scientific Object: Laboratory Culture and Ritual Practice in the Neurosciences*. Social Studies of Science, May 1988, Vol. 18, p 265.

¹³⁴ Michael E. Lynch, *note 133*, p 266-267.

¹³⁵ Michael E. Lynch, *note 133*, p 269

¹³⁶ Michael E. Lynch, *note 133*, p 270-271.

¹³⁷ Michael E. Lynch, *note 133*, p 272.

animal's death, causing the least consequences (with death) on the part of the animal that are useful to the experiment or that are considered important data.¹³⁸

In the field of science, the sacrifice is not referred to the sacred or the divine, but it refers to the classic stages of the practice, such as the preparation of the victim, the killing of the victim to connect with abstract (in this case the data finding) and giving the victim human attributes.¹³⁹

Another big sector that kills and torture millions of animals each year is the testing of pharmaceuticals and other substances. In the USA this branch of research is very active, the Food and Drug Administration, that is the federal agency in charge of these products, requests extensive testing on new products before marketing them. All these tests are not only required for lifesaving medicine, but also for cosmetics, food dyes, household products, and more. But very often the same experiments that are made for therapeutic products are not even beneficial to humans' health. Meanwhile, the experiments conducted on animals in this field are atrocious.¹⁴⁰ The test on animals has the goal to find out how poisonous can a substance be, and the practice is very painful: these experiments consist in forcing animals to ingest the substance object of the research (obviously also for non-edible products such as cosmetics or detergents) often with the aid of forced feeding, that consist of a tube placed down their throat. If the animals survive these experiments can last up to six months, with consequences typical of poisoning, such as vomiting, paralysis, internal bleeding, convulsions. The main spread test for toxicity is the LD50, mentioned before. To reach this result a whole group of animals get poisoned, and all of them experience the painful collateral effect already described. The product is administered not only orally but also by inhalation: animals are placed in closed spaces and forced to breathe spray or gasses. Another way possible to test is through placing the product directly on the skin of animals that are of course immobilised and suffer bleeding and all skin problems associated with this procedure, while sometimes the substance is directly injected in the skin, or in the muscle, of the animal. Those kinds of tests are not only limited to commercial products or medicines, but they are also reproduced for chemical war agents, pesticides and substances for industrial use.¹⁴¹

An important first step that started questioning the ethical implications of animal use in science is the 1959 "*The Principles of Humane Experimental Technique*" by Russell and Burch. The text has been a fundamental reference in the approach of finding alternatives of animal use: they laid the foundation for the 3Rs principle, focusing on a new possibility for science that would be

¹³⁸ Michael E. Lynch, *note 133*, p 274.

¹³⁹ Michael E. Lynch, *note 133*, p 276.

¹⁴⁰ Peter Singer, *note 7*, p 75-76.

¹⁴¹ Peter Singer, *note 7*, p 77-78-79.

better for animals but also make an improvement in the quality of the science. To obtain this new perspective they proposed to base the research method on three ideas: replacement, reduction and refinement of animals' use. Even if they tried to make the process less inhumane, reducing pain when possible and limiting the psychological discomfort of animals, this goal was subordinate to the importance of pursuing science and reaching the results and the progress needed. In other words, they did not condemn the usage of animals per se.¹⁴²

Another important step happened in 2010, when a group of scientists created the *Basel Declaration*, having the goal of asking for more transparency in the use of animals and to obtain more progress with more ethical solutions inspired by principles such as the 3Rs.¹⁴³

But a change of perspective in the debate on toxicity tests happened in 2003 thanks to a report published by the European Coalition to End Animal Experiments, entitled *The Way Forward: A Non-Animal Testing Strategy for Chemicals*, proposing alternatives method as the solution that could benefit both human and animal interests, since the non-animal tests could be better for animals, but also for results, and also they could be cheaper and faster.¹⁴⁴

This highlights that science is also the reflection of what we accept as society: the research practices reflect, in a way, the society values, more specifically what it is considered acceptable by the majority of people in order to reach our interests. As long as society accepts the suffering and the killing of animals in the perspective to reach a goal, the scientific community will feel legitimized to pursue their goals using animals as tools in their laboratories. At the same time, the feel of necessity of animal experiments is something that depends on negotiations happening in society, opening to different possibilities.¹⁴⁵

In the debate of the importance of the use of animal experimentations the opposing parts have very different opinions: on one side supporters of animal use sustain that such practice has brought to some of the most important scientific and medical development; on the other side opponents claim that such research has brought very few, if none, useful data, but also many risks. Is the question really whether or not the results were actually useful? Or is it possible to consider other aspects of the phenomenon? Even if a particular discovery was made due to animal experimentation, is it right to assume that it was the only way possible to obtain those results?¹⁴⁶ And it is possible to take into consideration also the importance of animals' interests in the evaluation of whether using their bodies to reach our interest is a morally correct practice or not?

¹⁴² Arianna Ferrari, note 109, p 196.

¹⁴³ Arianna Ferrari, note 109, p 197.

¹⁴⁴ Emily McIvor, *Political Campaigning: Where Scientific and Ethical Arguments Meet Public Policy*. Animal Experimentation (chapter 5), Working Towards a Paradigm Change. Brill publisher, 2019, p 157-158.

¹⁴⁵ Arianna Ferrari, note 109, p 203.

¹⁴⁶ A.W.H. Bates, note 111.

Through history there has been some advancement deriving from vivisection, but it is not possible to know if such advancements would have been possible in other ways.

An interesting limit to take into account when talking about protecting animals in science, is that way too often laws do not take into account another big source of suffering for animals, that derives from the capture, the transportation, the confinement and the breeding. This part of the whole process of using animals in experiments does cause a big portion of pain, and it is a great moral issue since the practice of breeding is more and more used to satisfy the need for a very high number. The fact that this part is not considered, create a false image of the reality: the pain and the number of animals that are utilised in this part of the process is way higher than that stated in reports, since, in order to obtain and maintain the animal line used for the repetition, are used (but often not indicated) a way higher number of animals, since they also need to be ready for scientists to buy when they order.¹⁴⁷

What is really central in supporting animal use in science is the fact that it is linked with the protection of humans' safety. It is supported historically and as the best way compared to other alternatives (in vivo vs in vitro methods). A clear example of this statement comes from a speech of the Royal Society in 2004, saying that almost everything accomplished in the 20th century was thanks to animal experiments.¹⁴⁸

At the same time, it is important to underline that the "American Medical Association" stated that the validity of animal experimentation can produce unreliable results, one of their exponents clearly stated that often these experiments can prove very few, in none at all, results in respect to data useful to humans. As a consequence, many people started to push for finding alternatives to animal use in the lab, also thanks to the pressure made by activists.

A very important change started from the action of Henry Spira, who organized protests against LD50, and other tests conducted on animals. The coalition of activists' first action was that of asking Revlon (the biggest cosmetic industry in the US) to invest one tenth of one percent of their profit in the research for alternative ways to experiment, and even if the company firstly refused, after the publication on the New York Times of an article exposing the experiments they conducted on rabbits, Revlon actually started the study of those alternatives. As other big companies followed the lead of this action, in the US there was a big movement in the direction of researching alternatives, especially at the Johns Hopkins Centre. The results of such change started to be quicker from 1988: a campaign against Benetton, led by PETA, managed to obtain the termination of animals use in cosmetic testing; that same year a big cream company, Noxell

¹⁴⁷ Arianna Ferrari, *note 109*, p 195.

¹⁴⁸ Arianna Ferrari, *note 109*, p 195.

Corporation, announced a test that could reduce the number of animals used of 80-90%, and that lead to use no animals at all the next year. In 1989 Avon, again thanks to the work of PETA and their campaigns, chose to completely stop all animal tests, followed by Revlon that chose the same path. Because of leading examples like those just cited, the same director of the Food and Drugs Administration, Gary Flamm, stated that LD50 experiments should be replaceable in the biggest majority of cases.¹⁴⁹

Thinking about the people involved in these mechanisms, an interesting question arises from Singer analysis. He questions how people can bear with all the atrocities they have to play on innocent living and sentient beings as a daily routine of their job. The first reason the author proposes is speciesism: it is passively accepted to better tolerate violence acted on species different than ours. Adding to this the whole scientific field is structured in a way that teaches scientists to first perceive animals as objects, more specifically lab tools. A clear indicator of this is found in the funding requests submitted to governments, where animals are classified as “furniture” together with all the other instruments necessary for the experiment. The use of animals in experimentation is justified by scientists as they think they are addressing a problem and not studying an animal as sentient being, so they are in other words using an object to reach a goal. The concept of “animal” can have different connotations depending on culture, but also in the same society it can be different both from the perspective of the person approaching the theme but also depending on the species of that animal. In this way, a dog can be considered a friend, a pig can be considered food, and mice can become a tool in scientific labs.¹⁵⁰ Reconnecting to the speciesism we already mentioned, people's concept of animals is diverse and contradictory, and with the same mechanism, when thinking about lab animals, the majority of people would feel pity and protest for dogs or monkeys in labs, but not for rats, or invertebrates for example. While dogs and cats have played a big part in physiology and surgery research, they also have gained through the year an important role as human companions, as pets, and as a consequence the utilization of such animals in experiments has created great indignation and discomfort in people outside science, but often in scientists as well.¹⁵¹ For what concerns rats it is not possible to make the same reasoning. Rats and mice are not part of what the biggest majority of people identify as pets, so they do not create an emotional bond with theme, and as a consequence experiment on theme created (and still create) less indignation and making it easier for scientists to practice the cruel procedure on theme. Apart from the speciesism behind this concept, there is also a cultural factor that connected rats with dirt and disease, that led historically people to consider them something to avoid if not directly kill. These reasons created

¹⁴⁹ Peter Singer, *note 7*, p 81-82.

¹⁵⁰ Lynda Birke, *note 115*, p 19-20.

¹⁵¹ Lynda Birke, *note 115*, p 23-24.

the possibility for science to breed rats to better fit the lab procedures, creating many different varieties of the species, specifically “created” for certain objectives (to give an example, science bred rats to have diabetes or immune deficiencies). In this sense, the definition of an animal lab is “one whose life is determined by the requirements of science, whether it has been brought in from the wild or purpose bred.”¹⁵²

Moreover, the academic education scientists face is directed to train them to accept and see animal testing as a positive tool for research since high school in the US.¹⁵³ At the same time governments became big supporters of animal experimentation, and they allocate funds to these projects with public money they receive from taxes. The prestige of the scientific community also gets the support of all the industries that benefit from animal exploitation, and the economic interest of such practice is so big that makes it hard for the law to put more control over the whole process. In the USA the only federal law on the matter is the Animal Welfare Act, that regulates some of the industries involving animals, but leaves to scientists a lot of freedom.¹⁵⁴ A different approach comes from the UK: here in order to conduct an experiment on animals it is mandatory to obtain an authorization by the Minister of the Interior, that needs to evaluate the benefits of the experiments together with the sufferance of animals, according to 1986 Animals Scientific Procedure Act. In Australia it is necessary to get the approval of an ethical committee on animal experimentation, that includes one person that represents the animals’ interests and not working on the project, and a person that has nothing to do with experimentation. Of course, the comparison between the benefit of the experiment and the wellbeing of animals still happens from a speciesism point of view, as the interest of animals do not have the same importance of that of humans in our society.¹⁵⁵

Another important absence is the control over labs and scientists, in order to control if the few criteria of protection for animals are in fact met. On the matter it is interesting to analyse an example reported by Singer that reports the case of 1984 experiments by Thomas Gennarelli, at Pennsylvania University: the objective of those experiments was to examine the damage suffered by the brain of monkeys after they received head injuries. In this experiments monkeys should have been anesthetised before the injury, but some members of Animal Liberation Front managed to infiltrate the lab and found some records showing images of the reality in the lab: animals were not anesthetised, but they were immobilised and operated fully while awake, making them feel extreme pain, while the scientist were laughing and joking about what was happening. After that, similar cases came out, and thanks to one year of campaign and protest organised by PETA

¹⁵² Lynda Birke, *note 115*, p 25.

¹⁵³ Peter Singer, *note 7*, p 93.

¹⁵⁴ Peter Singer, *note 7*, p 100.

¹⁵⁵ Peter Singer, *note 7*, p 101-102.

Gennarelli lost the fund for his experiment.¹⁵⁶

Another critique comes from environmentalist and animalist movements, that accuse science and scientists to be instrumentalist, in the way they perceive nature, meaning that they lean towards the use of nature and animals to reach their goal, so as tools. While science legitimize the use of animals in scientific research mainly for two reasons, namely the satisfactory magnitude of the results in new discoveries and the process of taking care of the animals during the procedures (for instance, ensuring anesthesia on animals), animal advocates stand against these practices. According to theme there is no balance between the benefit of such practices and the sufferance animals experience, even more considering that those animals do not in fact benefits from the knowledge derived from experiments, and they also have strong doubts on the real respect of wellbeing standards, nor in their validity, affirming that animals do actually suffer a lot through all the practices.¹⁵⁷

In conclusion, the practice of animal experimentation does not take into account animal identity, it treats them as objects and not subjects, in the same way that they are still perceived by law. It is important to understand that the way to put an end to animal confinement, torture and killing is that of the recognition of animal's fundamental rights, and in this way, it would be possible to stop legitimizing the cost-benefit method that stands behind each decision of animals use in scientific research.¹⁵⁸

¹⁵⁶ Peter Singer, *note 7*, p 105.

¹⁵⁷ Lynda Birke, *note 115*, p 2-3.

¹⁵⁸ Arianna Ferrari, *note 109*, p 201.

2.3 Parallelism with women rights in medicine

The exploitation of animals in scientific research closely parallels the historical and ongoing exploitation of women in medicine. Both groups have been marginalized, stripped of autonomy, and instrumentalized in the name of scientific progress, often without consideration for their well-being or rights. The analogy we already saw between speciesism, sexism and racism, is, in other words, also applicable to science and experimentation. In history, as an expression of discrimination based on racism, it is possible to find plenty of cases of experimentation on people of different races. It is enough to think about the Nazis regime and the experiment they practiced on Jews, Polish and Russian prisoners: almost 200 doctors, some of them very important exponent of the medical scene, took part in the experiments and discussed the scientific conclusions without any moral doubt on the practice at all, and using (exactly as happen today in animal experimentation) a cold and detached scientific language. This section delves into the historical, ethical, and philosophical parallels between these two forms of exploitation, highlighting shared themes of power, vulnerability, and systemic inequality.

The historical use of animals as substitutes for human testing stems from the same utilitarian logic that justified using enslaved women for gynaecological advancements. In both cases, the suffering of the subjects was deemed acceptable in pursuit of knowledge or medical breakthroughs.¹⁵⁹ An explicative case, this time involving sexism, happened in New Zealand in 1987: in a famous hospital in Auckland, a doctor decided to test his theory on a group of women, deciding to not cure a certain type of cancer, because according to him this particular illness would not have developed further. Of course, the women were not aware of what was happening: they did not know they were not receiving any treatment for the cancer as a part of the experiment.¹⁶⁰ Known as the "Unfortunate Experiment" at the National Women's Hospital in Auckland, New Zealand, this represents one of the most infamous cases of unethical medical research in modern history. Doctor Herbert Green, gynaecologist, conducted a non-interventional study on women diagnosed with carcinoma in situ (CIS) of the cervix¹⁶¹. Green's hypothesis suggested that CIS would not necessarily progress to invasive cervical cancer, leading him to withhold standard treatments from numerous patients. These women were not informed that they

¹⁵⁹ Andr s Constantin, *Human Subject Research: International and Regional Human Rights Standards*. Health and Human Rights, Human Rights and the Social Determinants of Health, vol 20, n 2. Harvard School of Public Health/Fran ois-Xavier Bagnoud Center for Health and Human Rights, 2018, p 140.

¹⁶⁰ Peter Singer, *note 7*, p 109.

¹⁶¹ National Cancer Institute, "*Carcinoma in situ*: A condition in which abnormal cells that look like cancer cells under a microscope are found only in the place where they first formed and haven't spread to nearby tissue. At some point, these cells may become cancerous and spread into nearby normal tissue." In other words, the definition describes *Carcinoma in situ (CIS) of the cervix* as a pre-invasive form of cervical cancer. In CIS, abnormal cells are found in the surface layer of the cervix (the epithelium) but have not yet invaded deeper tissues or spread to other parts of the body. These abnormal cells have the potential to progress to invasive cervical cancer if left untreated, but at the CIS stage, the condition is considered localized and highly treatable.

were part of a clinical experiment, nor were they made aware of the risks of untreated CIS. The lack of informed consent and appropriate care resulted in devastating outcomes: many women developed invasive cancer, and at least 27 of them died as a result of this negligence.¹⁶²

The unethical practices that happened at the hospital came to light in 1987 when Sandra Coney and Phillida Bunkle published an investigative article in the magazine *Metro*. Their exposé revealed systemic failures in medical oversight and ignited public outrage. This led to the establishment of the “Cartwright Inquiry”, presided over by Judge Silvia Cartwright.¹⁶³ The subsequent report, published in 1988, unequivocally condemned the experiment, highlighting the absence of informed consent and the prioritization of research over patient welfare. The report also underscored the complicity of the wider medical establishment in enabling Green’s actions, as other doctors failed to intervene despite observing the harm caused.¹⁶⁴

This is, unfortunately, only one example, and not the first in the process of medicine’s development. The history of women in medical experimentation is fraught with ethical violations. James Marion Sims, often referred to as the “father of modern gynaecology,” performed surgical experiments on enslaved Black women in the 19th century without anaesthesia, as will be shown later. His justification rested on the racist belief that Black women felt less pain than white women. They were forced to endure the pain of these procedures because Sims believed that using anaesthesia was unnecessary due to his misconceptions about their pain tolerance. Despite their suffering, these women’s names are often omitted from the broader narrative of medical progress, reducing their experiences to mere footnotes in history.¹⁶⁵ The exploitation of these women not only highlights the deep intersection of racism and sexism in medical history but also underscores the lack of autonomy afforded to marginalized groups in scientific experimentation.

It is possible to see a very similar pattern in women’s treatment in medicine and what happens to animals in research: both groups have been subjected to invasive procedures without consent, justified by the pursuit of “greater good.” The paternalistic logic used to exclude women from drug trials to “protect” them mirrors the justification for animal testing, which disregards the inherent suffering involved. Just as women were historically deemed unfit for participation in clinical research, animals are often excluded from ethical considerations under the assumption that their suffering is acceptable for human benefit. This mindset perpetuates a utilitarian approach that prioritizes outcomes over ethical principles.¹⁶⁶

¹⁶² Sandra Coney, Phillida Bunkle, *An Unfortunate Experiment at National Women’s*, *Metro*, 1987, p 55-60.

¹⁶³ Cartwright, *The Report of the Committee of Inquiry*, 1988, p 2-5.

¹⁶⁴ *Ibidem*, p 49-50.

¹⁶⁵ Brynn Holland, *The ‘Father of Modern Gynecology’ Performed Shocking Experiments on Enslaved Women*, HISTORY, 2018.

¹⁶⁶ Charlotte G. Borst & Kathleen W. Jones, *As patients and healers: The history of women and medicine*. OAH

Philosophers like Peter Singer and Martha Nussbaum have critiqued the utilitarian frameworks that underpin these practices. Singer's "Animal Liberation" advocates for extending ethical consideration to all sentient beings, challenging the anthropocentric biases of traditional ethics.¹⁶⁷ Nussbaum's capabilities approach emphasizes the importance of fostering individual flourishing, whether for women denied reproductive rights or animals subjected to testing. Central to this framework is the idea that every sentient being should have the opportunity to develop and exercise its capabilities, free from unjust constraints that hinder its well-being. Just as the denial of reproductive rights limits women's autonomy and agency, subjecting animals to experimentation deprives them of the ability to live according to their natural behaviours and preferences. Nussbaum argues that justice requires us to extend moral consideration beyond human beings, ensuring that both human and non-human animals are not reduced to mere instruments for others' ends.¹⁶⁸ Parallels between women and animals in science reflect broader themes of vulnerability and autonomy. Both groups have historically been positioned as "other," their rights subordinated to societal or scientific goals. Recognizing these shared histories invites a revaluation of ethical priorities, advocating for frameworks that balance progress with compassion.

Today, experimentation practices on humans are widely condemned, yet they serve as a reminder of the ethical lapses that shaped foundational medical advancements. The parallels drawn between Sims's treatment of these women and the current use of animals in laboratory experiments emphasize a disturbing continuity in the disregard for the consent and well-being of vulnerable subjects in pursuit of scientific progress.¹⁶⁹

Despite this progress, systemic barriers persist. Women remain underrepresented in early-phase clinical trials (phase I), where safety data is critical in medical research. Researchers often cite reproductive risks and institutional liability as reasons to exclude women, perpetuating a system that prioritizes efficiency over inclusivity. This exclusion undermines the ethical principle of respect for persons, treating women as liabilities rather than autonomous participants.¹⁷⁰

In fact, women undergo a big exclusion from the medical world, something that happened for many years in clinical trials and studies, leaving them out of medical knowledge. For instance, during the mid-20th century, women of childbearing age were systematically excluded from

Magazine of History, vol19, n5), pp 23–26. Oxford University Press on behalf of the Organization of American Historians, 2005, p 25.

¹⁶⁷ Peter Singer *note* 7, p 127.

¹⁶⁸ M. C. Nussbaum, *Frontiers of justice: Disability, nationality, species membership*. Harvard University Press, Cambridge, 2006, p 205.

¹⁶⁹ Brynn Holland, *The 'Father of Modern Gynecology' Performed Shocking Experiments on Enslaved Women*, HISTORY, 2018.

¹⁷⁰ Waltz M., A. D. Lyerly, and J. A. Fisher, *Exclusion of Women from Phase I Trials: Perspectives from Investigators and Research Oversight Officials*. Ethics & Human Research 45, no. 6, 2023, p 22.

clinical trials. This exclusion, ostensibly to protect potential pregnancies, created significant gaps in knowledge about how drugs affected women differently from men. The lack of gender-specific data has had lasting consequences on women's health, reinforcing androcentric norms in medicine.¹⁷¹

The forced sterilization of marginalized women further underscores this parallelism in exploitation. Throughout the 20th century, programs targeting low-income women, particularly women of colour, normalized sterilization without informed consent. These practices reflect the medical community's prioritization of population control over ethical treatment. Compulsory sterilization policies were justified through eugenic arguments, claiming to protect societal welfare by preventing the reproduction of individuals deemed "unfit" ¹⁷²

In the United States, such policies disproportionately affected poor women, women of colour, and those with disabilities, reinforcing structural inequalities. One of the most infamous legal precedents was *Buck v. Bell* (1927), in which the U.S. Supreme Court upheld the constitutionality of sterilization laws, leading to the forced sterilization of thousands under state-sanctioned programs. The *Buck v. Bell* ruling became a landmark case legitimizing state-sponsored sterilization programs in the name of eugenics. The Supreme Court's decision allowed for the forced sterilization of individuals deemed "mentally deficient" or otherwise unfit for reproduction, under the justification that such measures would protect public welfare. Judge Oliver Wendell Holmes Jr., writing for the majority, famously stated, "Three generations of imbeciles are enough," reinforcing the idea that certain groups should be prevented from reproducing.¹⁷³ As a result, thousands of individuals, disproportionately from marginalized communities, were sterilized without their consent, often under coercion or misinformation. The ruling paved the way for decades of sterilization abuse, particularly targeting poor, Black, Indigenous, and disabled women. In fact, government-funded sterilization programs continued well into the 1970s, often coercing women into undergoing procedures under threat of losing access to welfare benefits or medical care. Similar sterilization abuses were documented among Indigenous women in the United States, with reports of hospitals performing hysterectomies immediately after childbirth without informing the patients.¹⁷⁴

A very explicative case study is that of James Marion Sims, celebrated as the "father of modern gynaecology," who developed surgical techniques to treat vesicovaginal fistulas, a debilitating childbirth injury. His experimental surgeries, conducted between 1845 and 1849 on enslaved

¹⁷¹ Ruth B. Merkatx, *Inclusion of Women in Clinical Trials: A Historical Overview of Scientific, Ethical, and Legal Issue*. Jognn Clinical Issue, July 1997, p 79.

¹⁷² Suzanne Tessler, *Compulsory Sterilization Practices*. A Journal of Women Studies, Vol. 1, art. 2. University of Nebraska Press, 1976, p 53.

¹⁷³ Suzanne Tessler, *note 172*, p 54-55.

¹⁷⁴ Suzanne Tessler, *note 172*, p 56-58.

Black women without anaesthesia, exemplify the disregard for autonomy and consent that characterized 19th-century medical practices. Sims' patients, such as Anarcha, Lucy, and Betsey, endured repeated, invasive procedures in conditions that prioritized scientific progress over their suffering.¹⁷⁵ Sims performed numerous surgeries on these women, with Anarcha undergoing at least 30 operations before her fistula was successfully closed. These procedures were performed without anaesthesia, even after its discovery in 1846, under the justification that vesicovaginal fistula surgeries were not painful enough to warrant its use.¹⁷⁶ Beyond the physical pain endured, Sims' methods included restraining the women for prolonged periods during operations, using silver sutures to attempt fistula closure, and repeatedly reopening wounds when initial surgeries failed. He documented how his patients were subjected to continuous experimental modifications, making them the subjects of an evolving surgical procedure rather than recipients of standardized care. Despite his eventual success, these women were not afforded the same pain management considerations later given to white patients undergoing similar procedures at the Women's Hospital in New York, raising ethical concerns regarding the racial disparities in treatment.¹⁷⁷

Critics argue that Sims exploited the vulnerability of enslaved women, who had no legal right to refuse medical procedures. Supporters, however, contend that these surgeries were lifesaving, addressing conditions considered untreatable at the time. This ethical ambiguity parallels debates surrounding animal testing, where the pursuit of cures still often justifies immense suffering.

Feminist critiques of gender medicine also highlight the neglect of social determinants of health, such as violence, poverty, and discrimination. While modern healthcare acknowledges biological differences between sexes, it often ignores the societal factors that disproportionately affect women's health outcomes.¹⁷⁸ Gender Medicine (GM) neglects the profound impact of social determinants like gender-based violence, economic disparity, and systemic discrimination: studies indicate that women worldwide experience significantly higher rates of sexual and physical violence, which have been linked to long-term health consequences such as cardiovascular disease, chronic pain, and increased mortality. Moreover, the psychological impact of these experiences is often disregarded, contributing to underdiagnosis and mismanagement of conditions like depression and anxiety in women. Consequently, GM's limited focus on biological aspects leads to a form of scientific reductionism that fails to address the complexities of women's lived experiences. For instance, childhood trauma, which

¹⁷⁵ L. L. Wall, *The medical ethics of Dr. J. Marion Sims: A fresh look at the historical record*. Journal of Medical Ethics, vol 32, art 6. BMJ Publishing Group, London, 2006, p 346.

¹⁷⁶ L. L. Wall, *note 175*, p 347.

¹⁷⁷ L. L. Wall, *note 175*, p 348-349.

¹⁷⁸ Ayelet Shai, Shahar Koffler & Hashiloni-Dolev, *Feminism, gender medicine and beyond: A feminist analysis of "gender medicine"*. International Journal for Equity in Health, vol 20, art. 177; London, 2021, p 2.

disproportionately affects girls, has been shown to alter biological markers such as telomere length and inflammatory responses, yet GM often omits these critical findings in its frameworks.

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These dynamics parallel the treatment of animals in research, where species-specific suffering and social contexts are overlooked in favour of generalized scientific conclusions. Just as gender medicine often reduces women to mere biological entities, animal research frequently neglects the environmental and social conditions that shape animal well-being, focusing solely on their utility for scientific advancement. The lack of consideration for individual and social experiences—whether human or non-human—reinforces a framework that justifies exploitation under the guise of scientific objectivity. Addressing these gaps requires a more integrative approach that not only acknowledges biological differences but also critically examines the socio-cultural dimensions impacting both human and animal subjects.¹⁸⁰

Efforts to address these injustices have emerged in recent decades. Feminist movements have fought for the inclusion of women in clinical research, resulting, for instance, in policies such as the NIH Revitalization Act of 1993 in the United States. This act mandated the inclusion of women in federally funded clinical trials, aiming to rectify the historical exclusion that perpetuated health inequities addressing historical inequities and emphasizing the need for gender-specific medical research. Similarly, animal rights advocates have pushed for alternative testing methods.¹⁸¹

Another sign of disparity is that, as a big percentage of anti-vivisectionist were women, the cause has often been seen in history as a feminine one, something that is not appropriate for men as it could give them an image of un-masculinity. Some critics also stated that anti-vivisectionist were “old ladies of both sexes”, meaning that the reasons behind the fight were driven by emotions and not logic or rationality, the first being a characteristic associated with women, while the second one is connected as previously mentioned to men and consequently science and knowledge. The big involvement of women, as already anticipated in the first chapter, is due to the connection women felt with being perceived as the vulnerable part of society, in the same way animals were.¹⁸²

On the international stage, human rights frameworks like the Universal Declaration of Human

¹⁷⁹ Ayelet Shai, Shahar Koffler & Hashiloni-Dolev, *Feminism, gender medicine and beyond: A feminist analysis of "gender medicine"*. International Journal for Equity in Health, vol 20, art. 177; London, 2021, p 6.

Telomere length refers to the size of the protective DNA sequences at the ends of chromosomes, which shorten with each cell division and are linked to aging and cellular health.

¹⁸⁰ Ayelet Shai, Shahar Koffler & Hashiloni-Dolev, *Feminism, gender medicine and beyond: A feminist analysis of "gender medicine"*. International Journal for Equity in Health, vol 20, art. 177; London, 2021, p 7-8.

¹⁸¹ Ruth B. Merkatz, *Inclusion of women in clinical trials: A historical overview of scientific, ethical, and legal issues*. Journal of Obstetric, Gynecologic & Neonatal Nursing, vol 27, art 1. Springer, New York, 1998, p 80.

¹⁸² A.W.H. Bates, *note 111*.

Rights (UDHR) and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) emphasize the protection of vulnerable groups, including women in medical research. These frameworks underscore the importance of informed consent, bodily integrity, and freedom from exploitation.¹⁸³ The UDHR, while not legally binding, established a foundation for subsequent legally enforceable human rights treaties such as the International Covenant on Civil and Political Rights, which explicitly prohibits medical or scientific experimentation without free consent. Article 5 of the UDHR states that "no one shall be subjected to torture or to cruel, inhuman, or degrading treatment or punishment," a principle later reinforced by additional international treaties.¹⁸⁴ The UDHR laid the groundwork for a global consensus on medical ethics, ensuring that any form of human subject research respects individual autonomy and dignity. Its principles have been instrumental in shaping national and international regulations that safeguard against coercive or uninformed participation in medical trials. The International Covenant on Civil and Political Rights, which builds upon the UDHR, adds further enforceability to these provisions by legally binding signatory states to uphold the right to bodily autonomy and consent in medical procedures.¹⁸⁵

Similarly, the CEDAW mandates that states ensure women's protection from discrimination in all aspects of life, including medical research, and emphasizes that women must receive full disclosure of information regarding treatment and experimentation, including potential risks and alternatives. The convention explicitly requires state parties to "adopt appropriate legislative and other measures, including sanctions where appropriate, prohibiting all discrimination against women".¹⁸⁶ This includes ensuring equal access to medical research, addressing historical biases in clinical trials, and counteracting the exclusion of women from essential studies that impact their health outcomes. Additionally, CEDAW recognizes that gender disparities in medical research contribute to inadequate healthcare solutions for women, necessitating policies that promote gender-sensitive medical studies and equitable representation in drug testing and treatment development.¹⁸⁷

Parallel advocacy for animal rights seeks to extend similar protections to non-human subjects, challenging the moral foundations of species-based discrimination. The push for alternative testing methods highlights ethical concerns regarding the use of sentient beings in research, paralleling historical struggles for human rights.¹⁸⁸

It is interesting to cite Michel Foucault's concept of the "medical gaze", that clearly describes

¹⁸³ Andr s Constantin, *note 159*, p 142.

¹⁸⁴ Andr s Constantin, *note 159*, p 139-140.

¹⁸⁵ Andr s Constantin, *note 159*, p 141.

¹⁸⁶ Andr s Constantin, *note 159*, p 142.

¹⁸⁷ Andr s Constantin, *note 159*, p143.

¹⁸⁸ Andr s Constantin, *note 159*, p 145.

the depersonalization inherent in medical practice, where patients become objects of study, stripped of their personal narratives and reduced to biological data. This notion, first introduced in *The Birth of the Clinic*, argues that medical professionals operate within a biomedical paradigm, selectively filtering out elements of a patient's life that do not conform to diagnostic frameworks.¹⁸⁹ Within this system, knowledge is constructed in ways that reinforce power structures, determining whose suffering is recognized and whose is dismissed.

For women, this dynamic has historically manifested in gendered biases in medicine, where conditions such as hysteria or chronic pain syndromes were minimized or misattributed to psychological instability. The medical gaze, by privileging objectivity and empirical evidence, often delegitimizes lived experiences, particularly those that challenge dominant medical narratives. This contributes to the pathologization of female bodies, exemplified by the historical classification of menopause as a disorder or the framing of menstrual pain as a mere psychological symptom rather than a serious medical issue.¹⁹⁰ The dismissal of "women's diseases" and the systematic exclusion of women from clinical trials have long-lasting consequences, reinforcing androcentric norms in medical knowledge production.

Just as women's pain was historically dismissed, animals' capacity for suffering has been systematically overlooked in favour of scientific advancement. The reductionist approach of the medical gaze, which emphasizes disease over lived experience, mirrors the mechanistic view of animals as interchangeable test subjects. Foucault's broader critique of medical systems highlights the relationship between knowledge and power, illustrating how scientific discourse is not neutral but embedded within socio political structures. The hierarchical positioning of medical authority enables the legitimization of certain forms of suffering while rendering others invisible, a dynamic that applies both to gendered medicine and to animal experimentation.¹⁹¹

The exploitation of women in medicine and animals in research underscores the ethical complexities of scientific progress. By examining these parallels, we are reminded of the importance of equity and empathy in creating systems that respect all forms of life. As society advances, so must our frameworks of justice, ensuring that progress does not come at the expense of dignity or rights.

The exploitation of women in medicine and animals in scientific research underscores the ethical challenges in prioritizing progress over compassion. Both cases reveal a history of marginalization and utilitarian justifications that demand critical examination. Advocacy and

¹⁸⁹ Aoife K. O'Callaghan, *The Medical Gaze: Foucault, Anthropology and Contemporary Psychiatry in Ireland*. Health, Medicine and Society. Trinity College Dublin, 2021, p 1.

¹⁹⁰ Aoife K. O'Callaghan, *note 189*, p 1.

¹⁹¹ Aoife K. O'Callaghan, *note 189*, p 3.

policy changes have begun to address these inequities, emphasizing the importance of inclusive and ethical frameworks that respect the dignity and rights of all beings.

The exploitation of animals in scientific research and the marginalization of women in medicine present deeply interconnected issues. Both cases reveal how systemic power structures have historically devalued autonomy and ethical considerations, treating individuals and groups as tools for scientific progress. As ethical frameworks evolve, there is growing recognition of the interconnectedness of justice for all beings. Addressing gender biases in medicine and advocating for animal rights share a common goal: creating systems that value autonomy, compassion, and equity. These issues demand continued advocacy and reform to dismantle the systemic inequalities that have persisted for centuries.

2.4 What does the legislation say on animal experimentation: the Directive 2010/63/EU

Before looking in the core of legislation that regulates animal experimentations, it is useful to give an overview of the situation of animals in science, thanks to data extrapolated from a report by the European Commission that compiles numbers on the use of animals for scientific purposes across the Member States of the European Union (EU) and Norway in 2020, under the framework of Directive 2010/63/EU on the protection of animals used in scientific research. The report describes this situation: in 2020, approximately 7.94 million animals were used for the first time in research and testing within these 28 countries. This represents a 7.5% reduction compared to 2019. Of the 16 Member States that reported decreases in animal usage, 11 attributed the decline at least partially to measures related to the COVID-19 pandemic, such as lockdown-induced activity reductions and postponed projects. Conversely, 11 Member States and Norway reported an increase in animal use.¹⁹² Among the animals used, around 680,000 were involved in the creation and maintenance of genetically altered (GA) animal lines to meet research needs within the Union. While the overall use of animals in this category increased by 4%, this rise was primarily driven by a 25% growth in the creation of new GA lines, despite a 14% decline in the maintenance of existing lines. Mice remained the most frequently used species, accounting for 49% of all animals used in research and testing and fish ranked as the second most commonly used species, making up 28% of the total.¹⁹³

In 2020, a total of 8.05 million uses of animals for scientific purposes, including first and subsequent reuses, were reported. This figure represents an 8% decrease compared to previous years. Research remained the predominant purpose for these uses, accounting for 72% of all cases. Within this category, 41% of the animals were used for basic research, while nearly 31% were employed in translational and applied research.¹⁹⁴ In the same year, the creation of new genetically altered animal lines saw a significant rise, increasing by 26% to 393,746 uses. Mice and zebrafish remained the primary species utilized for this purpose, representing 75% and 23% of the total, respectively. Basic research dominated this category, accounting for 86% of all uses for creating new genetically altered animal lines¹⁹⁵.

To summarize these numbers, in 2020 the most commonly used species for the first time in research, testing, routine production, and education were mice, fish, rats, and birds, collectively accounting for 91% of all animals. Species that elicit significant public concern, such as dogs,

¹⁹² European Commission. *Summary Report on the Statistics on the Use of Animals for Scientific Purposes in the Member States of the European Union and Norway in 2020*. SWD(2023) 84 final. Brussels, March 31, 2023, p 4.

¹⁹³ European Commission. *Note 192*, p 5.

¹⁹⁴ European Commission. *Note 192*, p 6.

¹⁹⁵ European Commission. *Note 192*, p 12.

cats, and non-human primates, constituted only 0.2% of the total. It is also worth noting that no great apes were used for scientific purposes in the European Union during this period.¹⁹⁶

The Directive 2010/63/EU represents a cornerstone in the European Union's legislative efforts to regulate animal experimentation, marking a shift towards greater accountability and ethical responsibility in scientific research. Established in 2010, this Directive builds upon decades of evolving attitudes toward animal welfare, reflecting both societal demands and scientific advancements.¹⁹⁷ Historically in fact, the use of animals in scientific research was largely unregulated, with practices driven by the pursuit of knowledge and medical breakthroughs, often at the expense of animal welfare.¹⁹⁸ The development of early legislation, such as the European Convention for the Protection of Vertebrate Animals used for Experimental and Other Scientific Purposes (1986), laid the groundwork for harmonizing standards across Member States. However, it was only with the Lisbon Treaty of 2009 that animal welfare gained formal recognition as a core value of the Union, through Article 13 of the Treaty on the Functioning of the European Union (TFEU).¹⁹⁹ The article declares that:

In formulating and implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage.²⁰⁰

It is interesting to notice how already at this point the protection of animals was limited by the States's customs, traditions, and rituals. The Lisbon Treaty was pivotal as it created a procedure that allows European nationals to request action from the European Commission, through petitions that gather one million signatures in seven EU member states in a year. A successful example is the initiative *Stop Vivisection* of 2012, to present an alternative to Directive 2010/63/EU that could eliminate animal use, increasing the interest and knowledge within decision-makers and leading to fresh commitments by the European Commission. As response to the citizen campaign, the Commission answered with four points that comprehend sharing knowledge in order to accelerate the 3Rs development, the sponsoring of new alternatives methods, a deeper coordination of the sector legislation in adherence to 3Rs concept, and more involvement in the discourse with the scientific community.²⁰¹

¹⁹⁶ European Commission. *Note 192*, p 24.

¹⁹⁷ European Union. *Treaty on the Functioning of the European Union*. Official Journal of the European Union, C 326, October 26, 2012, art. 3

¹⁹⁸ European Convention for the Protection of Vertebrate Animals (1986), Council of Europe.

¹⁹⁹ Lisbon Treaty, Article 13, Treaty on the Functioning of the European Union (TFEU), Official Journal of the European Union.

²⁰⁰ Ibidem.

²⁰¹ Emily McIvor, *note 144*, p 161-162.

This provision emphasized the need to integrate animal welfare into the Union's policies, balancing ethical considerations with economic necessities and scientific progress. Directive 2010/63/EU was introduced as a direct response to these developments, setting out comprehensive measures to protect animals used for scientific purposes. It reflects the growing influence of public opinion, as citizens increasingly advocate for transparency and stricter regulations in animal research. Initiatives such as Stop Vivisection that was mentioned before campaign demonstrate the societal push for reducing reliance on animal testing.²⁰² These movements not only shaped the Directive but also established a framework for ongoing dialogue between policymakers, scientists, and animal rights advocates. The Directive seeks to create a unified approach across Member States, fostering collaboration while addressing the ethical, scientific, and economic challenges posed by animal experimentation. As a result, it represents not only a regulatory instrument but also a statement of the EU's commitment to leading global standards in ethical research practices. In order to do so the directive is underpinned by the ethical principle of balancing progress with compassion, encapsulated in the 3Rs framework: Replacement, Reduction, and Refinement,²⁰³ that will be better analysed in this paragraph.

As stated in *article 1*, the Directive 2010/63/EU outlines a comprehensive framework aimed at protecting animals used for scientific and educational purposes. It establishes measures to ensure their welfare by implementing specific regulations, including the 3Rs of animal use in scientific procedures. Additionally, it sets guidelines for the ethical breeding, housing, care, and humane killing of animals used in research. The Directive also governs the operations of breeders, suppliers, and users, ensuring compliance with high welfare standards throughout the supply chain.²⁰⁴

Moreover, the Directive requires a detailed evaluation and authorization process for all projects involving animal use. This process assesses the scientific necessity of using animals and considers alternative methods, ensuring that only essential and ethically sound research is approved. The scope of the Directive applies not only to animals used directly in scientific procedures but also to those bred specifically for the extraction of organs or tissues for research purposes. Protection under this framework remains in place until the animals are rehomed, returned to their natural habitats, or transitioned into appropriate care systems.²⁰⁵ Moreover the directive in its scope states that it applies to all vertebrate animals, including mammals, birds, reptiles, amphibians, and fish, as well as certain invertebrates such as cephalopods, when used in

²⁰² European Citizens' Initiative. *Stop Vivisection Campaign*, 2012.

²⁰³ European Commission, *Report on the Implementation of Directive 2010/63/EU on the Protection of Animals Used for Scientific Purposes*. Publications Office of the European Union, 2020

²⁰⁴ European Union. *Directive 2010/63/EU*, Article 1. Official Journal of the European Union, L 276, 20 October 2010.

²⁰⁵ Ibidem.

scientific procedures.²⁰⁶ Its coverage includes any procedure that may cause pain, suffering, distress, or lasting harm, regardless of the purpose or the environment in which it is conducted. By extending protection to cephalopods, the Directive acknowledges emerging scientific evidence about the sentience of these animals, marking a significant step forward in animal welfare legislation.²⁰⁷

The primary objectives of the Directive are threefold: to ensure the ethical use of animals in scientific contexts, to promote the development and implementation of alternative methods, and to harmonize the welfare standards across Member States.²⁰⁸ In fact, by creating a consistent legal framework, the Directive tries to protect animal welfare and also to facilitate international collaboration in research by reducing regulatory disparities. Additionally, the Directive seeks to encourage scientific innovation by fostering the development of new methodologies that can replace or minimize animal use while maintaining rigorous scientific standards.²⁰⁹

To fight this risk all projects involving animals must undergo a stringent authorization process conducted by competent authorities within Member States.²¹⁰ Firstly, the Directive 2010/63/EU outlines strict procedures to ensure that all research projects involving animals are subjected to rigorous ethical and scientific evaluation before being approved. *Article 36* establishes that any project using animals must first undergo an authorization process conducted by competent authorities within Member States. This process requires researchers to provide detailed documentation, including the purpose of the project, the scientific justification for using animals, and an assessment of alternative methods that could achieve similar results. Additionally, the proposed study must include a thorough harm-benefit analysis, weighing the potential scientific or societal gains against the ethical costs to the animals involved. This evaluation ensures that animal use is justified only when no viable alternatives exist and when the potential benefits are significant.²¹¹

This process entails submitting detailed documentation that includes a scientific justification for the use of animals, an explanation of why non-animal methods are unsuitable, and an assessment of the number of animals required. Researchers must also provide a harm-benefit analysis that evaluates the potential scientific or societal gains against the ethical costs incurred by the

²⁰⁶ European Union. *Directive 2010/63/EU*, Article 3. Official Journal of the European Union, L 276, 20 October 2010.

²⁰⁷ European Commission, *Scientific Evidence on Cephalopod Sentience*. European Commission Report, 2019, p6.

²⁰⁸ European Union. *Directive 2010/63/EU*, Article 5. Official Journal of the European Union, L 276, 20 October 2010.

²⁰⁹ European Commission. *Report on Alternative Testing Methods*. Publications Office of the European Union, 2020, p 11.

²¹⁰ European Union. *Directive 2010/63/EU*. Article 26-28. Official Journal of the European Union, L 276, 20 October 2010.

²¹¹ European Union. *Directive 2010/63/EU*, Article 36. Official Journal of the European Union, L 276, 20 October 2010.

animals.²¹² For example, a project aiming to test a new cancer treatment must demonstrate that the study design is optimized to minimize animal use and suffering while still achieving scientifically valid results.²¹³ In addition, authorizations are granted only for a limited duration, ensuring periodic review of ongoing projects. This mechanism not only enforces accountability but also allows authorities to reassess the relevance and necessity of the research in light of new scientific developments or alternative methods.²¹⁴ To enhance public accountability, Member States are obligated to submit these detailed annual reports to the European Commission.²¹⁵ These reports must include data on the number and species of animals used, the types of experiments conducted, and the severity classifications of procedures. Transparency is a cornerstone of the Directive, aiming to build public trust and facilitate informed discussions on the ethical use of animals in science. Another instrument of control is cited in Recitals 36-37: Member States are obligated to perform regular, risk-based inspections of breeders, suppliers, and users to ensure compliance with the Directive. To strengthen public trust and increase transparency, some of these inspections should occur without prior notice. Moreover, the European Commission, using insights from Member States' inspection reports, may review national inspection systems if specific concerns arise. Any deficiencies highlighted during such reviews must be promptly addressed by the Member States to maintain alignment with the Directive's standards.²¹⁶ Transparency in animal research reached an important milestone in 2021 with the launch of two open-access databases by the European Commission. The first, ALURES Statistics, is meant to provide Union-level statistical data to facilitate analysis and identify areas where replacement and refinement efforts are urgently needed. The second, ALURES NTS, contains non-technical summaries of authorized projects published by Member States, offering insight into the reasons and methods for using animals in research and testing. The Commission Staff Working Document aims to present statistical data on the use of animals in procedures within the EU and Norway, as mandated by Article 54(2) of Directive 2010/63/EU. This obligation includes annual data collection on the use of animals in procedures, detailing their severity and the origin and species of non-human primates involved, a robust project evaluation process that includes a harm-benefit analysis conducted by independent experts.²¹⁷

²¹² European Union. *Directive 2010/63/EU*, Article 15-16. Official Journal of the European Union, L 276, 20 October 2010.

²¹³ European Commission. *Report on Harm-Benefit Analysis in Animal Research*. European Commission Report, 2020, pp. 8-10.

²¹⁴ European Commission. *Progress in Refinement Methods*. Publications Office of the European Union, 2021, p. 9.

²¹⁵ European Union. *Directive 2010/63/EU*. Article 54. Official Journal of the European Union, L 276, 20 October 2010, p 30.

²¹⁶ European Union. *Directive 2010/63/EU*. Official Journal of the European Union, L 276, 20 October 2010, Recitals 36-37.

²¹⁷ European Commission, *Summary Report on the Statistics on the Use of Animals for Scientific Purposes in the Member States of the European Union and Norway in 2020*. SWD(2023) 84 final. Brussels, March 31, 2023, p 12-13.

These bodies are meant to provide guidance to researchers, monitor compliance, and promote best practices for animal care and use. This evaluation not only scrutinizes the scientific merit of the project but also assesses whether the anticipated benefits justify the ethical costs involved.²¹⁸

To have a first brief comparison, in the UK researchers are obliged to keep track of the exact number of the practice conducted on animals, in 1988 the official data were 3500000. In the US there are not precise data since the Animal Welfare Act, that regulate the treatment of animals, only register the animals used by officially registered institutions, and moreover, it does not comprehend many species, such as for instance rats, mice, birds, reptiles or livestock, nor animals used in high schools for biology classes²¹⁹.

AWBs also play a crucial role in identifying opportunities to replace, reduce, or refine animal use within research programs, a basis for evaluating progress in the implementation of the 3Rs and identifying areas requiring additional efforts.²²⁰ The implementation of the 3Rs - Replacement, Reduction, and Refinement- is the core of the Directive, which serves as the ethical and scientific framework for the humane use of animals in research and testing. These principles are not merely aspirational but are embedded into legislative requirements, guiding researchers toward minimizing animal use and enhancing animal welfare without compromising scientific outcomes. To better understand the principle, the meaning of each of the 3Rs is:

- **Replacement** involves prioritizing non-animal methods whenever scientifically feasible. Articles 4 and 5 of the Directive explicitly mandate that animals should not be used if the same objectives can be achieved through in vitro techniques, computational models, or other alternatives. For instance, advancements in organ-on-chip technologies and three-dimensional cell cultures have significantly expanded the potential for non-animal research methods, offering human-relevant data that often surpass traditional animal models in predictive accuracy.²²¹ The Directive further specifies that Member States must actively promote research into these alternatives and ensure that funding bodies prioritize projects that aim to replace animal use entirely in specialized and qualified laboratories. The European Union Reference Laboratory for Alternatives to Animal Testing (EURL ECVAM) plays a pivotal role in validating and promoting these methods, collaborating with academic and industrial partners to integrate alternative techniques into regulatory frameworks. This

²¹⁸ European Union. *Directive 2010/63/EU*, Annex III. Official Journal of the European Union, L 276, 20 October 2010.

²¹⁹ Peter Singer, *note 7*, p 75.

²²⁰ European Commission, *Implementation of AWBs in the EU*, 2019, p. 12.

²²¹ European Union. *Directive 2010/63/EU*, Article 4. Official Journal of the European Union, L 276, 20 October 2010.

emphasis on replacement underscores the EU's commitment to transitioning away from animal-based experiments wherever possible.²²²

- **Reduction** focuses on minimizing the number of animals used in experiments while maintaining the scientific validity of the results. The Directive requires researchers to justify the number of animals used in any study, ensuring that experimental designs are optimized for efficiency. Articles 4 and 5 also emphasize the need to share data and results to avoid unnecessary duplication of experiments. Techniques such as statistical modelling and data sharing among institutions have become integral to achieving this goal. Furthermore, the Directive encourages the development of advanced statistical tools that can increase the power of experiments, thereby reducing the overall number of animals required.²²³ Despite these efforts, the scale of animal use remains significant, as highlighted in the Commission Staff Working Document of 2020, which reported nearly 8 million animals used across the EU and Norway in that year as stated before. This figure illustrates the persistent challenges in balancing scientific demands with the ethical imperative of reduction.²²⁴
- **Refinement** focuses on improving the conditions under which animals are used, aiming to minimize pain, suffering, and distress as much as possible. The Directive mandates that all procedures must be designed to ensure the highest welfare standards, including the use of analgesics and anaesthetics unless scientifically justified.²²⁵ Additionally, it emphasizes the importance of environmental and housing conditions, requiring appropriate enrichment, such as nesting materials for rodents or social companionship for primates, to promote psychological well-being.²²⁶ To ensure humane treatment, Member States must guarantee that all personnel involved in animal research are adequately trained to handle animals compassionately and perform procedures with minimal distress.²²⁷ These measures not only enhance the animals' well-being but also improve the reliability and reproducibility of research outcomes, aligning ethical considerations with scientific objectives. For example, studies have demonstrated that enriched environments significantly reduce stress in animals, thereby increasing the validity of experimental data.²²⁸

²²² European Commission, Joint Research Centre. *EU Reference Laboratory for Alternatives to Animal Testing (EURL ECVAM)*.

²²³ European Union. *Directive 2010/63/EU*, Article 5-6. Official Journal of the European Union, L 276, 20 October 2010.

²²⁴ European Commission. *Commission Staff Working Document: Statistics on the Use of Animals for Scientific Purposes in the Member States of the European Union and Norway in 2020*. Publications Office of the European Union, 2020, p. 6.

²²⁵ European Union. *Directive 2010/63/EU*, Article 14. Official Journal of the European Union, L 276, 20 October 2010.

²²⁶ European Union. *Directive 2010/63/EU*, Article 33. Official Journal of the European Union, L 276, 20 October 2010.

²²⁷ European Union. *Directive 2010/63/EU*, Article 24. Official Journal of the European Union, L 276, 20 October 2010.

²²⁸ Gaskill, B. N., & Pritchett-Corning, K. R. *Environmental enrichment improves welfare and experimental outcomes*

Aligned with the principle of the Three Rs, the total number of animals used in procedures can be reduced by reusing animals under strict conditions that account for the lifetime experience of each individual animal. In other words, Directive suggests moreover that it is possible to reduce the number of animals used in procedures by performing experiments on the same animal multiple times, provided this does not compromise the scientific objectives or negatively impact the animal's well-being. In 2020, reuse accounted for approximately 1.5% of all uses, with higher reuse proportions observed among large mammals such as horses, donkeys, sheep, and certain non-human primates. Reuse rates were also significant for reptiles, reaching 38%. Notably, animals used for education and training purposes had the highest reuse rates, at 12%.²²⁹ However, the benefits of reusing animals must be carefully weighed against potential adverse effects on their welfare, taking into account the cumulative experiences of the animal throughout its lifetime.²³⁰ This opens another ethical dilemma, since the reduction of numbers will coincide with a bigger suffering of a sentient being that will endure the experiments during its lifetime. In conclusion, the principles of Replacement, Reduction, and Refinement form the ethical backbone of Directive 2010/63/EU, driving innovation and fostering a culture of humane research practices. While significant progress has been made, the continued reliance on animals underscores the need for sustained investment in alternative methods, enhanced collaboration among stakeholders, and robust regulatory support to overcome existing barriers.

Annex III of the Directive also outlines comprehensive standards for the housing, feeding, and care of animals to ensure their well-being, which specifies requirements for space, lighting, temperature, ventilation, and enrichment tailored to the species' needs. For example, rodents must be provided with nesting materials, and primates must have opportunities for social interaction and environmental stimulation.²³¹ For instance, as briefly mention while explaining “refinement”, articles 14 of the Directive explain the necessity to ensure the use of anaesthesia during procedures, and that should be used analgesics or other appropriate method to minimise pain, suffering and distress of the animals, in particular for procedures that involve serious injury which may cause severe pain. When determining whether anaesthesia should be used, the following factors must be considered:

- a) whether the anaesthesia itself would cause greater trauma to the animal than the procedure;
- b) whether the use of anaesthesia would interfere with the objectives of the procedure.

in laboratory animals: A systematic review. Frontiers in Veterinary Science, 9, 2022.

²²⁹ European Commission, *Summary Report on the Statistics on the Use of Animals for Scientific Purposes in the Member States of the European Union and Norway in 2020*. SWD(2023) 84 final. Brussels, March 31, 2023, p 10-11.

²³⁰ European Union. *Directive 2010/63/EU*. Official Journal of the European Union, L 276, 20 October 2010, Recital 25.

²³¹ European Union. *Directive 2010/63/EU*, Article 5-7. Official Journal of the European Union, L 276, 20 October 2010.

Additionally, Member States must ensure that no substances are administered to animals that suppress or reduce their ability to exhibit pain unless accompanied by an adequate dose of anaesthetics or analgesics.²³² The Directive also introduces specific measures to minimize the impact of experimental procedures. Researchers are further encouraged to explore non-invasive techniques and innovative methodologies that reduce the physical and psychological burden on animals.²³³

The Directive 2010/63/EU then places significant emphasis on minimizing the suffering of animals used in scientific research on topics such as euthanasia and appropriate housing conditions.

In its core, in fact, the directive addresses the issue of the use of inappropriate methods for the euthanasia of animals that can result in significant pain, distress, and suffering. Equally important it underlines the importance of the expertise of the individual performing the procedure. Therefore, animals should only be euthanized by trained and competent personnel, employing methods that are appropriate for the species in question.²³⁴ Article 15 focuses on the methods and conditions for euthanizing animals, underlining that such procedures must be performed by trained personnel using techniques that are suitable for the species involved. The primary aim is to prevent unnecessary pain, distress, or discomfort during euthanasia. This includes considering factors such as the level of competence of the person performing the procedure and the use of methods that ensure a quick and painless process. The Directive further mandates that the choice of euthanasia techniques must align with the highest welfare standards to protect the dignity and well-being of the animals until the very end of their lives.²³⁵

In parallel, Article 33 establishes comprehensive standards for the care and accommodation of animals, recognizing the critical role of their living conditions in ensuring both physical and psychological welfare. This article specifies requirements for species-specific housing, including proper lighting, ventilation, temperature control, and opportunities for environmental enrichment. Furthermore, institutions must ensure that personnel responsible for animal care are adequately trained and follow best practices to maintain these standards. By prioritizing humane care and housing, the Directive not only aligns with ethical principles but also aims at enhancing the reliability of research outcomes by minimizing stress-induced variables that could

²³² European Union. *Directive 2010/63/EU*, Article 14. Official Journal of the European Union, L 276, 20 October 2010.

²³³ European Union. *Directive 2010/63/EU*, Article 14-15. Official Journal of the European Union, L 276, 20 October 2010.

²³⁴ European Union. *Directive 2010/63/EU*. Official Journal of the European Union, L 276, 20 October 2010, Recital 15.

²³⁵ European Union. *Directive 2010/63/EU*, Article 15. Official Journal of the European Union, L 276, 20 October 2010.

compromise data quality.²³⁶ Regular veterinary care is mandated to promptly address any health issues, and personnel handling animals must be adequately trained to perform procedures humanely.²³⁷

Another focal point relates to the use of non-human primates (NHPs) in scientific research, which has long been a focal point of ethical debates due to their advanced cognitive abilities, complex social structures, and capacity for suffering. The Directive provides enhanced protection for NHPs, recognizing their genetic proximity to humans, their complex social behaviours, and their capacity to experience suffering and distress.²³⁸ To eliminate the capture of animals from the wild, including for breeding purposes, the Directive mandates the gradual shift towards using non-human primates bred in self-sustaining colonies, where parents are also bred in captivity. This measure aims to address both ethical concerns and the environmental impact of depleting wild populations. However, achieving this objective has proven challenging due to the high costs and logistical difficulties associated with establishing such colonies.²³⁹ In addition to breeding requirements, the Directive prohibits the use of great apes, such as chimpanzees, gorillas, and orangutans, in scientific research.²⁴⁰ While this reflects a significant ethical advancement, critics argue that extending similar protections to other primate species, including macaques and marmosets, remains an unmet necessity.⁵ Animal rights advocates highlight that the physiological similarities between humans and NHPs, often cited as justification for their use in research, are precisely what make their suffering ethically indefensible.²⁴¹

A last very central focus is that expressed by *Article 47*: this emphasizes the critical importance of developing alternative methods to replace, reduce, and refine the use of animals in scientific procedures. The availability of such methods is closely tied to advancements in research and technological innovation. To this end, the European Union has allocated increasing funding through its framework programs for research and technological development, specifically to support projects aimed at achieving the 3Rs principles. These investments underline the EU's commitment to ethical scientific progress and its ambition to lead in the global shift away from animal testing.

The Directive calls upon the European Commission and Member States to actively support the

²³⁶ European Union. *Directive 2010/63/EU*, Article 33. Official Journal of the European Union, L 276, 20 October 2010.

²³⁷ European Commission. *Veterinary Oversight in Animal Research*. European Commission Report, 2020, p 12.

²³⁸ European Union. *Directive 2010/63/EU*, Article 10. Official Journal of the European Union, L 276, 20 October 2010.

²³⁹ European Commission. *Summary Report on the Statistics on the Use of Animals for Scientific Purposes in the Member States of the European Union and Norway in 2020*. SWD(2023) 84 final. Brussels, March 31, 2023, p 6.

²⁴⁰ European Union, *Directive 2010/63/EU*, Article 8(3). Official Journal of the European Union, L 276, 20 October 2010.

²⁴¹ European Parliament. *Animal Rights Advocacy in EU Legislation*. European Parliament Report, 2020, p. 10.

development, validation, and adoption of alternative approaches. This involves fostering collaboration between academic institutions, industry stakeholders, and regulatory bodies to ensure that new methods meet the necessary scientific and legal standards.²⁴² For instance, the Horizon 2020 program has allocated significant resources to support projects that develop cutting-edge alternatives, such as organ-on-a-chip technologies and AI-driven predictive models.²⁴³ Despite these efforts, challenges persist in scaling these alternatives to meet the rigorous demands of regulatory validation and widespread adoption as we will analyse in the last paragraph.

While Directive 2010/63/EU represents a significant step forward in the ethical governance of animal research, several limitations persist. One critical issue is the continued legality of invasive and painful procedures, which remain permissible under specific conditions. Unfortunately, the persistent high number of animals used in scientific procedures highlights the difficulty in fully realizing the 3Rs: despite its progressive appearance, this approach suffers from fundamental regulatory shortcomings. One major issue is that, despite a widespread commitment to reducing and replacing animals in research, the global number of animals used for experimental purposes remains unchanged since the 1980s, and many invasive and painful procedures are still legal, while also sponsored by a big part of the scientific community and commercial industries that gain profits from this research. In fact, while the principle of refinement seeks to minimize the severity of experiments, evidence suggests an increasing number of procedures causing severe suffering to animals. For instance, countries have reported rising instances of experiments involving extreme pain and distress, which highlights the ineffectiveness of the 3Rs in alleviating animal suffering.²⁴⁴

As Charlotte Blattner proposed in her way of “Rethinking the 3Rs”, to achieve meaningful progress, the 3Rs must be understood hierarchically, prioritizing replacement above reduction and refinement. Directive 2010/63/EU explicitly sets the goal of “full replacement of procedures on live animals for scientific and educational purposes” (European Parliament, 2010, Recital 10). This vision aligns with the precautionary principle, which emphasizes taking preventive measures when there is a risk of serious or irreversible harm. Applied to animal experimentation, the precautionary principal mandates prioritizing replacement to prevent physical and psychological harm to animals.²⁴⁵

²⁴² European Commission. *Report on International Collaborations*. Publications Office of the European Union, 2020, p. 15.

²⁴³ Horizon 2020, *Innovative Testing Methods: Advancing Animal-Free Research*. European Union, 2019, pp. 20-22

²⁴⁴ Charlotte E. Blattner, *Rethinking the 3Rs: From Whitewashing to Rights*. Animal Experimentation (chapter 6), Working Towards a Paradigm Change. Brill publisher, 2019, p 168-169.

²⁴⁵ Charlotte E. Blattner, *note 244*, p 172-173.

The ideology behind the defines of animal use is still that the welfare of animals is not as important as the possibility to advance in research, to reach knowledge and attainable advantages for humans. In fact, researchers frequently disregard replacement options and prioritize human interests, using animal models even when alternatives exist. Current legal frameworks often determine the necessity of experiments based solely on their purpose, without sufficiently considering the suffering inflicted on animals.²⁴⁶ On the other hand, there is the approach of animal welfare supporters, who advocate for more importance of animal's interest in policies, that still think that animal use can be justified only in case of urgent human needs, and under the control of procedure to ensure the respect of certain animals' interests.²⁴⁷ This imbalance is further exacerbated by legal tools like the harm-benefit analysis, which weighs societal and scientific objectives against animal welfare but tends to favour human interests. For instance, Article 15 of Directive 2010/63/EU categorizes harm inflicted on animals based on severity (e.g. mild short term pain, moderate, and severe long lasting distress), but psychological harm -such as fear and anxiety- often remains undervalued in these assessments.²⁴⁸ The systemic bias within these frameworks reflects a deeper disparity: human rights, such as the freedom to conduct research, often take precedence over animal protections. This imbalance arises because legal protections for animals are weaker compared to the recognized rights of humans, as they represent a weaker legal mechanism. Consequently, animal welfare measures only apply when they do not conflict with human interests, leaving animals in a position of vulnerability.²⁴⁹ To reform this imbalance, two key steps are necessary. First, there must be a clear distinction between scientific evaluations, which assess the necessity of animal use, and ethical evaluations, which question the moral justifiability of inflicting suffering on animals. Second, a qualitative, non-speciesism balance of interests must be adopted, ensuring that identical interests—whether of humans or animals—are treated equally. Without these changes, the 3Rs will continue to falter due to their flawed logic and reliance on the animal model as the gold standard.²⁵⁰

Another perspective is that of animal rights, that differ from that of animal welfare as this latter position support the inherent value of all sentient being, and as such has a desire to not feel pain, and as a consequence they support the need to recognize a set of rights that would eliminate the killing, the torture and all the form of exploitation of animals, including of course the ending of experiments on animals.²⁵¹ A meaningful shift towards prioritizing animal welfare requires recognizing animals as rights holders, especially in research, where balance of interest tests

²⁴⁶ Charlotte E. Blattner, *note 244*, p 174.

²⁴⁷ Emily McIvor, *note 144*, p 153.

²⁴⁸ Charlotte E. Blattner, *note 244*, p 175.

²⁴⁹ Charlotte E. Blattner, *note 244*, p 176-177.

²⁵⁰ Charlotte E. Blattner, *note 244*, p 178.

²⁵¹ Emily McIvor, *note 144*, p 155.

dominate, granting animals rights is crucial to envisioning an end to their use in experimentation. Rights provide a protected sphere that cannot be compromised, as seen in human rights law. Establishing rights for animals, such as the right to life and bodily integrity, would prohibit their exploitation in research and pave the way for the ultimate goal of the 3Rs: full replacement.²⁵²

Another important point is that the EU legislation gives the opportunity to citizens to be more involved in legislative proposals and negotiations, to be more informed on what is happening and how it influences the society and not only. This process also applied to the proposal of the Directive. Despite concerns raised by the UK scientific community, which supports the use of animals for experiments, about issues such as the inclusion of new species (e.g. invertebrates) and the increased bureaucracy that, in their view, could delay processes and harm the competitiveness of both the UK and EU in the international market, the Directive was ultimately passed. However, it failed to fully satisfy animal rights advocates.

The fear that the “high standards” of the European Union would not be followed by other extra-European countries is still present, not because it is thought that other countries could not satisfy the requirements, but because the market could expand in countries with less rule on care and transparency.²⁵³ Globalization is in fact a big challenge for the Directive and further complicates the Directive’s impact. The outsourcing of research to countries with less stringent regulations raises ethical concerns and highlights the need for international collaboration.²⁵⁴ The origin of animals is as well a critical consideration for their welfare. Animals bred outside the Union are not guaranteed the accommodation and care standards mandated by the Directive. Additionally, extended transport times associated with their relocation may further compromise their welfare.²⁵⁵

Initiatives such as the ALURES databases and the EU’s participation in global alternative testing networks reflect efforts to address these challenges. These databases are part of the effort to implement Directive 2010/63/EU and ensure compliance with its principles. The first component, the ALURES Statistics Database, provides detailed statistical data on animal use in research, education, and regulatory testing. This database includes information on the species and number of animals used, the severity of procedures, and the specific purposes for which they are employed. The second component, the ALURES Non-Technical Summaries (NTS), contains accessible summaries of authorized research projects submitted by Member States. These summaries offer insights into the goals, expected outcomes, and ethical considerations of each

²⁵² Charlotte E. Blattner, *note 244*, p 180.

²⁵³ Emily McIvor, *note 144*, p 156-160.

²⁵⁴ European Commission, *Global Implications of EU Animal Research Standards*. Publications Office of the European Union, 2020, pp. 20-23.

²⁵⁵ European Commission. *Summary Report on the Statistics on the Use of Animals for Scientific Purposes in the Member States of the European Union and Norway in 2020*. SWD(2023) 84 final. Brussels, March 31, 2023, p 5.

project, an instrument for the public to understand how animal research is conducted and how it aligns with ethical and scientific standards.²⁵⁶

By fostering transparency and encouraging data sharing, the ALURES Databases tries to reduce unnecessary duplication of experiments and to provide a platform for collaboration among researchers, policymakers, and animal welfare advocates, but progress remains slow. How in fact does the need for transparency connect with the question of animals used in scientific research? The first direct link is that this research is funded by taxes, while people are not aware of the impact of such procedures nor of the costs animals pay throughout all the practices.²⁵⁷ Actually people know barely anything about what happens in research laboratories, and according to animal advocates, they would be less likely to give their support to such practice if they knew the real nature of testing. To make a more informed choice on the matter, a series of information should be published for people to understand, for example, the number and the species that are used on a daily base, what kind of procedure they undergo and how much they suffer, but also the level of efficiency of those practices and their results for humans. All of this needs to be connected with information on which organization does use animals and which are using, or trying to find, alternatives, final reports on results and findings to justify all the violent procedures.²⁵⁸

Moreover, the reports that are required on animals used in experimentation need to be anonymous and to not include the personal data of people involved.²⁵⁹ A problem remain, and it is that the population is, in the majority of cases, unaware of how, or even whether, scientists and animal welfare boards weigh the potential advantages of a study against the likelihood that the animals would suffer damage, adding also that authors are not compelled to share their explanations of research ethical procedures, and that they are only marginally relevant in publications since they do not fully educate citizens. As a final result, transparency did not manage to really improve the situation for animals, the quantity of animals sacrificed is not decreasing, nor the 3Rs principle are progressing that much, but it is a good starting point to reach a more informed public, and a higher rate on sharing values and commitment with other countries outside Europe.²⁶⁰

European States thanks to the Directive need to push the study and advancement of new ways of research that could substitute animal use, connecting with other countries also outside EU borders, while also needing to get approval for new projects only after evaluate all the possible alternatives, with stricter method of evaluation, higher standards of transparency, and a report on

²⁵⁶ European Commission, *ALURES Databases*. European Commission, 2021.

²⁵⁷ Monika Merkes and Rob Buttrose, *Increasing the Transparency of Animal Experimentation: An Australian Perspective*. Animal Experimentation (chapter 9), Working Towards a Paradigm Change. Brill publisher, 2019, p 224.

²⁵⁸ Monika Merkes and Rob Buttrose, *note 257*, p 225.

²⁵⁹ Monika Merkes and Rob Buttrose, *note 257*, p 233.

²⁶⁰ Monika Merkes and Rob Buttrose, *note 257*, p 237-238.

the retrospective of all projects that need “severe” operations.²⁶¹

Public advocacy will also play a crucial role in maintaining pressure on policymakers to prioritize ethical considerations over economic and scientific expediency. As the EU strives to lead global standards in animal welfare, its ability to overcome these limitations will determine the Directive’s long-term success.²⁶²

It is also important, in conclusion, to remember *article 7* of the Directive, that enables the approach to animal welfare can vary across Member States, influenced by national perceptions and cultural attitudes. In some cases, certain Member States may seek to implement animal welfare standards that go beyond those established at the Union level. To accommodate this, the directive allows for a degree of flexibility, enabling Member States to maintain more comprehensive national regulations, provided these do not undermine the functioning of the internal market and remain consistent with the Treaty on the Functioning of the European Union.²⁶³ The limit to this approach is that while some progressive nations can act as moral example for less stringent states, and be potentially influencing them to follow their lead, the flexibility granted to Member States can result in disparities in animal protection across the EU, creating inconsistency between states regulation, and giving more power to culture at the expense of animal’s welfare. Enforcement disparities across Member States is in fact one of the main challenges. While the Directive sets a unified framework, its implementation varies, leading to inconsistencies in the level of protection afforded to animals.²⁶⁴ This lack of uniformity can obscure trends and hinder the development of targeted strategies to reduce animal use.

In conclusion, the Directive reflects the EU’s commitment to reducing the ethical cost of scientific progress. However, ongoing efforts are needed to address challenges in enforcement, standardization, and the development of alternatives. Accelerating the adoption of innovative, non-animal approaches and enhancing transparency and accountability will be crucial for aligning the Directive’s implementation with its ambitious ethical and scientific goals.

²⁶¹ Emily McIvor, *note 144*, p 156.

²⁶² European Commission, *Future Directions in Animal Welfare Legislation*. Publications Office of the European Union, 2021, pp. 22-25.

²⁶³ European Union. *Directive 2010/63/EU*, Articles 7. Official Journal of the European Union, L 276, 20 October 2010

²⁶⁴ European Commission. *Disparities in Enforcement across Member States*. Publications Office of the European Union, 2021, p. 14.

2.5 A comparison with the US animal testing legislation

For what concern the United States of America the main regulation on animal testing comes from the Animal Welfare Act (AWA), that is the cornerstone legislation, firstly introduced on the 24th of August 1966, regulating the treatment of animals in research, exhibition, transport, and by dealers; interesting to make a comparison with EU regulations.

The AWA begins with its Congressional Statement of Policy Title 7 “Agriculture” of the United States Code, Section 2131, which lays out the objectives of the Act. This section emphasizes the prevention of inhumane treatment of animals and ensures their humane care. Specifically, it mandates that animals used in this field must receive adequate housing, sanitation, nutrition, and veterinary care. The Act further requires the proper handling of animals to prevent unnecessary suffering or distress.²⁶⁵

Federal regulation is justified in the policy statement by acknowledging the role of animals in interstate commerce, meaning that the federal government derives its authority to regulate the treatment of animals from their involvement in economic activities that cross state lines. Interstate commerce, such as the transportation of animals for research, sale, or exhibition purposes, is subject to federal oversight under the Commerce Clause of the U.S. Constitution. This clause empowers Congress to legislate on activities that have a substantial effect on trade between states. For example, research facilities that transport animals from breeding colonies (that could be for instance in Texas) to laboratories (supposably in California) are subject to these regulations to ensure humane treatment during transit; this includes specifications for transport enclosures that allow animals to stand, turn, and lie down comfortably, as well as provisions for ventilation, temperature control, and access to water and food during long journeys.²⁶⁶ While this serves as the mission statement of the AWA, clarifying its purpose to prevent cruelty and establish minimum welfare standards, the focus on commerce raises ethical questions, suggesting that animal welfare is tied to economic interests rather than intrinsic moral rights. As discussed by Schmitt (2015), California’s progressive animal welfare legislation highlights the tension between state sovereignty and the moral imperative to address animal cruelty. Critics argue that such policies risk framing animal welfare as a matter of regulatory compliance driven by economic interests rather than recognizing the intrinsic moral value of animals as sentient beings. By linking animal protection to commercial regulation, these laws may inadvertently reduce moral accountability, aligning animal welfare concerns more with market incentives than ethical

²⁶⁵ U.S. Congress, *Animal Welfare Act* (7 U.S.C. 2131 et seq.). Washington, D.C. United States Government Publishing Office, 1966, p 1.

²⁶⁶ U.S. Congress, *Animal Welfare Act* (7 U.S.C. 2131 et seq.). Washington, D.C. United States Government Publishing Office, 1966, p 1.

principles.²⁶⁷

Moving on, Title 7 of AWA provides clarity on key terms such as "animal," "research facility," and "dealer." Here the definition of animal:

“(g) The term "animal" means any live or dead dog, cat, monkey (nonhuman primate mammal), guinea pig, hamster, rabbit, or any other warm-blooded animal which is being used, or is intended for use, for research, testing, experimentation, or exhibition purposes, or as a pet; but such term excludes (1) birds, rats of the genus *Rattus*, and mice of the genus *Mus*, bred for use in research, (2) horses not used for research purposes, and (3) other farm animals, such as, but not limited to, livestock or poultry, used or intended for use as food or fibre, or livestock or poultry used or intended for use for improving animal nutrition, breeding, management, or production efficiency, or for improving the quality of food or fibre.” (7 U.S.C. § 2132(g)).²⁶⁸

Notably, the term "animal" excludes birds, rats, and mice bred for research purposes, as well as farm animals used for food or fibre. This exclusion has significant implications for the Act's applicability: by defining which animals are protected, the AWA sets boundaries that leave many species outside its protections, making a hierarchy of value between different animals.

Moreover, the AWA continues requiring the Secretary of Agriculture to establish regulations for the proper handling, care, treatment, and transportation of animals. One crucial aspect of these regulations is the requirement for research facilities to minimize pain and distress in animals by employing anaesthetics, analgesics, or tranquilizers when necessary. For instance, in surgical procedures, researchers must provide adequate pain relief unless it interferes with the study's scientific objectives.²⁶⁹

Additionally, the Act on the section “Standards and Certification Process” mandates the establishment of Institutional Animal Care and Use Committees (IACUCs) at every facility involved in animal research. These committees oversee the welfare of animals and review research proposals to ensure compliance with ethical standards. Each IACUC must include at least one veterinarian and a community representative with no direct ties to the institution, aiming to enhance accountability. For example, a pharmacological study involving rodents must demonstrate that pain mitigation measures are in place for surgical procedures, or an IACUC may reject the protocol. Similarly, in behavioural studies involving prolonged isolation of primates—a practice known to induce significant stress—researchers must justify the necessity

²⁶⁷ J. M. Schmitt, Making Sense of Extraterritoriality: Why California's Progressive Animal Welfare Legislation Does Not Violate the Commerce Clause. *Harvard Environmental Law Review*, 2015, p 441-443.

²⁶⁸ U.S. Congress, *Animal Welfare Act* (7 U.S.C. 2132 et seq.). Washington, D.C. United States Government Publishing Office, 1966, p 2.

²⁶⁹ U.S. Congress, *Animal Welfare Act* (7 U.S.C. 2134 et seq.). Washington, D.C. United States Government Publishing Office, 1966, p 5.

of such methods by proving the absence of viable alternatives.²⁷⁰ However, the effectiveness of these committees is not certain due to potential conflicts of interest, for example, researchers within the institution may prioritize meeting deadlines or securing funding over the welfare of animals. Concerns regarding the effectiveness of Institutional Animal Care and Use Committees (IACUCs) in prioritizing animal welfare have been documented in the years: for instance, a 2012 study published in the journal *Animals* analysed the composition of IACUCs at leading U.S. research institutions and found that these committees were predominantly composed of animal researchers and institutional representatives. In other cases, committees have approved protocols involving invasive procedures despite the existence of less harmful alternatives or violations of humane standards have occasionally gone unaddressed due to insufficient external monitoring.²⁷¹ This composition may lead to biases favouring the approval of animal experiments, potentially diluting the input from members representing animal welfare and public interests.

On a similar note, the Act empowers the Secretary of Agriculture to conduct inspections of research facilities to ensure compliance. Inspections, which have to be unannounced, cover housing conditions, records, and the treatment of animals. This provision is crucial for enforcement, although limited resources and personnel can lead to gaps in implementation.²⁷² Violations of the AWA can result in penalties, including fines, suspension or revocation of licenses, and even criminal charges in severe cases.²⁷³

The AWA provides a legal framework that holds individuals and institutions accountable for the humane treatment of animals. However, its exclusion of rats, mice, and birds, which constitute the majority of research animals, undermines its comprehensiveness. Furthermore, its focus on minimal standards rather than promoting higher welfare goals highlights its limitations. The Act reflects a utilitarian approach, balancing animal welfare against human interests, which raises ethical debates about whether it sufficiently prioritizes the well-being of animals or merely mitigates their exploitation.

Coexisting and integrating the Animal Welfare Act, is the Health Research Extension Act of 1985 (HREA) that plays a critical role in trying to create and regulate an ethical treatment of animals used in research funded by the Public Health Service (PHS). This Act governs research institutions that receive funding from agencies such as the National Institutes of Health (NIH) and the Centres for Disease Control and Prevention (CDC). This wide applicability ensures that

²⁷⁰ U.S. Congress, *Animal Welfare Act* (7 U.S.C. 2143 et seq.). Washington, D.C. United States Government Publishing Office, 1966, p 6-7.

²⁷¹ Lynn Carbone. *Pain Management Standards in the Eighth Edition of the Guide for the Care and Use of Laboratory Animals: Evolving Standards of Care for Animal Use in Research*. *Animals*, 2. (2012), p 68-70.

²⁷² U.S. Congress, *Animal Welfare Act* (7 U.S.C. 2146 seq.). Washington, D.C. United States Government Publishing Office, 1966, p 8.

²⁷³ *Ibidem*, p 12.

ethical standards are maintained across a vast array of federally supported scientific endeavours.²⁷⁴

Its primary objective is to ensure that all vertebrate animals used in research are treated humanely, with established guidelines for their care and use. Under the HREA, institutions must provide a written Animal Welfare Assurance to the National Institutes of Health Office of Laboratory Animal Welfare (OLAW). This document confirms the institution's commitment to adhering to humane standards, as outlined in the "Guide for the Care and Use of Laboratory Animals." Without this assurance, no research involving animals can be conducted at the institution. This requirement ensures a baseline level of accountability, mandating that institutions formally commit to following established welfare standards.²⁷⁵

Another key provision of the HREA is the requirement for institutions to establish Institutional Animal Care and Use Committees (IACUCs). These committees are a cornerstone requirement of both the PHS Policy and the Animal Welfare Act, and they are responsible for overseeing and evaluating all aspects of the institution's animal care and use program. An IACUC is typically composed of at least three members, including a veterinarian with expertise in laboratory animal care and a member unaffiliated with the institution to provide an independent perspective. The committee's responsibilities are extensive: review and approve research protocols, conduct semi annual inspections of animal facilities, and ensure that alternatives to animal use have been considered wherever possible. Additionally, the IACUC is tasked with verifying that pain and distress in animals are minimized, and that appropriate analgesics or anaesthetics are used.²⁷⁶

The "Guide for the Care and Use of Laboratory Animals" is a cornerstone of the Public Health Service Policy mandated by the HREA. This guide sets comprehensive standards for various aspects of animal care, including housing, environment, and veterinary care. Housing facilities must provide adequate space, lighting, temperature, and ventilation to support the animals' physical and psychological well-being. Regular veterinary care, including preventive measures and treatments for illness or injury, is also a requirement. Painful procedures must be scientifically justified, and appropriate pain relief must always be provided. For example, housing facilities must ensure environments that promote the psychological well-being of animals, such as social enrichment for social species.²⁷⁷ The HREA also emphasizes the importance of reporting and compliance. Institutions are required to submit annual reports to

²⁷⁴ National Institutes of Health, *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. Bethesda, MD: Office of Laboratory Animal Welfare, 2015, p 3.

²⁷⁵ United States Code, 42 U.S.C. 289d - Animals in Research. Legal Information Institute. Washington, D.C., United States Government Publishing Office, 1958, p 3.

²⁷⁶ National Institutes of Health, *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. Bethesda, MD: Office of Laboratory Animal Welfare, 2015, p 12.

²⁷⁷ National Institutes of Health, *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. Bethesda, MD: Office of Laboratory Animal Welfare, 2015, p8.

OLAW, detailing the number and species of animals used, compliance measures, and any deviations from approved protocols. These reports help maintain transparency and allow OLAW to monitor adherence to humane standards. By requiring detailed recordkeeping, the Act ensures that institutions remain accountable for their treatment of animals.²⁷⁸

The IACUC also monitors compliance with the Three Rs Principle, verifying that researchers have considered alternatives to animal use and implemented methods to refine experimental techniques. This dissertation already explained the principles of Replacement, Reduction and Refinement while talking about the Directive 2010/63/EU; to briefly remind how the principle works, the first refers to encouraging the use of non-animal alternatives wherever possible (such as for instance vitro cell cultures or computer modelling instead of live animals to study disease mechanisms or test drug efficacy), the second one focuses on minimizing the number of animals used in experiments while still obtaining scientifically valid results (using statistical methods to optimize data collection, and sharing animal tissues or data across research projects to avoid duplication), the last one emphasizes the improvement of experimental techniques to reduce pain, suffering, and distress in animals.²⁷⁹

As previously mentioned, another important document in the regulation of animal research in the United States is the Guide for the Care and Use of Laboratory Animals. Published by the National Research Council, The Guide sets comprehensive standards for the ethical treatment of animals used in scientific investigations. It is mandated for institutions receiving Public Health Service (PHS) funding and serves as a critical resource for ensuring humane practices in animal care and use.²⁸⁰ Like the other normative, the Guide covers a wide range of topics essential to animal welfare, including housing, environment, feeding, and veterinary care. Social species, such as primates, are required to have access to companions or environmental enrichment that mimics their natural habitats. For example, nesting materials for rodents or climbing structures for primates can significantly enhance their well-being.²⁸¹ For what concerns housing, for example, mice require a minimum floor space of 77 cm² per animal with a cage height of at least 12 cm, while rats require between 150 to 300 cm² depending on their weight, with a minimum height of 17 cm. These specifications ensure that animals have adequate space for movement, exploration, and rest.²⁸²

²⁷⁸ United States Code, 42 U.S.C. 289d - Animals in Research. Legal Information Institute. Washington, D.C., United States Government Publishing Office, 1958, p 7.

²⁷⁹ National Research Council, *Guide for the Care and Use of Laboratory Animals* (8th ed.). Washington, D.C. National Academies Press, 2011, p 18-20.

²⁸⁰ National Research Council, *Guide for the Care and Use of Laboratory Animals* (8th ed.). Washington, D.C. National Academies Press, 2011, p 3.

²⁸¹ Ibidem, p 5.

²⁸² National Research Council, *Guide for the Care and Use of Laboratory Animals* (8th ed.). Washington, D.C. National Academies Press, 2011, p 26

Veterinary care is another crucial component addressed in The Guide. Institutions must ensure that animals receive regular health checkups and prompt treatment for illnesses or injuries. Painful procedures are required to be scientifically justified, and researchers must provide appropriate pain relief, to comply with the commitment to humane treatment throughout the research process.²⁸³ On the matter, the Guide states that "the ability to experience and respond to pain is widespread among animals, and unalleviated pain can lead to significant stress and suffering" (Guide, p.31). For instance, in mice, a common aesthetic protocol involves administering ketamine (100 mg/kg) combined with xylazine (5-10 mg/kg) intraperitoneally, which provides approximately 30 minutes of effective anaesthesia.²⁸⁴

While these normative instruments are central to the regulation of animal research in the United States and their frameworks represent some progress in protecting animal welfare, they exhibit notable limitations that undermine their effectiveness in fully safeguarding animals used in scientific experiments.

One of the primary criticisms of the AWA is its exclusion of specific species from protection, including rodents, birds, and farm animals used for food and fibre. These exclusions leave a significant portion of animals used in research unprotected, especially in relation to their prevalence in laboratories. This omission reflects a hierarchy of species that prioritizes some animals over others, a decision often justified by practical considerations rather than ethical consistency.²⁸⁵ Furthermore, the AWA focuses primarily on the physical well-being of animals, such as housing, feeding, and veterinary care, but offers limited provisions for addressing their psychological welfare. Animals subjected to laboratory conditions frequently experience stress, boredom, and other mental health challenges that are not adequately addressed under the law.²⁸⁶

The PHS Policy, while offering more comprehensive guidelines for institutions receiving Public Health Service funding, also faces significant challenges. One of its key shortcomings lies in its limited scope of application, as it applies only to federally funded research institutions, leaving other entities without similar ethical obligations.²⁸⁷ Additionally, compliance with the PHS Policy relies heavily on Institutional Animal Care and Use Committees, which are responsible for reviewing research protocols and ensuring adherence to ethical standards. However, these committees are often composed predominantly of institutional representatives, raising concerns

²⁸³ Ibidem, p 8.

²⁸⁴ Ibidem, p 31.

²⁸⁵ Congressional Research Service, *The Animal Welfare Act: Background and Overview*. CRS Report No. R47179. Washington, D.C.: Library of Congress, 2022, p 3.

²⁸⁶ Ibidem, p 4.

²⁸⁷ U.S. Department of Health and Human Services, *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. National Institutes of Health, Office of Laboratory Animal Welfare, NIH Publication No. 15-8013, Revised 2015. Bethesda, MD: U.S. Department of Health and Human Services, p7.

about conflicts of interest and the effectiveness of their oversight.²⁸⁸

Both the AWA and the PHS Policy face challenges in enforcement. Inspections and penalties for non-compliance are often insufficient to deter violations, and many cases of inadequate animal care go unreported or unresolved due to weak monitoring mechanisms. This lack of robust enforcement undermines the intent of these policies and highlights the need for stronger regulatory frameworks.²⁸⁹

Despite their advancements, these laws fail to fully address the moral and ethical considerations surrounding animal research. They primarily adopt a utilitarian approach, seeking to balance the benefits of scientific progress with the minimization of harm. However, they do not question the fundamental assumption that animals should be used for research at all, nor do they actively promote the development and adoption of alternative methods that could replace animal experimentation.²⁹⁰

In other words, their exclusions, reliance on institutional self-regulation, and inconsistent enforcement leave significant gaps in their ability to protect all animals effectively. Addressing these shortcomings would require expanding species coverage, enhancing oversight mechanisms, and promoting ethical frameworks that recognize animals as beings with intrinsic value rather than solely as tools for human advancement.

²⁸⁸ Ibidem, p 12

²⁸⁹ Congressional Research Service, *The Animal Welfare Act: Background and Overview*. CRS Report No. R47179. Washington, D.C.: Library of Congress, 2022, p 5.

²⁹⁰ Ibidem, p 6.

2.6 Alternatives to animal testing

The last 30 years have seen a stronger commitment in the study of alternatives to animal experimentation, due to the pressure put on certain sectors. However, if many alternatives are still present today, these do not eliminate the use of animals yet, for factors that have to do with limitation by humans.

As saw earlier, the European Directive 2010/63/EU that regulates the use of animals in science affirms that its goal is to be “an important step towards achieving the final goal of full replacement of procedures on live animals for scientific and educational purposes, as soon as it is scientifically possible to do so”.²⁹¹ It is interesting to notice that they specify the substitution of “live animals”, making it distractive from the real end of animal use, as this would still imply the use of animal tissues and sera, but too often also the substitution with animals that are perceived less sentient than others. The concept of “replacement” in scientific research varies in its application and interpretation. Absolute replacement, as defined by Russell and Burch, involves completely eliminating the use of animals at all stages of research, considered ideal though rarely achieved. Relative replacement, on the other hand, allows for limited animal use in ways that minimize distress or involve fewer sentient species.²⁹² Examples of relative replacement include experiments on anesthetized animals or the use of isolated cells and tissues from vertebrates. While the European Union Reference Laboratory for Alternatives to Animal Testing aligns “alternatives” with the principles of the 3Rs—replacement, reduction, and refinement—it does not always equate “alternative” with the absence of animal use. While the EU directive applies to a broad range of vertebrates, cephalopods, and certain developmental forms, the AWA excludes several species commonly used in laboratories, including rats, mice, birds, and cold-blooded animals. Consequently, fewer than 10% of laboratory animals in the U.S. are covered by the AWA’s provisions,²⁹³ as previously mentioned.

Many so-called alternative methods, such as the Bovine Corneal Opacity and Permeability test (BCOP, for eyes irritation) or the Rat skin transcutaneous electrical resistance test (TER for skin corrosion), still rely on animal-derived materials. Despite these limitations, efforts to promote absolute replacement continue. Initiatives like the annual Lush Prize support research that avoids all use of non-human animals, including invertebrates and animal-derived materials. This prize emphasizes non-animal methodologies and has strict eligibility criteria to ensure funds are used

²⁹¹ European Parliament, *Directive 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes*, *Official Journal of the European Union*, L 276, 2010, p. 33, Recital 10

²⁹² Craig Redmond, *When Is an Alternative Not an Alternative? Supporting Progress for Absolute Replacement of Animals in Science*. *Animal Experimentation* (chapter 27), *Working Towards a Paradigm Change*. Brill publisher, 2019, p 654-655.

²⁹³ Craig Redmond, *note 292*, p 658-659.

exclusively for non-animal research. Differently from the 3R principle, the Lush Prize has stringent eligibility requirements because it is a 1R award, emphasizing complete replacement: non-animal research in this regard implies no use of animals (including all vertebrates and invertebrates) or animal cells and other parts; in order to prevent it from being used to finance any kind of experiments involving animals, the award money must be ring-fenced for non-animal purposes; lastly preference will be granted to study groups who only conduct non-animal research when universities are offered the prize.²⁹⁴

More recent developments have also highlighted, in addition to moral questioning, the scientific limitations of animal experiments. These experiments are resource-intensive, requiring significant financial and temporal investment. Moreover, the predictivity of animal models for human biology has been questioned on a growing basis because findings are not reproducible and frequently differ between species.²⁹⁵ This limitation contributes to the high failure rate of new substances in the pharmaceutical industry, where misleading results from animal models impede progress. In addition to that, the cost of evaluating a single drug in its entirety comes to several million dollars. Not only is there a lack in the laboratory capacity to screen several thousand of chemicals using the standard methodologies, but it is also not possible to pay to do so. It is significant to add that in order to perform a thorough toxicity profile, it is also required roughly 20 kg of a chemical; for expensive and novel substances, this quantity is frequently difficult to synthesize.²⁹⁶

Key alternatives to animal testing include in vitro and in silico methods. In vitro approaches, such as advanced cell culture techniques and stem-cell technologies, focus on human biology, making them more relevant, cost-effective, and faster than animal-based methods. For instance, high-quality human cells are now more widely accessible thanks to stem-cell technology, and bioengineering makes it possible to replicate organ structure and activity in cultured cells.²⁹⁷ In silico methods, which rely on computer modelling and data-gap filling through read-across techniques, are increasingly integrated with in vitro approaches to form comprehensive testing strategies. These advancements are supported by validation processes developed by organizations like the European Centre for the Validation of Alternative Methods (ECVAM) and the Organisation for Economic Co-operation and Development (OECD), ensuring the reliability of non-animal methods. The validation procedure was created for regulatory evaluations, which is typically not required for other fields of the life sciences and mostly originates from

²⁹⁴ Craig Redmond, *note 292*, p 664-665.

²⁹⁵ Thomas Hartung, *Research and Testing Without Animals: Where Are We Now and Where Are We Heading?* Animal Experimentation (chapter 28), Working Towards a Paradigm Change. Brill publisher, 2019, p 674.

²⁹⁶ Thomas Hartung, *note 295*, p 675.

²⁹⁷ Thomas Hartung, *note 295*, p 677.

The adoption of simulation-based biomedical training represents a significant shift in modern medical education, driven by technological advancements that accurately replicate human anatomy and physiology. These simulations offer a host of benefits, including reduced financial burdens associated with animal laboratories, increased public awareness of ethical issues surrounding animal testing and unique pedagogical advantages that enhance both training and assessment: simulation-based methods have been shown to improve student learning outcomes, enhance the transference of skills to clinical practice, and eliminate the ethical and practical challenges posed by traditional animal experimentation.²⁹⁹

Over the past decade, numerous reforms have modernized biomedical education globally. For example, the United States military has progressively transitioned away from live tissue training (LTT) in favour of simulation-based alternatives. In 2013, the U.S. Army mandated the exclusive use of human simulation training methods for non-medical workforce and certain medical staff. Similarly, by 2014, the U.S. Coast Guard had reduced the use of animals for LTT by over 50%. That same year, the Department of Defence urged every branch of the army to stop employing animals in medical instruction in a number of areas, such as paediatric intubation training, obstetrics and gynaecology residency programs, and other areas. International trends mirror these shifts: a 2012 survey revealed that 22 out of 28 NATO member nations exclusively employ human simulation models for military medical training programs.³⁰⁰

These models have proven to be pedagogically superior or at least equivalent to traditional methods, leading to widespread curricular reforms. Many simulation tools, such as whole-body mannequins and task trainers, are equipped with advanced features that mimic bleeding, breathing, and realistic surgical scenarios. These simulators can respond dynamically to medications by altering parameters such as heart rate, blood pressure, and respiratory rate, making them invaluable in teaching physiology and other core medical concepts.³⁰¹

These methods can also be used to teach surgical techniques. For instance, students can use endoscopic tools in a simulated reality setting which replicates the body, bleeding arteries, and all the actions needed to complete the operation. Moreover, the advantages of simulation-based training extend beyond ethical considerations. Studies confirm that these methods improve

²⁹⁸ Thomas Hartung, *note 295*, p 678-679.

²⁹⁹ John Pawlowski, David Feinstein, Marie L. Crandall and Shalin Gala, *Modernizing Biomedical Training: Replacing Live Animal Laboratories with Human Simulation*. Animal Experimentation (chapter 22), Working Towards a Paradigm Change. Brill publisher, 2019, p 551.

³⁰⁰ John Pawlowski, David Feinstein, Marie L. Crandall and Shalin Gala, *note 299*, p 552-553.

³⁰¹ John Pawlowski, David Feinstein, Marie L. Crandall and Shalin Gala, *note 299*, p 557.

procedural skill acquisition and clinical preparation.³⁰² For instance, randomized trials comparing simulation training to live animal models have consistently demonstrated superior outcomes among trainees using human simulators. These benefits stem largely from the anatomical realism and interactive capabilities of the simulators. Moreover, simulations allow students to practice invasive procedures in a controlled environment, significantly reducing the risk of injury or disease transmission. For example, simulators eliminate the dangers of self-inflicted needle injuries, which can occur when practicing on infected patients. Simulation technologies also provide immersive environments that closely resemble real-world clinical settings, complete with surgical equipment, anaesthesia machines, and operating room protocols.³⁰³

Alternatives, also known as replacements or non-animal methods, are practices that do not utilize live animals. Since the 1960s, a part of the scientific world has tried to change the perspective of testing and research, switching to other methods, rather than animal testing, thanks to technologies that are more advanced and more relevant for the extrapolation of data useful to humans.³⁰⁴ These alternatives can be different and are still developing today, trying to get the same level of importance that animal testing have in the scientific community, for example, *in vitro* alternatives, that involves the use of cells, *ex vivo* tests that use tissues of dead animals (but also dead humans), chemical tests, *in silico* tests that are based on computer modelling. One of the areas that has seen the biggest development and innovation in this perspective is that of toxicology, an area that recognizes alternative methods more than others.³⁰⁵

Many of the alternatives to animals' testing have gained, or are gaining, approval from the Organisation for Economic Co-operation and Development, especially for the kind of testing that replaces experimentation on external parts of the animal body. A few examples could give a clearer understanding: the testing of *skin absorption* that usually involves a substance applied on the shaved back of the animal (normally a rat), that is then killed after one day, can be interchanged with an *ex-vivo* test, that is today approved standalone substitute; the skin irritation test, that has a similar proceeding of the previous one, but is normally acted on rabbits, can be replaced utilizing human t are recreated *in vitro* to assess the degree of cellular death caused by the agent in question, and it is an *in vitro* recognized test.³⁰⁶

The problems with the recognition of such methods are many. First of all, the difficulty and the length of the process for an alternative to be able to replace the animal experiment, process that

³⁰² John Pawlowski, David Feinstein, Marie L. Crandall and Shalin Gala, *note 299*, p 558.

³⁰³ John Pawlowski, David Feinstein, Marie L. Crandall and Shalin Gala, *note 299*, p 559.

³⁰⁴ Katy Taylor, *Recent Developments in Alternatives to Animal Testing*. Animal Experimentation (chapter 24), Working Towards a Paradigm Change. Brill publisher, 2019, p 585.

³⁰⁵ Katy Taylor, *note 304*, p 586.

³⁰⁶ Katy Taylor, *note 304*, p 587.

is also repeated for each sector, since the substances are different in each field and there is the fear of the test not working for a particular agent, added to the lack of trust in the studies conducted for other sectors.³⁰⁷ The steps are: the development stage, in which the idea is created and tested a first time; the validation phase where the idea's accuracy is independently evaluated, following globally accepted guidelines for how the technique should be verified, first of all the results must match expectations and must yields identical outcomes when examined in the same lab and in different ones; the formal test method phase happen when the alternative has gather a good number of evidence sustaining its validity, and it consist in writing the how it should be used, a step that requires time as it is not immediate to understand is the practice is suitable for the regional legislation or not; regulatory acceptance that happens if and when an agency assess independently the possibility to use the method for their sector, and since it is not mandatory for them to investigate in this sense, the often take time and need political pressure; lastly, the deletion of animal test that normally only happen after a lot of pressure from animals rights organisations.³⁰⁸ The recognition is even slower if we consider that different countries have different parameters for classifying the results of toxicity tests, and even if the majority of them uses the United Nations Globally Harmonized System of Classification and Labelling of Chemicals, this is still not used by all the countries. For this exact reason of not existing global uniformity of labelling standards, some tests are still performed in Europe for non-EU agencies despite the fact that other methods are now recognised on the continent, such as for example the rabbit skin irritation test. Another important factor that slows down the switch to animal use alternatives is bureaucracy, especially due to the lack of interest from regulators and the lack of incentives and rewards for testing innovative techniques. In this sense, the procedure still depends on the independent work of a small number of professionals from a small number of nations. On the other hand, industry does not receive some compensation for proposing other options of testing, and consequently they have to bear the risk of wasting research funds in case the proposal is then rejected. Of course this is only one of the risks, as regulators also have the uncertainty of the results on humans, that could potentially fail and cause damage, and the decision of trying new paths can be left behind of all the bureaucratic process, avoiding in this way the burden of making the decision and taking the responsibility.³⁰⁹

To have a brief look into recent developments, advanced technologies such as organ-on-chip models, three-dimensional (3D) cell cultures, and dynamic perfusion systems are revolutionizing the landscape of biomedical research, providing significant opportunities to reduce and replace the use of animals in scientific experiments. These innovative approaches represent a paradigm

³⁰⁷ Katy Taylor, *note 304*, p 590.

³⁰⁸ Katy Taylor, *note 304*, p 591-592.

³⁰⁹ Katy Taylor, *note 304*, p 597.

shift in preclinical testing and drug development by closely mimicking human physiological and mechanical functions, thereby enhancing the accuracy and relevance of experimental results.

The most recent advancement in in vitro cell culture technique is referred to as "organ on a chip." The word "chip," that is derived from the semiconductor sector, is a contraction coming from "microchip," which refers to a tiny silicon crystal that is usually the size of a fingertip and comprises millions of transistor circuits.³¹⁰ But what is this technology? Organ-on-chip systems are micro engineered devices designed to replicate the structural and functional characteristics of human organs. These chips integrate human cells within a controlled microenvironment, allowing researchers to study organ-specific responses to drugs and chemicals with unprecedented precision. Unlike traditional animal models, which often fail to accurately predict human outcomes due to interspecies variability, organ-on-chip systems offer a more reliable and ethically sound alternative. For example, organ-on-chip models have been successfully used to study liver toxicity, cardiovascular diseases, and pulmonary responses, demonstrating their potential to transform toxicological assessments.³¹¹

Another area of good possibilities, as an alternative to animal experimentation, is that of Three-Dimensional Cell Cultures: 3D cell culture techniques provide a more realistic representation of human tissue architecture compared to conventional two-dimensional methods. These systems allow cells to interact in all dimensions, promoting natural cell-to-cell communication and tissue-specific functionality. In particular, 3D cultures can replicate the microenvironment of tumours, liver, and other tissues, making them invaluable tools for cancer research and drug screening. Additionally, they allow for faster testing of many compounds while providing more accurate predictions of their effects on humans. By bridging the gap between in vitro and in vivo systems, 3D cultures address key limitations of traditional animal testing, such as variability in results and low reproducibility.³¹²

The adoption of these advanced technologies offers several advantages over traditional animal-based methods. First, they provide greater predictive accuracy for human biology, reducing the likelihood of costly and time-consuming failures during clinical trials. Animal models often fail to replicate human responses due to species-specific differences, which can lead to misleading results. Second, these methods are more resource-efficient, requiring less time, lower costs, and fewer ethical concerns. By enabling high-throughput screening and detailed mechanistic studies, they facilitate the rapid evaluation of new drugs and chemicals.³¹³

³¹⁰ Malcolm Wilkinson, *The Potential of Organ on Chip Technology for Replacing Animal Testing*. Animal Experimentation (chapter 26), Working Towards a Paradigm Change. Brill publisher, 2019, p 639.

³¹¹ Malcolm Wilkinson, *note 310*, p 640-651.

³¹² Malcolm Wilkinson, *note 310*, p 640.

³¹³ Malcolm Wilkinson, *note 310*, p 650-651.

Despite their promise, these technologies face significant challenges that must be addressed to achieve widespread adoption. One major obstacle is the lack of standardization across laboratories, which hampers reproducibility and regulatory acceptance: in order to gain regulatory approval, they must prove to be reliable and consistently reproducible. However, many organ-on-a-chip systems are still far from meeting this requirement. Their setup and operation are so intricate that they are currently limited to the developers' own laboratories, where they are primarily provided as a specialized service. Additionally, the initial cost of developing and implementing these systems remains a barrier for many institutions. Regulatory bodies have yet to fully embrace advanced in vitro methods as replacements for animal testing, further slowing their integration into mainstream research. Overcoming these challenges will require coordinated efforts to establish standardized protocols, demonstrate robust validation, and educate stakeholders about the benefits of these technologies.³¹⁴

This is not the only limit, still present today to animal alternatives in sciences. Globally, there is a significant disparity in policies governing the use of animals in biomedical education, both across countries and within laboratories. For instance, while surgical training on live animals is prohibited in the United Kingdom, other nations continue to permit this practice. Similarly, although the US Army has prohibited the use of animals in trauma training for staff without medical expertise, other branches of the US military continue this practice. Within NATO, 22 nations—including 19 EU Member States—have reported that they do not utilize animals for military medical training. However, six NATO countries still employ animals for live tissue training, even though some of them are bound by Directive 2010/63/EU to adopt non-animal methods whenever feasible. Additionally, while medical schools in the US, Canada, and India have fully transitioned away from using animals for physiology and pharmacology courses, many institutions worldwide continue to incorporate animals into their curricula for these and other subjects.³¹⁵

In conclusion, despite progress, a significant barrier to adopting non-animal models remains the entrenched reliance on animal-based procedures within the scientific community. Many researchers prioritize traditional methods due to career incentives tied to publishing high-impact studies, often involving animal experiments. Addressing this cultural and systemic reliance is crucial for advancing the adoption of innovative and ethically sound research methodologies.³¹⁶

³¹⁴ Malcolm Wilkinson, *note 310*, p 647.

³¹⁵ John Pawlowski, David Feinstein, Marie L. Crandall and Shalin Gala, *Modernizing Biomedical Training: Replacing Live Animal Laboratories with Human Simulation*. Animal Experimentation (chapter 22), Working Towards a Paradigm Change. Brill publisher, 2019, p 560-561.

³¹⁶ Thomas Hartung, *note 295*, p 680.

2.7 Conclusions

The discourse surrounding animal experimentation is deeply embedded in the ethical, scientific, and sociopolitical debates about the treatment of sentient beings and the responsibilities of scientific inquiry. As explored in this chapter, the history of animal research reveals a persistent tension between the drive for scientific progress and the ethical considerations that arise when living beings are instrumentalized for human benefit. While proponents argue that animal experimentation has led to crucial medical advancements, critics emphasize the limitations of such studies, highlighting the suffering inflicted on animals and the increasing availability of alternative methods.

The examination of past and present scientific practices demonstrates that the justification for animal experimentation often relies on a utilitarian framework that prioritizes human benefit over animal suffering. The justification of animal use in science is again a consequence of anthropocentric perception of the relationship between animals and humans. Those who support animal use in research do base their ideas on speciesism, as well as the concept that this is the best method to pursue science, and an ethical obligation scientists grew to have to respect the best standards possible.³¹⁷

What has been particularly relevant is that once again in history, too often the reasons behind the opposition to animals' abuse was not that of protecting animals, on the contrary, the main driving purpose of the position was more connected with the fear of a bad conditioning for experiments and society. The high number of different people which opposed animals' experimentation did that because they were afraid this could contribute to a more violent humanity, and a corrupt morality, each of them with their own motives: the underprivileged class was scared to become subject of the experiments itself, the wealthy elites were preoccupied that such violent example could lead to an ethical anarchy.³¹⁸ In any case, very few were actually concerned about animals' interests.

The parallels drawn between the treatment of animals in laboratories and historical human rights violations (concerning once again groups of people that are at the bottom of the power relation according to society's hierarchy, and in this specific case women) underscore the need for a more inclusive ethical perspective—one that acknowledges the intrinsic value of all sentient beings. The chapter highlights that just as past medical injustices have been condemned and rectified, the continued exploitation of animals in research must be critically reassessed. Moving forward, a commitment to alternative testing methods, stricter ethical oversight, and a broader cultural shift towards non-speciesist ethics will be crucial in fostering a scientific community that values

³¹⁷ Arianna Ferrari, *note 109*, p 198.

³¹⁸ A.W.H. Bates, *note 111*.

both progress and compassion. As it is really hard in today's society to put an end to animal use in experimentation and research, Singer underline that the only way to arrive to such point will be when a series of partial reforms would diminish the importance and the prestige of the scientific approach testing on animals, would bring more importance to alternatives, and most importantly would change the general idea society has about animals and their role compared to humans. The goal is now to work on those partial goals, according to him, making information on what really happens in lab more accessible to everyone, encouraging people to avoid products that are tested on animals and making in this way a more ethical choice on their money spending, and most importantly it is necessary to make the issue a political one, bring animals interests in the political discourse.³¹⁹

In other words, from today's perspective it is important to have a more political and societal perspective, focusing on the recognition of fundamental rights for animals, rejecting the speciesism behind the belief that animals use is legitimized only by their belonging to another species. In recognizing this, it is important to abandon certain methods to pursue knowledge and focus on a new system based on new techniques that do not harm animals in the process.³²⁰

In conclusion, while the 3Rs offer a foundation for regulating animal research, their limitations necessitate a paradigm shift. By prioritizing replacement, adopting non-speciesist frameworks, and recognizing animals as rights holders, society can move closer to ending animal experimentation and fostering a more ethical approach to scientific advancement.³²¹

³¹⁹ Peter Singer, *note 7*, p 119.

³²⁰ Arianna Ferrari, *note 109*, p 204.

³²¹ Charlotte E. Blattner, *note 244*, p180-183.

Chapter 3. The masculinity of meat and intensive farming

3.1 Introduction

If food is necessary for living, it has become way more than just a mean to survival, at least in the vast majority of the world and cultures. But as interesting as it is, the focus of this chapter is the predominant role meat has in our diet today, but not only this. Meat has been in history (and still is) a powerful symbol that defined us as being different from all the other creatures. As Francesca Grazioli explain in her book on the capitalism behind the meat industry, meat has had strong power in society, once a luxury for the few, it has become in the post-war period the symbol of the enrichment of the population, that thanks to the a better condition of living and the drop of cost the of meat managed to reach something that for a long time was for fewer people.³²² The consumption of meat has in fact, and still is, increased. That is both because the global population has increased from 3 billion people in the '60s to around 8 billion today, and due to the increase in the economic possibilities of people and the new methods of farming that enables prices to be more accessible. If in 1961 the meat consumption per capita was approximately of 20 kilograms, today it is double. As consequence, in the last fifty years, the production of beef is duplicated, that of pig meat has increased fivefold, and chicken production has increased up to 10 times.³²³

The meat industry represents one of the most debated and impactful sectors from ethical, environmental, and health standpoints. Every year, billions of animals are bred and slaughtered for human consumption, often enduring severe suffering. The majority of production relies on intensive farming, known as “factory farming,” which dominates the supply of meat, eggs, and dairy products. Most animals raised for food spend their lives in overcrowded environments that deprive them of any opportunity to express natural behaviours. According to data from the Sentience Institute, 99% of farmed animals in the United States originate from industrialized systems.³²⁴

Within factory farms, animals are confined in windowless sheds, metal cages, and crowded pens that prevent them from engaging in any instinctive activity. Most never experience natural sunlight or breathe fresh air until the day they are loaded onto trucks headed for slaughter. In addition to extreme confinement, many animals endure painful mutilations, such as beak trimming in chickens, dehorning in cattle, and castration in pigs, often without any form of anaesthesia.

The figures linked to the meat industry are staggering. In the United States alone, more than 29

³²² Francesca Grazioli, *Capitalismo Carnivoro*. Il saggiatore, Milano, 2022, p 17.

³²³ Francesca Grazioli, *nota 322*, p 31-32.

³²⁴ PETA, “Animals Used for Food,” n.d., available at: <https://www.peta.org/issues/animals-used-for-food/>.

million cattle are raised and slaughtered annually for meat or exploited in the dairy sector. Approximately 9 billion chickens are killed each year, while 305 million laying hens are confined for egg production. The pork industry kills millions of pigs every year, with more than 1 million pigs dying in transit to the slaughterhouse and at least 40,000 arriving severely injured. The turkey industry accounts for the killing of 245 million turkeys annually, including 46 million for Thanksgiving alone and 22 million for Christmas. Furthermore, 31 million ducks are killed each year for their meat and for foie gras production, which involves particularly cruel force-feeding practices.

Beyond mammals and birds, the commercial fishing industry plays a massive role in animal exploitation. Fish represent the most slaughtered species for human consumption, with tens of billions of fish and shellfish killed annually. The situation is worsened by the incidental capture (bycatch) of millions of sharks, sea turtles, birds, seals, and whales, which become trapped in fishing nets.

Contrary to advertising claims, the conditions of animals in so-called “organic” or “free-range” systems are not necessarily better. Even in these systems, animals often suffer the same mutilations and are transported to conventional slaughterhouses, where they face violent and painful deaths. Many remain conscious when their throats are cut or when they are immersed in scalding water to remove feathers or hair.

These issues have led numerous organizations, including PETA, to promote ethical and sustainable alternatives, highlighting the advantages of a plant-based diet. Scientific research confirms that a vegan diet can meet all essential nutritional needs without relying on animal products. Moreover, shifting towards plant-based diets could drastically reduce the use of natural resources and mitigate the environmental impact of food production.³²⁵

In addition to inflicting suffering on animals, the meat industry has devastating environmental impacts. Approximately 66% of agricultural land in the United States is dedicated to raising animals for food or cultivating crops to feed them, leading to enormous resource waste. A single pig consumes about 21 gallons of drinking water per day, while a dairy cow drinks up to 50 gallons daily. Intensive farms generate billions of tons of manure each year, contaminating rivers, lakes, and even drinking water sources.

Thus, the meat industry stands at the centre of contemporary ethical and environmental debates. The immense scale of animal exploitation and its repercussions on the planet demand a profound reassessment of current practices and a serious consideration of alternative models, paving the way for a future that respects both living beings and environmental sustainability.

As this chapter will explain, meat is not only food. It plays an important role in the economic

³²⁵ PETA, “Animals Used for Food,” n.d., available at: <https://www.peta.org/issues/animals-used-for-food/>.

system, as well as in the political and societal (with many influences also on gender roles) ones, all driven by the capitalist model.

3.1 The brutality in intensive farms: justified by the mythology of meat.

Every day only in the US twenty-two million of chicken are eaten, eight billion in a year, a number that is equal to the entire human population. The trend is not limited to the western countries: estimates indicate that in the next ten years the consumption of, for instance, pig meat will grow 30%, and especially in the Asian market. One of the strengths of meat in our society is that it is disconnected from the animal: pigs are not living being anymore, their identity becomes related only to what can be eaten, becoming in this way prosciutto, bacon, fat and so on.³²⁶

But behind all the economic aspects, and the desire to have something that has been exclusive for the elites for many years, there is a far more difficult reality, one that is not (deliberately) accessible to everyone. Intensive farming is the vast majority of meat production today, Concentrated Animal Feeding Operation (CAFO), acronym behind which intensive farming hides the real treatment of animals and everything that implies. In this context animals are not really bred, rather than fed, living in small spaces together with too many other members of their specie, in order to produce the majority of meat with the least costs as quickly as possible. Here animals are no longer treated like beings, but as objects, or even more precisely, as commodity, since the only goal of the industry is the profit.³²⁷

Since the end of World War II, meat has come to represent both prosperity and the possibility of generating profit. Understandably, after a period of such crisis, few cared whether that meat was worsening the conditions for animals and society. Tyson Foods, Cargill, and JBS are the three major meat companies that collectively control 80% of the world's cattle today. Not only is breeding concentrated in the hands of a few powerful corporations but so is slaughtering. For instance, JBS alone slaughters 75,000 cattle, 115,000 pigs, and 14 million chickens every day.³²⁸ It is easy to see just how intensive and technologically advanced the meat industry has become simply by looking at the enormous quantity of products that fill our supermarket shelves every day. The keys to its success lie primarily in two strategies:

- First, horizontal mergers—that is, market concentration—have allowed the strongest players to absorb smaller operations, acquiring their sheds, animals, and customer bases. With such scale, these companies are now able to withstand even periods of economic crisis.³²⁹
- Second, vertical integration aims to incorporate all the activities upstream and downstream of the production chain, thereby increasing control over the entire value chain.

In 2021, the “big three” reported annual turnovers of: JBS, 50 billion dollars; Tyson Foods, 43

³²⁶ Francesca Grazioli, *nota 322*, p 28.

³²⁷ Francesca Grazioli, *nota 322*, p 33.

³²⁸ Francesca Grazioli, *nota 322*, p. 45.

³²⁹ Francesca Grazioli, *nota 322*, p. 46-47.

billion dollars; and Cargill, a staggering 165 billion dollars.³³⁰ To put this in perspective, Burkina Faso's GDP is only 20 billion dollars—a truly staggering comparison. To make an example of how meat is today all about economy and money: a piglet is born as a debt because it is purchased after careful DNA selection that guarantees the best result for the market (fattening). Then, the feeding, the drugs, and the hormones increase the expenses, as does the transportation to the slaughterhouse where it will be sold, ultimately becoming profit. All the steps needed to transform a living being into a product add value to the final product, the proceeds of which will not go into the pockets of the animal's original owner.³³¹

Moreover, reducing competition is not only an economic advantage, also guarantees political power. If I am the only one (or one of the few) offering a service, nothing prevents me from raising prices at will since demand will find an offer only from me. And since this is a food sector, even in times of crisis people cannot completely give up food, and the multinationals exploit this, knowing that even by raising prices, consumers cannot find a more affordable competitor.³³² the beginning of the power of this industry is explainable looking at data: the meat industry grew from 65 billion in 1961 to 366 billion in 2014 and reached 838 billion in 2020.³ This growth is due to industrialization, the mechanization of slaughtering, the opening of markets—factors that have lowered the prices of any animal product, making them more easily accessible and sometimes even the cheapest option. For example, from 1980 to 2008, the price of ground beef for hamburgers decreased by 53%, while at the same time, the price of fruits and vegetables increased by 45%.³³³ Another form of support for the meat industry comes directly from state subsidies, both through direct financial aid or the possibility of offering products directly within state facilities (such as schools or prisons), and through nutrition guidelines that promote diets based on animal products (even though they are directly funded by the industries themselves).³³⁴

This trend represents favorable news for the meat industry: global meat consumption is projected to rise by an additional 13 percent by 2028. Currently, the average per capita consumption in Germany stands at 60 kilograms annually, while in the United States and Australia it exceeds 100 kilograms. Notably, the most significant growth in meat consumption is expected in developing countries. According to projections from the OECD—a consortium of predominantly affluent nations—demand in developing countries will increase four times faster than in developed countries by 2028. Although developing countries are starting from a much lower baseline than their developed counterparts, they are characterized by rapidly expanding

³³⁰ Francesca Grazioli, *nota* 322, p. 48.

³³¹ Francesca Grazioli, *nota* 322, p. 49.

³³² Francesca Grazioli, *nota* 322, p. 53-54.

³³³ Francesca Grazioli, *nota* 322, p. 56.

³³⁴ Francesca Grazioli, *nota* 322, p. 57.

populations. Despite this growth, the absolute increase in per capita consumption in these countries is expected to remain modest. This trend is particularly evident in Africa, where total demand is projected to rise swiftly, but per capita consumption is forecast to grow only slightly over the next decade—from 17 to 17.5 kilograms per year. Within individual countries, demand for meat also varies considerably according to socioeconomic factors. In industrialized regions, higher levels of education and income tend to correlate with lower per capita meat consumption. Furthermore, women and younger individuals generally consume less meat than older men. For example, in Germany, men on average consume roughly twice as much meat per day as women. In the United States—a country with a meat-heavy diet—men continue to lead consumption by approximately 50 percent.³³⁵

The substantial gains in productivity achieved over the past decades are largely attributable to technological innovations. The traditional practice of raising animals on pasture has declined, with an increasing proportion of meat production now sourced from animals kept indoors or in feedlots—enclosed outdoor spaces designed to hold large numbers of animals. In many countries, intensive and industrial management systems have replaced extensive production methods. Advances in animal genetics, management practices, and the use of antibiotics have enabled individual farms to raise significantly more animals and increase the yield of meat per animal.³³⁶

Forecasts suggest that global meat production will increase by an additional 40 million tons annually by 2029—just one year prior to the target year for achieving the Sustainable Development Goals. This would bring the total global meat output to approximately 366 million tons per year, barring any major policy interventions. Although around 80 percent of this growth is projected to occur in the Global South, the largest producers are expected to remain China, Brazil, the United States, and the European Union. By 2029, these regions might still account for 60 percent of worldwide meat production. It is worth noting that India—a country historically characterized by low meat production and consumption—has significantly expanded its poultry sector, now ranking among the world’s top ten poultry producers.³³⁷

According to FAO projections, population growth is identified as the principal driver of rising meat consumption worldwide. The anticipated global population increase of 11% is expected to sustain a projected 14% rise in overall meat consumption by 2030 compared to the base period of this Outlook. This demographic factor is particularly significant in Africa, where meat consumption is forecast to grow by 30%, and in the Asia and Pacific region, where an 18% increase is expected. In Latin America, meat consumption is projected to rise by 12%. In

³³⁵ Meat Atlas 2021, *Facts and figures about the animals we eat*, Heinrich-Böll-Stiftung & Friends of the Earth Europe, 2021, p. 12-13.

³³⁶ Meat Atlas 2021, *note 335*, p. 18.

³³⁷ Meat Atlas 2021, *note 335*, p. 19.

contrast, Europe is projected to experience only a modest 0.4% increase in meat consumption, while North America is expected to see a 9% rise.³³⁸

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As a consequence of such expansion another big factor to take into consideration when discussing the meat industry is its consequences on the environment. The industrial livestock sector continues to exert a profound influence on environmental degradation and societal dynamics, with its impacts becoming increasingly evident in recent years. One of the most pressing issues associated with this sector is land degradation, driven by the vast areas of cropland dedicated to growing animal feed. Globally, 40% of cropland is used for this purpose, with regions like the Amazon experiencing alarming rates of deforestation. Between 2015 and 2020, over 10 million hectares of forest were lost annually due to the expansion of livestock production into ecosystems designed to grow feed crops. These land-use changes have not only diminished biodiversity but also disrupted ecosystem services, such as carbon sequestration and soil fertility, which are essential for climate stability and agricultural sustainability.³³⁹ The consolidation of power among a few large corporations further exacerbates these issues. Companies like JBS and Cargill, that we mentioned before, dominate global meat production, influencing trade policies and environmental standards while often operating in regions with weak regulatory frameworks. This corporate concentration has facilitated practices such as illegal deforestation and the unregulated use of agrochemicals, particularly in countries like Brazil. Additionally, these corporations play a significant role in shaping international trade agreements, prioritizing export growth over sustainable practices. This dynamic undermines efforts to establish environmentally and socially equitable systems, as corporations exploit legal and economic loopholes to maximize profits.³⁴⁰

Beyond environmental concerns, the industrial livestock sector imposes significant social costs. Labor conditions in slaughterhouses and feed crop plantations have come under scrutiny, with reports highlighting unsafe working environments and inadequate labor protections. Many workers, particularly those in meatpacking plants, are migrants who face exploitative practices, wage disparities, and limited access to basic rights. These issues reveal the intersection of environmental exploitation and social injustice, as the industry thrives on the marginalization of vulnerable communities.³⁴¹

Another challenge lies in the sector's approach to addressing its environmental impact. In recent years, livestock corporations have adopted "climate-friendly" branding, often claiming to offset emissions through initiatives such as carbon credits or regenerative agriculture programs.

³³⁸ FAO and OECD, *OECD-FAO Agricultural Outlook 2021-2030*, Rome: FAO, 2021.

³³⁹ Meat Atlas 2021, note 335, p 36.

³⁴⁰ Meat Atlas 2021, note 335, p 38.

³⁴¹ Meat Atlas 2021, note 335, p 40.

However, investigations have shown that these claims frequently lack transparency and measurable outcomes, serving more as tools for greenwashing than genuine environmental improvement. Critics argue that stricter oversight and third-party verification of these claims are necessary to ensure accountability and foster meaningful progress.³⁴²

Finally, the lack of stringent policies addressing emissions from the livestock sector remains a critical gap. Despite international agreements like the Paris Accord, there is limited enforcement of policies that integrate livestock emissions into national carbon budgets. Experts advocate for incentivizing alternative protein sources and enhancing corporate accountability through mandatory reporting and standardized emission reduction targets. Transparency in corporate reporting is essential to track progress and establish fair comparisons within the sector. Without these measures, the environmental and social costs of the livestock industry will continue to escalate, undermining global sustainability efforts.³⁴³ These insights underscore the multifaceted challenges posed by the livestock sector on the environment and emphasize the urgent need for comprehensive strategies that address environmental degradation, corporate accountability, and social equity.

The biggest focus of this chapter is on animals as victims of this industry: not secondary to the economic, political and environmental aspects, animals pay the higher price in the meat industry. No animal even reaches adulthood in the food industry: pigs are slaughtered at 6 months, when in nature they would live up to 15 years; chickens, who would live for 10 years, are sent to the slaughterhouse between 7 and 16 weeks of life. And during this brief time, the breeders' task is to make them grow as much as possible, because this corresponds to the greatest profit.³⁴⁴ The need to produce the greatest possible quantity, and therefore the highest possible profit, places the animals in extremely harsh conditions. Moreover, the meat supply chain is highly fragmented: animals born in one country are transported (with few if any limits) to be raised in another country, slaughtered in yet another, and so on. In this way, the policies governing this work are interwoven among various countries, and it is easy to circumvent different regulations simply by outsourcing part of the process to a system with less stringent rules.³⁴⁵

Beyond the individual relationship between the farmer and his animals, there also exists a collective dimension—one that encompasses the relationship between society and the species it farms. This perspective reveals at least three levels at which care (understood as the activity aimed at preserving the existence of another being) can be exercised. The first is that of the farmer toward his animals: he provides care, ensuring their sustenance and, at least ideally,

³⁴² Meat Atlas 2021, *note* 335, p 42.

³⁴³ Meat Atlas 2021, *note* 335, p 46.

³⁴⁴ Francesca Grazioli, *nota* 322, p. 60-61.

³⁴⁵ Francesca Grazioli, *nota* 322, p 66.

adequate living conditions. The second is that of the farmed animals toward the society that raises them, as they provide nourishment. The third is that of individual animals toward their respective farmers, to whom they guarantee an income. These relationships can sometimes include an emotional dimension in individual interactions between farmer and animal, where personal bonds may develop. However, this reading presupposes a network of actors placed, at least in theory, on an equal footing, each free to participate in or withdraw from the cycle of giving. In the case of farmed animals, the fictitious nature of this framework could not be more evident. Their very birth is planned in order to satisfy pre-existing human needs: not only is it practically impossible for them to escape the forced provision of their “gifts,” given the state of appropriation to which they are subjected (through containment systems and their legal status as property of the farmer), but their very ontological identity is tied to their economic utility. This state of affairs renders the lives of these animals subject to the whims of human needs and establishes a profound imbalance of power in favor of the latter.³⁴⁶

A factor that contributes to the unnatural growth of animals in factory farms is the massive use of antibiotics: two-thirds of the total antibiotics in the world are used in the meat industry. Drugs in farms are administered in large quantities to healthy animals as a preventive measure, but not only that: antibiotics, together with hormones, also contribute to muscle mass growth because the animal’s body does not have to waste energy defending itself. The consequence is the development of bacteria resistant to any type of antibiotic.³⁴⁷ What does this mean for the animals? For example, in chickens, the increase in muscle mass causes severe breathing difficulties and therefore higher mortality rates, which in turn lead to more diseases (since the dead animals are left there for days), thus requiring the use of even more drugs.³⁴⁸

The violence surrounding this industry is hidden from society: the death and suffering endured by animals in slaughterhouses, as well as the destruction of entire natural environments to make room for livestock and crops, the displacement of indigenous communities, and the diseases caused by waste and the unhealthy conditions in the areas surrounding farms. These places are inaccessible, closed, and invisible, deliberately separated from society. The desire to maintain this distance between us and the slaughterhouses is twofold: on one hand, consumers do not want to know the reality hidden behind what they see as “just food”; on the other hand, the industry does everything possible to keep what happens as hidden as possible, so much so that there are specific laws, known as “gag laws,” that punish the filming and sharing of images and videos depicting the lives of animals in factory farms.³⁴⁹

In other words, to guarantee the increase in current meat consumption, it is necessary to keep

³⁴⁶ Agnese Pignataro, note 58, p 97.

³⁴⁷ Francesca Grazioli, *nota* 322, p. 79.

³⁴⁸ Francesca Grazioli, *nota* 322, p. 118-119.

³⁴⁹ Francesca Grazioli, *nota* 322, p. 120.

our empathy towards animals at bay. According to Adams, both women and animals undergo a similar process of objectification, fragmentation, and consumption. As will be better explained in the next paragraphs, objectification means that both women and animals are considered at a subordinate level, thus comparable to objects that have no will or identity of their own, thereby justifying the process of dismemberment and consumption. “Once the existence of meat is separated from the existence of an animal killed to become meat, the meat is dissociated from its original referent (the animal) and becomes a floating image, often used to reflect on the status of women and animals.” — Carol J. Adams.³⁵⁰

Two contrasting attitudes coexist in human relationships with animals. On the one hand, children often express affection for animals, but this affection is typically reserved for species that are not consumed as food, such as dogs and cats. On the other hand, a deliberate division is maintained for farmed animals—a division often romanticized in children’s books and television programs. These portrayals show farm animals in idealized, unrealistic conditions: roaming freely, living alongside their offspring, and seemingly content. Such depictions give children the impression that, even though these animals will ultimately be killed to provide food for humans, they live a happy and fulfilling life until that moment.³⁵¹

The lack of awareness that sustains this dynamic is no longer due to an inability to access information; instead, it stems from a desire to remain ignorant of facts that might challenge one’s conscience. This tendency is reinforced by the fact that the beings who are exploited belong to a different category than the group to which humans feel they belong. In recent decades, a growing number of animal rights and liberation groups have worked to raise public awareness about the realities of factory farming, animal testing laboratories, circuses, zoos, and other forms of animal exploitation.³⁵²

Through this process, we also learn to perceive certain kinds of meat as “natural” and others as abnormal: some animals are considered companions in life, while others are reduced to pieces of meat. As Foucault argues, in factory farming, animals become “pieces” or “units,” objects of trade and sale with a precise commercial value, no longer sentient beings.³⁵³

As Melany Joy highlight in her book “*Why We Love Dogs, Eat Pigs, and Wear Cows: An Introduction to Carnism*”, we do not only perceive meat based on the animal species; the same meat can also elicit different reactions depending on the person. This difference arises from the perception we have of the animal. The contact we have with dogs, for example, differs from the contact we have with cows. We call dogs by their name, greet them, share our home with them,

³⁵⁰ Carol J. Adams, *Carne da macello. Il rapporto tra le donne e gli animali nella società patriarcale*, Edizioni Sonda, Torino, 2019, p. 149-150

³⁵¹ Peter Singer, *note 7*, pp. 244–245.

³⁵² Peter Singer, *note 7*, p. 248-249.

³⁵³ Carol J. Adams, *note 21*, p. 151.

consider them companions and part of the family, care for them, and even bury them after death. Meanwhile, for most people in the West, the only contact with a cow is when they eat its meat or wear its skin. In reality, cows and dogs are not so different: cows, like dogs, have feelings, preferences, and awareness; it is us who make them different based on our perception. However, this perception also changes according to culture: for a Hindu, eating cow meat is unthinkable — they would have the same reaction that Westerners have to the idea of eating dog meat. All these reactions are due to schemas, that is, psychological frames that shape our ideas and experiences, acting as a mental classification system.³⁵⁴ These schemas apply to all topics, including animals: some will be classified as companions, others as dangerous animals, and still others as food. These schemas depict the animal as alive if we consider it inedible; thus, when we think about the possibility of eating dog meat, the perceptual process shows us a living dog, probably in situations familiar to us, and this is associated with a feeling of disgust and therefore a rejection of the thought of eating it. In the case of the cow (as with all animals considered edible), the connection to the living animal does not occur at all: the piece of meat we see is simply a steak. We know it comes from a cow, but we avoid thinking about it.³⁵⁵ This process is also cyclical: our beliefs guide our actions, but our actions reinforce our beliefs. Thus, eating cow meat increases the normalization of considering this animal as edible and vice versa. These schemas, which apply to a limited number of animal species considered edible, are not innate but constructed.

According to Joy, the first process that contributes to the creation of a system that constructs our meat schema is mental numbing. This is a “psychological process through which we dissociate, mentally and emotionally, from our experience”.³⁵⁶ It is a normal process that allows us to cope with an unpredictable and violent world, a series of psychological defense mechanisms that distort reality and distance us from our perceptions, turning empathy into apathy — in other words, we learn not to feel. These mechanisms can include denial, avoidance, objectification, deindividualization, and so on.

All these mechanisms are based on invisibility: not knowing and not seeing the processes that lead to the piece of meat on our plate makes it easier for us to reject and avoid the idea that behind that meal lies a life and a series of inhumane practices inherent in farming and slaughtering.³⁵⁷ As a result, most of the population eats meat without thinking about what this really entails, through a belief system that Joy defines as “carnism.” This differs from being carnivorous or omnivorous because the latter need to eat meat to survive, whereas humans

³⁵⁴ Melanie Joy, *Perché amiamo i cani, mangiamo i maiali e indossiamo le mucche. Un'introduzione al carnismo*. Edizioni Sonda, Torino, 2015, p. 23.

³⁵⁵ Melanie Joy, *note 354*, p 24-25.

³⁵⁶ Melanie Joy, *note 354*, p 28.

³⁵⁷ Melanie Joy, *note 354*, p 29.

choose to do so.³⁵⁸

In the case of Western societies, the dominant mode of production is one that is highly standardized: the capitalist system. Today's farming operations are part of a production system characterized by the deployment of procedures that are as standardized as possible in terms of time, methods, selection of raw materials, and the reduction of human contribution to mere, undifferentiated "labor." As a result, vegetarian feminists are justified in denouncing the generalized suffering of farmed animals in Western countries, since their living conditions themselves are standardized and homogenized by the capitalist system. Any ethical or political stance that contemplates non-intensive, "traditional" forms of farming inevitably clashes with the limitations imposed by current human societies: capitalism, globalization, and the exponential growth of the world population are factors that make it unrealistic to think that such an option could be viably implemented.³⁵⁹ Yet, while the capitalist system needs to propose the idea of bodies as consumption machines—manipulating every aspect of the animal's life so that it conforms to the industry's predefined standards, animals remain living beings and, as such, do not fit these schemes. For example, pigs are particularly sensitive creatures, and when frightened, they produce cortisol, a hormone that causes their meat to turn grey and thus unsuitable for sale. In this case, the industry does not work to improve the pigs' living conditions to make them less traumatic but rather selects breeds that are increasingly less fragile and more aligned with their sales standards.³⁶⁰ In selecting sows, they have chosen specimens capable of producing increasingly larger litter, reaching a record average of 19.4 piglets per litter. Nevertheless, sows have retained their natural ability to have only 14-15 teats to nurse their young, meaning that the smaller or weaker piglets will not survive beyond a few days.³⁶¹

Part of Carnism is the ideology of violence: it is impossible to obtain meat without slaughter, thus without violence. In other words, if we removed violence from this system, ceasing to kill animals, the system itself would cease to exist. The violence that characterizes the meat industry is extensive: its level is necessary to slaughter enough animals to maintain the desired profits, a level so high that most people do not want to witness it. Precisely for this reason, such violent systems have a series of defense arguments that make them practicable without humans realizing what they are doing. As already mentioned, the first defense mechanism is invisibility — psychological and social, but also physical.³⁶²

The American agribusiness slaughters ten billion animals per year, plus ten billion fish, or

³⁵⁸ Melanie Joy, *note 354*, p. 37.

³⁵⁹ Agnese Pignataro, "Allevamento di animali domestici ed etica del care: armonia o conflitto?", in *DEP – Deportate, esuli, profughe. Rivista telematica di studi sulla memoria femminile*, Numero 23, luglio 2013, "Femminismo e questione animale", p. 95.

³⁶⁰ Carol J. Adams, *note 21*, p. 166.

³⁶¹ Carol J. Adams, *note 21*, p. 167.

³⁶² Melanie Joy, *note 354*, p. 39-40.

19,001 animals per minute.³⁶³ How many of these animals does society actually see? Excluding those who work in this industry, none. This is where physical invisibility comes into play: intensive farms and slaughterhouses are located in isolated areas and are facilities where entry is prohibited — completely enclosed, without windows to see what happens inside, just as the trucks that transport the animals from the farm to the slaughterhouse are also closed and unmarked. Society must not come into contact with the victims of such violence to ensure that people do not begin to question the system itself.³⁶⁴

Even without the occurrence of disease outbreaks, many animals die before they can be slaughtered. In France alone, over 200 million animals are killed each year without being used as meat. These figures include animals that die during the rearing process or that are culled and disposed of for economic reasons. In Germany, up to 200,000 male dairy calves and 45 million male chicks from layer breeds are killed because they do not yield enough meat to justify their maintenance. Similarly, in France, more than 50 million male chicks are killed annually immediately after hatching.³⁶⁵

Of the pigs slaughtered in Germany, only 60 percent of the animal's body is converted into products such as cutlets or sausages for human consumption. The remaining parts, including bones, hooves, and certain internal organs—are processed into pet food, fish feed, industrial chemicals, fertilizers, or biofuels. In 2019, approximately 2.6 million tons of such “animal by-products” were utilized in these ways, out of a total slaughter weight of 8.6 million tons. Additional losses occur throughout the wholesale and retail stages, as well as at the consumption stage, due to factors such as expiration dates or food prepared but left uneaten. According to the most recent data from 2016, 11.9 percent of global meat production was lost between slaughter and retail. This amounts to 39 million tons, equivalent to the meat of 115 million cattle or 413 million pigs. Such significant losses represent a tremendous waste of resources, as these animals had to be raised and fed, only to never reach human consumption.³⁶⁶

Although making a direct comparison is complex, it is nonetheless evident that life in the wild is preferable to the conditions imposed on animals in factory farming. In these systems, animals are denied the opportunity to run, walk, lie down freely, or engage in social interactions. Even though many animals in nature die due to adverse circumstances, those in factory farms typically live only a small fraction of their natural lifespan.³⁶⁷ The cruelty of this system is in other words still not known by many people: in a natural context, piglets learn their own name after just three weeks. They are social and affectionate animals, even with humans, and they can recognize up

³⁶³ Melanie Joy, *note 354*, p 43.

³⁶⁴ Melanie Joy, *note 354*, p 45-46.

³⁶⁵ Meat Atlas 2021, *note 335*, p. 22.

³⁶⁶ Meat Atlas 2021, *note 335*, p. 23.

³⁶⁷ Peter Singer, *note 7*, p 258-259.

to 30 individuals from their group and form strong bonds. In the reality of factory farming, however, they spend their entire lives confined, never experiencing the outdoors. After birth, piglets are castrated and have their tails docked — all without anesthesia — to prevent them from injuring each other as a consequence of the stress caused by such living conditions.³⁶⁸ The living conditions of pigs are even crueler and more violent than that: piglets are nursed by their mothers for only two weeks, through bars, because cows are confined in small gestation crates just over half a meter wide. Many of them die during this period from various causes related to the fact that the number of animals is too high for workers to properly care for them — an average of 15 workers for 3,600 sows. After weaning, they are packed into sheds filled with noxious gases (due to poor hygiene conditions) and then again packed into trucks that take them to the slaughterhouse, without food, water, or protection from extreme temperatures. The conditions in the slaughterhouses are even more inhumane, and it is enough to know that animals should be stunned and rendered unconscious before being killed, but many are still conscious when they are hung upside down on the conveyor belt where they are then slaughtered.³⁶⁹

The same faith is reserved to laying hens, that are born in industrial incubators. Male chicks have no economic value and are therefore discarded shortly after birth, ground alive, or thrown into trash bags. The females are packed into metal cages about the size of an A4 sheet of paper, with six hens per cage. The space does not allow them to spread their wings, and the metal wires of the cages injure the birds, sometimes causing them to harm themselves out of stress. In the EU, these cages are being banned, while in the USA they are still widely used. Hens have been genetically selected to produce ten times more eggs than they once did (resulting in less calcium for their bones, leading to fractures and uterine prolapse); at one year of age, they are sent to the slaughterhouse.³⁷⁰

Melanie Joy argues that the myth of carnism is supported by the “3 Ns of justification,” meaning that eating meat is Normal, Natural, and Necessary. The 3 Ns have been used over the years to justify all the exploitation hidden behind the meat industry, but they have also been used in the past for many other systems of violence, such as justifying the denial of voting rights to women in the United States. When a system is well established, it is then supported by all the main institutions of society, such as medicine or education.³⁷¹ But the fundamental role in supporting the 3 Ns is played by the legal system and the media. The ideology is embedded in laws, which guarantee conformity to the system. In this specific case, the legal status of animals permits the consumption of meat, since, according to the law, animals are property and thus not legal subjects. As already explained earlier, this means that animals have no rights, allowing the meat

³⁶⁸ Melanie Joy, *note 354*, p 48.

³⁶⁹ Melanie Joy, *note 354*, p 53.

³⁷⁰ Melanie Joy, *note 354*, p 64-65.

³⁷¹ Melanie Joy, *note 354*, p 102-103.

industry to use their bodies, buy them, sell them, and eat them.³⁷²

The media, which is our primary source of information, supports Carnism by acting as a channel between ideology and consumers. The first tool that the media uses is omission: in the public debate, it is very rare for topics such as slaughterhouses to be addressed, or for images from these realities to be shown, as the media focuses on a range of topics that distract from other news. More actively, the media prohibits the transmission of such information to the public; for example, in 2004, CBS rejected \$2 million from PETA, which wanted to air an anti-meat ad during the Super Bowl, yet they regularly promote advertisements supporting meat consumption.³⁷³

Let's now look at what the 3 Ns specifically mean:

- Eating meat is Normal: considering an idea “normal” means that its principles have become social norms. Social norms not only describe how most people behave, but they also establish how we should behave. These are social constructs created by people to control, just as we have been taught that human life is worth more than that of others, so it is justifiable—indeed normal—that the lives of other sentient beings are subordinated to ours. At the same time, norms reward those who follow them: it is much easier in society to eat meat, while it is more complex for those who seek alternatives.³⁷⁴
- Eating meat is Natural: this belief derives from the idea that humans have always hunted and eaten animals throughout history. The idea of naturalization has been used historically to justify various acts of violence: some races were considered “naturally” inferior to others; women were considered “naturally” inferior to men; thus, man naturally occupies the top of the food chain. Naturalization is supported by history, religion, and science: history gives us the idea that practice has always existed, and as such, is therefore right and will always exist; religion supports the idea as being imposed by a divine entity; and science provides a biological basis.³⁷⁵
- Eating meat is Necessary: eating meat is considered a biological imperative, necessary for the survival of the human species, making meat consumption inevitable and thus easier to justify. This is a myth, connected to the myth that eating meat makes us healthier, despite science and medicine having shown that meat consumption is

³⁷² Melanie Joy, *note 354*, p 108.

³⁷³ Melanie Joy, *note 354*, p 109.

³⁷⁴ Melanie Joy, *note 354*, p 110-111.

³⁷⁵ Melanie Joy, *note 354*, p 112-113.

harmful to health and linked to the development of various diseases, especially given the amounts of meat consumed today.³⁷⁶

Carol Adams's pioneering 1990 work, *The Sexual Politics of Meat*, contends that meat consumption in industrialized countries thrives within a cultural framework that objectifies both animals and women, rendering them as commodities to be consumed. She examines why many rape survivors report "being treated like an animal" or "feeling like a piece of meat," noting: "Just as the slaughterhouse treats animals and its workers as inert, unthinking, unfeeling objects, so too in rape are women treated as inert objects. ... To feel like a piece of meat is to be treated like an inert object when one is (or was) in fact a living, feeling being". Adams further underscores the interconnectedness of violence against women and violence against animals, observing that abuse or killing of family pets often accompanies domestic violence. The connection between masculinity and meat consumption is evident worldwide. For instance, in 2009 the Rhode Island Coalition Against Domestic Violence launched a campaign stating, "It's not acceptable to treat women like a piece of meat," accompanied by an image of beef hanging from a hook, dressed as a woman—highlighting the double standard that objectification is deemed unacceptable for women but normalized for animals.³⁷⁷ Amnesty International has similarly used imagery of women as slaughtered animals in its campaigns. Animals are often referred to as "objects" in mass terms, stripped of subjectivity and individuality. They are depicted as "free," just as women are represented as free in advertising that portrays them in suggestive poses implying that their only aspiration is to be desired, reinforcing the idea that both women and animals are subordinate beings meant to be consumed.³⁷⁸ This dynamic is linked to the coalition of men around misogyny, where the feminization and sexualization of dead animals normalize violence against women and animals alike. Moreover, animalization is often used to justify violence against women. Female animals are doubly exploited—both alive and after being killed.³⁷⁹

The reference to "Ursula Hamdress Playboard," described as "the pig farmer's playboy," powerfully illustrates the connection between sexual violence against women and the fragmentation of the body in Western culture—a connection that is also deeply embedded in the culture of meat and slaughter. This satirical image embodies how female sexuality is commodified and how the female body is reduced to an object of consumption, paralleling the way animals are treated within the meat industry. The concept of fragmentation here refers not only to the literal dismemberment of animals in slaughterhouses, where living beings are

³⁷⁶ Melanie Joy, *note 354*, p 114.

³⁷⁷ Carol J. Adams, *note 350*, p 2-3.

³⁷⁸ Carol J. Adams, *note 350*, p 4-7.

³⁷⁹ Carol J. Adams, *note 350*, p 33.

disassembled into marketable parts, but also to the symbolic dismemberment of women in a patriarchal society that prioritizes their physical appearance over their agency and humanity.³⁸⁰ Adams highlights that the “dismemberment of the animal” is accompanied by an intellectual and emotional distancing from the animal’s desire to live—a separation that makes it easier for humans to accept killing for meat. Similarly, women’s experiences of violence are often trivialized or detached from their humanity, reducing them to mere objects of desire or exploitation. This dual process of fragmentation and objectification not only sustains the meat industry but also reinforces the social norms that enable violence against women to persist unchallenged.

Through slaughter, animals become "absent referents," meaning they are made absent as "living beings" to leave room for meat. In many cases, serial killers, rapists, and violent individuals have practiced violence against animals as children, as a "first step" toward later violence against women. Similarly, animals are used as a tool in blackmail to extract obedience and silence from the victims of such violence. In many cases, women—and even more often, animals—are perceived as "matter without spirit"; when a being is considered to be without spirit, it becomes an "object" to be exploited. Animals are physically turned into pieces of meat; women can feel treated the same way.³⁸¹ Carol J. Adams proposes a theory based on objectification, fragmentation, and consumption—a theory that connects butchering with gender-based violence.

- **Objectification** is the process that allows a person to see another as an object, as lacking agency and therefore freedom; this "legitimizes" the use of the body of another being, whether it be the body of a killed animal to be turned into meat or the body of a woman who loses the freedom to say no during violence.
- **Fragmentation:** in the case of animals, this is physical. In the meat industry, the animal is perceived as edible and non-edible parts; throughout the entire process, the animal is literally dismembered, changing our perception of it, also through the use of words that hide the memory of the animal as a living being. Thus, a pig becomes ham, sausage, and so on. In the case of women, they are reduced to desirable physical characteristics.
- **Consumption:** the final phase, the "culmination of oppression," the annihilation of will. In the case of animals, this is a practical and physical consumption, since their meat is eaten (but also worn). In the case of women, the "consumption of flesh" is metaphorical:

³⁸⁰ Carol J. Adams, *note 350*, p 79-80.

³⁸¹ Carol J. Adams, *note 350*, p 88-89.

they are not literally eaten, but rape is instrumental violence, and the sensation is of being reduced to a piece of meat, immobilized, and stripped of will.³⁸²

A further justification for human behavior often arises in debates around vegetarianism and veganism: the appeal to the so-called “food chain.” This argument suggests that because other animals kill to survive, humans are justified in doing the same. However, as early as 1785, William Paley addressed this defense by highlighting the crucial difference: unlike animals that have no choice but to kill for survival, humans can thrive without taking the lives of other creatures. Moreover, non-human animals are incapable of considering moral alternatives or evaluating whether killing for food is right or wrong, while humans have the capacity for moral reflection and can choose differently.³⁸³

Lastly, it is interesting to note that, globally, the animal industry remains the one with the highest employee turnover rate, sometimes reaching 100% annually, due to the degrading working conditions. Slaughterhouse workers record higher rates of post-traumatic stress disorder and violent behavior than other types of workers.³⁸⁴ Forced to maintain extremely high production rates and constantly exposed to this violence, it is not hard to understand how these workers end up resorting to electric prods and other instruments to control the animals in the extremely harsh conditions in which they must work. Alex Blanchette’s book “Porkopolis” provides illustrative examples: in the gestation barns for pigs, sows are inseminated by workers on a continuous cycle, since even the mating phase is controlled by humans, and five workers are enough to produce more than fifty-five thousand pigs per year. This is a true reproductive violence that is inflicted on the female specimens of these animals, just as cows are forced into continuous pregnancies for milk production.³⁸⁵

³⁸² Carol J. Adams, *note 350*, p 90-93.

³⁸³ Peter Singer, *note 7*, pp. 254–255, with reference to William Paley, *The Principles of Moral and Political Philosophy*, London, R. Faulder, 1785.

³⁸⁴ Francesca Grazioli, *nota 322*, p. 76-77.

³⁸⁵ Francesca Grazioli, *nota 322*, p. 78.

3.2 Legislation on animal farming

The regulation of animal farming practices varies significantly across the globe, reflecting diverse cultural, economic, and political contexts. While some nations have established comprehensive frameworks prioritizing animal welfare and sustainability, others have focused primarily on economic productivity, often at the expense of ethical and environmental considerations. This global patchwork of policies underscores the complexity of harmonizing standards in an industry that is both deeply traditional and rapidly evolving.

The European Union has developed one of the most comprehensive legal frameworks in the world for the protection of animals kept for farming purposes. Rooted in both ethical considerations and public concerns about food quality, the EU legal system addresses animal welfare through a variety of regulations, directives, and international agreements, setting minimum standards for housing, feeding, transportation, and slaughter. While these provisions represent a significant step forward, critics have repeatedly pointed out the gap between legal norms and their implementation, especially in the context of intensive farming systems. A foundational document is the European Convention for the Protection of Animals kept for Farming Purposes, adopted by the Council of Europe in 1976. This convention, although not legally binding in all EU member states, laid the groundwork for harmonizing standards and establishing that “animals shall be housed and provided with food, water and care in a manner which ensures their welfare and does not cause them unnecessary suffering” (Article 3). The convention was visionary in affirming that animal needs must be considered not merely in terms of productivity, but in terms of behavioural and physiological well-being as well. Its principles have deeply influenced subsequent EU legislation.³⁸⁶

A key binding instrument at the EU level is Council Directive 98/58/EC, concerning the protection of animals kept for farming purposes. This directive is a general framework that applies to all farmed animals and is based on the so-called “Five Freedoms” concept, ensuring animals' freedom from hunger and thirst, discomfort, pain, injury or disease, fear and distress, and allowing them to express normal behaviour. Article 4 of the directive requires Member States to ensure that owners or keepers take all reasonable steps to ensure the welfare of animals and prevent unnecessary pain, suffering or injury.³⁸⁷ Notably, the directive is not species-specific, which gives Member States a degree of flexibility but has also resulted in inconsistencies across national legislations.

To address such gaps, the European Union has progressively adopted species-specific directives aimed at establishing more detailed standards tailored to the biological needs of different animals. One such regulation is Directive 2007/43/EC on the welfare of broiler chickens. This directive

³⁸⁶ Council of Europe, *European Convention for the Protection of Animals kept for Farming Purposes*, Strasbourg, 1976, Art. 3.

³⁸⁷ Council of the European Union, *Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes*, OJ L 221, 8 August 1998, pp. 23–27, Art. 4.

imposes a maximum stocking density of 33 kg/m², with possible increases to 39 or 42 kg/m² only under strict conditions and additional monitoring. It mandates adequate ventilation, lighting, litter, and health surveillance, aiming to reduce high mortality and lameness rates that are endemic in intensive poultry farms.³⁸⁸ However, critics note that even the lowest permissible density still confines animals in extremely crowded conditions, far from any natural behaviour.

Another milestone is Directive 1999/74/EC, which addresses the welfare of laying hens. It famously banned conventional battery cages from 2012 and introduced the requirement of "enriched cages" that must include nesting areas, perches, litter for pecking and scratching, and increased space allowance. While this reform was a significant step forward, it still permits forms of confinement that severely restrict movement and natural social behaviours.³⁸⁹ Many animal advocacy groups continue to push for the complete abolition of cage systems.

In the context of pigs, Directive 2001/88/EC, amended by Directive 2001/93/EC, establishes minimum standards for the protection of pigs, particularly regarding mutilations and environmental enrichment. Article 3 prohibits routine tail docking and teeth clipping unless medically justified, and Article 5 mandates that pigs must have permanent access to manipulable materials such as straw or hay to satisfy behavioural needs.³⁹⁰ Yet, tail docking remains widespread across Europe, often without proper justification, reflecting the persistent enforcement gap.

Finally, Directive 2008/119/EC on the protection of calves sets requirements for feeding intervals, minimum pen dimensions, and light exposure. It mandates that calves must be group housed after the age of eight weeks and provided with a diet containing sufficient iron and fibre to prevent anaemia.³⁹¹ Despite these rules, numerous investigations have revealed violations such as individual confinement beyond the allowed age and inadequate nutrition.

The Report from the European Commission on the implementation of Directive 98/58/EC has highlighted several challenges. Published in 2017, the report revealed that enforcement mechanisms vary widely among Member States and that, despite the directive's broad principles, animal welfare violations persist, particularly in large-scale industrial farms. The report acknowledges that "non-compliance cases are still frequently observed, especially regarding enrichment materials for pigs, minimum space for poultry, and insufficient veterinary care". Moreover, the report indicates that inspections are often insufficient and that sanctions, when applied, tend to be mild and ineffective

³⁸⁸ Council of the European Union, *Council Directive 2007/43/EC laying down minimum rules for the protection of chickens kept for meat production*, OJ L 182, 12 July 2007, pp. 19–28, Arts. 3–5.

³⁸⁹ Council of the European Union, *Council Directive 1999/74/EC laying down minimum standards for the protection of laying hens*, OJ L 203, 3 August 1999, pp. 53–57, Art. 4.

³⁹⁰ Council of the European Union, *Council Directive 2001/88/EC amending Directive 91/630/EEC laying down minimum standards for the protection of pigs*, OJ L 316, 1 December 2001, pp. 1–4; *Council Directive 2001/93/EC*, pp. 36–38, Arts. 3 and 5.

³⁹¹ Council of the European Union, *Council Directive 2008/119/EC laying down minimum standards for the protection of calves*, OJ L 10, 15 January 2009, pp. 7–13, Arts. 3–6.

as deterrents.³⁹²

In addition to farming conditions, the Regulation (EC) No 1/2005 on the protection of animals during transport is another pillar of EU animal welfare law. It establishes strict rules regarding travel times, rest periods, space requirements, and the conditions of vehicles. However, various investigations have shown how these provisions are frequently violated, especially when animals are transported across borders. According to Article 3 of the regulation, “No person shall transport animals or cause animals to be transported in a way likely to cause injury or undue suffering to them.”³⁹³ Despite these obligations, journeys often exceed maximum time limits, ventilation systems malfunction, and animals are transported in extreme temperatures.

The moment of slaughter is addressed in Regulation (EC) No 1099/2009, which aims to minimize animal suffering at the time of killing. It mandates stunning procedures before slaughter and sets standards for the design of slaughterhouses and handling of animals. Nevertheless, Article 4 of the regulation provides derogations for religious slaughter, which has sparked debate between animal welfare advocates and defenders of religious freedom. Moreover, the regulation does not apply to all killing situations—for example, animals killed on farms for reasons other than slaughter (e.g., disease control) may not receive the same legal protections.³⁹⁴ The EU’s summaries of legislation on farmed animals further elaborate on these laws, offering practical guidance and accessible overviews. These summaries underscore the EU’s commitment to a “high level of animal welfare,” but also acknowledge that enforcement is a shared responsibility between the European Commission and national authorities—leading to notable disparities in compliance.³⁹⁵

Despite this relatively sophisticated legal landscape, the reality in intensive farming systems often diverges sharply from the legal ideal. Numerous NGOs and investigative reports have shown how animals continue to suffer from overcrowding, mutilations without anaesthesia, and lack of access to outdoor environments. In this regard, the current legislation is often criticized for favouring economic interests over animal welfare and for allowing significant loopholes in enforcement. Although the European Union boasts one of the most advanced legislative frameworks for farm animal welfare, the implementation of these laws remains deeply problematic. Numerous independent reports and official assessments underscore the discrepancy between legislation and practice, especially in intensive farming systems where profitability often takes precedence over compliance. In its comprehensive 2023 report, the European Food Safety Authority (EFSA)

³⁹² European Commission, *Report from the Commission to the European Parliament and the Council on the impact of the European Union's legislation on the welfare of animals kept for farming purposes*, COM(2016) 558 final, Brussels, 2017, pp. 7-9.

³⁹³ Council of the European Union, *Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations*, OJ L 3, 5 January 2005, pp. 1–44, Art. 3.

³⁹⁴ Council of the European Union, *Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing*, OJ L 303, 18 November 2009, pp. 1–30, Art. 4.

³⁹⁵ European Union, *Protection of farmed animals – Summaries of EU legislation*

highlighted critical welfare concerns in the EU pig sector, noting that tail docking is still performed routinely in approximately 95% of pig farms, despite the fact that EU legislation prohibits this practice unless strictly justified by veterinary necessity. Similarly, studies have shown that more than 80% of laying hens in certain member states are still kept in cage systems, many of which fail to meet the spatial or enrichment standards set out in Directive 1999/74/EC.³⁹⁶

The European Commission's own audits—especially through the Directorate-General for Health and Food Safety (DG SANTE)—confirm widespread non-compliance with the legal provisions regarding space allowance, enrichment, and record-keeping. In a 2022 audit on broiler chicken welfare, the Commission reported that many farms exceeded the maximum stocking density, without carrying out the additional monitoring or corrective measures required by Directive 2007/43/EC.³⁹⁷

Furthermore, annual inspection reports from several Member States have shown a general lack of enforcement capacity. In some cases, only 1–2% of farms are inspected annually, and sanctions for violations are often minimal or delayed. For example, in Italy, between 2019 and 2022, inspections revealed that nearly 20% of pig farms violated welfare standards, but in most cases only warning letters were issued.³⁹⁸

In the context of animal transport, the Regulation (EC) No 1/2005 is frequently breached, as confirmed by the European Court of Auditors in a 2018 special report. The auditors found that long-distance transport remains one of the weakest points in EU animal welfare enforcement: animals are often transported for over 30 hours, sometimes in extreme heat or cold, and with inadequate rest or water supply.³⁹⁹ Despite numerous infringement procedures and promises of reform, systemic violations persist, particularly for animals exported to non-EU countries.

These findings have prompted strong criticism from animal welfare organisations, which argue that the EU relies heavily on self-regulation, soft law instruments, and inconsistent enforcement at the national level. The lack of a centralized EU enforcement body leaves implementation largely in the hands of individual Member States, creating significant disparities and undermining the goals of harmonization. As a result, the legal protections granted to animals on paper often remain theoretical in practice. To address these shortcomings, both EFSA and the European Parliament have called for more binding rules, better funding for inspections, and the establishment of mandatory minimum enforcement thresholds across all Member States. Without such reforms, the EU risks maintaining a sophisticated but ultimately ineffective legal framework, unable to guarantee real improvements in the daily lives of animals kept for food production. In light of the growing public concern over

³⁹⁶ Eurogroup for Animals, *Beyond the cage age: Laying hens in Europe*, Brussels, 2021, p. 6.

³⁹⁷ European Commission – DG SANTE, *Audit on animal welfare on broiler farms*, 2022, p. 4.

³⁹⁸ Eurogroup for Animals, *Enforcement of animal welfare legislation in the EU: A critical overview*, Brussels, 2023, p. 14.

³⁹⁹ European Court of Auditors, *Special Report No. 31/2018: Animal Welfare in the EU*, Luxembourg, 2018, p. 23.

intensive animal farming and the evident enforcement gaps in current legislation, the European Union has launched a major reform process aimed at overhauling its animal welfare laws. This initiative is part of the broader “Farm to Fork” strategy, presented by the European Commission in May 2020, which seeks to make food systems fairer, healthier, and more environmentally friendly. One of its key pillars is the revision of all EU animal welfare legislation, with an explicit goal to align legal standards with the latest scientific knowledge and societal expectations. The reform process officially began in 2021, when the Commission initiated a series of consultations with stakeholders, including farmers, veterinarians, NGOs, academics, and consumers. In 2022, the European Food Safety Authority (EFSA) published a comprehensive set of scientific opinions on the welfare of pigs, poultry, dairy cows, and animals during transport. These opinions provided evidence-based recommendations for more stringent standards, such as significantly increasing space allowances, banning cages, and reducing journey times.⁴⁰⁰

Among the most anticipated proposals of the reform package are:

- The ban on cage systems for laying hens, rabbits, ducks, and pigs, in line with the successful “End the Cage Age” European Citizens' Initiative, signed by over 1.4 million people across the EU.
- The revision of Regulation (EC) No 1/2005 on animal transport, with stricter limits on duration, temperature control, and species-specific conditions.
- The introduction of mandatory labelling on animal welfare, so consumers can make informed choices based on farming methods.

Despite the initial plan to present the legislative proposals by the end of 2023, the timeline has been delayed, partly due to lobbying pressures and internal divisions within EU institutions. However, the Commission has reaffirmed its commitment to publish the reform package within the 2025 legislative window, before the end of the current mandate of the European Parliament and Commission. In a statement issued in March 2024, the Commission reiterated that “animal welfare remains a political priority, and the revised legislation will be science-based, enforceable, and in line with citizens’ expectations”.⁴⁰¹

The ongoing reform debate has highlighted a fundamental tension in EU policymaking: the need to balance animal welfare with agricultural competitiveness and trade realities. While many citizens and NGOs advocate for stronger protections, parts of the farming sector argue that additional restrictions would threaten economic sustainability, especially in comparison with non-EU producers who operate under less strict rules. Nonetheless, the reform represents a critical opportunity to address the structural weaknesses of the current system, especially in terms of

⁴⁰⁰ EFSA, *Scientific opinions on animal welfare during transport and on farm*, 2022–2023.

⁴⁰¹ European Commission, *Statement on the Animal Welfare Legislative Package*, Brussels, March 2024.

enforcement harmonization and species-specific protection. If successfully adopted and implemented, the new legal framework could mark a turning point in the EU's approach to farm animal welfare—moving beyond minimum standards and toward a model of positive animal welfare, where animals are not merely protected from suffering but are actively enabled to express natural behaviours and experience well-being.

Compared to the European Union, the United States offers a significantly less comprehensive and less cohesive legal framework for the protection of animals kept for farming purposes. While the EU has established uniform minimum standards through binding directives and regulations, animal welfare in the U.S. remains largely unregulated at the federal level and is delegated to state discretion or private industry initiatives. The primary federal law concerning animal treatment, the Animal Welfare Act (AWA) of 1966, is inapplicable to farm animals. It explicitly excludes "animals used for food or fibre", thereby omitting the vast majority of animals raised in the U.S.—including more than 9 billion chickens and 120 million pigs slaughtered annually. As a result, there are no federal laws regulating on-farm conditions such as stocking density, lighting, air quality, mutilations, or space requirements for these animals.⁴⁰²

At the slaughter stage, the Humane Methods of Slaughter Act (HMSA) of 1958 does require stunning before slaughter for livestock species like cattle and pigs. However, it excludes poultry, which make up over 95% of animals killed for food in the country. Even for livestock, enforcement is patchy and weak. Oversight falls to the USDA's Food Safety and Inspection Service (FSIS), whose core mandate is food safety—not animal welfare.⁴⁰³ A 2010 report by the U.S. Government Accountability Office (GAO) found that the USDA often failed to document or act on violations, especially under pressure to maintain slaughter line speeds.⁴⁰⁴

In place of formal regulation, the U.S. agricultural industry often relies on voluntary guidelines issued by producer groups. For example, the National Chicken Council publishes "Animal Welfare Guidelines and Audit Checklist," which are not legally binding and tend to prioritize economic efficiency over welfare. This self-regulatory model means that practices like beak trimming, tail docking, and extreme confinement remain widespread and unmonitored by public authorities.⁴⁰⁵

At the state level, some progress has been made. California's Proposition 12 (2018) prohibits the confinement of pigs, calves, and hens in spaces below minimum square footage and bans the sale of products from animals raised under such conditions. Other states, like Massachusetts, Colorado, and Oregon, have enacted similar laws. However, enforcement remains inconsistent, and such laws often face legal challenges, especially regarding interstate commerce. For example, meat and egg

⁴⁰² United States Code, *Animal Welfare Act*, 7 U.S.C. § 2132(g).

⁴⁰³ United States Code, *Humane Methods of Slaughter Act*, 7 U.S.C. §§ 1901–1907.

⁴⁰⁴ United States Government Accountability Office, *Humane Methods of Slaughter Act: USDA has addressed some problems but still faces enforcement challenges*, GAO-10-203, Washington DC, 2010, p. 12.

⁴⁰⁵ National Chicken Council, *Animal Welfare Guidelines and Audit Checklist for Broilers*, 2023.

producers from other states have sued California, claiming that these rules place an undue burden on out-of-state businesses, leading to several cases reaching the U.S. Supreme Court.⁴⁰⁶

Further complicating transparency and reform are so-called “ag-gag laws”. Enacted in several states, these laws criminalize undercover investigations or whistleblowing within agricultural facilities, effectively shielding abusive practices from public scrutiny. This stands in stark contrast with the EU, where investigative journalism and NGO reporting have played a pivotal role in exposing non-compliance and influencing legislation. The influence of powerful agricultural lobby groups, such as the American Farm Bureau Federation, cannot be overstated. These organizations wield significant political power, often opposing stricter welfare regulations on the grounds of protecting industry competitiveness and minimizing government intervention. This political climate, deeply rooted in American free-market ideology and individual state autonomy, contributes to the resistance against federal regulation of animal welfare in farming.

By contrast, the European Union takes a more unified and science-driven approach. The legal principle that animals are sentient beings, enshrined in Article 13 of the Treaty on the Functioning of the European Union (TFEU)⁴⁰⁷, forms the basis for EU legislation. This clause obliges the Union and its Member States to pay “full regard to the welfare requirements of animals” in formulating and implementing agricultural, transport, and internal market policies. Unlike the U.S., the EU works with agencies like EFSA⁴⁰⁸ to ensure that legislation is supported by independent scientific research, and it fosters public engagement through citizen initiatives, such as the “End the Cage Age” campaign.⁴⁰⁹

Despite its challenges in enforcement, the EU legal system provides minimum uniform protections across all Member States and prohibits many of the most severe confinement systems still widely used in the U.S., including veal crates, battery cages, and gestation stalls⁴¹⁰—all of which remain legal and common in many American states.

Meat production and consumption are central to discussions about animal farming legislation. According to the FAO’s 2023 Meat Market Review, global meat production exceeded 340 million tons in 2023, driven by increasing demand in developing economies. Asia leads in total consumption, with China alone accounting for a significant share of global meat imports. In contrast, per capita consumption remains highest in regions like North America and Europe, where dietary

⁴⁰⁶ *National Pork Producers Council v. Ross*, 598 U.S. ____ (2023), Supreme Court of the United States.

⁴⁰⁷ Consolidated version of the Treaty on the Functioning of the European Union, OJ C 202, 7 June 2016, p. 47, Art. 13.

⁴⁰⁸ EFSA, *Scientific opinions on animal welfare during transport and on farm*, 2022–2023.

⁴⁰⁹ European Citizens' Initiative, *End the Cage Age*.

⁴¹⁰ Council of the European Union, *Council Directive 2008/119/EC laying down minimum standards for the protection of calves*, OJ L 10, 15 January 2009, pp. 7–13; Council Directive 1999/74/EC laying down minimum standards for the protection of laying hens, OJ L 203, 3 August 1999, pp. 53–57; Council Directive 2001/88/EC amending Directive 91/630/EEC laying down minimum standards for the protection of pigs, OJ L 316, 1 December 2001, pp. 1–4.

habits and higher disposable incomes sustain substantial meat intake.⁴¹¹

The growth in meat production has profound implications for legislative priorities. Developing countries, where the livestock sector is expanding rapidly, often struggle to implement robust regulations due to economic constraints and limited infrastructure. Meanwhile, developed nations grapple with balancing traditional farming practices with modern demands for sustainability and animal welfare. These disparities necessitate nuanced approaches that consider both local and global dynamics. In addition, it is interesting to briefly point out that globally, there is a growing recognition of the need to modernize animal farming laws in response to evolving societal expectations and scientific advancements. Issues such as greenhouse gas emissions, deforestation, and the use of antibiotics in livestock are increasingly shaping policy discussions. For instance, the OECD-FAO Agricultural Outlook 2021-2030 emphasizes the importance of integrating sustainability into agricultural policies, calling for international cooperation to address shared challenges (OECD/FAO, 2021).⁴¹²

In recent years, innovative approaches have emerged to bridge the gap between legislative ambitions and industry practices. Incentive-based policies, such as subsidies for adopting sustainable technologies or transitioning to alternative proteins, are gaining traction. At the same time, consumer awareness campaigns and certifications like "organic" or "cruelty-free" labels empower individuals to make informed choices, indirectly influencing industry standards. In summary, while both systems are far from perfect, the EU framework demonstrates a greater institutional commitment to animal welfare, both in principle and in law. The U.S. model, by contrast, is shaped by economic pragmatism, fragmented governance, and private self-regulation, often at the expense of basic welfare considerations.

⁴¹¹ FAO, *Meat Market Review: Overview of Global Market Developments in 2023*. Food and Agriculture Organization of the United Nations.

⁴¹² ECD/FAO. (2021). *Agricultural Outlook 2021-2030*. OECD Publishing.

3.3 The language of violence: from pieces of meat to women.

In patriarchal culture, language merges the inferiority of women and animals. Cultures that eat meat are defined as virile, just as violence against women is often described using terms that evoke slaughtered animals.

For instance the concept of virility is traditionally associated with the characteristics of an adult male, deriving from the Latin word *vir*, meaning man. In this cultural framework, meat consumption emerges as a significant marker of both individual and collective masculinity, based on the belief that meat confers strength—a trait consistently linked to traditional masculine ideals.⁴¹³ This cultural association does not exist in isolation; rather, it is reinforced by a hierarchy that places meat protein at the top of the social and nutritional pyramid, a hierarchy that simultaneously upholds systems of race, class, and gender oppression. Historically, racism and sexism have converged to promote meat as the food of white men, thereby normalizing the exclusion of women and people of colour from these power dynamics and further entrenching social hierarchies.⁴¹⁴ Within this context, masculinity itself is reaffirmed through the very act of eating, symbolizing not only strength but also dominance and privilege. What one eats thus becomes an expression of one's identity and a reinforcement of the social structures that sustain masculinity as a cultural ideal.⁴¹⁵

Through the use of the word "meat," the animal's death becomes absent. Our language centres on the masculine and the human. The very word "animal" is used as if we humans do not belong to the animal world. Indeed, words like "animal" and "beast" are often used as insults, thus maintaining a separation and distance between humans and animals. Another distance is imposed by language through the use of the impersonal "it," referring to animals as objects. Just as "it" erases life from the animal, making it equivalent to an object, the generic masculine plural erases the presence of the feminine.⁴¹⁶ Gastronomic language helps us not to perceive meat as a living being, so that the mind does not associate meat with the animal, but with culinary art. Language plays a fundamental role here. There are three ways in which animals become absent referents: literally (they are absent because they are dead); definitionally (when we eat them, we change the words we use to define them); metaphorically (metaphors are used to describe human experiences).⁴¹⁷ The same principle applies to women: just as the animal is absent when we talk about meat, women are absent when we talk about cultural violence. Especially in cases of rape, language evokes the woman's experience but not the woman herself.⁴¹⁸

⁴¹³ Carol J. Adams, *note 350*, p 57.

⁴¹⁴ Carol J. Adams, *note 350*, p 63.

⁴¹⁵ Carol J. Adams, *note 350*, p 69.

⁴¹⁶ Carol J. Adams, *note 350*, p 121.

⁴¹⁷ Carol J. Adams, *note 350*, p 81.

⁴¹⁸ Carol J. Adams, *note 350*, p 83.

"If the words that tell the truth about meat as food are not suitable for our ears, then meat itself is not suitable for our mouths," says Emarel Freshel, vegetarian activist. Talking about hamburgers or steaks, instead of slaughtered pigs, cows, and calves, makes it easier for us to consume meat. Through language, our attention is diverted from the absent referent—animal or woman—focusing instead on adjectives that accompany the term representing violence, in an attempt to soften it: "compassionate slaughter" remains slaughter, remains the death of an animal, and therefore cannot truly be compassionate in its meaning; likewise, "forced rape" tries to draw attention away from the woman, but in reality every rape is by definition forced, and certainly not less violent.⁴¹⁹

In this framework, Carol J. Adams' analysis finds strong echoes in the work of ecofeminist scholars such as Greta Gaard and Josephine Donovan. Gaard emphasizes that the language of domination is central to both the oppression of animals and the subordination of women: both are reduced to passive objects through systems of power that operate not only materially but symbolically. Language naturalizes these hierarchies, presenting consumption—whether sexual or alimentary—as both inevitable and morally neutral.⁴²⁰

Jean Kilbourne's critical media work sheds further light on the connection between linguistic and visual violence. In her long-standing documentary series *Killing Us Softly*, Kilbourne explores how women's bodies are systematically fragmented, decontextualized, and reduced to consumable parts in advertising. This process of dismemberment is not merely metaphorical: advertisements routinely display isolated body parts—legs, lips, breasts—stripped of identity or humanity. According to Kilbourne, "turning a human being into a thing is almost always the first step toward justifying violence against that person." This mechanism mirrors the process by which animals are turned into "meat"—removing their individuality, silencing their suffering, and rendering them as products. The parallels become even clearer when we examine the language used in food marketing. Terms like "tender," "juicy," or "prime cut" are not only used to describe animal flesh but also appear in advertising campaigns aimed at eroticizing women. The conflation of meat and femininity—where women are referred to as "fresh meat" or "served hot"—produces a double coding that makes both animal and female bodies simultaneously edible, desirable, and disposable. This linguistic and visual strategy naturalizes consumption and violence, blurring the boundary between appetite and aggression. By presenting violence in a seductive, glamorous light, advertising culture anesthetizes the viewer. The brutality embedded in the killing of animals or the violation of women is made invisible through stylized language and imagery. What remains visible is pleasure—the pleasure of eating, possessing, dominating. Kilbourne's analysis powerfully demonstrates how such representations are not innocent reflections of desire, but active participants in the construction of a

⁴¹⁹ Carol J. Adams, *note 350*, p 130.

⁴²⁰ Josephine Donovan, *Feminism and the Treatment of Animals: From Care to Dialogue*, *Signs*, Vol. 31, No. 2, 2006, p. 309.

culture where bodies—female or animal—are stripped of agency and turned into objects of consumption.⁴²¹

Further evidence of this dynamic emerges in the work of linguist Deborah Cameron, who analyzes how language constructs power through naming and framing. She argues that gendered violence is frequently minimized or distorted through euphemism and passive structures: women “get raped,” but men rarely “rape”; animals “become meat,” but no one is said to “kill them”.⁴²² In both cases, the agent of violence is erased, and the victim is presented as either neutral or invisible. This linguistic passivity parallels a broader cultural reluctance to confront systemic abuse.

This pattern of normalization is not accidental but embedded in legal and cultural systems. As Melanie Joy argues, ideologies like carnism depend on rhetorical strategies that make violence appear normal, natural, and necessary, as explained above. These same strategies have historically been used to justify gender inequality, from denying women the right to vote to legitimizing domestic violence. The invisibility of both slaughterhouses and sexual abuse shelters reflects a shared structural denial. The less we see, the easier it becomes to accept.⁴²³

To disrupt this system, a linguistic and cultural re-framing is not only necessary—it is urgent. Language shapes not only how we perceive the world, but how we act within it. The words we use—or refuse to use—determine what becomes visible, thinkable, and ultimately tolerable. As feminist theorist bell hooks emphasizes, naming violence is a political act. It is through language that power either conceals or reveals itself. When we use sanitized terms like “processing plant” instead of “slaughterhouse,” or speak of “harvesting” animals rather than killing them, we participate in a cultural strategy of concealment that numbs ethical awareness and perpetuates abuse.

Conversely, naming violence directly—using words like “rape,” “slaughter,” or “exploitation”—forces confrontation. These words carry the weight of reality. They expose the mechanisms of domination that link seemingly separate systems: the treatment of animals in industrial agriculture, and the subjugation of women under patriarchy. Both rely on the erasure of the subject, and on the normalization of suffering. In this sense, hooks reminds us that reclaiming language is an act of resistance. It allows us to restore meaning, to reinsert the victim into the narrative, and to destabilize structures of silence and denial.

This re-framing demands not just a shift in vocabulary, but in consciousness. Only by recovering the referent—by reconnecting words like “meat” or “object” to the sentient lives they conceal—can we begin to dismantle the systems that render such violence acceptable, even invisible. To speak

⁴²¹ Jean Kilbourne, *Killing Us Softly 4: Advertising's Image of Women*, Media Education Foundation, 2010.

⁴²² Deborah Cameron, *The Myth of Mars and Venus: Do Men and Women Really Speak Different Languages?*, Oxford University Press, 2007, pp. 149–152.

⁴²³ Melanie Joy, *Why We Love Dogs, Eat Pigs, and Wear Cows*, Conari Press, 2010, p. 109.

truthfully, to name clearly, is to begin the work of justice. It is to insist that neither animals nor women be reduced to mute commodities, but instead be recognized as subjects whose suffering deserves to be seen, heard, and resisted.⁴²⁴

⁴²⁴ Bell Hooks, *Talking Back: Thinking Feminist, Thinking Black*, Boston: South End Press, 1989, p. 6. hooks argues that “there is power in naming, in saying the words that describe what we feel and what we mean,” emphasizing that language is never neutral but always a political act.

3.5 The exploitation of female (animal) bodies: political control over female reproductive system

The intersection of reproductive rights and the exploitation of female animal bodies represents a significant ethical and philosophical concern, where issues of autonomy, commodification, and systemic control converge.⁴²⁵ The reproductive systems of female animals, such as cows and hens, are not only central to industrial farming practices but also the primary targets of exploitation, where their ability to reproduce or produce resources like milk and eggs is rigorously manipulated for human consumption.⁴²⁶ These practices reflect a broader societal pattern of controlling and commodifying reproductive capacities, a theme that is also prominent in the history of human female reproductive rights.⁴²⁷

Throughout history, women's bodies have been subject to legal and societal controls, with laws governing access to contraception, abortion, and reproductive autonomy often shaped by political, religious, and economic forces.⁴²⁸ Similarly, the exploitation of female animals in industrial farming is deeply rooted in systems that prioritize profit over ethical considerations, reducing sentient beings to tools of production.⁴²⁹ This paragraph seeks to explore these parallels, highlighting the ways in which both human and non-human females are subjected to a dual exploitation rooted in their biological ability to reproduce.

This discussion will be juxtaposed with an analysis of human reproductive rights, where the control over women's reproductive systems has been a means of maintaining patriarchal and political power structures.⁴³⁰ The control over women's bodies has historically functioned as a central mechanism of patriarchal, political, and institutional power. In particular, women's reproductive capacity has long been targeted by policies, ideologies, and medical practices that seek to regulate, limit, or exploit it. Feminist scholars have shown how such control is not only physical or biological, but deeply political, shaping women's subjectivity and positioning their bodies within broader systems of governance.⁴³¹ This reproductive control affects not only women's health and autonomy, but also reflects a society's broader values around gender, productivity, and the legitimacy of state power. One of the most violent expressions of reproductive control is the forced sterilization of women, often justified through pseudoscientific and eugenic ideologies. In the United States, the 1927 Supreme Court ruling in *Buck v. Bell* legally upheld the sterilization of "unfit" individuals —

⁴²⁵ K. Gillespie, *The Cow with Ear Tag #1389*, 2018, p. 34.

⁴²⁶ Animal Equality, "Industrial farming practices and reproductive exploitation," 2023, disponibile su: <https://animalequality.org>.

⁴²⁷ J. Donovan, *Feminism and the Treatment of Animals: From Care to Dialogue*, 1996, p. 56.

⁴²⁸ R. P. Petchesky, *Abortion and Woman's Choice: The State, Sexuality, and Reproductive Freedom*, 1984, p. 121.

⁴²⁹ Compassion in World Farming, *The Ethics of Industrial Animal Farming*, 2022.

⁴³⁰ A. Rich, *Of Woman Born: Motherhood as Experience and Institution*, 1986, p. 94.

⁴³¹ Barbara Ehrenreich and Deirdre English, *Complaints and Disorders: The Sexual Politics of Sickness*, New York, Feminist Press, 1973.

especially women — without their consent. More than 60,000 people were sterilized under such programs in the 20th century, disproportionately targeting Black, Indigenous, immigrant, and disabled women.⁴³² Medical systems have historically served as agents of this control. Feminist bioethicists have critiqued the medicalization of reproduction, in which women's bodies are treated as sites of risk and dysfunction, to be monitored and intervened upon by male-dominated institutions. From forced hysterectomies to non-consensual contraceptive implants, such practices reduce women's bodies to reproductive instruments, often excluding them from informed decision-making.⁴³³ This reinforces a power dynamic where female bodies are not only surveilled but made passively available to institutional logic.

Contemporary political efforts to restrict or criminalize abortion represent another powerful mechanism of reproductive control. In many parts of the world, abortion remains illegal or heavily restricted. Even where it is legal, access is often limited by conscientious objection, mandatory waiting periods, or lack of public funding.⁴³⁴ These restrictions disproportionately impact poor, rural, and marginalized women, and demonstrate how the state continues to assert power over the private realm of reproduction.

The 2022 ruling of the U.S. Supreme Court in *Dobbs v. Jackson Women's Health Organization* overturned *Roe v. Wade*, dismantling the constitutional right to abortion in the United States.⁴³⁵ This ruling has allowed individual states to ban or severely restrict abortion, often without exceptions for rape or incest. As Judith Butler notes, this is not merely a legal reversal — it reflects a broader ideological move to reinscribe patriarchal values into the legal structure, reinforcing the notion that female reproductive labor is a matter of state interest.⁴³⁶

According to the World Health Organization, 45% of abortions worldwide are unsafe, and 68,000 women die annually from complications related to illegal or unsafe abortions.⁴³⁷ These deaths are preventable, and they demonstrate how controlling abortion does not eliminate it — it simply makes it more dangerous, consequently access to abortion is not only a legal right but a matter of public health and human dignity.

Central to this discussion is the concept of commodification—the transformation of reproductive labor into an economic asset. In industrial farming, female animals' reproductive capacities are mechanized and devalued, with their biological functions treated as mere inputs in a production

⁴³² Supreme Court of the United States, *Buck v. Bell*, 274 U.S. 200 (1927).

⁴³³ Roberts, Dorothy, *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty*, New York, Pantheon Books, 1997.

⁴³⁴ Center for Reproductive Rights, "World Abortion Laws Map," 2023.

⁴³⁵ Supreme Court of the United States, *Dobbs v. Jackson Women's Health Organization*, 597 U.S. 2022.

⁴³⁶ Judith Butler, *What World Is This? A Pandemic Phenomenology*, New York, Columbia University Press, 2022.

⁴³⁷ World Health Organization (WHO), "Abortion," 2022.

system.⁴³⁸ Similarly, the commodification of women's reproductive labor has historical precedents, from forced reproduction in slavery to modern surrogacy practices in unregulated markets.⁴³⁹ These connections not only highlight shared experiences of oppression but also challenge us to rethink the ethical frameworks that govern our treatment of reproductive bodies across species. By addressing these intersections, this chapter seeks to foster a deeper understanding of reproductive rights as a multidimensional issue, advocating for an ethical perspective that transcends species boundaries. Through a detailed analysis, the chapter aims to underline the urgent need for systemic changes that address reproductive exploitation in all its forms, paving the way for a more inclusive and compassionate ethical framework.⁴⁴⁰

In her work, Lisa Kemmerer explores the deeply intertwined relationship between power, gender, and the exploitation of female bodies, highlighting how those in positions of power (designated as "A" individuals) systematically control and exploit the reproductive capacities of females—whether human or non-human. Historically, women and children have been treated as the exclusive property of men, with women's bodies—particularly their reproductive systems—viewed as resources to be accessed, impregnated, and used for the benefit of their husbands, who claim their offspring to continue their name, lineage, and property. Similarly, in the practice of "animal husbandry," farmed animals such as cows, pigs, and turkeys are perceived as personal property: "their" cow or sow, whose bodies and reproductive capacities can be controlled and exploited for personal gain. The same dynamic of forced dependence is evident in the ways farmers treat these animals: impregnating them, using their bodies for personal benefit, and laying claim to their offspring. This pattern mirrors the way husbands have traditionally controlled their wives, exploiting their bodies, forcing pregnancies, and claiming their children—an oppression that, unfortunately, persists in some forms today.⁴⁴¹

While traditional marriage starkly demonstrates the power dynamics of "A" individuals over "Not A" individuals, sex trafficking offers an even more extreme example. Women ensnared in sex trafficking are targeted because their bodies are commodified and considered exploitable by those in the "A" category. These women are reduced to their legs, breasts, faces, hands, buttocks, and reproductive organs, transforming them into objects to be owned and controlled. Like animals caught in the meat industry, these women are viewed as property, and some "A" individuals go so far as to purchase and "own" them. Similarly, farmed animals are exploited because of their female biology: cows, pigs, turkeys, and hens are continuously forced to reproduce for the benefit of "A"

⁴³⁸ D. Fraser, D. M. Broom, *Farm Animal Behaviour and Welfare*, 2007, p. 145.

⁴³⁹ F. W. Twine, *Outsourcing the Womb: Race, Class, and Gestational Surrogacy in a Global Market*, 2012, p. 88.

⁴⁴⁰ P. Singer, *note 7*, p. 200.

⁴⁴¹ Lisa Kemmerer, *note 64*, p. p 72.

individuals, while cows and hens are also exploited for their milk and eggs.⁴⁴²

In modern industrial agriculture, the female animal body is not only exploited — it is instrumentalized on multiple levels, reduced to a site of continuous extraction. Nowhere is this more apparent than in the lives of hens and dairy cows, whose biology is shaped, controlled, and exhausted to maximize reproductive and productive output. These animals are subjected to a double exploitation: first, as reproductive organisms (laying eggs or producing milk through pregnancy), and second, as economic units generating food products for human consumption. This gendered dynamic reflects broader systems of patriarchal, speciesism, and capitalist domination.

Kemmerer further details the systematic exploitation of dairy cows. Their mammary glands and milk are owned, accessed, and controlled by dairy farmers for profit. Since mammals only lactate after giving birth, farmers forcibly impregnate cows using a device known as a “rape rack.” This process involves inserting a farmer’s arm deep into the cow’s vagina to inseminate her, leading to a nine-month pregnancy. In fact, in order to produce milk, a cow must give birth — and to maintain constant lactation, cows are artificially inseminated once a year.⁴⁴³ After calving, the newborn is typically removed within 12 to 24 hours, despite her efforts to protect it and her cries of distress. Studies show that both cow and calf exhibit vocalizations, increased cortisol levels, and restlessness post-separation. The maternal bond, integral to mammalian life, is severed for economic efficiency.⁴⁴⁴

Added to this is the emotional trauma of separation from their calves (maternal attachment similar to that of humans); naturally, they have a lifespan of 20 years, but exploited in this way, they live for four years and are then sent to the slaughterhouse.⁴⁴⁵ The calf is then sold for veal or raised to be forcibly impregnated and milked. The mother cow, deprived of her calf, bellows for days while machines extract her milk, destined to become yogurt, ice cream, cheese, or milk for human consumption. Although cows can live up to twenty-five years in sanctuaries, in the dairy industry they are considered “spent” after only five or six years of repeated impregnation, birthing, and milk extraction. At this point, often while still pregnant, they are sent to slaughterhouses, frequently arriving too weak to stand and are dragged or pushed off transport trucks.⁴⁴⁶ High-yielding cows are bred to produce 30–40 litres of milk per day, far beyond what their calves would require. This causes chronic mastitis (an udder infection affecting over 40% of intensively farmed cows), lameness, hoof lesions, and energy depletion due to metabolic stress. The cow’s life is thus structured around controlled reproduction, extraction, and early death.⁴⁴⁷

⁴⁴² Lisa Kemmerer, *note 64*, p 73.

⁴⁴³ European Commission, *Welfare of Dairy Cows*, DG SANTE, Brussels, 2020, p. 6.

⁴⁴⁴ EFSA, *Scientific Opinion on the welfare of dairy cows*, EFSA Journal, vol. 20, no. 2, 2022, p. 15.

⁴⁴⁵ Melanie Joy, *note 25*, p 67.

⁴⁴⁶ Lisa Kemmerer, *note 64*, p 74.

⁴⁴⁷ CIWF, *Dairy Cows: Life and Death*, 2016, p. 6.

Kemmerer emphasizes that cows suffer in the dairy industry precisely because they are female—because they lactate when they give birth—and because farmers feel entitled to manipulate and exploit female reproductive biology for profit. Dairy farmers profit not only from a cow’s milk but also from her calves and eventually from her own body, sold for hamburger meat. The same logic applies to hens, whose reproductive biology is exploited for egg production. In nature, hens would lay eggs, accumulate a clutch, and incubate them until they hatch. However, in the egg industry, hens and their eggs are entirely controlled by “A” individuals: laying hens have been selectively bred to produce up to 300 eggs per year, a radical departure from the 10–15 eggs annually laid by wild hens.⁴⁴⁸ Eggs are hatched in sterile, artificial environments far removed from the mother hen’s warmth and care. Instead of emerging beneath a mother’s feathers, chicks are born on cold, hard surfaces under bright fluorescent lights. These chicks never experience the sky, fresh air, or natural ground, living their lives in crowded, unnatural conditions. After hatching, chicks are carried on conveyor belts where males—useless to the egg industry—are discarded, either suffocated in bins or ground alive for fertilizer. The surviving female chicks are subjected to debeaking, a painful process that sears off part of their beaks to prevent them from injuring each other in crowded conditions. From that day on, they cannot eat or pen normally. These hens then live in large sheds until they are placed in battery cages—tiny spaces often shared with four or five others—where they remain for about a year, standing on wire floors, until they are sent to slaughter. Cages are stacked in rows, sometimes up to eight high, with feces from the upper cages falling on the birds below. Their feathers become broken and filthy, and they sometimes live with the decomposing bodies of dead cage-mates.⁴⁴⁹ These conditions impose serious physiological strain: hens frequently suffer from osteoporosis, calcium depletion, cloacal prolapse, and brittle bones, with up to 30% of caged hens experiencing bone fractures before slaughter.⁴⁵⁰ Many die prematurely from fatty liver hemorrhagic syndrome or exhaustion-related cardiac issues. The entire system is designed to steal the hens’ eggs as soon as they are laid, rolling them away from the hen’s warm body. When their egg production declines, food is deliberately withheld to induce a “forced molt,” triggering another cycle of egg-laying. Hens that survive this starvation period are shocked back into laying by the return of food, but they live in the same crowded conditions, often among the dead and dying. When they are no longer profitable, they are pulled from their cages by wings, feet, or even heads, often sustaining broken bones, and are either ground up as fertilizer, buried alive, or transported to slaughterhouses. There, they may be hung upside down on the kill line, and if not properly slaughtered, they may be scalded alive. Kemmerer concludes that a hen in the egg industry suffers this fate simply because she is female—because she has reproductive organs that humans feel

⁴⁴⁸ FAO, *Poultry Development Review: Egg production*, Rome, 2013, p. 9.

⁴⁴⁹ Lisa Kemmerer, *note 64*, p 74.

⁴⁵⁰ Temple Grandin, *Improving Animal Welfare*, CABI, 2010, pp. 63–66

entitled to control and exploit. Just as some men believe they are entitled to control women and girls, speciesist humans believe they have the right to control and exploit farmed animals: invading vaginas, impregnating wombs, claiming and exploiting offspring, denying freedom, and ultimately taking lives.⁴⁵¹

Once again, language plays a crucial role in justifying this system. We speak of *dairy production*, *egg yields*, *productive animals* — not of forced reproduction, maternal separation, or calcium depletion. Carol J. Adams highlights how the use of passive, technical vocabulary shields the consumer from the realities of suffering, reinforcing the animal's role as object rather than subject. This linguistic framework supports a broader system of ethical erasure. As she writes, these animals become “absent referents”: their lives and suffering are linguistically erased behind terms like *eggs*, *poultry*, or *layers*. The body of the hen is rendered invisible; its individuality flattened under the language of productivity and industry. Greta Gaard expands on this analysis, arguing that the industrial treatment of female animals mirrors patriarchal reproductive control over women — both reduced to roles of “reproductive machinery” with no consent or autonomy.⁴⁵² The suffering of female animals in industrial systems is not limited to physical pain. It extends to psychological degradation, as documented in behavioral studies. Hens in cages exhibit stereotypic behaviors such as repetitive pecking, pacing, and feather-plucking, often due to boredom and social stress. They are deprived of dust-bathing, nesting, and perching — core behaviors that define their ethological identity. Similarly, cows in confined systems experience social isolation, spatial restriction, and the stress of repeated insemination procedures.⁴⁵³

Feminist scholars interpret this as an instance of productive death: a life ended not for age or illness, but because the body no longer meets economic thresholds. Maneesha Deckha refers to this phenomenon as part of a “gendered posthuman subjectivity”, where the female animal is made into a living site of reproductive extraction. This mirrors forms of reproductive control historically imposed on human women — from forced sterilizations to state-regulated pregnancies.⁴⁵⁴ Ecofeminist thinkers like Gaard and Deckha call attention to the intersections of gender, species, and power. The female animal is not only biologically exploited, but socially coded as docile, productive, and replaceable. Her body is viewed as infinitely renewable, until it is no longer profitable. This view parallels historical treatment of women in patriarchal systems — particularly women of color, poor women, and disabled women, whose reproductive agency has often been

⁴⁵¹ Lisa Kemmerer, *note 64*, p. 75.

⁴⁵² Greta Gaard, “Ecofeminism and Climate Change,” *Women's Studies International Forum*, vol. 49, 2015, pp. 20–27.

⁴⁵³ Nicol, C.J. et al., “Behavioural indicators of poor welfare in laying hens,” *Animal Welfare*, vol. 15, 2006, pp. 33–34.

⁴⁵⁴ Maneesha Deckha, “Postcolonial, Posthuman, and Multispecies: Vulnerability and Animals,” *CJWL*, vol. 27, no. 2, 2015, pp. 291–296

controlled or suppressed in the name of national or economic interest.⁴⁵⁵

Reproductive control is not a historical relic — it is an active, evolving political project. From forced sterilizations to abortion bans, from medical paternalism to legal restrictions, the state and its institutions continue to shape the conditions under which women live, conceive, and parent. These mechanisms echo the objectification of female animal bodies: both are reduced to sites of productivity, surveillance, and disposability. In both cases, reproductive labor is politicized, abstracted, and commodified — and in both cases, resisting this logic is an act of liberation.

⁴⁵⁵ Roberts, D., *Killing the Black Body*, Pantheon Books, 1997, pp. 58-60.

3.6 Conclusions

The present chapter has demonstrated that the production and consumption of meat are not merely dietary or economic phenomena, but deeply embedded cultural practices shaped by power structures, gender ideologies, and systemic violence. From the normalization of intensive farming to the linguistic strategies that obscure the violence inflicted on animals, every layer of the meat industry reveals a wider matrix of patriarchal and capitalist control. Through the analysis of legislation, feminist theory, and cultural narratives, it becomes evident that the subjugation of animals—especially female animals—mirrors and reinforces the subjugation of women, both in symbolic and material ways.

The language of meat consumption, saturated with metaphors of domination and objectification, contributes to a collective detachment from the suffering of both animals and women. In this context, the bodies of animals are transformed into commodities, their sentience denied, just as women's bodies are rendered invisible in discussions of cultural and sexual violence. The cultural association of meat with masculinity further entrenches systems of oppression, privileging male dominance and reinforcing gendered hierarchies that exclude and silence alternative ethical paradigms.

Disrupting this system requires a cultural and linguistic re-framing—one that recognizes the interconnectedness of human and non-human lives and acknowledges the political power of naming violence. By unmasking the ideologies that sustain both carnism and patriarchy, we can begin to dismantle the structures that normalize exploitation and challenge the status quo. In doing so, we open the space for new narratives—rooted in empathy, justice, and mutual recognition—that restore agency to those rendered voiceless by dominant paradigms.

Conclusions

This thesis has demonstrated that the marginalization of non-human animals is not a peripheral issue, but rather a central feature of dominant legal, economic, and cultural paradigms. Through a critical examination of law, language, and ideology, it has shown that the exploitation of animal bodies—particularly in scientific and agricultural domains—is legitimized through mechanisms of normalization, invisibilization, and symbolic violence.

Drawing from feminist epistemologies and critical animal ethics, the research has highlighted the epistemic and material continuities between the oppression of animals and the subordination of women. Both are subjected to regimes that reduce sentient beings to biological utility, with their reproductive and bodily autonomy subordinated to systemic demands. Industrial farming and biomedical experimentation emerge not only as sites of physical domination, but as cultural constructs where language, law, and ideology converge to maintain hierarchies of value.

This work has also underscored the inadequacy of existing legal protections for animals, which remain rooted in a property-based paradigm that precludes recognition of animals as rights-bearing subjects. It is precisely this legal status that enables the commodification of their bodies and the perpetuation of violence behind closed institutional walls. Similarly, the symbolic erasure of violence in the cultural imaginary—particularly through euphemistic language—reflects broader mechanisms of denial that sustain exploitative systems.

In conclusion, the thesis calls for a reconfiguration of legal and moral boundaries: one that moves beyond anthropocentric ethics and embraces a framework of interspecies justice. Only by recognizing the interconnectedness of oppressions and the shared vulnerability of embodied life can we begin to dismantle the ideological scaffolding of violence. This shift demands not only legal reform, but a cultural transformation—one that foregrounds empathy, care, and relationality as ethical imperatives for coexistence.

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