

Animal Ethics and Welfare in the Fashion and Lifestyle Industries

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Abstract The purpose of this study is to contribute to the ongoing ethical discussion regarding the use of animals in the fashion and lifestyle industries and to address the attitude and behavioral practices currently being used in the field of animal production and animal welfare. The aim is to investigate, both theoretically and empirically, why it is necessary to apply and implement ethical standards and to address the challenges being faced in how animals are used in these industries. The impact on the environment, a general lack of awareness, and research into ethical consumption will also be explored. By questioning these issues, a better understanding of the contradiction in the ethical production and consumption of animals will emerge. This paper challenges today's decision makers in the fashion and lifestyle industries and argues that despite recent studies in this area, producers, designers, and other decision makers still lack knowledge of what must be addressed to sustain responsible production and consumption practices. The intention is not to write a dissertation on ethics but to attempt to generate interest in the issues that use and take advantage of other living beings, specifically nonhuman animals. The intent is to do this not through negative images, which are otherwise so easily available, but through the prism of impartiality. The goal is to get animal ethics and welfare on the agenda in the fashion and lifestyle industries and to qualify these issues on the same level as human rights and environmental issues. That all decision makers in the future will take responsibility and in turn improve the conditions these animals live in, while supporting the consumption needs of human beings, is the intention and purpose of this chapter.

Keywords Animal rights and ethics • Animal welfare • Non-human animal • Sustainability and flourishing • Decision makers • Answerability • Fashion and lifestyle industries

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1 Introduction

The more clearly we see the differences between animals and stones or machines or plastic dolls, the less likely it seems that we ought to treat them in the same way. (Midgley 1983).

“Anthropocene” is a popular scientific term designating an epoch that started when humans decisively influenced the planet by igniting the industrial revolution, resulting in a significant global impact on Earth’s ecosystems, including the life and welfare of nonhuman animals. It is widely agreed that the Earth is currently in this state.

This paper will empathize the importance that answerability ethics and animal welfare play in the fashion and lifestyle industries of today.

ANSWERABILITY ETHICS (or CRITICAL ETHICS)—Bakhtin’s (1990, 1993)

Answerability is understanding the “systemicity” of which one is a part and applying change to stop reproducing unethics. This is working for change, striving for individuality within a social movement, instead of simple individuality (self-absorption).

Over the past 25 years, a slow although radical change has taken place within the fashion world toward more sustainable production. One of the multinational athletic-wear giants, Nike, once accused of paying low wages and having poor working conditions at one of its Indonesian factories, is 25 years later considered to be one of the world’s most sustainable companies. Although it must be noted, it is still criticized for its lack of transparency and responsibility in choices of factories and wage issues.¹

According to Ehrenfeld (1999), *Cultural Structure and the Challenge of Sustainability*, sustainable development is a new paradigm that necessitates a new approach in every action and mindset. This includes basic human rights such as justice, freedom, and dignity.

The focus on sustainability in this sector has, if not factually, then theoretically placed human beings and their environmental challenges on the agenda. This is evidenced in the example from NIKE 25 years ago when child labour and basic human rights were not prioritized. It is only recently that animal ethics and welfare issues have been brought into focus in the fashion and lifestyle industries.

The following example is a general picture of how to describe and process the subject of sustainability within this sector. Animals are not mentioned by name and are therefore not acknowledged as recognizable or worthwhile or as differing

¹<http://www.triplepundit.com/special/sustainable-fashion-2014/brief-history-sustainable-fashion/>.

from nature; as a result, they are not given the same value and assimilation as plants and other organisms:

Within the clothing and textile industry, issues have been raised in several environmental and ethical areas throughout the supply chain. The scope starts from the excessive use of land (3), water and pesticides in growing natural fibres, especially cotton (4); then extends to excessive water and chemicals used and discharged from fabric production, particularly the textile dyeing and finishing process (5). Research has also shown that the clothing usage process, in particular laundering and tumble drying, is more energy intensive than production processes (6). Furthermore, the deflation of garment prices since the 1990s of clothing imported from developing countries (7) has raised the issue of unfair labour sourcing in overseas clothing suppliers and manufacturers (8). This deflation has increased the overall carbon footprint as a result of import logistics (9) and created a cheap and disposable clothing culture that generates more waste, much of which ends up in landfill (10). Such problems have created a growing interest in this subject.” (Saicheua et al. 2011)

Those who have been highlighting the issues about animal welfare have been ridiculed as emotional activists and extremists or are simply ignored by an industry that has chosen to turn a blind eye to a subject that is far more complicated to deal with due to traditions, cultures, and a lack of industrial awareness.

“First they ignore you, then they ridicule you, then they fight you, and then you win.” Mahatma Gandhi

It is said that sustainability within the fashion sector is an evident contradiction that raises critical and challenging issues for the clothing industry, for example, how can fast fashion be sustainable when sustainability has to do with a long-lasting perspective in every way (Walker 2006).

This emphasizes the importance of animal ethics and welfare in the fashion and lifestyle industries. How can designers, manufacturers, producers, farmers, and entrepreneurs make use of animals as a natural resource within an industry that always changes and is considered to expand in every way, everywhere, all over the world, always demanding more and something new?

The development within the new paradigm of the sustainable mind-set in the fashion industry makes it inevitable not to counteract ethics and morality. Actually, every choice made in the business of fashion and lifestyle is a matter of ethics, which makes it immensely important to become aware of the consequences of one’s actions and choices in every single detail throughout the process.

Involving, including, producing, designing, farming and working with something from another living being demands answerability ethics from the one making this choice. Many people find it incomprehensible and not important to relate to animal suffering when our own race, the human race, is constantly still facing interminable and unsolvable problems and challenges. To these people,

it's an either/or question, whereas to those who relate to the challenges faced by nonhuman animals this does not seem to exclude taking care or showing responsibility their own race. To these people answerability ethics is the only choice.

1.1 To Choose

The fundamental and most elementary choice is to make a conscious choice, whether it resides in a design process or a manufacturer, and to examine this choice for further enlightenment. Therefore, the first decision to take is whether one is convinced that the use of animals as a resource is ethically acceptable.

Afterward one must look at this choice from the perspective of the animals involved. It is necessary to focus on which animals are involved, to decide if another material could be used, asking if there are consequences for the life of the animal chosen, and to consider the costs and environmental impacts and those for the humans involved.

If we learn to make a product or service more sustainable, all we've probably done is figured out how to make the wrong thing last for a longer time. What we must learn is to make not just anything, but the right thing and make it to last for as long as possible. (Ehrenfeld et al. 2013)

This chapter aims to go through the elements relevant for decision makers to gain an overview and understanding of this issue from a historical perspective, an ethical perspective, and an environmental perspective, and to comprehend how all elements are interconnected. This presentation will be divided into two parts—the theoretical and the practical—which may seem to differ in approach, but this will provide a broader overview and perspective for decision makers within this field.

We are all interconnected, people, animals, our environment. When nature suffers, we suffer and when nature flourishes, we all flourish. Dr. Jane Goodall

Once upon a time, the human species existed as hunters and gatherers. The general assumption today is that in everything the human species knows and practices today started in this period of man's evolution.

In many ways, the past is used as an indicator of how much humans have evolved today. Over the past 100 years, man has taken the most incredible developmental steps in society, science, and technology.

This development is emphasized in the everyday language used by the ordinary consumer, yet it is expressed in derogatory terms such as 'back then,' stressing that humans no longer live, think, or act in the present.

It seems important to humans to be ahead of development, innovation, and new initiatives. Whether it is in the way people live, think, consume, work, organize, research, or are educated, the tendency is to look ahead. The past is an image of how man acted "*back then*," i.e., not knowing any better, but today man is reaching seemingly new conclusions in the future of development.

The stone age didn't end because we ran out of stones. The stone age ended because other efficiencies were gained with other raw materials. Jill Dumain Vlahos, Patagonia (Krüger et al. Guideline II, 2012)

However, some things do not seem to change, which is evident in a human's desire for decoration and luxury goods. Since the beginning of time, a range of fundamental needs and instincts has existed that made it possible for man to survive and develop, to decorate, and to communicate through dress, thus expressing the essential basis of understanding of who humans are and where they belong as human beings.

Dress is a visual form of communication. Before two people are close enough to each other to exchange words, they communicate a world of information (or misinformation) through dress. They may register gender, age, ethnic origin, income, social status, rank, occupation, group membership, sexual availability, personality, opinions, beliefs, tastes, interests, and mood. Some scholars have suggested that because so much information is exchanged through the medium of dress, face-to-face social interaction would be almost impossible without it. There are few places (perhaps none) in the world in which no gender differences in dress exist. Those who participate in a particular culture learn how to distinguish males from females at an early age. (Evenson SL)

In those parts of the world considered to be developed and wealthy, it is possible to find this form of exchange of information and communication flowing everywhere in all levels of society. This is seen through the wearing of high-fashion brands, expensive designer clothing, jewelry crafted from precious and expensive metals or gemstones, and prestige types of fur and hides.

Some of the most luxurious products and materials recognized as the most valued and appealing are being extracted or processed in the most controversial ways. Today diamonds and rubies are extracted from mining by exploited workers. Calfskin and karakul lamb coming from baby or unborn animals are still recognized as the most beautiful, durable, and iconic materials in the world. Fur and jewellery have been the status quo for royalty and celebrities for centuries, creating an undeniable trickle-down effect into the present.²

Worldwide those people using and wearing these materials consider this their right, reasoning that human beings have always worn fur and hides. However, this conclusion is debatable because humans actually did not wear garments for an extended period of time.³

Although humans consider themselves to be intellectually and technologically superior to their cave-dwelling ancestors, they still decorate their homes, modes of transport, and bodies with the skin of animals of all sorts. Today there are no

²<http://www.furinsider.com>.

³<http://www.dailymail.co.uk/sciencetech/article-1345109/Man-started-wearing-clothes-170-000-years-ago-according-study-LICE.html>.

components in which any animal product cannot be replaced by another material, and due to this fact the industries that are using animals must justify their images of using “natural” resources as being synonymous with functional but mostly aesthetic quality. As technical textiles develop further and synthetic leathers, furs, and fillings improve, industries dealing with living beings will become more compelled to face this challenge of natural versus quality and act accordingly.

What we need is a deep shift in values that is on a par with the Reformation, the Renaissance, the Enlightenment, or the Industrial revolution. These are “paradigm shifts” (in the words of Thomas Kuhn) changes in the way we think about ourselves, each other and the world around us. (Ehrenfeld et al. 2013)

1.2 *Let’s Go Back*

When did humans actually start to wear animal hides as clothes “*back then*”? This has been a very challenging question for researchers to determine because early clothes would have been constructed from animal hides, which, as organic materials, degraded rapidly and thereby erased all evidence of their existence.

This is why a group of scientists base their data on studies of body hair and on the origin of pubic lice in humans. This research into the DNA of lice has found that man started wearing clothes about 170,000 years ago, 100,000 years before he migrated to colder climates (Toups et al. 2011).

Because they are so well adapted to clothing, we know that body lice or clothing lice almost certainly didn’t exist until clothing came about in humans.

The study also shows that humans started wearing clothes well after they lost body hair, which genetic skin-colouration research pinpoints to be approximately 1 one million years ago. Man therefore spent a considerable amount of time without body hair and without clothing reported Dr. Reed.

It’s interesting to think humans were able to survive in Africa for hundreds of thousands of years without clothing and without body hair, and that it wasn’t until they had clothing that modern humans were then moving out of Africa into other parts of the world.⁴

Even though hides are believed to be one of the earliest uses for clothing, animal hides could also be used for other purposes such as providing shelter. The first evidence of tools used to scrape hides appears to be approximately 780,000 years ago (Carbonell et al. 1999), but this does not necessarily mean that these scraping tools existed for the use of clothing. Forty thousand years ago, sewing needles appeared suggesting a complexity in the making of garments, and these studies indicate that the use of clothing may have evolved anywhere from 40,000 years to

⁴<http://www.dailymail.co.uk/sciencetech/article-1345109/Man-started-wearing-clothes-170-000-years-ago-according-study-LICE.html>.

3 million years ago as evidenced in geological chronology. Given the vastness of this time span, alternative approaches for estimating the origin of clothing use are essential (Reed et al. 2007).

One conclusion is that man dressed himself in hides from animals as his very first garment. As to when humans evolved from animal hides and into textiles, the first fabric is thought to have been an early antecedent of felt. From there, based on impressions of baskets and textiles in clay, early humans took up weaving some 27,000 years ago.⁵

The importance in these facts is that for some reason this ancient way of dressing has not evolved. Fashion and lifestyle industries are still using hides and textiles today to dress consumers even though innovation has occurred in almost everything else produced today.

The food industry and the fashion and lifestyle industries have in common the challenge of future production for billions of people worldwide. These industries use a large number of animals in their productions, and the cultivation of soil for growing crops to rear and feed these animals, which provide food, wool, and other products, must be considered.

Livestock production is the world's largest user of land, either directly through grazing or indirectly through consumption of fodder and feed-grains. Globally, livestock production currently accounts for some 40 % of the gross value of agricultural production. In industrial countries, this share is more than half. In developing countries, where it accounts for one-third, its share is rising quickly; livestock production is increasing rapidly as a result of growth in population and incomes and changes in lifestyles and dietary habits. (Bruinsma 2003)

As in the fashion industry today where using fur and hides from animals for products and materials is considered the norm, eating meat is considered the norm by which man evolved. Studies show that our ancient ancestors were eating meat at least 1.5 million years ago and that eating meat contributed through increased protein intake to the growth of our brains.⁶

The claim here is just that eating meat to most people in the Western world today is an integrated part of their understanding of what a good life is. Meat is an essential part of most meals and at festive times such as holidays the meal is often centered around certain traditional ways of serving a certain animal: Thanksgiving turkey, Christmas goose, Easter lamb, etc. To problematize meat is thus to problematize not only cultural traditions connecting us to the past, but also problematizing current visions of the good life. It can basically be seen as a threat to realizing what people strive to have. (Gjerris 2014)

These arguments contribute to why people worldwide intensely discuss animal ethics and welfare, and why both industries must take into consideration these arguments when developing future production methods.

From an historical perspective, humans have made numerous objects, had several beliefs, and performed more evil deeds that later on turned out to be

⁵https://en.wikipedia.org/wiki/History_of_clothing_and_textiles.

⁶ScienceDaily.com. 4 October 2012.

wrong. So the question must be asked: Is the historical argument, i.e., that it is right to eat meat and wear furs and hides based merely on the fact that humans have been doing this for thousands of years, still acceptable? If the answer is yes, another question must be answered: How are these productions then going to take place in the future?

Since the advent of industrialized animal production after World War II, the use of animals has been both philosophically and publically debated as seen in Ruth Harrison's *Animal Machines* (1964). The purpose of humanities and sciences is to create interpretations rather than conclusions or solutions, and that is why there can be no definitive and final results related to this topic.

Even though guidelines on right or wrong would make everything much easier when making decisions, the public often has a personal opinion in relation to culture and traditions. These personal feelings, emotions, experiences, and educations do have an influence on choices made when dealing with the use of animals as products. This is why it is necessary for not only consumers, but also designers and producers, to set the agenda and improve ethics and animal welfare in the future production of fashion and lifestyle products.

Given ethical changes and the awareness of "sustainability," toward the environment as a whole and working conditions for laborers over the past decade, it is essential for the fashion and lifestyle industries to address several aspects concerning the use of animals as a resource and to do so on equal terms with the aforementioned. To work with and use any living being as a resource requires more than simple nourishment but also the possibilities to thrive and flourish. John Ehrenfeld describes this beautifully:

Flourishing

Not a word that is in regular use within common discourse, flourishing means not only to grow, but to grow well, to prosper, to thrive, to live to the fullest. It is a dynamic word, representing change and striving.

2 Animal Rights

Legally, at international levels (EU) a series of laws has been passed that puts limits on the use of animals required to meet human needs and desires. One can say that in this way society already recognizes animals as ethical subjects. Animals are no longer to be regarded only as a resource (European Union 10.III.1976).

In 1948, the Universal Declaration of Human Rights was adopted by the UN General Assembly. World leaders decided to guarantee the rights of every individual everywhere.

To write a chapter on animal ethics is actually quite a challenge because this subject is surrounded by a very tense atmosphere. As a result, many people go far in their way of expressing what they believe should be the rights of animals, while others shake their heads in lack of comprehension.

Comparing this subject with any other subject in the entire value chain in the fashion and lifestyle industries—such as pesticides, wastewater pollution, transportation issues, and working and labour issues—it is easy to agree that on one level fair wages, clean industry, and water/energy consumption are all very important issues. Delving into the issue of using animals ethically and sustainably in the fashion and lifestyle industries is often associated with radical movements and organizations, which split people into two camps.

The question is this: Will it ever be possible to find agreement around this subject world wide, as was demonstrated with the issue of human rights, due to the fact that there are different stakeholders, cultures, traditions, history, and beliefs in the way animals are treated?

The kind of respect found amongst people working for “human rights” is not found amongst people working for “animal rights,” and this alone makes it very challenging to describe this subject without being labelled as either “fanatical” or “emotional” and thereby not academically correct in relation to scientific fact.

One can say that the term “animal rights” is a label because it is based on the idea that all nonhumans are entitled to their own life and that their basic interests are to be considered on equal terms with the interest of human beings. This means that some people believe that any kind of use of any animals is unethical, that humans have no right at all to use animals alive or dead, and that animals are to be regarded as living species on the same level as human beings or at the very least under the protection of human beings.

In the opinion of some people, animals should not be used as food, clothing, research subjects, or entertainment in any way at all. One of the people advocating for animal rights is Richard D. Ryder (1940-) a British writer and psychologist who became known in the 1970s as a member of the Oxford Group, a group of intellectuals loosely centered on the University at Oxford, who began to speak out against animal use. Ryder is the author of a number of books about animal research, animal rights, and morality in politics, including *Victims of Science* (1975), *Animal Revolution* (1989), and *Painism: A Modern Morality* (2001).⁷

I do not wear, buy, or own fur.... Every designer who kindly lends me clothes for public appearances can tell you that I do not accept ... fur pieces, even when they're only a small part of the outfit. **Carla Bruni-Sarkozy.**

The official statement from The White House:
“Mrs. Obama does not wear fur.”⁸

⁷<http://www.richardryder.com>.

⁸<http://news.instyle.com/2009/05/11/its-official151michelle-obama-is-fur-free/>.

Philosophically, there is also a growing consensus that animals belong to our ethical community, although there is considerable disagreement about why they can be said to be ethically relevant beings and the extent to which they can be compared with humans.

According to Finnish pioneer Leena Vilkkä, PhD, animal welfare is based on zoocentrism, a philosophy where issues, concepts, and values of animals are central, which is in contrast to anthropocentrism, which centers on the value of humans. She states that animals have been treated as instruments and models for human illness or as raw materials in the form of meat/fish, science, and fur and wool economies, for the benefit of human needs. The zoocentric approach, from a perspective of humans' well-being, demands being humane and not uncompassionate and brutal to animals (Leena 1997, pp. 37–38).

Basically, manufacturers, designers, and consumers must begin to relate to the fact that a resource in industrial production is alive in the sense that animals are living beings and must be treated differently as opposed to when growing and using plants or other man-made fibres. The first step for any producer, designer, or consumer must be to recognize and acknowledge this fact to act and develop an awareness and sense of responsibility in this area. It is necessary to be open minded and prepared to examine these issues, which can help in accessing and relating to future design processes, production methods, and daily consumption.

The following section describes the three most prominent positions today concerning animal ethics. Utilitarianism is a subject represented by Peter Singer, animal rights ethics by Tom Regan, and virtual ethics by Rosalind Hurst.

3 Animal Welfare and Ethics

Ethics is about responsibility

- Who is responsible?
- Whom do you have responsibility for?
- What is the responsibility about?
- What happens to us when we do not take responsibility?⁹

There appears to be a growing interest in animal welfare worldwide with increasing attention being paid to this subject by the media, government, and especially nongovernmental organizations. The volume of scientific research on animal welfare has also increased significantly, and today, due the Internet and social media, it is easier for anyone to access and gain knowledge (OIE 2013).

As mentioned in the introduction, when discussing the ethical aspects of using animals, whether it is in the meat industry, the pharmaceutical industry, or the fashion and lifestyle industries, various positions, attitudes, and opinions point out

⁹Gjerris M, YouTube, May 18 2015.

basic values about animals, human needs, and the “good life.” These are the values toward which ethical theories aim to coherently point (Fraser et al. 1997).

This makes it even more important to gain an ethical overview and become acquainted with the historical facts about the particular product chosen for use or through information in order to set up one’s own ethical precautions, develop one’s own code of conduct, and not least of all, to be able to communicate these actions and attitudes for one’s end users and stakeholders, thus completing the value chain and becoming truly transparent.

This is well emphasized in the following quote by Mickey Gjerris:

By doing this I obviously run the risk of only saying irrelevant things as these basic experiences might not be recognizable to others. I do, however, hold that it is one of the tasks of philosophy to express interpretations of the thoughts and ideas that lived existence gives rise to. In that sense this can be seen as an example of the kind of phenomenological thinking that the Danish theologian K.E. Løgstrup was an exponent of (e.g. Løgstrup 1997). Ole Jensen, one of Løgstrup’s students who later became a doctor of theology himself has later characterized Løgstrup’s phenomenological methodology as a ‘*demonstratio ad oculus*’, basically meaning: GO AND SEE FOR YOURSELF (Jensen 2001). (Gjerris 2014)

Animal ethics is defined as the proper relationship between humans and animals. Animal welfare is a part of this discussion focusing on how an animal experiences its existence within the limits given by humans.

3.1 Definition of Animal Ethics

As long as men massacre animals, they will kill each other. Indeed, he who sows the seeds of murder and pain cannot reap joy and love.
PYTHAGORUS

http://www.think-differently-about-sheep.com/Why_Animals_Matter_A%20Religious_Philosophical_Perspective_Philosophy_Quotations.htm

As seen throughout history, the relationship between humans and animals has always been the subject of ethical thinking and argumentation. The ancient Greek philosopher Aristotle concluded that there were three kinds of souls: A plant soul, the essence of which is nutrition; an animal soul, which encompass the basic emotions such as desire, pain, pleasure, and the ability to react and the human soul, which includes reasoning as well as self-awareness and moral sense. Another philosopher, Plato, said the soul will always choose to do good if it recognizes what is good. The philosopher Pythagoras urged respect for animals, believing that human and nonhuman souls were reincarnated from human to animal and vice versa. Against this, Aristotle argued that nonhuman animals had no interests of their own, thus ranking them far below humans. He was the first to create a taxonomy

of animals; he perceived some similarities between humans and other species, but argued for the most part that animals lacked reason (*logos*), reasoning (*logismos*), thought (*dianoia, nous*), and belief (*doxa*). (Based on Uconn Health Center 2015). In addition, religious beliefs, descriptions, and regulations for how one should treat animals were and continue to be interpreted and discussed by different parties based on the Bible, the Quran, and Hinduism.

One is dearest to God who has no enemies among the living beings, who is nonviolent to all creatures. Bhagavad Gita (<http://www.serv-online.org/Hinduism-quotations.htm>)

In modern times, there are a number of interesting impact points that are worth noting. In 1822, the first actual legislation on animal welfare was adopted by a western country, England. The law prohibited the “unnecessary cruelty against another man’s animal.” Although part of the legislative objectives was to protect private property rather than animals, the law is still notable because this was the first time a law was made to protect animals through legislation, at least to a limited extent (Sandøe and Christiansen 2009).

Developments in livestock production in the Western world since the Second World War have been characterized by efficiency. The goal has been to produce as much food as possible as cheaply as possible. This has caused the prices of eggs, dairy products and meat to fall considerably through changes in production, better disease control, better feeding strategies, and an intensive breeding program, which—taken together—has developed an extremely effective system. This efficient development is also seen in textile and clothing production, which also includes the different animal breeds used for clothing production. Effectiveness also means that the animals in modern farming are kept under conditions that have been discussed worldwide from an animal welfare and animal ethics point of view (Bousfield and Brown 2010).

The following section will describe the ethical discussion raised by that intensive livestock production whether it is for fashion or food—or both—by elaborating on three key philosophical positions within animal ethics proposed by some of today’s thinkers who are working with them: utilitarianism, animal rights, and virtue ethics. To understand the various positions, it is necessary to ask two fundamental questions:

- Is an animal at all ethically significant?
- What is meant when talking about “welfare.”

Most human beings have an intuitive sense of how to act ethically toward another human. This includes a sense of what constitutes an ethical community, an ethical government, an ethical business, or an ethical society. This ethical group could be defined as a group of human beings who interact in a way that involves ethical

considerations of what is right and wrong. Also, most human beings have some reasonably clear beliefs about who belongs to this ethical community and who or what is not included. An example of this type of inclusion could be defining things of instrumental value, the value given to a subject where its value lies not in the object but in its use. In this sense, one can act right or wrong toward another human being, but one cannot act right or wrong toward a physical thing like a car or a computer.

If a being is not capable of suffering, or of experiencing enjoyment or happiness, there is nothing to be taken into account. (Singer 1989)

According to the afore mentioned definition it is very wrong to kill another human being, intentionally or not, but it is not wrong to damage the car or the computer; although of course it could be considered a waste of resources, but the car/computer is not aware of this action and it would not be a wrong action towards the car/computer itself.

An ethical community includes people with dementia, those who are physically disabled, including infants, and those who are severely mentally ill, all of whom can not live up to the demands of rationality and moral sense that are necessary in any community. Based on this fact the philosopher Peter Singer criticizes that not to include animals in the ethical community is unreasonable and discriminatory because it can be argued that animals (also called “nonhuman animals”) meet these rationally and morally challenged requirements on equal terms as some beings classified as humans (Singer 1989).

3.2 Definition of Animal Welfare

To set up ethical standards and develop a code of conduct in businesses today, it is necessary to understand animal welfare and the ethics connected to production. This has already been described not only by several thinkers and philosophers but also by governments and other organisations.

There are too many definitions of animal welfare for this next chapter to provide a complete conceptual analysis; therefore, only definitions regarding the use of animals in connection with the fashion and lifestyle industries will be explored. These definitions are drawn from thinkers and organisations often used to provide valuable guidance on animal welfare.

Animal welfare is defined by Hughes (1988), as a state of physical and mental health where an animal is completely in harmony with its environmental surroundings.

A definition of animal welfare, which describes the inter-working conditions the animals perform for the needs of humans, is proposed by Carpenter (1980), as that of one where animals must be allowed to adapt without suffering in an imposed environment set by humans.

Suffering occurs for animals when they experience something difficult or painful that is too prolonged and too severe to cope with as induced by human subjectivity. “Let us not mince words: Animal welfare involves the subjective feelings of animals” (Dawkins 2011).

1. Saunders Comprehensive Veterinary Dictionary:

Animal welfare means the avoidance of abuse and exploitation of animals by humans by maintaining appropriate standards of accommodation, feeding and general care, the prevention and treatment of disease, and the assurance of freedom from harassment, and unnecessary discomfort and pain.

2. OIE (The World Animal Health Organisation) Definition of Animal Welfare:

Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter/killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.

3. The Five Freedoms

In 1965, the United Kingdom (UK) government commissioned an investigation, led by Professor Roger Brambell, into the welfare of intensively farmed animals, partly in response to concerns raised in Ruth Harrison’s 1964 book, *Animal Machines*. On the basis of Professor Brambell’s report, the UK government set up the Farm Animal Welfare Advisory Committee in 1967, which became the Farm Animal Welfare Council in 1979. The committee’s first guidelines recommended that animals require the freedoms to “stand up, lie down, turn around, groom themselves and stretch their limbs”. The guidelines have since been elaborated upon to become known as the Five Freedoms: (1) Freedom from thirst and hunger—by ready access to fresh water and a diet to maintain full health and vigour. (2) Freedom from discomfort—by providing an appropriate environment including shelter and a comfortable resting area. (3) Freedom from pain, injury, and disease—by prevention or rapid diagnosis and treatment. (4) Freedom to express normal behavior—by providing sufficient space, proper facilities and company of the animal’s own kind. (5) Freedom from fear and distress—by ensuring conditions and treatment which avoid mental suffering (Bousfield and Brown 2010).

As can be seen from these definitions, animal welfare is an important subject most people can agree upon, but it is much more difficult to reach an agreement on what animal welfare actually is regarding its application in industrial production.

The welfare of animals in the intensive animal production system is heavily debated. Different notions of what animal welfare actually is, fuels a lot of these debates. In the public sphere, the discussion often takes the shape of a disagreement between producers whose view of animal welfare is often closely linked to parameters also relevant for production rates such as growth, litter size, disease rates and mortality (Te Velde et al. 2002; Bock and van Huik 2007; Vanhonacker et al. 2008) and animal welfare/rights organisations, consumer organisations and citizens to whom parameters as pain perception and ability to perform species specific (natural) behaviour is important (Gjerris et al. 2006; Martelli 2009; Miele 2010). These general views are reflected in the debate within animal welfare science on which welfare paradigm should be used when attempting to evaluate the welfare of animals (Gjerris 2014).

In addition, animal welfare does not only relate to welfare issues in the live-stock industry but also ethical issues such as keeping animals caged or killing them regardless of their living conditions.

4 Utilitarianism, Rights Ethics, and Virtue Ethics

Being aware of the various ethical theories helps a decision maker choose wisely, whether as an ordinary consumer, a designer, or manufacturer, and allows him or her create and substantiate transparency in such decisions.

The following descriptions of different theories are based on the interpretations of the Danish philosopher, Jes Lynning Harfeld, PhD, and Mickey Gjerris, PhD and MA Theology, and is intended to serve only as an introduction and inspiration for further research.¹⁰

Utilitarianism (Bentham 1748–1832): Utilitarianism is the position that on the surface is the critical use of animals, but in practice allows anything as long as welfare is maximized and does not care about the individual but see them as containers for welfare.

Right ethics: Right ethics is the position that rejects all use of animals because it violates their rights not to be used as mere means and rather to have their freedom.

¹⁰www.harfeld.dk, www.mickeygjerris.dk.

Virtue ethics (eudaimonia): Virtue ethics is the position that points out that humans have the responsibility to give animals the opportunity to live a good life and that this can be seen as an expression of the virtues that also help to ensure man a thriving life.

5 Peter Singer

One of the first and most influential works on animal ethics in modern philosophy is *Animal Liberation: A New Ethics for Our Treatment of Animals* from 1975, written by the Australian philosopher Peter Singer (1946–). This book has helped usher in criticism of traditional ethnocentrism and has inspired numerous books on animal ethics from various philosophers and thinkers over the past several decades.

Singer's approach to animal ethics is partly based on the philosophical heritage of the English jurist and social reformer Jeremy Bentham (1748–1832). It is from Bentham that Singer inherited the idea that the ability of animals to experience suffering and enjoyment should be the justification for their inclusion in the community of ethically relevant beings. Thus, Singer quotes Bentham's famous words: *The question is not, Can they reason nor Can they talk? but, Can they suffer?* (Singer 1989).

Singer's approach is incontestably utilitarian. Utilitarianism is defined in various ways including the feeling of pleasure and the lack of suffering. Utilitarianism is an ethics of consequence, a form of right and wrong, which suggests that the "end justifies the means." This means that to assess and judge an action, it is necessary to compare and balance the types of consequences which this action may have including both the "sum-logic" and the weight of an individual's welfare. Singer's argument here is that animals have the ability to experience pain and pleasure, not just react to their environment as elements of nature do. An example of this would be a this: A stone heated by the sun does not actually have interest in or preference for whether it is cold or hot. According to Singer there is nothing that matters to a stone, and therefore welfare does not mean anything to these natural elements. Actually, they cannot experience welfare at all (Singer 1989).

This theory suggests, in principle, that some animals may experience poor welfare if this is sufficiently counterbalanced by others experiencing good welfare.

Sum-logic: To sum up units of pleasure and units of pain or a precise measurement of the overall good or evil tendency of an action is not essential, but it is nonetheless necessary for the utilitarian to make some interpersonal comparisons of the values of the effects of alternative courses of action.

Because animals are obviously not capable of expressing themselves in the same way as human beings, how then is possible to access information on what is experienced as poor welfare for an animal? Singer's answer is to look at what science tells about the similarities between animals and humans at relevant points. The fact is that some animal brains and physiques resemble human brains and physiques and humans are able to experience suffering or pleasure. For instance, when a child falls and gets hurts, the child experiences pain. Thus, according to Singer's suggestions on similarities, it is clear that when a pig or a calf experiences something similar and behaves in a similar ways, it should experience pain as well.

Singer points out that humans have in common with animals, especially mammals and birds, the same parts of the central nervous system that are necessary to experience pain and pleasure. These basic parts of the central nervous system are in an evolutionary sense quite old, and today's animals and humans have them in common from evolutionary ancestors (Singer 1990).

Ethics to Singer is basically how animals can experience suffering and pleasure. Animals can have good or poor welfare. In Singer's point of view, it does not matter what or who is to blame for the good or bad welfare. His only interest is within such aspects as (1) the natural freedom and rights of the animal and (2) if when these are applied whether they contribute to the welfare of the animal's pleasure rather than suffering. Singer's focus stems from the fact that humans use billions of creatures on a global scale and that those creatures can have good welfare but, as is often the case, they have poor welfare.

Because it is difficult for animals to live lives where their interests are respected and in turn would experience good welfare, Singer blames modern animal husbandry practices for not taking care of animals' basic interests. Not experiencing suffering, for example, seems to be almost excluded in modern farming. This does not mean that Singer by principle is opposed to the production of animals for consumption. In Singer's version of utilitarianism, he does not find anything wrong with farms that have a convincing focus on animal welfare. This is described as an environment where (1) the animals live their lives with many positive experiences, which thus (2) allows them to not only get their needs met but also experience a high degree of general welfare and then in the end (3) to be slaughtered without fear and pain, in turn to be replaced by other happy animals.

6 Tom Regan

The American philosopher Tom Regan (1938–) specializes in animal rights and animal theory. Regan is the author of numerous books on the philosophy of animal rights. In 1983, in his book *The Case for Animal Rights* Reagan gave a response to what he saw as a problem regarding parochial focus on welfare as well as a utilitarian fallacy about the basis for the ethical relevance of animals. Regan's criticism of utilitarian welfare thinking is reflected in a background of an ethical focus on individual rights and justices. This is a theory that is mainly inspired by the German deontological ethics (deon = duty) writer Immanuel Kant (1724–1804).

In the utilitarianism position, suffering and pain is the lowest common denominator, but from Regan's point of view the lowest common denominator for ethical relevance within an individual is far more comprehensive. He argues that nonhuman animals, what he calls the "subjects-of-a-life," are just as human and describes them as beings that include more features such as imagination, desire, memory, self-awareness, and individual experienced welfare (Regan 2004, pp. 243). Regan describes utilitarianism as "a *duty* to perform an act that will bring about the best consequences for all those affected by the outcome" (Regan 2001, pp. 14).

Regan's inspiration and philosophy aligns broadly within the traditions of Kant, pointing to a moral obligation to treat other life subjects "always as ends, never merely as means" (Regan 2001, 17). However, he rejects Kant's idea that respect is due only to rational beings. If one is a life subject, one has, according to Regan, the right not to be used as a means. This entails the right to be treated with respect and includes the right not to be harmed. The intrinsic and absolute value and the aspect of welfare cannot rightfully be undermined by references to the other living beings denied benefits and welfare.

To be natural, or a part of natural wildlife, is not a factor in Regan's concept of animal ethics. However, it is to be understood that his thoughts about rights are based on an understanding of natural rights, and the idea of intrinsic value is partly therefore the right to liberty where animals have a right to their own self-selected natural life in the wild. Although to be natural is not an explicit criterion for what humans owe animals, morally in theory it is necessary as an aspect when it comes to practice because Regan's conclusion regarding humans is that humans should set animals free. Free to live their own lives, their own natural life in the wild.

The fundamental wrong is the system that allows us to view animals as our resources, here for us — to be eaten, or surgically manipulated, or exploited for sport or money. Once we accept this view of animals - as our resources - the rest is as predictable as it is regrettable. (Regan 1985, pp. 13–26)

Why is the idea of being the subject-of-a-life important? Because it illuminates our moral sameness, our moral equality.

As subjects-of-a-life, we are all the same because we are all in the world.

As subjects-of-a-life, we are all the same because we are all aware of the world.

As subjects-of-a-life, we are all the same because what happens to us matters to us.

As subjects-of-a-life what happens to us matters to us because it makes a difference to the quality and duration of our life.

As subjects-of-a-life, there is no superior or inferior, no higher or lower.

As subjects-of-a-life, we are all morally the same—all morally equal.

(Regan 2015)¹¹

¹¹<http://tomregan.info/sentiency-and-rights-some-observations/>.

7 Rosalind Hursthouse

Rosalind Hursthouse has been a powerful voice within virtue ethics since the 1990s, a voice that has had an impact on animal ethics. Within an overall account of human flourishing, Hursthouse's most significant contribution to modern virtue ethics is her book *On Virtue Ethics*, 1999. Her book is a distinctive action-guiding theory that examines the relationship between virtue, the emotions and moral motivation, and the place of the virtues in animal ethics.

Hursthouse's book *Humans, and other Animals*, 2000, is ideally suited to newcomers exploring philosophy and ethical problems because she carefully introduces the three standard approaches in current ethical theory: utilitarianism, animal rights, and virtue ethics.

The introduction of virtue ethics can be traced as far back as ancient Greece, where especially Aristotle advocated ethics based on good character traits or virtues. Virtue ethics, both in its ancient and the modern conception, is less directly action-prescriptive than utilitarianism and virtue ethics/right ethics; rather it places the main focus on peoples' ability to possess and express specific characteristics, i.e., virtues.

Hursthouse basically describes a virtue as good or admirable or praiseworthy characteristics (Hursthouse 2000, 147). She does not work with a specific and limited number of virtues, but she provides examples in the language as to how people, and their actions, are relevant to morality. "*We may describe them for instance, as courageous, honest, public-spirited, kind, fair, loyal, responsible... and conversely as cowardly, dishonest, mean, anti-social, cruel, disloyal, feckless and so on.*" (Hursthouse 1987, pp. 219–34).

She emphasizes the Greek term "eudaimonia," which can be roughly translated as "flourishing." The flourishing life for any being is a well-lived life. The link between eudaimonia and virtue is that in order to achieve eudaimonia, it is necessary to be virtuous. This implies the ability and possibility to thrive in order to be able to flourish (Hursthouse 1999). To be able to actively unfold one's own life within virtue ethics in an Aristotelian sense is more than just to act in accordance to one's function.

As seen in the example of welfare within utilitarianism regarding a stone warmed by the sun, in this case a computer example may be used. It may be in good condition and functioning, but a computer cannot develop a good life. The computer is therefore not relevant to ethics. But where is the limit then? Would it be possible to say that both mosquitoes and larvae are able to develop a good life? Hursthouse, as an ethicist, does not give a final answer to those questions, but it can indirectly be found through our language. It would be pointless to claim that one can be dishonest or unpleasant to a computer. It would be equally nonsensical to say that one can be considerate or fair in relation to the computer. It would make sense, on the other hand, to say that one can be friendly or unfriendly towards a pig or a cow (Hursthouse 2011).

This means that the well-lived life for an animal—what we call “welfare”—is in a virtue ethics sense to have the opportunity for a being to develop a full life as the being it is. According to Alasdair Chalmers MacIntyre (1929–), a Scottish philosopher primarily known for his contribution to moral and political philosophy and as one of the modern founders virtue ethics founders a good life for an animal is one in which the animal is allowed the ability to actualize the potentials that are necessary for it to become a “flourish qua member of its particular species” (MacIntyre 1999, p. 64).

Actions toward animals do not have, as in utility ethics, the intention to produce the greatest amount of welfare but instead to give the animals the opportunity to develop and thrive as the kind of beings they are. This implies both positive and negative experiences such as the danger of being killed by another animal for instance. This is why virtue ethics holds the fundamental belief that individual lives are supposed to be lived out within the framework in which they are essentially meant to live.

Whether an animal has a good life according to virtue ethics, including the possibility to flourish, depends on the particular animal, the characteristics of that specific species, and the animal’s behaviour combined with the environment in which it lives (Walker 2007, 184).

However, animal welfare in this sense is not only a question about whether the animal functions well as an animal; it is also the fact that the animal needs to experience good to feel well.

“There are few things more sad than the notice that used to appear on the cages of certain animals in zoos ‘Does not breed in captivity’” (Hursthouse 1999, 200). When a sign in the zoo explains that a certain animal that does not breed in captivity, then the virtue ethics expert will claim that this is an animal welfare issue because the animal is in a situation that is not supportive of its welfare.

8 Environmental Impacts

As explained in the introduction, this section has a much more practical approach than Sect. 2. The purpose of this section is to offer an insight into what species of animals are being used in the fashion and lifestyle industries, the various methods being used in this industry breeding, killing and transforming animals into usable products, and the challenges that may be faced in an environmental and ethical context.

Not only must every decision maker within this industry consider the ethical impact of designs and production methods involving animals, they must collect information on the environmental impact involving animals.

“We are all interconnected, people, animals and our environment. When nature suffers, we suffer and when nature flourishes, we all flourish.” Dr. Jane Goodall, famed primatologist, conservationist, founder of the Jane Goodall Institute, and United Nations Messenger of Peace.

As mentioned previously, zoocentrism is a philosophy in which animals are central whereas anthropotrisism centers on the value of human beings. To link these two philosophies and create a new approach, a short introduction to biocentrism and ecocentrism is required.

Biocentrism is an ethical point of view that values all living things. Life is central. This is related to ecocentrism in which the issues, concepts and values of the ecosystem are central. (Leena 1997, pp. 37–38)

From this point of view, animal welfare cannot be understood without getting into the environmental issues and challenges made by the fashion and lifestyle industry, which is considered to be the world's second most polluting industry.¹² Seen from an ethical point of view, the actions of this industry are a threat not only to humanity and the environment itself but also to nonhuman animals nurtured by and living in the environment whose welfare is thus threatened.

To switch Western culture from its present track to a saving ecopolitical route means finding a new and compelling belief-system to redirect our way-of-living. It must be a vital outgrowth from our science-based culture. It seems to me that the only promising universal belief-system is ecocentrism, defined as a value-shift from *Homo sapiens* to planet earth. A scientific rationale backs the value-shift. All organisms are evolved from Earth, sustained by Earth. Thus Earth, not organism, is the metaphor for Life. Earth not humanity is the Life-center, the creativity-center. Earth is the whole of which we are subservient parts. Such a fundamental philosophy gives ecological awareness and sensitivity an unfolding, material focus. (Rowe 1994)

Although much evidence has been collected from the animal agriculture sector on all the different stages of environmental impact, somehow the fashion and lifestyle industries have been able to ignore the fact that they are a huge part of this value chain. The negative impacts from livestock production on environmental integrity, community, sustainability, working conditions, and animal welfare found globally in this sector has remained largely underestimated and underappreciated. Many of decision makers and consumers in this industry have convinced themselves, almost as an excuse, that resources such as hides, wool, and feathers are “waste problem,” and thereby these decision makers do not consider themselves to be responsible for any negative environmental impacts. Ruminant livestock, including cattle, buffalo, sheep, and goats, are the main agricultural sources of methane (FAO 2013a). It is not a matter of deciding that this industry does not acknowledge these issues; it's more like a mater of the industry choosing to ignore them.

The fact is that since the 1940s, farm animal production has been escalating in large confined operations worldwide increased significantly methane emissions from both animals and their manure (Paustian et al. 2006). In 1965, 10 billion

¹²<http://www.businessoffashion.com/community/voices/discussions/can-fashion-industry-become-sustainable>.

livestock animals were slaughtered each year; today that number is 55 billion (GRACE Communications Foundation).

Livestock production is the world's largest user of land, either directly through grazing or indirectly through consumption of fodder and feed-grains. Globally, livestock production currently accounts for some 40 % of the gross value of agricultural production. In industrial countries, this share is more than half. In developing countries, where it accounts for one-third, its share is rising quickly; livestock production is increasing rapidly as a result of growth in population and incomes and changes in lifestyles and dietary habits. (Bruinsma 2003)

This impact on the environment and its effects also seems to be a heated discussion between stakeholders, scientists, and the public in general. Verification and control of the scientific data, which creates such disagreements and uncertainty, must be prioritized in the future. A discussion on how the global contribution of greenhouse gases from animal production can vary to a considerable degree can be found in Bittman (2012): The Food and Agricultural Organisation of the United Nations estimates 18 % (Steinfeld et al. 2006), and the World Watch Institutes estimates 51 % (Goodland and Anhang 2009).

Some of these impacts mentioned in the FAO report from 2006 (Steinfeld et al. 2006) include the extensive use of arable crops to forage production, creating deforestation by providing grazing land to livestock, desertification of meadows, degradation of arable crops due to overgrazing, and decrease of limited water resources. Also mentioned are eutrophication; general pollution of soil, air, and water caused by fertilizers; pesticides used in the production of feed; treatment of livestock with antibiotics; and hormones, which are then excreted in the animals' waste.

The complexity of these LCA results are therefore almost incomprehensible to assess. For example, LCA is mostly used for livestock emissions, but greenhouse gas emissions must be estimated using LCA to cover the "cradle-to-ground gate," which accounts for all direct and embodied greenhouse gas emissions up to the point where the product is ready to leave the farm for following processing. It therefore does not include transportation to the processing plant or any emissions related to processing or transportation of the product to the market (Wheeler 2011).

Data found connected solely to the fashion and lifestyle industry is very hard to find, but as seen from the report by FAO, much of the product data mentioned are linked to this industry.

In 2010, about 98 percent of the global buffalo meat production was produced in South, East and Southeast Asia with the bulk contributed by India and Pakistan. This is easily explained by the fact that the two countries have 73 percent of the global buffalo population. Besides edible products, ruminants also produce a host of non-edible products such as manure, hides and skin, and natural fibre (wool, cashmere and mohair). (FAO 2013, p. 6; FAO 2013b)

The author of this chapter has no expectations that humanity at any time in the near future will become vegetarians or vegans by sacrificing their own traditions and cultural expectations to "the good life" and thereby relate to animal welfare problems and contribute to the change of the world's problems. However, it could be argued by some that to quit the consumption of animals, or to stop the use of them, as an unlimited free resource would be the ideal animal rights ethical point of view.

The question is this: Will be possible to live out a more virtue ethical approach in the near future by modifying the expectations humans have toward life and consumption in general to provide animals with greater welfare. If humans can change their diet by eating less meat, it might be possible to eat more locally and in this way ensure better welfare practices, which would benefit both the welfare of animals as well as the environment.

8.1 *Faux Fur and Skin*

In this section, a short description about the environmental impact on the production of faux fur and skin is introduced because this often seems to be included in the debates on ethics or the use of living nonhuman animals.

Faux skin and fur fibre is produced from petroleum chemicals, which includes in part the practice of substantial integrated chemical-manufacturing production methods. The main annual global production is taking place in Europe, and North America. To transform acrylic fibre into faux skin and fur fabric requires an immense degree of processing.

No systematic quantitative characterisation of the involved processes has been found. Furthermore, the actual production of faux fur fabric is often produced in a different place than the fibre; for example, China is a major producer of faux fur fabric but does not process them (*A Comparative Life Cycle Analysis 2012: Natural Fur and Faux Fur Submitted to International Fur Trade Federation Submitted by DSS Management Consultants Inc.*).¹³

Serious investments in lifecycle analyzes have been made by Plastics Europe to identify and describe the chemical processes associated with a great diversity of products made from plastics. These data is included are the Ecoinvent database produced by the Swiss Centre for Life Cycle Inventories, but it does not include any specific data representative of faux skin and fur fibre production (Weidema et al. 2009 Code of Practice).

According to *A Comparative Life Cycle Analysis: Natural Fur and Faux Fur Submitted to International Fur Trade Federation Submitted by DSS Management Consultants Inc.*, the conclusion is that the environmental benefits of products produced from living animals are better than products made from synthetic materials:

The life cycle of a natural fur coat tends generally to outperform that of a faux fur coat based on the data and assumptions used in this LCA. Nonetheless, a categorical conclusion cannot be reached that one product is superior environmentally in all respects to the other due to the limitations of the data and LCA method in general. The data and assumptions used in this LCA lead to the conclusion that in general, the life cycle of a faux fur coat results in greater risk of potential impacts associated with ecosystem quality (i.e., 300 % greater), resource consumption (i.e. 169 % greater) and climate change (i.e., 129 % greater). The difference between the two products with respect to the risk of potential

¹³http://www.furinformationcenter.eu/media/3805/lca_final_report.pdf.

impacts on human health is negligible (i.e., 3 % greater for a faux fur coat). A number of environmental credits (i.e., benefits) are associated with the life cycle of a natural coat. These benefits accrue in particular to natural ecosystems. The life cycle of a faux fur coat does not yield any environmental credits.

Although the report does not mention the impacts incurred from the tanning process, it must be assumed that these are included in the analysis; otherwise, its credibility of data could be questioned.

The report also states that a fur coat can be used for at least 36 years, but it does not take into consideration the impact of human needs such as identity, fashion, and trend. To keep a garment for 36 years actually very rarely takes place because consumers who are able to afford these lifestyle products also have the opportunity to frequently change their wardrobe. It also states that natural furs are actually being recycled. It still remains uncertain how many years natural fur products are stored and cleaned for preservation before being recycled and how all of this impacts the environment.

A key parameter that affects all aspects of this LCA is the functional unit (i.e., the length of the useful life of a natural fur coat). The peer reviewers identified this parameter in particular as being of key importance. Two variations are analysed. The first is an increase in the useful life of a faux fur coat from six years to eight years. The second change is increase in the useful life of a natural fur coat from 30 years to 36 years. (A Comparative Life Cycle Analysis 2012, p. 12)

Although it is not possible to draw any final conclusions from an ethical point of view in this case, the theory of utilitarianism offers interesting consequences with regard to the production of faux fur. What would be the best outcome for the environment, humans, and nonhuman animals? Assuming that humans cannot live without dressing in hides and furs (bearing in mind that not all consumers will become vegetarians), at what point will animal welfare be maximized, and how can this ever be measured?

9 Tanning

The tanning process for fur and leather production has been on the agenda of environmental challenges for the last few decades. This chemical process is one of the most toxic practiced by industries in the world today.

When incorporating hides, fur, or feathers into a design product, these parts must go through a treatment process before being usable. The tanning process was originally invented to avoid the decomposition of leather and fur. This is achieved by preparing a sort of mummification and stabilization process of the material by scraping the hides clean to make them free of meat, fat, and eventually hair and then applying a lime paste or bleaching or acid treatment.

The difference between a tanned hide and rawhide is based on the hide's reaction to heat and water. Rawhide will become hard and stiff when it is dry; then it will putrefy on contact with water or excessive humidity. Tanned leather, however, remains flexible and soft and will not putrefy when wet.

From an historical perspective, in the 18th and 19th centuries the tanning industry was represented by small- or medium-size family businesses; small-scale cottage industries began shifting to large factories in the mid-19th century.

However, the current leather sector has grown tremendously worldwide, and now leather is one of the most widely traded products in the world. This industry plays a prominent role in the world's economy with an estimated global trade value of approximately US\$100 billion per year (UNIDO 2010).

The trend has been for tanneries and manufacturers of leather products (as with any of the other sectors of the fashion and lifestyle industries) to outsource their production to countries where labour is cheapest. These cheap-labour countries have had to import large quantities of hides and skins due to shortages in raw material supply (UNIDO 2010).

To meet the growing demand for leather, new tanneries are being set up in these countries, whereas most tanneries in the United States, Japan, and Europe have closed down their tannery businesses. Unfortunately, it appears there is little or no control of labour or environmental practices within these tanneries. In some parts of the world, it is almost impossible to obtain any reliable data on either tanning processes or the leather goods or clothing markets.

The tanneries that have remained profitable in the developed world, such as Italy and Spain, have built new business models. Some of these have incorporated responsible environmental practices with regard to their own tanning processes and in compliance with European laws.

According to UNIDO (2010), *Future Trends in the Leather and Leather Products Industry and Trade* p. 40, there will be four different types of tanneries in Europe that are likely to survive:

- those able to internationalize via joint ventures and partnerships;
- very large and highly automated facilities primarily for the manufacture of upholstery leather (there is one such enterprise in Austria that processes 100 tonnes of wet salted hides a day);
- enterprises moving towards smaller, creative boutique operations serving local high-end users of leather, and which may also be making use of partnerships with companies in the newer EU member states and/or North Africa;
- niche producers such as manufacturers of chamois and heavy leather for industrial users.

The tanning industry is one of the oldest and fastest growing industries in South and South East Asia. There are more than 3000 tanneries located in India with total processing capacity of 700,000 ton of hides and skins per year. The wastewater discharge from these tanneries is about 100,000 cubic per day. More than 90 % tanneries are in small and medium scale sector with processing capacities of less than 2–3 ton of hides/skins per day. (Rajamani et al. 2002)

9.1 Tanning Processes

There are a number of processes whereby the skin of an animal can be formed into a flexible, smooth, and strong material commonly called “leather.” The different

stages include preservation, soaking, liming, unhairing, splitting, fleshing, reliming, delimiting, bating, degreasing, frizing, bleaching, depickling, and pickling. These tanning methods will depend on what the final product's attributes and uses will be. Described below by Leathernet, Leather Industry Worldwide¹⁴:

- *Vegetable-tanned leather is tanned using tannin (hence the name “tanning”) and other ingredients found in vegetable matter, tree bark, and other such sources. It is supple and brown in colour, with the exact shade depending on the mix of chemicals and the colour of the skin. Vegetable-tanned leather is not stable in water; it tends to discolour, and if left to soak and then dry it will shrink and become less supple and harder. In hot water, it will shrink drastically and partly gelatinize, becoming rigid and eventually brittle. Boiled leather is leather that has been hardened by being immersed in hot water, or in boiled wax or similar substances. Historically leather was used as armour after hardening, and it has also been used for bookbinding. This is the only form of leather suitable for use in leather carving or stamping.*
- *Chrome-tanned leather, invented in 1858, is tanned using chromium sulphate and other salts of chromium. It is more supple and pliable than vegetable-tanned leather, and does not discolour or lose shape as drastically in water as vegetable-tanned. It is also known as wet-blue for its colour derived from the chromium. Colours that are more esoteric are possible using chrome tanning.*
- *Aldehyde-tanned leather is tanned using glutaraldehyde or oxazolidine compounds. This is the leather that most tanners refer to as wet-white leather due to its pale cream or white colour. It is the main type of leather used in chrome-free leather often seen in infant's shoes and in automobiles that prefer chrome-free leather. Formaldehyde tanning (being phased out due to the danger to workers and the sensitivity of many people to formaldehyde) is another method of aldehyde tanning. Brain-tanned leathers fall into this category and are exceptionally water absorbent. Brain tanned leathers are made by a labor-intensive process which uses emulsified oils often those of animal brains. They are known for their exceptional softness and their ability to be washed. Chamois leather also falls into the category of aldehyde tanning and like brain tanning produces a highly water absorbent leather. Chamois leather is made by using oils (traditionally cod oil) which oxidise easily in order to produce the aldehydes that tan the leather.*
- *Synthetic-tanned leather is tanned using aromatic polymers such as the Novolac or Neradol types. This leather is white in colour and was invented when vegetable tannins were in short supply, i.e. during the Second World War. Melamine and other amino-functional resins fall into this category as well and they provide the filling that modern leathers often require. Urea-formaldehyde resins were also used in this tanning method until dissatisfaction about the formation of free formaldehyde was realised.*

¹⁴<http://www.leathernet.com/leather.htm>.

- *Alum-tanned leather is tanned using aluminium salts mixed with a variety of binders and protein sources, such as flour, egg yolk, etc. Purists argue that alum-tanned leather is technically “tawed” and not tanned, as the resulting material will rot in water. Very light shades of leather are possible using this process, but the resulting material is not as supple as vegetable-tanned leather.*
- *Rawhide is made by scraping the skin thin, soaking it in lime, and then stretching it while it dries. Like alum-tanning, rawhide is not technically “leather”, but is usually lumped in with the other forms. Rawhide is stiffer and more brittle than other forms of leather, and is primarily found in uses such as drumheads where it does not need to flex significantly; it is also cut up into cords for use in lacing or stitching, or for making many varieties of dog chews.*

For nearly 200 years, chrome tanning has been the dominant method of making leather, but efforts are now being made to find alternatives, and thus there has been an increase in the use of vegetable tanning of leather. However, chrome tanning still remains the most efficient way to make leather. Eighty percent of leather produced is chromium tanned. Chromium VI, which is an extremely toxic and environmentally damaging waste product from leather manufacturing, has been found in the food chains and water supplies of both developed and developing countries. This is tantamount to the fact that this industry has to work harder to reduce water and energy consumption and to manage its waste materials, particularly in the case of many developing countries, where industrial development has not included waste-treatment procedures at all. Extremely toxic residues of chromium VI can, with a strict process control, be avoided and exchanged for other easily accessible additives.

According to UNIDO (2010, p. 45), there is an awareness regarding the issues of solid and liquid waste that challenge this industry with a number of evolving areas of concern:

- *common salt (NaCl) and some other water-soluble salts getting into water recipients—rivers, lakes and/or ground water—and making the water unsuitable for drinking and other uses;*
- *the lack of environmentally acceptable and cost-effective solutions for solid waste disposal; landfill for solid wastes in some European countries and the associated trend to increase the cost of landfill via tax or other methods;*
- *growing consumer pressure and associated regulations regarding an increasing number of chemicals now deemed harmful for various reasons;*
- *high levels of water consumption.*

These environmental threats involve the dumping of solid and liquid waste that contains leftover chromium and several toxic and hazardous combinations of compounds. This is common practice in regions without strong environmental protection standards such as China, India, and Bangladesh, the primary regions of leather tanning.

This is why wastewater pollution is one of the biggest problems in this process because small bits of meat, hair, mold, and other animal products are mixed

together and discarded along with large doses of chromium. This does not only damage wildlife in the water, but it also contaminates the whole food chain, including people who drink and bathe in the water, which can then lead to infertility and birth defects among others problems.

As a rule of thumb, tanning one ton of hide typically results in 20 to 80 cubic meters of wastewater with Chromium concentrations around 250 mg/L and sulfide concentrations at roughly 500 mg/L, not to mention the offal effluence from the preparation phase and the pesticides often added to keep mold growth down during transport to the facility. (Tarantola web blog 2014)

The numbers found in the different reports vary, but the amount of untreated and unusable animal hides that are discarded as solid waste is approximately 50–70 % and are discarded as trash along with hair, fat, meat, and sinew.

Although this chapter's main concern is Animal ethics, it is impossible not to mention the human cost paid. To put it in ethical terms, no flourishing can be found anywhere with practices such as these. Working conditions at the tanneries are extremely dangerous, especially in developing countries. It is commonplace that employees do not have adequate, if any, protection. This includes not only the lack of protective clothing, but working in surroundings where it is possible to slip and fall on improperly drained floors as well as encounter exposure to lime, tanning liquor, acids, bases, solvents, disinfectants, and other noxious chemicals. The handling of chromium is still the most dangerous part of modern tanning.

In dealing with current problems and future challenges, such as the increasing pressures regarding chemicals, water usage, and landfill issues, politicians and decision-makers are urged to ensure a change within this industry.

This industry must align itself with the modern technological improvements achieved elsewhere within textile, faux leather and plastic processes. Today, even in fully modernized and carefully managed facilities, it is still nearly impossible to recycle all of the hazardous waste generated by the tanning process. Consumer awareness and expectations increase year by year; to maintain its position, the leather products industry requires ongoing research at all levels, ethically as well as production-wise.

Considering that humans have been using leather for thousands of years, it must be asked: Why is the leather industry still operating as it did "*back then.*" It is still using, almost exclusively, only two tanning methods—chrome and vegetable—and with chemists still in disagreement about the mechanisms involved for improvement, it is very clear that this industry must use the necessary resources for research, development, and invention of new or different methods for future opportunities.

Further information on this topic can also be found at The International Union of Leather Technologists and Chemist Societies at IULTS.¹⁵

¹⁵<http://www.iultcs.org/index.htm>.

10 Leather

Leather of an animal is similar to what cotton is to textile fibres, and it is the most common product that consumers own, whose main focus is on design.

Quality leather goods, even with constant use, can last more than 100 years. In fact, the Areni-1 shoe is a shoe made of leather that is 5500 years old; it was found in 2008 in excellent condition. In this context, leather may be called a highly sustainable product.¹⁶

Leather has been worn forever, but today it seems more popular than ever. Any fashionista, actually any consumer, has wardrobe pieces that include leather: leather belts or accessories such as leather handbags, gloves, shoes, boots, jackets, or pants. Leather is also found in the lifestyle industry in home furnishing and automobile upholstery. The current predictions are that the supply of leather raw material will continue to grow in line with the growth of population (UNIDO 2010).

The FAO report, *World Agriculture: Towards 2015/2030, An FAO Perspective*, highlights the fact that the proportion of animal products in the human diet has increased over the last decades at the expense of grain, corn, and other crops. This emphasizes, from an ethical perspective, that humans who wear leather consume meat without knowledge, awareness, thought, or consideration for the production or life of the animal.

The leather industry and the fur industry are differentiated by the importance of their raw materials. The leather industry claims that the raw materials are byproducts of the meat industry with the meat having higher value than the skin. Because large meat companies have no obligation to release figures, it is very hard to get any statistics, but hides and skins can in some cases actually be more profitable for farmers than the meat. The fur industry only uses raw materials that have a higher value than the meat. Hence the meat being classified as a byproduct might be the reason why the term “fur” is more acceptable, in terms of right or wrong, when it comes to production for the consumer.

Footwear production is one of the largest sectors in the leather industry. By 2007, it had reached 16 billion pairs of shoes, an increase of more than one third since 1995.

The world leader in leather processing is currently China, producing an estimated 6599.3 million square feet of leather. (ICT 2013) It is reported that the rapid growth in the Chinese leather industry, in particular the footwear industry, is based on the increase of their shoe per capita growth from 1.5 in 2006 to 2.8 in 2011. (Mwinyihija 2014)

Listed are some of the major recent developments by UNIDO (2010), *Future Trends in the World Leather and Leather Products Industry and Trade*:

- *it has taken China only 20 years to move from a poorly organized industry, catering predominantly to its domestic market, to the most dominant player in world footwear by a large margin—a 63.7 % share of global production;*

¹⁶https://en.wikipedia.org/wiki/Areni-1_shoe.

- *in 2007, more than 84 % of the world's footwear by volume was manufactured in Asia;*
- *Asian production will continue to increase over the next 10 to 15 years, to the further detriment of the “traditional” footwear manufacturing countries;*
- *with their respective shares of the world's production, India (12.3 %), Viet Nam (4.1 %), Indonesia (3.5 %) and Thailand (1.6 %) are the other main contributors to Asia's success;*
- *the leading footwear manufacturing country outside Asia is Brazil, with an estimated 4.9 % of world output;*
- *54 % of global production of genuine leather is used in the footwear industry;*
- *footwear production in the developed world has, in most cases, been downsized to a level that makes this trend irreversible;*
- *it is estimated that 10 million people are employed in shoe manufacturing worldwide;*
- *2.82 billion pairs (more than 18 % of the global output) are classified as sports footwear.*

10.1 Species Used for Leather Production

Today, the most commonly used leather is made from cattle, calf, buffalo, and ox hides, but lamb, sheep, goat, and deer hides are also used in more expensive soft leather apparels. Sheep leather is quite famous for its softness and mostly used in leather garments.

Kangaroo hides are supposedly one of the strongest, lightweight leathers making it well suited for high-performances articles such as premium soccer boots and other heavy-duty sports-like wear. It is favoured by motorcyclists because compared with cowhide it is lighter in weight and has higher resistance to abrasion. The lightweight strength and fine grain of kangaroo hides also makes them desirable for fashion, casual footwear, and apparel (Money 2010).

Hides from exotic and endangered species have, at different times in history, been considered more beautiful and desirable than other hides. For this reason snakes, iguanas, lizards, elephants, and crocodiles have been hunted to near extinction. As of 1987, both snakes and the North American alligator have been removed from the endangered species list and are kept in breeding farms mainly due to their commercial value.¹⁷

Because of its characteristic “goose bump” look and because the large follicles from which the feathers grow make it one of the finest and most durable hides in the world, ostrich leather is currently used by many major fashion houses and for upholstery, footwear, automotive products, accessories, and clothing.

¹⁷https://en.wikipedia.org/wiki/Crocodile_farm.

Other species used for this industry are moose or elk, camels, horses, mules, donkeys, pigs, cats, dogs, and birds. Water-dwelling animals—such as frogs, eels, salmon, sharks, walrus, and dolphins—are also used to produce leather.

Complications and challenges regarding the use of any species can be identified and discussed everywhere in this field. However, in this respect it is mostly animal rights activists who point out the current problems. Some of the methods used by animal activists have been viewed as controversial and as a result have led to a loss of credibility on the activists' part, yet their actions have drawn attention to an important issue. With the media shedding light on unethical practices toward animals, the possibility opens up for dialogue and to push farmers, producers, and manufacturers to act in accordance with what consumers believe to be ethical.

One example of activism resulting in change is the accusations made by the animal rights nongovernmental organization PETA against the French luxury group Hermès International for their use of crocodile and alligator farms. The actress Jane Birkin asked Hermès to remove her name from the Birkin Croco bags until Hermès brought its practices in line with international norms. Hermès claimed it was unaware of any practices of cruelty taking place (which is often the case with the fashion and lifestyle business). "Hermès respects and shares her (Birkin's) emotion and are also shocked by the recently published images."¹⁸

PETA has now become a shareholder in Hermès by buying a single share worth approximately \$360 on the Paris stock market. This is enough to give PETA access to shareholder meetings and thereby be able to apply a new pressure tactic that can influence Hermès to stop using exotic animal skins, notably those of crocodiles and alligators, in its iconic products such as the pricey Birkin bags.¹⁹

Another controversial subject is human hides. In past centuries, human skins have not only been taken as trophies of war but have been made into accessories. Anthropodermic bibliopegy was a practice found in the 18th or 19th centuries involving books, which were likely bound in human skin of executed criminals, although some examples may be centuries older. For an historical list of what human skin is known to have been used for, see Nene Adams.²⁰

In 2009, the artist Andrew Krasnow worked with one of the biggest taboos of this century when he made an art piece, a pair of boots he called *Shitkickers*, using the skins of white men who had donated their bodies to medical science.

"He uses skin to make the point that suffering is universal," Krasnow said. "It is tanned using the same process that you'd use for an animal skin."²¹

The designer and artist Sruli Recht, based in Reykjavik, Iceland, made a similar statement in 2012 by fashioning a ring out of human skin. This action started a

¹⁸<http://america.aljazeera.com/articles/2015/7/29/french-luxury-retailer-to-investigate-crocodile-farms.html>.

¹⁹<http://fortune.com/2015/07/30/peta-hermes-crocodile-birkin>.

²⁰<http://listverse.com/2012/12/11/top-10-bizarre-uses-for-human-skin/>.

²¹The Apricity: [http://www.theapricity.com/forum/showthread.php?4726-American-sculptors-lamps-made-of-human-\(white\)-skin&s=94ae12061ed914a993ef6e3d1cadf253](http://www.theapricity.com/forum/showthread.php?4726-American-sculptors-lamps-made-of-human-(white)-skin&s=94ae12061ed914a993ef6e3d1cadf253).

discussion on the actual and ethical differences generated in the wearing of human skin compared with the wearing of animal skin. Furthering the impact and controversy, he video recorded himself having a part of his stomach cut out.²²

The Museum of Icelandic Sorcery & Witchcraft in Hólmavík, Iceland, has exhibited an object worn in the 17th century called “necropants,” a pair of pants made of human skin. The skin used to make these pants was donated by the individual on his death in order for the wearer of the pants, supposedly through witchcraft, to come into possession of money.²³

The intention in discussing this controversial topic is that in these cases, people have chosen to donate their bodies after a “natural death” for the use of science and for those who can benefit from the deceased’s organs, skin, and bones.

Resources such as those being discussed are highly coveted, but they are also loaded with complexity due to the susceptibility of economic and financial corruption they possess. Furthermore, due to the absence of any clear ethical guidelines on how to use human beings as a resource, people are violating perhaps both ethical rules and human rights.²⁴

Nonhuman animals cannot be asked if they would care to donate their bodies as beneficial resources for other species. Although the use of nonhuman animals is a legalised business based on a luxury need, not a survival need, there seems to be the same lack of ethical involvement from the fashion and lifestyle industries as is found in the use of human beings as a resource.

Based on the theory of virtue ethics, animals cannot tell us which kind of life they prefer or how they would prefer their body parts to be used after death. It appears that the human species just assumes that to eat and wear body parts from nonhuman animals is an act that is perfectly ethical and correct. This assumption is of great significance to human flourishing.

Yet a focus on human flourishing alone should not offer the primary virtue ethical resource for care about animals for two reasons. First, the result of such an interpretation is not clear. Dead animals also can be said to contribute greatly to our flourishing (because, among other things, they are tasty to eat, a good source of protein and building on their habitats may give us wonderful homes)... Secondly, a focus on human flourishing alone obscures a primary benefit of a virtue ethical analysis of how we ought to treat animals, namely that such an analysis offers the theoretical tools for understanding the ethical significance of animals flourishing as such (Walker 2007, pp. 188)

10.2 Surfaces and Finishes on Leather

The leather industry has a full glossary of leather terms regarding the different surfaces and finishes it uses as well as the types of leather used for which kind of

²²<http://srulirecht.com> <http://srulirecht.com>.

²³<http://www.galdrasyning.is>.

²⁴Skin, bones and tissue for sale: How the dead are being used for grisly trade in human body parts <http://www.dailymail.co.uk/news/article-2175006/Skin-bones-tissue-sale-How-dead-used-grisly-trade-human-body-parts.html>.

products. Leather Industry Worldwide provides an overview of the different types of leather used in the fashion and lifestyle industries. Further information can also be found at The International Union of Leather Technologists and Chemist Societies, which has a full dictionary and glossary of leather terms that can be found at IULTCS.²⁵ The following information can be found on LeatherNet.com

Full-Grain leather or Top-Grain leather is referring to the upper section of a hide that contains the epidermis or skin layer. It refers to hides that have not been sanded, buffed or snuffed (otherwise known as Corrected) in order to remove imperfections on the surface of the hide. Only the hair has been removed from the epidermis. The grain remains in its natural state which will allow the best fibre strength, resulting in greater durability. The natural grain also has natural breathability, resulting in greater comfort for clothing. The natural Full-Grain surface will wear better than other leather. Rather than wearing out, it will develop a natural “Patina” and grow more beautiful over time. The finest leather furniture and footwear are made from Full-Grain leather. For these reasons only the best raw hide are used in order to create Full-Grain or Top-Grain leather. Full grain leathers can mainly be bought as two finish types: aniline and semi-aniline

Corrected-Grain leather is any Top-Grain leather that has had its surfaces sanded, buffed or snuffed in order to remove any imperfection on the surface due to insect bites, healed scars or brands. Top-Grain leather is often wrongly referred to as Corrected-Grain. Although Corrected-Grain leather is made from Top-Grain as soon as the surface is corrected in any way the leather is no longer referred to as Top-Grain leather. The hides used to create corrected leather are hides of inferior quality that do not meet the high standards for use in creating aniline or semi-aniline leather. The imperfections are corrected and an artificial grain applied. Most Correct leather is used to make Pigmented leather as the solid pigment helps hide the corrections or imperfections. Corrected grain leathers can mainly be bought as two finish types: semi-aniline and pigmented.

Split leather is leather that is created from the fibrous part of the hide left once the Top-Grain of the raw hide has been separated from the hide. During the splitting operation the grain and drop split are separated. The drop split can be further split (thickness allowing) into a middle split and a flesh split. In very thick hides the middle split can be separated into multiple layers until the thickness prevents further splitting. Split leather then has an artificial layer applied to the surface of the split and is embossed with a leather grain. Splits are also used to create Suede. The strongest suedes are usually made from grain splits (that have the grain completely removed) or from the flesh split that has been shaved to the correct thickness. Suede is “fuzzy” on both sides. Suede is less durable than top-grain. Suede is cheaper because many pieces of

²⁵<http://www.iultcs.org/index.htm>.

suede can be split from a single thickness of hide, whereas only one piece of top-grain can be made. However, manufacturers use a variety of techniques to make suede appear to be full-grain. For example, in one operation, glue is mixed with one side of the suede, which is then pressed through rollers; these flatten and even out one side of the material, giving it the smooth appearance of full-grain. Latigo is one of the trade names for this product. A reversed suede is a grained leather that has been designed into the leather article with the grain facing away from the visible surface. It is not a true form of suede.

10.3 Surface Treatment

“Unfinished leather” refers to leather that has been tanned but has had no finish applied. To make leather usable, especially hides of lesser quality, it must undergo an additional treatment. Each treatment applied to the leather makes it less of a natural product. Decision-makers might therefore source or research other processes or materials that can replace these additional treatment processes. Another option would be to find materials using a more ethical approach, thus impacting the environment less.

Treatments added to the surface of the leather include dyeing and polishing of the grain for added smoothness or to create a base for adding artificial grain. The mechanical application of grain and surface treatment using chemicals, such as polyurethane (PU), makes the surface more durable and easier to clean.

- **Aniline leather:** Aniline leather has been soaked with a chemical dye called “aniline.”
- **Full aniline:** Full-aniline leather is aniline-dyed leather that *does not* have a top pigmented finish coating applied to its surface.
- **Semi-aniline:** Semi-aniline leather is aniline-dyed leather that *does* have a top pigmented finish coating applied to its surface.
- **Corrected grain:** Corrected-grain leather has been smoothed and given a textured grain for a more consistent look, and it is used in the manufacture of boots, clothes, and furniture.
- **Coated leather grain:** Coated-leather grain leather has been coated with various chemical materials, such as a polyurethane mix, and is used mainly for handbags and belts and for upholstering furniture.
- **Split leather:** Split leather is formed during tanning usually before being given a suede or pigment finish and buffed to smooth the surface; for added durability, it is coated with urethane.²⁶

²⁶<http://www.compositionleather.com/glossary>.

10.4 Slaughtering Methods

Animals used as leather and raised as livestock, depending on which country they come from, have very different living conditions, e.g., cattle farming versus salmon farming. Generally it can be said that these animals' lives are lived far from a natural and idealized way of life, where they are only offered the most necessary conditions to achieve the right size or weight before slaughter.

A product highlighted today as a sustainable material is, for example, fish skins/hides based on the fact that these are byproducts, but this message can be deceptive and confusing for consumers who in general are not acquainted with the welfare issues found in fish farming.

Intensively farmed fish are exposed to a number of factors that are not in any way taken into account by consumers. These issues are related to welfare issues such as the following stressors: farmed fish experience hunger, sea lice, vaccinations, loading, and transport. Farm salmon are exposed to artificial processes to increase their growth rate rapidly to a marketable size.

This intensive aquaculture creates fish welfare problems in the form of fin erosion, eye cataracts, skeletal deformities, soft-tissue anomalies, increased susceptibility to disease, sea lice infestation, high mortality rates, and, in some countries, often inhumane slaughter methods (WSPA 2007).²⁷

With CO₂-stunning systems used for salmon, the water in the stunning tank is saturated with CO₂ gas to pH of approximately 5.0. The salmon are transferred from a holding tank to the stunning tank in bulk using a pivoted riddle. For the first minute in the CO₂-impregnated water, the fish are hyperactive and show escape attempts. The impression is that it is highly stressful for the fish (Robb and Kestin 2002).

I honestly believe that the harsh reality of salmon farming is that it is inherently unsustainable, damaging to wild fish populations and a threat to the health and wealth of our oceans. Chairman Bruce Sandison Salmon Farm Protest Group²⁸

Products made from these nonhuman animals are therefore by no means to be regarded as sustainable because the farming and slaughtering methods do not allow the animals or nature to flourish.

²⁷WSPA, 2007, Stevenson Peter, *Closed Waters: The Welfare of farmed Atlantic Salmon, Rainbow Trout, Atlantic Cod & Atlantic Halibut*, <https://www.ciwf.org.uk/media/3818650/closed-waters-welfare-of-farmed-atlantic-salmon.pdf>.

²⁸Chairman Bruce Sandison Salmon Farm Protest Group (footnote) <http://www.salmonfarmmonitor.org/problems.shtml>.

Most often animals live one place but are slaughtered elsewhere. Therefore, the transportation of animals can last for hours, sometimes days, before they arrive at the slaughterhouses. These transportation methods have been heavily debated because they do not in any way seem to protect the welfare of the animals, which suffer from thirst, hunger or are crushed and trampled upon by their fellow travelers.

An example can be found India, a country where cattle are considered sacred but also paradoxically are becoming a lucrative export. In India, the cow is a cultural sanctity. A cow is not considered an animal, but a mother, the embodiment of divine virtues such as, compassion, love, tolerance, benevolence, and nonviolence.

Nevertheless, according to APEDA, the Indian government's gatekeeper for exports, India has 115 million buffaloes, more than half the world's population, and produces approximately 1.53 million tons of beef every year.²⁹ This means India will displace the United States as the world's third largest beef exporter behind Brazil and Australia. Cheap leather products are often acquired from developing countries such as India and have become easily accessible to the fashion and lifestyle industries.

The Council for Leather Exports reports an increased export growth due to aggressive export promotion and market-development activities. By April/March 2015, the export of leather garments was as follows: 9 %, finished leather 21 %, leather goods 23 %, footwear 45 % and saddlery and harness 2 %.³⁰

Although laws exist against cow slaughter in some Indian states, they have not been implemented everywhere. However, due to this paradoxical conflict with belief and religion within the cattle industry, cows are being transported from the place where they were farmed to the Indian states where cow slaughter is permitted.

During these transports:

- Cows and buffaloes are forced to travel hundreds of miles without food or water and with little rest.
- Animals are beaten mercilessly and driven forward in the searing Indian heat.
- Their tails are broken deliberately, and tobacco and chili peppers are rubbed into their eyes in order to drive them on or force them to stand up when they collapse.
- Their hooves are often bleeding and worn down to stumps.

²⁹<http://www.globalmeatnews.com/Industry-Markets/India-s-boneless-buffalo-meat-exports-flourish-BJP-led-government>.

³⁰<http://www.leatherindia.org>.

- When transported by truck, cattle suffer unimaginably because of terrible overcrowding. Crammed on top of each other in the trucks, the cows trample one another and are unable to avoid suffocating each other and gouging and blinding each other with their horns.
- When they are unloaded, the cows that can still stand are pulled or forced to jump from the high truck beds often breaking legs and pelvises.
- Those who have collapsed are dragged from the trucks and left lying where other cows are unloaded on top of them. Once inside the slaughterhouse, their legs hacked off or they are skinned while still alive.³¹

Countries differ in the methods of slaughtering, but laws have been determined to ensure minimal suffering. Of course, as seen with the laws concerning human rights, these laws concerning animal suffering are rarely respected due to the lack of insight, awareness, education, or financial oversight stemming from deadline pressures and influences from economic market mechanisms.

In 1958, the first federal Humane Methods of Slaughter Act (P.L. 85–765) was signed into law by President Dwight D. Eisenhower on August 27. This American Act requires instant stunning by mechanical or electrical means or anesthetization prior to the killing of calves, cattle, horses, mules, sheep, swine, and other livestock except in the case of kosher slaughter.

The first stage of the slaughtering process is usually called stunning. Stunning renders the animal unconscious, and thus not susceptible to pain, but rarely dead. Considered a humane slaughtering method, stunning proves problematic due to the fact that large numbers of animals experience great anxiety, stress, and often pain before stunning and/or death.

In the second stage, the animal is killed, and the methods of killing differ among species and age of the animals. Regardless of methods and precautions made to improve this situation, it will be impossible to improve because of the quantities of animals that are farmed, transported, and killed in giant mass industries. Research in animal welfare addresses the need to change practices in slaughter methods by providing more training and new regulations. There are also differences between conventional and religious practices in methods of slaughter, and these have also been criticized because of inhumane animal welfare conditions.

³¹<http://www.occupyforanimals.net/india--cow-slaughter-and-the-illegal-cattle-mafia.html>.

10.5 *Stunning*

Electrical (stunning or slaughtering with electric current known as “electronicarcosis”)

This method is used for swine, sheep, calves, cattle, and goats. The current is applied either across the brain or the heart to render the animal unconscious before being killed.

Gaseous (carbon dioxide)

This method can be used for sheep, calves, and swine. The animal is asphyxiated by the use of CO₂ gas before being killed.

Gaseous (Inert gas hypoxia)

Various concentrations of argon and nitrogen, often in conjunction with CO₂, have been used to induce unconsciousness.

Mechanical (captive bolt pistol)

This method can be used for sheep, swine, goats, calves, cattle, horses, mules, and other equines. A captive bolt pistol is applied to the head of the animal to quickly render them unconscious before being killed. There are three types of captive bolt pistols: penetrating, nonpenetrating, and free. The use of penetrating captive bolts has largely been discontinued in commercial situations to minimize the risk of transmission of disease when parts of the brain enter the bloodstream.

Mechanical (gunshot/free bullet)

This method can be used for cattle, calves, sheep, swine, goats, horses, mules, and other equines. A conventional firearm is used to fire a bullet into the brain of the animal to render the animal quickly unconscious (and presumably dead). A second method may be used (e.g., drug administration) to ensure the animal is dead.

Exsanguination

The animal either has its throat cut or has a chest stick inserted by cutting close to the heart. In both of these methods, main veins and/or arteries are cut and allowed to bleed.³²

11 **Fur**

“Fur” refers to animal pelts that have been processed into leather with the hair still attached. The animals most commonly used for fur clothing and fur accessories include foxes, rabbits, minks, beavers, otters, ermines, sables, seals, coyotes, chin-chillas, raccoons, possums, cats, and dogs.

³²https://en.wikipedia.org/wiki/Animal_slaughter.

When sourcing information on the subject of fur, controversy is not far behind. Either information or images of horror—showing the conditions behind the scenes of the fur industry or the images and information on luxury, glamour, beauty, quality, models, royalty, and celebrities—are presented. It is the latter three of the aforementioned examples who through tradition and culture over the past centuries have convinced human beings that wearing fur signals status and power, i.e., the “good life.”³³

The opposition between the two camps trying to “battle it out” regarding the ethics of fur can leave one who is perhaps already confused even more confused. Web sites from the fur industry or from animal rights organisations promote their own agendas, whether it is clean and proper care for those animals whose fur is being used or portrayal of a brutal and bloody ending.³⁴ Either way, both can be convincing as well as confusing, which makes the ethical theories and approaches of great and timeless thinkers even more relevant to rely on when making one’s own decisions in this matter.

Serious attacks and criminalization from both parties is prevalent when trying to convey their messages. NGOs, in the name of animal welfare and ethics, carry out missions and end up being arrested and charged with terrorizing the fur industry. The poignant following message from the Fur Commission USA does not make any attempt to open a dialogue to improve the situation and can be interpreted as if this is only a financial matter and not a matter of ethics or suffering³⁵:

Their goal is to destroy the livelihoods and reputations of hundreds of family farmers, along with the supporting businesses; but their claims have no basis in fact. In reality, their sensational and unsubstantiated claims are insulting to American mink farmers and misleading to the public.

According to Mick Madsen, Head of Communications at Copenhagen Fur, the ideology from anti-fur NGOs leaves no opportunity for a meaningful dialogue between themselves and animal farmers. The comments from the Fur Commission USA must be read in this light. He claims it is unjust to suggest that fur farmers are not interested in whether the animals suffers or not, in which case the question arises: Why the animals are not being offered better living conditions in accordance with their natural needs?

The environmental aspects within this sector have been described previously in this chapter, although fur farming and production may seem to differ in some areas compared with livestock production. This is especially true when it concerns animals being bred and housed in cages.

European fur producers conduct practices that allow them to use the term “sustainability.” Two thirds of the by-products of European fur production are being processed at bio-plants, meaning that 100 % of the animal is used, mainly for fossil-fuel replacement and other energy purposes. The animal fat is being transformed

³³<http://furglamor.com> and <http://www.sveketmotminkarna.se/horror-revealed-swedish-fur-farms>.

³⁴http://www.sagafurs.com/en/fashion_home/fashion and <http://www.kopenhagenfur.com>.

³⁵<http://furcommission.com/fur-farming-myth-vs-fact/>.

into second-generation biofuel, which contrary to first-generation biofuel has no negative impact on biodiversity and land use.³⁶

In this case, the term “sustainability” should perhaps be redefined. This has already been done in various ways, but maybe soon this term should include production and lifestyle ethics and not only take into consideration the means of our natural systems (environment) and ensure that our lifestyle does not harm others (i.e., society and culture).³⁷

In the name of sustainability, the fur business argues that their products, compared with products made from an-made fibre, are somehow better in both “cradle to gage” and “cradle to grave” studies.

One may ask if this is like comparing toys made from wood with toys made from plastic. As in this case, the ethical aspects of suffering or flourishing are not included in any way in the definition of “sustainability.”

According to R.S. Blackburn (*Biodegradable and Sustainable Fibers*, pg xv): ‘The main problems with synthetic polymers are that they are non-degradable and non-renewable... Oil and petroleum are non-renewable (non-sustainable) resources and at the current rate of consumption, these fossil fuels are only expected to last for another 50-60 years... An even more important problem with the use of fossil energy is the huge translocation of carbon from the ground into the atmosphere accompanied by emissions of sulphur and nitrogen oxides as well as all kinds of hydrocarbons, and heavy metals. Fossil fuels are also the dominant global source of anthropogenic greenhouse gases (GHG).’³⁸

A study made in 2013 for CE Delft, an independent research and consultancy organisation specialising in developing structural and innovative solutions to environmental problems, clearly shows that the environmental impact of natural mink fur coats and trims is greater than the impact of faux fur coats and trims, which then contradicts the claims from the fur industry (Bijleveld 2013).

In theory, the argument regarding sustainability is that it is possible to compost a fur coat when done with it. But due to the tanning processing, this could be questionable, and referring to the example mentioned previously, i.e., the 5500-year-old leather shoe Areni-1 found in 2008, questions concerning composting persist.

This table shows how long some common items will take to break down if left in the environment, which can then be part of the argument regarding degradability. To clarify, a natural product such as glass can take 1 million years to decompose and a nylon t-shirt can take 40 years.³⁹

Vegetables	5 days–1 month
Paper	2–5 months
Cotton T-shirt	6 months
Orange peels	6 months

³⁶European Fur Information Center <http://www.fureurope.eu>.

³⁷Land Learn, What is sustainability <http://www.landlearnsnw.org.au/sustainability/what-is-sustainability>.

³⁸Fur Council of Canada <http://www.furisgreen.com/earth-friendly.aspx>.

³⁹<http://sciencelearn.org.nz/Contexts/Enviro-imprints/Looking-Closer/Measuring-biodegradability>.

Tree leaves	1 year
Wool socks	1–5 years
Plastic-coated paper milk cartons	5 years
Leather shoes	25–40 years
Nylon fabric	30–40 years
Tin cans	50–100 years
Aluminum cans	80–100 years
Glass bottles	1 million years
Styrofoam cup	500 years to forever
Plastic bags	500 years to forever

Renowned ethical fashion expert Joshua Katcher argues: “Factory farming is factory farming. When you place a concentrated number of wild animals in an area that hasn’t evolved to deal with that concentration of waste environmental disaster is inevitable.”⁴⁰ This statement does not address all farms. In the Nordic countries they claim to have full control of their waste management through the entire value chain. These proclamations can be interpreted in a broader context, which could have the potential to change the fur industry landscape. But the increasing Asian market, through its lack of regulatory environmental, and ethical transparency oversights, continues the use of cruel cages, terrible transport methods, and painful slaughter methods, and thus the landscape is still unchanged.

The question for debate is how the lives and deaths of these animals can be interpreted when stressing the word “sustainability.” According to Ehrenfeld (2013), this could mean that the production methods are sustainable and that fur products do last for a longer time, but does it make the involved animals flourish? Again, the argument is that understanding the ethical significance of nonhuman animals flourishing cannot be differentiated from the flourishing of human beings.

The challenges may be of even greater concern. Varied aspects in a much higher context seem to create a huge gap between humans beings and nonhuman beings. This subject of fur now more than ever fuels the debate about ethics, social interactions, traditions, and culture.

Somehow, in the fashion and lifestyle business, fur is preferable, and yet it is a loathsome subject. This might be due to the fact that furry animals look cuter than other livestock animals.

Mark J. Estren, Phd. in psychology from the University at Buffalo, claims that cute animals get more public attention and scientific study due to having physical characteristics that would be considered neotenous. Estren says that humans should be mindful of favouring of cute animals such that animals not considered cute are also valued (Estren 2012).

⁴⁰LinkedIn Profile of Joshua Katcher https://www.linkedin.com/profile/view?id=4796397&authType=NAME_SEARCH&authToken=sg-h&locale=en_US&trk=tyah&trkInfo=clickedVertical%3Amynetwork%2CclickedEntityId%3A4796397%2CauthType%3ANAME_SEARCH%2Cidx%3A1-1%2CtarId%3A1439274443075%2Ctas%3AJoshua%20katcher.

Due to the intensive debates that have been based on this particular subject, the fur sector in developed countries has had to spend time, resources, and efforts to analyze and document their businesses and professions to be able to justify and clarify the reason and need for fur to the majority of the public. To sustain and survive in this part of the business, developed countries have cleverly predicted the future trends by their ability and resources to involve scientists and collaborate with designers, economists and politicians, which allows them to document their process in a rhetorical and politically correct way seen in the light of today's sustainability agenda.

Nevertheless, legislation and transparency is still missing for the most part in the fur industry.

There is no legislation regarding labeling at the moment. Consumers have the right to know what kind of animal they are buying. They cannot tell whether the fur on their garment is faux or actual animal fur. Fur should require labeling of all types of animals including, at the very least, the country of origin and how animals were bred so that people know what they are buying.⁴¹

The law, known as The Truth in Fur Labeling Act, passed the House of Representatives in July 2010 and was signed by President Obama later that same year. The act "will bring much-needed accuracy and disclosure to fur products," as long as those committed to animal rights in terms of Corporate Social Responsibility ensure that it is upheld.⁴²

H.R. 2480 (111th): Truth in Fur Labeling Act of 2010

Introduced:

May 19, 2009

111th Congress, 2009–2010

Status:

Enacted—Signed by the President on Dec 18, 2010

This bill was enacted after being signed by the President on December 18, 2010.⁴³

It may be objected that comparisons of the sufferings of different species are impossible to make, and that for this reason when the interests of animals and humans clash the principle of equality gives no guidance. It is probably true that comparisons of suffering between members of different species cannot be made precisely. Nor, for that matter, can comparisons of suffering between different be made precisely. Precision is not essential. As we shall see shortly, even if we were to prevent the infliction of suffering on animals only when the interests of humans will not be affected to anything like the extent that animals are affected, we would be forced to make radical changes in our treatment of animals that would involve our diet, the farming methods we use, experimental procedures in many fields of science, our approach to wildlife and to hunting, trapping and the wearing of furs, and areas of entertainment like circuses, rodeos, and zoos. As a result, a vast amount of suffering would be avoided. (Singer 1979)

⁴¹The humane Society of the United States http://www.humanesociety.org/news/press_releases/2010/12/senate_passes_fur_labeling_bill_120810.html.

⁴²Quote: <https://fashionwithaheart.wordpress.com/2012/05/06/friend-foe-or-frock-animal-rights-in-fashion/>.

⁴³<https://www.govtrack.us/congress/bills/111/hr2480>.

11.1 *Wild Fur and Farmed Fur*

The following section will discuss the division between wild fur, also known as free-range fur, and farmed fur and will compare their use in developed versus underdeveloped countries.

Slaughter and breeding methods from an ethical point of view differ in different countries. These differences stem from varied cultural and traditional methods practiced in each individual country and relate to how animals are bred and slaughtered. This set of differences involves ethical choices faced by decision makers when working with nonhuman animal products.

I have concentrated on the use of animals as food and in research, since these are examples of large-scale, systematic speciesism. They are not, of course, the only areas in which the principle of equal consideration of interests, extended beyond the human species, has practical implications. There are many other areas, which raise similar issues, including the fur trade, hunting in all its different forms, circuses, rodeos, zoos and the pet business. Since the philosophical questions raised by these issues are not very different from those raised by the use of animals as food and in research, I shall leave it to the reader to apply the appropriate ethical principles to them. (Singer 1979)

11.2 *Farmed Fur*

Fur farming is the practice of breeding or raising certain types of animals for their fur. Fifty-eight percent of all farmed fur comes from Europe. China, Russia, and North America also engage in intensive fur farming.

According to WeAreFur.com, a Web site from the International Fur Federation and the worldwide fur trade, fur farming includes everything from the most humane slaughter methods for each type of animal to specifications that ensure the general well-being of the animals.

Fur farming is well regulated throughout the world and operates within the highest standards of care. Although laws differ slightly from country to country, there are international regulations that govern all fur farming, prohibiting animal cruelty and determining cage size and enrichment.⁴⁴

WeAreFur.com defines the word “enrichment” for animals being used in fur farming and the regulations surrounding them as that which can adhere to the principles of virtue ethics and right ethics including a *flourishing* environment for wildlife to live in. It would seem that fur-farming practices in some countries do not conform with this definition.

According to Fur Commission USA, mink raised on fur ‘ranches’ are treated ‘humanely,’ meaning with compassion, kindness, and mercy. In fact, they are ‘the best cared-for livestock’ in the world, a statement that, tragically, just might be true. Compared with veal calves, hogs, and chickens raised in confinement, those lucky mink who spend their waking hours pacing back and forth, jumping up the sides of cages, and rotating their heads, are leading a country club existence. May God forgive us. (Regan Empty Cages, p. 110).

⁴⁴<http://www.wearefur.com/welfare/farming-regulations>.

11.3 Slaughtering Methods

Carbon monoxide is the most used technique for killing mink, but electrocution is also permitted. Scientific evidence show that the use of exhaust gases to induce unconsciousness in mink provokes excitation and convulsions. Electrocution requires considerable restraint and the use of electrodes inserted into orifices. New York State banned the electrocution of foxes; this method was also banned in the UK before fox farming was prohibited there altogether.⁴⁵

The following facts on fur farmed animals are from Furinformationcenter.eu⁴⁶ and will help create an image of the number of animals used alone in Europe per year.

Production figures by country:

Belgium: 200,000 mink, 100 chinchilla

Bosnia: 6000 chinchilla

Czech Republic: 2200 chinchilla

Denmark: 15,000,000 mink, 7000 fox, 24,000 chinchilla

Estonia: 4600 chinchilla

Finland: 1,700,000 mink, 1,800,000 fox, 130,000 Finn raccoon

France: 150,000 mink

Germany: 350,000 mink

Greece: 550,000 mink

Holland: 4750.000 mink

Hungary: 14,000 chinchilla

Iceland: 160,000 mink

Ireland: 200,000 mink

Italy: 160,000 mink

Latvia: 350,000 mink, 9100 fox

Lithuania: 550,000 mink, 1200 fox

Norway: 595,000 mink, 150,000 fox

Romania: 17,000 chinchilla

Serbia: 10,000 chinchilla

Spain: 600,000 mink

Sweden: 1,100,000 mink

Poland: 6,000,000 mink

To estimate how many animals are used for a single fur coat depends on the style and size of the garment, but this is a guide to the number of animals used.

Mink 30–70

Rabbit 30–40

Fox 10–20

⁴⁵http://www.hsi.org/world/europe/work/fur/facts/fur_farming_eu.html.

⁴⁶<http://www.furinformationcenter.eu/facts/facts-fur-farmed-animals.aspx>.

Chinchilla 30–200
 Seal 6–10
 Lynx 8–12
 Badger 10–12
 Otter 10–16
 Dog 15–20
 Bobcat 16–22
 Coypu (nutria) 26–34
 Raccoon 30–40
 Marten 50–60
 Sable 60–70
 Squirrel 200–400

It takes 25 PET one-litre plastic bottles to make a sweater.⁴⁷ Comparing, as was previously done with the fur industry and faux fur, the amount of oil it takes to make a faux fur can be found in the report made for CE Delft, *Natural mink fur and faux fur products, an environmental comparison* (Bijleveld 2013). However, data found about the recycling of PET bottles made of polyethylene terephthalate (which can be recycled into fashion garments and thereby reduce the amount of waste going into landfills) should be taken into consideration.

Seen from a position of utilitarianism and sum logic, the amount of suffering endured by millions of animals might not counterbalance the consumer's desires. The harm done to the environment by farmed fur might not counterbalance the environmental impacts from wearing faux fur.

11.4 Wild Fur

Wild fur or free-range fur completes the circle of animals being used in the fashion and lifestyle industries. These animals include everything classified as endangered species (a full list can be found on the WWF site⁴⁸) to animals being hunted as wildlife in order to address such issues as overpopulation, disease, and starvation. Jaguars, ocelots, cheetahs, margays, tigers, leopard, snow tiger, red wolves, vicuna, bears, raccoons, foxes, beavers, seals and cougars are among the animals the are hunted for their fur.

This issue of wild fur or free-range fur being used today can also fuel the debate surrounding fur fashion. Hunting has been practiced since “back then” and is considered as a natural and far better method than any other when it comes to killing and using animals because it is suggested that the animals have lived natural and free lives.

⁴⁷http://www.plastics.ca/_files/file.php?fileid=itempSTiDvmuEn&filename=file_Fact_Sheet_on_PET_Feb_09.pdf.

⁴⁸https://www.worldwildlife.org/species/directory?direction=desc&sort=extinction_status.

According to the right-ethics theory, a free-range animal has lived a free, optimal life unaffected by starvation and disease. The fact remains that people today have gradually taken over most animal habitats. So the question must be asked: Is the monitoring of animals needed to protect human habitat, crops, and lifestyles or is it done because the animals are too many compared to the amount of space allocated to them by humans?

The ethics of hunting are complicated. Even ardent supporters of hunting disagree among themselves, for example, over the appropriateness of hunting methods that maximize the possibility of a clean kill (to minimize suffering) and the appropriateness of methods that emphasize fair chase. A more basic ethical concern is under what conditions is hunting appropriate? That question rests, in turn, on an even more basic question; what counts as an adequate reason to kill a sentient creature? Some thoughtful people believe that hunting is generally wrong for the same reasons eating meat is wrong. Other thoughtful people believe that hunting is morally acceptable, even virtuous, for anyone who can reasonably conclude that eating meat is morally acceptable. These perspectives offer a sense of the issues concerning the ethics of hunting such species as deer and elk when the hunter, her family, and her friends will eat the animal being hunted.

(Vucetich and Nelson 2014)

11.5 Trapping and Hunting

Figures on how many animals are being killed every year varies from approximately 10 million to more than 100 million wild animals that are trapped and killed.

11.6 Leg Hold Traps

Although the steel-jaw trap has been deemed “inhumane” by 90 countries around the world and the American Veterinary Medical Association and has been banned because of the torture it inflicts on the animal. Still, it is the most preferred form of trapping throughout Canada, the USA, and Russia.

The steel-jaw trap clamps down on the animal’s leg, leaving the animal in pain for hours or days without food, water, or protection. When the animal is collected, it will be killed in a way that ensures that the animal pelt is not damaged. This is debatable because in the eyes of animal rights petitioners it is considered painful and inhumane. Hunters, for the most part, have the opposite opinion.

11.7 Drowning Sets

Drowning sets are designed by trappers to drown and kill particular aquatic animals such as beavers and muskrats. The traps are designed to drown the ensnared animals from the weight of the leg-hold trap.

11.8 *Conibear Traps*

Frank Conibear is a long-time trapper and inventor of the humane trap for fur-bearing animals. His first model was handmade in 1929, but it was not until 1958 that this vertical trap became accepted. It was designed as an “instant-kill” device that breaks the neck of its intended victim. The problem is that the trap will only function on the animal it is designed for and thus causes slow painful suffering to those animals of inappropriate size who enter the trap.

11.9 *Risks*

Some animals do not die instantly in a hunting situation, and many animals suffer because they are seriously injured and they must often wait until the hunter finds them or they finally die of their own accord. Bow hunting can exacerbate the problem because there is no way to ensure an animal will die instantly with a bow.⁴⁹

The risks involved with trapping include that an animal will try to free itself by amputating a limb to survive or will knock out its teeth as it bites on the steel trap. Some hunting groups recommend shooting animals in the face or in the gut, which can be a painful way to die if the strike is not precise. This action relies on coincidence or luck that the animal does not move in those nanoseconds it takes the bullet or the bow to reach the animal.

Many sources indicate between one and ten “non-target” animals are caught in traps for every single target animal. Non-target animals include golden eagles, antelope, domestic livestock, birds, rabbits, deer, porcupines, domestic dogs and cats, and even humans. These animals are considered “trash” by the merciless fur trappers and discarded.⁵⁰

11.10 *Wildlife Crop Control*

Every year hunters and wildlife managers make an estimation of the percentage of wild animals that can be “harvested.” Carnivores, such as wolves, cougars, and bears, were the natural ecosystem managers before the influence of man. Today, hunters and wildlife managers assess that it is necessary to have control over ecosystems and the animals deemed harvestable. One example of nature balancing itself is the reintroduction of wolves to Yellowstone National Park (YNP). This action caused a ripple effect throughout the ecosystem, increasing biodiversity, including a higher occurrence of birds, more beavers, and plant species and natural habitats.⁵¹

⁴⁹http://animalrightscoalition.com/doc/bowhunting_report.pdf.

⁵⁰<http://www.lcanimal.org/index.php/campaigns/fur/fur-trade-facts>.

⁵¹<http://www.yellowstonenationalpark.com/wolves.htm>.

11.11 Natives and Aboriginals

Seal fur is the one subject within wild range fur being debated the most as mink is within the category of farmed fur. This issue involves vulnerable ethnic minorities, culture, traditions, and craft and is one example of a threatened ecosystem in need of management.

According to WWF, the EU does not do much to inform the general public about the Inuit situation. This is due in part due to an ongoing dispute between Canada and the EU at the world trade Organisation (WTO) regarding the EU import ban on seal products. The Directorate-General for the Environment at the EU Commission must be extremely careful in communicating about the trade in seal products (WWF 2013).

It is possible to find abundant information on this debate dealing with traditions, history, environmental facts, ethical facts, laws, and regulations. To put it simply, the discussions entail discrepancies between emotions and understanding for either the welfare of nature and animals or the welfare of humans.

Inuits have been living in the Arctic for more than 5000 years. Their main sources of food have been the animals of the Arctic. The Inuit cannot depend on plants for food because the climate of the c is not suited for agriculture and lacks forageable plant matter for much of the year. This is why the traditional Inuit diet still is based mainly on the meat of wild animals, which is lower in carbohydrates and higher in fat and animal protein compared with the global average. Depending on the season, the Inuit hunt for different types of seal such as harp seal, bearded seal, and harbour seal.

It is in this respect, questions arise about what should be done with the leftover hides and skins. Are they resources as is suggested from the hide by-products found in the food industry? Is it possible these skins could be used in other products without immediately exploiting commercial overconsumption and unethical mass killings?

Those who make money on seal fur are retailers and designers, whereas hunters live a financially precarious existence. Hunters need help to build a solid future for themselves and their families, and this is not enhanced by overexploitation from companies that do not act responsibly.

According to quota numbers in the Daily Mail, the regulation in seal hunting population in 2015 was as follows: 400,000 harp seals, 60,000 grey seals, and 8,200 hooded seals for a total of more than 468,000 animals.⁵² According to Copenhagen Fur, these data is incorrect because they reflect only the quota, not the actual culling.

Nowadays the Inuit do not hunt with kayaks and dog teams but with motor boats, skidoos, and four wheelers, which brings up the issue and discussion about

⁵²<http://www.dailymail.co.uk/news/article-3014363/Canada-s-killing-fields-Government-gives-green-light-HALF-MILLION-seals-killed-fur-annual-cull-vast-majority-pups.html#ixzz3imZ3tCWP>.

eco-management and industrialization. The majority of seal hunting is now commercial, whether it is taking place in Norway, Greenland, or Canada.

Today the Inuit live in heated buildings and have high expenses for heating and imported goods. Approximately 60–70 % of the northern population of Canada are unemployed and unable to sustain themselves by hunting alone live and are dependent on welfare systems and aid.⁵³

At the time, **Greenpeace** argued that their protest was not directed against the Inuit, “but when they supplied to an international market they could no longer call this ‘traditional seal hunting’. Anybody who enters international trade and uses its mechanics must necessarily also bear the risk of the ever-changing market situation, which may be caused by the currents of fashion or an increased environmental consciousness in the buyer countries. In truth, the Inuit are the victims of the irresponsible actions of the seal fur industry. (Greenpeace 1996)

It must be noted that Greenpeace has published a statement in full support of the Inuit hunt in 2015. Joanna Kerr, executive director of Greenpeace Canada, said in a recent statement that the Inuit “*take only what they need, and no more. They honour the animals, the land and the ocean.*”⁵⁴

One might as well argue that because Canada used to hang convicted murderers by the neck until they were dead the tradition should not be allowed to disappear. Sealing in Canada is not a tradition; it is just an unenlightened, outdated practice. Nobel-prize laureate John Maxwell “J.M.” Cape Town, South Africa.⁵⁵

The Inuit have been hard-hit when the European Union banned the import of seal hides in 1983. Environmentalist organizations like Greenpeace, the World Wildlife Fund and other associations for the protection of animals had been protesting, for perfectly valid reasons, against the slaughter of baby seals by Canadian and Norwegian hunters, and demanded protective action. The seal hide market crashed. The Inuit, who in order to preserve the stock had never hunted baby seals, could suddenly no longer earn their living by hunting the grown-up animals. They also had to refrain from whaling. An important part of their cultural integrity and their social system vanished without any replacement.

A similar threat looms in the import ban on hides of wild animals, as proposed by the European Union. This would concern the Inuit and the other native population of Canada. In 1995, about 35,000 of them had a license to hunt with traps. Usually they have no other income, especially those living in the remote northern settlements. Inuit organizations protested, not least, against the way in which this ban was to be imposed: in bad, colonial manner, without talking to those concerned.

(Rathgeber 2005)

⁵³http://www.bambusspiele.de/spiele/nanuuk/e_nunavut.htm.

⁵⁴<http://www.theglobeandmail.com/news/national/greenpeace-inuit-come-together-to-fight-arctic-seismic-testing-for-oil-and-gas/article19718153/>.

⁵⁵http://www.humanesociety.org/news/interview/2008/03/JM_Coetzee_interview_031408.html.

Nobel-prize laureate John Maxwell about slaughter:

In the first place, baby seals are highly photogenic. In the second place, they are entirely helpless and haven't the faintest idea of what is about to happen to them. In the third place, even the hardest-hearted among us has private reservations about killing creatures that have barely tasted the sweetness of life. In the fourth place, the people who do the killing are very unappealing, very unphotogenic.

The Humane Society of the United States claims that seals are killed primarily for their fur, which is used to produce fashion garments and other items. There is only a small market for seal oil (both for industrial purposes and for human consumption), and seal penises have been sold in Asian markets as an aphrodisiac. There is almost no market for the meat, so seal carcasses are normally left to rot on the ice. Senior Canadian government representatives define the seal slaughter as "primarily a fur hunt."⁵⁶ This must mean that authorization is given to kill far more animals than can be consumed either for economic reasons or for ecosystem management, which in both cases are man-made needs. The campaigns against fur have had the effect that tens of thousands of seal furs are piling up in warehouses in Greenland and the hunters have been throwing them away because they have not been able to sell them. Comparing this to the leather industry, it makes no sense. It is neither sustainable nor understandable given that the animals would at least have had a better life instead of a more painful death.

Reasons for being vegetarian or vegan are varied. Moreover, a person might conclude that eating meat is appropriate in some circumstances but not others. For example, a person might think eating meat is wrong in general but acceptable for Native Alaskan Inuits, whose welfare would seem to depend on eating animal flesh. While that kind of complexity is important, it does not obviate the central point, which is a demand to confront the question, What counts as an adequate reason to kill a sentient creature? The hunting community has long recognized the value of this question for understanding the conditions under which various kinds of hunting is appropriate.

(Vucetich and Nelson 2014)⁵⁷

The Humane Society of the United States also claims that independent, international teams of veterinarians observed a hunt and examined the corpses of skinned seals. They found evidence that up to 40 % of the dead seals had skull injuries that were not sufficient to have caused death.

On the Canadian seal hunt...

Despite official assurances to the contrary, many seals are skinned while still alive. It would be a relief to learn that this happens rarely, although of course it should not happen at all. The bad news is, it happens a lot. An independent scientific study, conducted in 2001 by a team of veterinarians, concluded that 42 percent of the seals were skinned alive. That works out to approximately 130,000. (Tom Regan Empty Cages, p. 115)

⁵⁶http://www.humanesociety.org/issues/seal_hunt/2013_hunt/about.html.

⁵⁷Vucetich and Nelson (2014).

This unresolved debate has had a high price for both animals and humans due to industrial development and economics. The debate does not seem to be settling. Resolution requires a change in human consciousness, a 360° view, and innovative thought. Research and a new mind-set based on anything but pure survival and economic will not be able to solve these overwhelming problems.

Decision-makers in this field must take responsibility for the choices made and be thorough in approaching these problems in order to become enlightened as to what exactly is being supported and why.

Mick Madsen, head of communications at Copenhagen Fur, makes a final statement in this chapter underscoring the lack of understanding and dialogue going on within this field especially regarding welfare of human beings versus animals. The reader and decision-maker is therefore invited once more to decide what will be the right thing to do and choose in making an ethical approach in production and consumption for a future on earth and everybody living on it:

As already stated the references to animal rights advocate Tom Regan inevitably leads to a polarised debate over human use of animals as his ideology leaves no room for compromise. The same thing can be said about Humane Society International. Though communicating with utilitarian arguments, it is not difficult to figure out that the ultimate end-goal of HIS (and mother organisation HSUS) is a vegan society. The references to committed animal liberation ideologues appear to bias the report in favour of idea not shared by society at large. Mick Madsen, Copenhagen Fur, 2015.

United federation of teachers offers a very interesting program of teaching for students who would like to work with endangered animals and the fur trade. This can be found at their Web site.⁵⁸

12 Wool

In the beginning was wool, but not the kind of wool known and used today. “Back then,” when man was hunting sheep, it was not for the wool but for the meat. The hair on sheep was more like deer hair is today: thick and short fibers and not as long and curly as is found today.

The story of wool begins approximately 10,000 years ago in Asia Minor during the Stone Age. At a certain time, homo sapiens began to make clothes instead of only wearing furs and skins. One of the hides used was from sheep, and the wool was not very useful because it was too thick and brittle. However, noticing that wool from the stomach and underside of the sheep was softer and more usable, a development took place. Humans started to cross-breed sheep that had the best hair. It took thousands of years and many generations of sheep, but in

⁵⁸<http://www.uft.org/angered-animals-and-fur-trade>.

approximately 5000 BC, man could spin wool fibers for clothing. During antiquity in Central Asia's cold winters, wool was a favorite material thus prompting this region to become the main center of wool production. Scythian shepherding nomads made wool into boots, felt blankets, and yurts. In approximately 500 BC, some Indo-Europeans were still living in Central Asia and were known as Scythians and Sogdians. Turks and Mongols wove wool into clothing and created knotted wool carpets for their homes.

There are many types of wool, but the most common type of wool is made from the fleece of a sheep. In scientific terms, wool is a protein called "keratin." Its length ranges from 3.8 to 38 cm (1.5–15 in.) depending on the breed of sheep. Wool fiber is measured in microns: The smaller the micron, the finer and softer the wool. Each piece is made up of three essential components: the medulla, the cuticle, and the cortex.

Wool is collected from the animal in a process known as "shearing," which is when the wool is shaved from the animal and then washed and processed into yarn. During the washing process, a substance called "lanolin" is removed from the wool. Lanolin is very moisturizing and can be used in soaps. The wool is then cranked through rollers, dried, and brushed. After the cleaning process, it is formed into different types of yarn by a process known as "spinning." It can then be woven or knitted into fabric and clothing.

Modern technology has not been able match wool fiber. No other material, natural or man-made, has all of its qualities. It is a fiber that absorbs moisture (such as sweat) and keeps the body dry and warm. Wool also has a natural waxy coating that makes it durable and water resistant. However, it is possible to refine and improve wool, and this has been done through selective breeding of sheep throughout the centuries.

12.1 Which Animals Have Wool to Shear

Camels

Camels, from North Africa, the Middle East and Central Asia, are less known for their wool than other species of wool animals. Camel hair is used most commonly in Inner Mongolia and other regions in China. Camel hair is most often obtained from the two-humped Bactrian camel (*Camelus bactrianus*). The hair is not usually gathered by shearing or plucking; it is most often collected as the animal sheds its coat once a year. Both the outer coat and the undercoat are shed at the same time, and combing, frequently by machine, separates the desirable down from the coarse outer hairs. A camel grows approximately 7 kg of fiber annually. The wool from camels is mainly used for high-grade overcoat materials and is also made into knitting yarn, knitwear, carpets, and rugs. The coarse outer fibers are strong and used in industrial fabrics such as machine belts.⁵⁹

⁵⁹FAO, CORPORATE DOCUMENT RESPOSITORY <http://www.fao.org/docrep/v9384e/v9384e05.htm>.

Australia has the world's largest population of wild camels, an estimated 1.2 million which is considered to be a growing environmental problem. The Australian government has proposed that killing these wild camels be officially registered as a means of reducing greenhouse gas emissions. According to the government, camels compete with sheep and cattle for food, trample vegetation, and invade remote settlements in search of water.⁶⁰

The Australian association for the camel industry is called Camels Australia Export. The registered business name is the Central Australian Camel Industry Association Inc (CACIA). This association is made up of members from the pastoral industry, meat industry, aboriginal communities, tourism operators, transport operators, contractors, and governmental agencies.

The role of CACIA is to promote the sustainable development of the camel industry through the use, knowledge, and well-being of camels in Australia.⁶¹ CACIA provides guidance in compliance with animal welfare regulations and advises how to handle the camels in complicity with human needs:

Camels must be used to being handled. This is so that they can be handled at the abattoir by a yardman not familiar with camels. Also once camels become stressed they are more difficult to handle.

The Animal Welfare Working Group (AWWG) has within the Primary Industries Ministerial Council (PIMC) committee system prepared *The Australian Model Code of Practice for Welfare of Animals, The Camel*, where again information can be found on how to handle the camel in the context of industrial production of the meat, hides, and wool. However, no actual bioethical and philosophical analysis concerning ethical questions about the production of camels for human consumption is addressed.⁶²

IN addition, a pre-feasibility study 2009 on camels in Queensland, titled *Commercial Opportunities for Diversification*, by Lauren Brisbane criticizes the lack of available husbandry information and the serious impacts on the appropriate use of camels. Because camels are a herbivores, there are distinct differences in their management compared with other stock animals, e.g., cattle and sheep.⁶³

Anthropomorphism is the projection of human personality and mannerisms to animals and the criticism would be relevant for example, if someone said: "The camel is a haughty animal as it looks down its nose at you", whereas it is not anthropomorphic to diagnose pain or suffering in an animal by bringing in one's own experience of pain in a comparable situation."

Neville G. Gregory, Royal veterinary College, UK, 2007

⁶⁰http://www.huffingtonpost.com/2011/06/09/australia-camels-slaughter-carbon-credits_n_873768.html.

⁶¹<http://www.camelsaust.com.au>.

⁶²<http://www.camelsaust.com.au/code-of-practice-for-camels-in-australia>.

⁶³<http://australiancamelindustry.com.au/cjamel/images/pdfs/camelgrazing/Camels.in.Queensland.Pre-feasibility.Study.2009.pdf>.

Llamas

The llama family originally derives from South America and consists of llamas, alpacas, vicuñas, and guanacos. The most used in fashion is alpaca because alpaca does not contain stiff guard hairs and therefore can be used to spin finer yarns.

Llamas have coarse guard hairs typically used in the inner wool for rope and blankets. They are usually sheared once a year.

Little attention has been paid to any potential animal welfare problem related to the capture, fencing in, or translocation of these wild animals. Vicuñas have a very hard time coping with their native cold environment once they have been sheared and no longer have the isolation once provided by their fleece, especially when not provided with any form of shelter.

The lack of welfare in the breeding methods of the vicuñas has had a negative effect. It has resulted in more substantial mortality rates and new diseases that affect the entire population thus creating an unstable market and economic liability of farming and producing these luxury products (Gordon 2009, p. 49). Currently there are estimated to be more than a quarter of a million vicuñas in the Andes.⁶⁴

Because wool fleece from the llama family is regarded as a luxury product servicing a niche market, it is essential that the decision makers in this industry help to safeguard and protect its international image by promoting and demanding high standards of animal welfare and to do so to minimize ecological impacts on the natural environment.

The vicuñas case study shows how local communities articulate to the global market via a sustainable use project. The complex and challenging nature of this asymmetric relationship needs to be recognized and appreciated in order to address poverty alleviation and conservation and arrive to a win-win scenario. Dr. Gabriela Lichtenstein

Musk Oxen

Ovibos moschatus is Latin for sheep cow. In fact, the musk ox is more closely related to goats and sheep than cattle and can be considered as a “giant sheep.” The musk ox’s soft inner wool is called “qiviut.” The musk ox lives in far northern climates such as Canada, Greenland, and Alaska.

Musk ox was brought from Greenland to The Nuniuak Island National Wildlife Refuge in Alaska in 1930. Archaeological and ethnographic evidence is consistent with the hypothesis that once the musk ox was hunted as a critical resource before the arrival of Europeans in the Canadian Arctic (Wilkinson 1974).

Breeding programs for production of qiviut have been taking place since the late 1960s, but the scientific implications of musk ox domestication will, according

⁶⁴Lichtenstein G. *Vicuña conservation and poverty alleviation: trying to link the two ends of the social scale*. Instituto Nacional de Antropología y Pensamiento Latinoamericano (INAPL)/CONICET. 3 de Febrero 1378, (1426) Buenos Aires, Argentina. Email: glichtenstein@fibertel.com.ar. https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/6007/Lichtenstein_128501.pdf?sequence=1.

to Poul F. Wilkinson,⁶⁵ not become apparent until many more generations of domesticated musk oxen are available for study. However, it is suggested that it will be an economical advantage to reduce the average size of domesticated musk oxen relative to their wild counterparts because smaller animals produce more wool relative to food intake than larger ones. Also factors controlling the patterns of shedding are important to those musk ox farmers who are seeking a rapidly shedding, highly productive animal (Wilkinson 1974). Every spring, the musk ox sheds its undercoat by rubbing against something (Wilkinson 2008).

Qiviut, musk ox wool, is one of the most exclusive and rare wools available and is said to be softer than cashmere and warmer than wool from sheep, which makes it suitable for fine textiles and clothing. Qiviut does not shed and will not shrink in water at any temperature unlike sheep wool. Furthermore, it is very warm even when it is wet. Finally, musk ox wool is easy to maintain, and a sweater made of musk wool can last years with the right care.

Musk ox wool is much warmer because the oxen must withstand temperatures down to -60°C . No other cloven-hoofed animal lives as far north as the musk ox. The reason why it can cope in the cold and harsh conditions of the arctic tundra is because of its 60-cm-long hair and woolly undercoat, which can ward off frost and provide insulation.

An adult musk ox can produce 0.8–1.5 kg of wool per year. The wool is either collected during molting season, or hides are purchased from hunters during the hunting season. The long outer coat of the musk ox is not shed in springtime because it provides protection against the sun and insects in summer.

If the outer coat is sheared, this will endanger the welfare of the musk ox in summer and will not significantly improve the quality of the annual qiviut yield. If the thick outer coat is retained, shearing will be impossible, but plucking qiviut is possible although time consuming (Wilkinson 1974, p. 139). Qiviut is collected from intensive husbandry by enclosing the musk oxen in a small stall or crush and using long-toothed combs to remove the fibre that is already loose. If attempts are made to remove tightly held qiviut, this will make the animal extremely agitated causing stress (Drew et al. 1989, p. 392). Wool used for larger productions is most often bought directly from the hunters because the fashion industry has not included the time aspect needed for molting seasons and the time it takes to collect the wool in the tundra.⁶⁶

Decision-makers in the fashion and the lifestyle industry should be very conscientious about and research thoroughly before choosing fiber like this in a production. Paying attention to seasons, animal welfare, and production methods is also suggested.

⁶⁵Paul F. Wilkinson is President of Paul F. Wilkinson and Associates Inc. He holds Bachelor's and Doctor's degrees in Archaeology and Anthropology from Cambridge University. He has over 40 years of applied consulting experience in Canada and internationally.

⁶⁶<http://atasteofgreenland.com/material/qiviut-musk-ox-wool/> (Accessed August 28, 2015).

Goats

Angora goats grow a long, shaggy coat of fur called “mohair,” which can be sheared twice a year and yields approximately 2.5 kg of wool fleece. Mohair is known for its shine and is often used in clothing and luxury accessories.

Cashmere is considered a luxury fiber, and a cashmere goat yields less than 2 kg of wool. It takes a full year of growth from approximately four goats to produce enough fiber for one sweater.

Cashmere is the second largest hard currency-earning export of Mongolia, which makes the emerging Asian nation the world’s second largest producer, after China, of the coveted cashmere goat’s wool. Human costs are very high to the goat herders in Inner Mongolia, according to Dr. Carol Kerven, because the compensation they receive for the cashmere fibre is very low by current world standards. Its value will only increase to the extreme by the time it reaches the international market, and unfortunately this compensation does not reach the goat herders. It is common for cashmere to be mixed with yaki hair, synthetic fiber, or worse in order to meet the requirements of fast fashion (Kerven 2003).

Annually Mongolia produces 6700 tons of raw cashmere accounting for approximately 28 % of the total world supply. The number of cashmere goats in the country increased almost 300 % between 1990 and 2009. During the same period, the amount of raw cashmere produced increased by 450 %. Other major cashmere-producing countries are New Zealand, Nepal, Iran, Afghanistan, Australia, and the United States.

Desertification is the largest environmental threat to the cashmere industry in Mongolia, and over-grazing, along with global warming, intensifies the problem. The increased population of cashmere goats destroys other Mongolian animals such as sheep, cattle, horses, or camels. Because of the way they graze, cashmere goats destroy the roots of the plants and damage topsoil and grass root systems with their stiletto-like hoofs. This is why the cashmere supply cannot keep up with demand in a sustainable way.⁶⁷

There is no certification label that guarantees a cashmere product is ethical, says Dani Baker, of the Ethical Fashion Forum. Customers should ask retailers where they source from, if the farming method is sustainable and what conditions the animals are kept in.⁶⁸

Sheep

The ordinary consumer, when considering “wool,” thinks of sheep. Wool is traditionally considered a sustainable lifestyle choice for fashion and lifestyle products, which is a misunderstood assumption. Wool from sheep affects the environment

⁶⁷<http://mongolia-briefing.com/news/2012/02/mongolias-cashmere-industry.html#sthash.XRM6sxP7.dpuf>.

⁶⁸<http://www.theguardian.com/environment/2011/jan/16/does-cashmere-get-your-goat>.

like everything else produced and used, and as in all other cases mentioned in this chapter, the use of wool is also a nonhuman animal welfare-based topic.

Today, wool is a global industry, and there are nearly 1 thousand million sheep in the world. Annual wool production is approximately 2.1 million tonnes. In 2010, wool amounted just 2 % of the world's total fiber consumption (FAO/ICAC World Apparel Fibre Consumption Survey 2013). Australia produces 25 % of the world's wool.⁶⁹ The main producing countries besides Australia are China, New Zealand, United Kingdom, Iran, Russia, and Uruguay.⁷⁰

Sheep can adapt to the environment in a variety of ways such as those that deal with climate, soil, herbage, and terrain. Some of the more famous sheep breeds are accountable for the significance of sheep, especially in the large pasture countries in the southern hemisphere.

Sheep are the most used animals in wool production, and their wool can be categorized into three types: fine, medium, and coarse. Fine wool from the Merino sheep is the most widely used in the garment industry and comes from breeds called Debouillet and Rambouillet. The amount of wool that a sheep produces depends upon its breed, genetics, nutrition, and shearing interval. A Merino sheep grows up to 18 kg of greasy wool a year. Lambs produce less wool than mature animals. Medium and coarse wool fleece is mainly used for the production of wool yarn for hand knitters.

The International Wool Textile Organization (IWTO) has in 2013 closely aligned with GOTS in adopting a new organic wool standard, *Guideline for Sheep Welfare*. According to IWTO, "Eco wool" must meet the standards set by the EU Ecolabel.⁷¹ The International Wool Textile Organisation (IWTO) has been the recognized global authority for standards in the wool textile industry since 1930. According to IWTO, the fashion and lifestyle industry has slowly started to understand the importance of posing questions about the provenance, origin, and sustainability of wool. Animal welfare and care for the earth are increasingly important elements in the areas of corporate social responsibility, which are addressed in this guideline.

In addition, animal rights groups have made the textile industry aware of the various problems regarding animal welfare in the production of wool over the past decade. A standard of unethical treatment of animals has led several large firms to take a stand about what kind of production they want to support. This has resulted in an increased production of both organic and ethically generated wool, although it accounts for only a very small part of the total global production of wool.

Each country has its own standards on organic wool, such as that in Australia, which has no resemblance to or agreement with the USA organic standards. The term "eco wool" is also used by many companies, which means the wool is

⁶⁹Australian Bureau of Statistics, "Year Book Australia, 2009–10," 6 Apr. 2010.

⁷⁰<http://www.naturalfibres2009.org/en/fibres/wool.html>.

⁷¹http://www.iwto.org/uploaded/publications/WEB_IWTO_Sheep_Welfare_Guidelines_Web.pdf.

sheared from free-roaming sheep that have not been exposed to toxic flea dipping, but it does not mean that the fleece has not been treated with dyes, chemicals, and bleaches.

Domesticated Sheep

The most discussed issue within wool production has been “mulesing” (see following text), whereby Merino sheep are selectively bred to overproduce thick, heavy coats. The most commonly raised sheep in Australia is the Merino sheep, which accounts for approximately 30 % of all wool used worldwide. Merino sheep have been bred to have more skin than their actual body size to produce more wool. Their coats are so thick that they can die of heat exhaustion during hot months, and, unlike wild sheep, Merino sheep cannot shed their fleece by themselves and are totally dependant on human beings.

Mulesing

“Mulesing” was developed approximately 80 years ago because Merino sheep not are able to keep themselves naturally clean because of the many folds in their skin. The tail and the breech area become moist with urine and contaminated with feces, and the blowfly is attracted to this humid area where it lay eggs. The eggs hatch and maggots eat away at the flesh of the living animal, which is very painful to the animals. This is called “fly strike.”

Mulesing is the cutting of flaps of skin from the breech and tail of the lamb with a scalping to create an area of bare and stretched skin. Because the scarred skin has no folds or wrinkles the area is less attractive to blowflies. This makes mulesed Merino sheep less sensitive to fly strike.

However, because mulesing is carried out without anesthesia, it is a very painful and anxiety-producing procedure for the animal. Other procedures performed without anesthesia include punching a hole in lambs’ ears, docking lambs’ tails, and castrating male sheep. This is carried out in a way where a rubber ring cuts off the blood supply on male lambs’ testes and tails.

Alternatives to these issues are to change the genetic traits of sheep, which is the point this industry has reached today. Several initiatives and research are being carried out in this area, and it can therefore be concluded that the issues of animal welfare are being recognized and accepted as a problem that must be solved.

The RSPCA, an independent NGO, in 2011 published a research report, *Prevention and control of blowfly strike in sheep*.⁷² This report includes a long list of references on every aspect of on welfare issues, including blowfly management, and new emerging technologies for further study.

Shearing

During the shearing process, many of the animals are injured. Human beings can only perform this, and the sheep are handled very roughly and brutally because of

⁷²http://kb.rspca.org.au/What-is-mulesing-and-what-are-the-alternatives_113.html Research report - Prevention and control of flystrike August 2011.pdf.

the heavy workload. The hard work leaves no room for taking into account that sheep are living beings capable of feeling pain.

Transportation

When sheep cannot produce the amount of wool required, they are sold for slaughter. Millions of animals are exported each year where the sheep are transported for long distances in very crowded feedlots and are then loaded on ships. Many animals die during this treatment, experiencing everything from stress and anxiety to lack of space, harsh treatment, and lack of food or water. Usually the animals are transported to countries with minimal or no slaughter regulations and where the sheep often will be deliberately dismembered without compassion.

Rabbits

The Angora rabbit is recognized throughout the world as both a pet and as an animal used in commercial farming. They are available in different breeds: the English Angora, French Angora, German Angora, Giant Angora (which is an English Angora bred to produce more wool), Satin Angora, and a new breed, the Dwarf Angora. Angora rabbits are believed to have originated from Turkey.

The fur from the Angora rabbit, both undercoat and guard hairs, is very long (Meredith 2000).

These qualities make them in particular at risk of suffering such conditions as matting, fly strike, and gastrointestinal obstructions caused by an autosomal recessive gene that is responsible for the characteristic and abnormal long fur of the Angora rabbit's coat (De Rochambeau and Thebault 1990).

The long fur of Angora rabbits mats easily. This can be very uncomfortable for the animal and causes irritation as well as sore and infected skin and predisposes the rabbit to life-threatening conditions. These conditions not only cause significant pain, distress, and suffering, but they can affect the ability of the rabbit to eat and move around (Deeb 2000; Harcourt-Brown 2007; Cousquer 2006).

Its long and fluffy coat makes it impossible for the Angora rabbit to groom and care for itself, which, if not cared for, leads to matting and fly strike. Merino sheep flies are attracted to moist hair and skin that is soiled by urine and feces. They lay their eggs in the Angora rabbit's coat, and the larvae eat the living body tissues causing significant pain (Cousquer 2006).

From an ethical point of view, the effects of such a dense coat might also cause the rabbit much thermal discomfort especially if it is bred in a hot environment. This may be difficult to measure because rabbits show very few obvious signs of pain. Their suffering may therefore be underestimated, and problems may be undetected until they are in severe pain.⁷³ Based on these facts, opinions as to whether it is ethically acceptable to breed Angora rabbits at all may differ, but the Angora rabbit's welfare is at particular risk because of the abnormality in its genes.

⁷³<http://www.rspca.org.uk/adviceandwelfare/pets/rabbits/health>.

Caring

Angora rabbits, if they are to be free of disease and discomfort, are very dependent on time-consuming care and impeccable husbandry. This includes daily contact and care that consists of regular grooming and general shearing as well as inspections to check for perineal soiling, especially in warmer weather or in warmer climates. Angora rabbits require a high-fiber, high-protein diet to support their constant wool production.

Furthermore, rabbits in general often find it very uncomfortable and stressful to be sheared and groomed. Rabbit skin is very thin making it easy to cut into the skin, especially if the rabbit is feeling anxious. Some are so distressed they require sedation or anaesthesia before shearing (RWF 2007).⁷⁴

Rabbits naturally move a lot and therefore need daily exercise. This also goes for Angora rabbits. Housing of rabbits in small wire cages with no possibility of being able to move is a result of the heavy demand from the fashion and textile industries, which have deprived the rabbits from developing naturally. According to the American Rabbit Breeders Association (ARBA), the minimum space requirements for one rabbit based its weight is about 1 square foot per 3 pounds of rabbit. This size cage does not allow for much exercise.

The European Commission (2007) recommendations on the housing of animals used in research states that solid floors with bedding or perforated floors are preferable to grid or wire mesh floors for rabbits and that wire floors should not be used unless a resting area is provided large enough to hold all rabbits at any one time (European Commission 2007).⁷⁵

Rabbits naturally also must dig and chew on branches for entertainment and to keep their teeth from growing too long, which can cause serious health problems requiring veterinary care. Consequently, if none of the rabbit's natural needs are handled, the successful production of Angora wool will not occur.

A case in point is that of Angora rabbits used in production, which are farmed intensively in underdeveloped countries. Because raising Angora rabbits requires more skilled workers, which results in a higher production cost, success is not always achieved. According to FAO, the Food and Agriculture Organization, it has spent 10 years supporting the concept of backyard rabbitries as examples of sustainable development with extensive programs in 10 countries in Africa, South America, and the Caribbean, without much success due to the many challenges in raising and maintaining Angora rabbits.⁷⁶

⁷⁴RWF (2007). The long and the short of it. Caring for long-haired pet rabbits. Owner information leaflet. Horsham, UK: RWF http://www.rabbitwelfare.co.uk/resources/content/leaflet_pdfs/longhairNov07.pdf.

⁷⁵<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32007H0526>.

⁷⁶<http://www.fao.org/docrep/t1690e/t1690e03.htm>.

12.2 *Harvesting Wool Fiber*

The harvesting of wool and slaughtering methods have been discussed worldwide because several animal right activists have documented these methods on social media.⁷⁷ This attention made several fashion brands stop using Angora wool in their future collections realising that quality of the product and luxury feeling did not measure up with the production methods and the living conditions these animals underwent.⁷⁸

Most Angoras will naturally shed their coats –three to four times a year (Within this area every 90 days). However, some breeds do not molt their wool, so shearing the rabbits is necessary. Other Angora breeds can have the wool pulled or plucked by hand when the rabbit starts to molt. The hair should pull easily and not require force to be removed. If this hurts the rabbit, the rabbit is not ready for wool removal, and pulling or plucking should be stopped immediately and retried later.

Milk Fiber

Casein plastics and milk casein fiber were introduced and used in clothing in American and Europe during the 1930s and 1940s. They were substitutes for wool, fell out of use after WWII, but have grown in popularity as a so-called “eco-friendly fiber” (Gridley et al. 2005).

Casein, the protein in milk, was used by the ancient Egyptians as a fixative for pigments in wall paintings and has historically also been used as a constituent in various glues.

Casein was also used in plastic until the end of the 19th century and in imitation tortoiseshell and horn for use in buttons for fashion products.

Milk fiber is a blend of casein protein and the chemical acrylonitrile. Acrylonitrile is a key ingredient used to make acrylic fiber.

Acrylonitrile is used to produce plastics that are impermeable to gases and are ideal for shatter-proof bottles that hold chemicals and cosmetics, clear “blister packs” that keep meats fresh and medical supplies sterile, and packaging for many other products. It is also a component in plastic resins, paints, adhesives, and coatings.⁷⁹

It takes approximately 100 pounds of skim milk to make 3 pounds of milk fiber,⁸⁰ and combined with the knowledge that dairy farming has a large negative impact on the environment given the inhumane way in which dairy animals are treated at mass-production farms, this fiber can never be considered “eco-friendly” in any way.

⁷⁷http://www.chai-online.org/en/compassion/clothes_fur.htm#rabbits.

⁷⁸The names of these companies can be accessed through PETA. (<http://www.peta.org.uk/blog/things-stand-Angora/>).

⁷⁹Thesohio Acrylonitrile Process, Bp Chemicals Inc. Warrensville Heights, Ohio, September 13, 1996.

⁸⁰<http://www.ecouterre.com/milkofil-it-does-a-bodice-good/>.

The dairy cow is the hardest working of all livestock. In order for cows to produce the amount of milk required by the industry, cows are artificially inseminated two to three months after giving birth. Soon after calves are born they are removed from their mothers, deprived from all natural needs, such as connection to their mother and natural milk, while other cows are required to nurture a growing calf inside of their bodies to produce milk for humans.

As a result, today the dairy industries overproduce milk, much of which is discarded. With the intention of saving resources, the textile industry has rediscovered and industrialized the possibility to change milk fibers into textiles.

Feathers

Feathers have had a wide range of uses for thousands of years. Archaeological evidence suggests that people dating back to Neanderthal populations have used or extracted materials from animals that can not be linked to food or utilitarian purposes but are possible indicators of a symbolic behavior value. This includes the use of feathers and the long bones of large-sized birds such as vultures, eagles, and swans (Peresania et al. 2011).

Throughout the centuries, pillows have been filled with feathers, and in a number of cultures feathers have been deemed to have a great symbolic association with spirituality. However, in the context of this chapter, the greatest relevance for feathers is their use in personal adornment across time and culture. All kinds of birds have been used for decoration. Ostrich, peacocks, birds of paradise, and herons have been enormously popular, but ordinary garden fowls, such as doves, geese, and turkeys, have also been used in quantity. Robin W. Doughty, in *Feather Fashions and Bird Preservation*, presents a highly detailed chart of feather fashions recorded in Doughty (1975).

13 Feather Farms

From the 1880s until the First World War, exotic ornamentation was at its peak, which created a great trading of feathers, such as ostrich feathers. These were coveted for their flamboyant and lavish expression as interpreted by fashionable women (Stein 2008). This demand resulted in farms where the birds were plucked alive. An ostrich, for example, was plucked once a year from its first year of life, which could be turned into many harvested feathers in a single ostrich's lifetime. By the 1900s, the North American millinery industry employed 8300 people, which included the exploitation of children in preparing the feathers for sale (Stein 2008). In addition, the business of killing birds for the millinery trade was practiced on a large scale, involving the deaths of hundreds of thousands of birds in many parts of the world, which in turn endangered some species.

Thus, as people became more enlightened, the first animal-protection groups were formed in response to actions that were described as a "murderous fashion trade." In England, clubs and associations such as RSPB (Royal Society for

Protection of Birds) and the Audubon Society (which was established in America and initiated by women), were against the use of feathers in costumes (Haynes 1983). The RSPB attempted to persuade women not to wear feathers by lobbying for protective legislation and working to change what was considered fashionable.

And as is always seen within fashion, the truth was being downplayed and distorted for commercial reasons, which even at the time of RSPB's efforts could be read in a comment from *Harpers Bazaar* November 1899 presenting a completely different angle on the use of feathers as decoration:

The tender-hearted women who have refused to wear egrets on their hats and bonnets, on account of the poor mother-birds, will be glad to learn that they are not killed for the purpose of obtaining these lovely ornaments. As a matter of fact, the hunters, without powder or shot, go around (in South America or India) during the right season to the breeding or roosting grounds and collect the plumes, which are cast by the male birds every year.

In Venezuela the natives are beginning to farm the birds, as they are easily domesticated; as the egrets grow again each year, the enterprise should be very profitable.

It has long been considered a very cruel thing to wear an egret, as it was supposed that a mother-bird was killed to obtain it. We have heard harrowing descriptions of nests of young birds left unprotected while the mother-birds lay mangled on the ground—all for the adornment of heathen woman-kind. But now the most tenderhearted lady (provided she can afford the luxury) may wear this beautiful ornament with a clear conscience.

“The Week”, *Harper’s Bazaar*, 1899⁸¹

13.1 Fashion Repeats Itself

Today a percentage of the world's supply of down and feathers are still plucked from live birds (Hanson 2011), a practice that today is also condemned as cruel by animal welfare groups. Live-plucking is illegal in Europe and the United States, but it is known to occur in European countries (Poland and Hungary) and in China (Villalobos 2011).

Down is the soft layer of feathers closest to birds' skin, primarily in the chest region. These feathers are highly valued by manufacturers of down clothing and comforters because they do not have quills. Plucking of geese and ducks is very painful and causes great suffering. Birds are lifted by their necks or wings and their legs are held back or tied so their feathers quickly can be ripped straight out of their skin. Plucking can begin when the animals are only 10 weeks old and is repeated in 6-week intervals. Due to the pain, the birds struggle even more from the brutal handling, which ensures that their skin is made prone to being ripped open, and workers sew the wounds without anaesthesia using dirty needles and thread.

⁸¹“The Week,” *Harper’s Bazaar*, 18 November 1899, 974.

As seen with all other kinds of animals used in the fashion and lifestyle industries, feathers and down are used as a commodity and many types of down are from many synthetic materials, thus making it difficult to determine exactly what percentage of down is actually harvested from live animals (Villalobos 2011).

From an ethical perspective, one action in this context is really no better than the other because not all down and feathers are harvested from live animals. Some down is harvested from animals that have been slaughtered before being plucked with most not having been bred or raised in a way that can be regarded as ethical in any way. The poultry industry produces a large amount of birds raised for meat and foie gras, and the feathers have been used as by-products in a number of industrial applications such as fashion and lifestyle products. Some exotic feathers from endangered species used in fashion decorations and home decor are illegal to trade; however, poaching and black-market trade continue to be profitable.

Strict laws have been made to protect more than 1000 species of migratory birds, and these laws are available to decision-makers who need information before purchasing a product that contains feathers.

Labeling

Regulations on the labeling of feathers are found in several countries. The purpose of these guidelines is to clarify the requirements for the labelling of down and feather fillings in consumer textile articles. Manufacturers must label the percentage of feathers and down used in a product, as well as the species of bird, but there are no requirements to describe what type of farm the animals come from or if the feathers are plucked from living or dead birds. This could be considered incomprehensible because it does not give the consumer the opportunity to gain insight and thus have a say in his or her choice of products.⁸²

14 Insects

This part of the paper discusses insects, animals which humans tend to ignore, mainly because insects are experienced as a nuisance or perceived as pests. Insects have traditionally been dealt with by spraying pesticides to stave off crop infestation or simply by slapping them out of disgust or annoyance. Insects represent 75 % of all animal species, and there exist approximately 200 million insects for each human being (Lockwood 1988).

Archaeological records show that humans had to feed themselves as hunters gatherers in order to obtain enough proper nutrition to ensure their survival. This nutrition, among other things, could be found in insects (Gjerris et al. 2015).

As has been mentioned, man not only dresses to protect the body from the elements but to embellish and decorate his or her dress as an important part of

⁸²<http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/01237.html>, [http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/down-e.pdf/\\$FILE/down-e.pdf](http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/down-e.pdf/$FILE/down-e.pdf).

communication. Throughout time, part of this decoration has consisted of use of the insects. The most well-known insects used in apparel throughout time are beetles, caterpillars, and spiders.

The scarab or dung beetle's striking looks have led to it being associated with the sun as well as the concept of the eternal renewal of life. Beetles have been used as decoration, dead or alive, and have appeared from an historical perspective in many places around the world including the Amazon, the highlands of New Guinea, Northern Thailand, Australia, Mexico, Central European Americans, the Caribbean, and, of course, ancient Egypt.⁸³

The most recognized and well-known luxury fiber produced by insects and known as the "queen of fiber" is the silkworm. Actually, the silkworm is a domesticated insect that in nature goes through the same stages of metamorphosis, i.e., egg, larval, pupal, and adult, that all moths do (Gardetti and Muthu 2015).

Animals with indirect development, such as insects, amphibians, or cnidarians, typically have a larval phase of their life cycle. The caterpillar's appearance is very different from its adult form (for example, larvae versus butterflies). Silk is the fiber that silkworms weave to make cocoons. The production of silk originates from China in the Neolithic, Yangshao culture, 4th millennium BC. The silkworm, *Bombyx mori*, has been domesticated for so long that it probably no longer survives in the wild because it can no longer fly.

Silk production today is a mix of old techniques and modern innovations. Silk is produced by hatching silkworm eggs that are free of disease. Larvae are then fed with chopped mulberry leaves, and, when ready, spin their silk cocoons. Pupae within the cocoons are killed by steam or fumigation to keep them from breaking through the cocoons. Approximately 3000 silkworms must die to make one pound of silk.

Ahimsa silk, is known as peace silk, is processed from cocoons without killing the larvae inside. "Ahimsa" means "nonviolence" and is a part of Buddhist philosophy stating that humans should refrain from inflicting suffering on others, including nonhuman beings. Vegetarians and some vegans are convinced that it allows them a way to use silk without sacrificing animal life. But this is more complicated than it appears.

There are two kinds of Ahimsa silkworms—*Samia ricini* and Eri silk moths—and the various Tussah/Tasar moths (such as the Indian Tasar moth [*Antheraea pernyi*], the Chinese Tussah moth [*A. mylitta*], and the Muga moth [*A. assamensis*]).

An Eri moth is bred with multivoltine *Bombyx* strains: They breed and lay eggs, which will hatch, but the larvae will die from dehydration or starvation if not fed; however, because of the amount of eggs layed, it is not possible to feed them all. It may be a question of whether it is intentional or unintentional if these moth die through neglect or die from specific efforts made; however, it cannot be substantially different than killing them by choice.⁸⁴

⁸³Victoria Z. Rivers, *Beetles in Textiles* http://www.insects.org/ced2/beetles_tex.html.

⁸⁴<http://www.wormspit.com/peacesilk.htm>.

Unlike silkworms, which are easy to raise in captivity, spider silk is extremely hard to mass produce because spiders have a habit of biting off each others heads when housed together.

Spider silk is well known for its extraordinary mechanical properties. Spiders can produce several types of silk, and the strongest of these—dragline silk—is one of the toughest materials known to man. It is of great interest to military defense industries and structural material industries due to its combination of high strength, elasticity, ductility, and light weight. Scientists worldwide are studying this silk's properties to mass produce it, but no one so far has succeeded in replicating 100 % of the properties of natural spider silk. Approximately 1400 spiders are needed to spin 1 oz of silk, so farming spiders has not been a successful venture; it has required unimaginable amounts of test animals in order to gain insight into this subject.

A group of researchers has managed to build a replica of a spider machine invented by the French missionary Jacob Paul Camboue in 1890. In this replica, spiders accept imprisonment with resignation and lay perfectly quiet while the silken thread issuing from their bodies is rapidly wound onto a reel by means of a cleverly devised machine that is worked by hand.⁸⁵

These insects, among others, have been used by designers and known luxury brands, in fast fashion and for décor, to create spectacular artistic expressions for human beings. However, unlike the other animals mentioned here, insects have not received much attention in the area of sustainability, although much research has been focused on insect by-products to be incorporated into discussions of the ethical treatment of animals.

Questions about developing ethical standards for insects must be addressed given the possibility of insects' suffering, especially because more evidence is not available. The impact humans have on insects and bugs, e.g., through the application of insecticides, must also be considered. Given the early argument of Jeremy Bentham that pain is intrinsically evil (Bentham 1789) and the contemporary philosophical arguments regarding the moral relevance of pain in animals (Singer 1975, 1977; Regan 1983), it must be appropriate to discuss ethical behavior when it comes to insects.

The insect physiologist, Wigglesworth (1980), argued that insects experience visceral pain as well as pain caused by heat and electrical shock; however, cuticular damage apparently causes no pain (Lockwood 1988).

In any case, abundant evidence indicates that all invertebrates with a brain can experience pain. Like vertebrates, numerous invertebrates produce natural opiates and substance P. These animals include crustaceans (e.g., crabs, lobsters, and shrimps), insects (e.g., fruit flies locusts, and cockroaches), and mollusks (e.g., octopuses, squids, and snails)... Also, crustaceans, insects, and mollusks show less reaction to a noxious stimulus when they receive morphine. For example, morphine reduces the reaction of mantis shrimps to electric shock, praying mantises to electric shock, and land snails to a hot surface. (Dunayer 2004)

⁸⁵Hadley Leggett, "1 Million Spiders Make Golden Silk for Rare Cloth," *Wired* 23 Sept. 2009. <http://www.wired.com/2009/09/spider-silk/>.

Lauritz S. Sømme concludes in a report to the Norwegian Scientific Committee for Food Safety, 2005, on “Sentience and Pain in Invertebrates” with this statement about insect sentience:

The nervous system and senses of insects appear to be better developed than in crustaceans since an active life on land may be more demanding. With the great diversity of insects, there are great differences in the organization of the central nervous system and senses. In general, insects are equipped with numerous sense organs. The brain is particularly well developed in social insects, and the size of certain neural centers can be correlated with learning capacity. Learning is also known from many solitary species of insects. Insects do not react to damage of their bodies, but may show strong reflexes to constraint. With our present knowledge, it is usually concluded that insects cannot feel pain. Still, doubts have been raised. Among invertebrates, social insects represent a high level of cognition, and their welfare should be considered during handling.⁸⁶

To Nicholas Strausfeld, a tiny brain is a beautiful thing. Over his 35-year career, the neurobiologist at the University of Arizona at Tucson has probed the minute brain structures of cockroaches, water bugs, velvet worms, brine shrimp, and dozens of other invertebrates. Using microscopes, tweezers, and hand-built electronics, he and his graduate students tease apart—ever so gently—the cell-by-cell workings of brain structures the size of several grains of salt. From this tedious analysis Strausfeld concludes that insects possess “the most sophisticated brains on this planet.”⁸⁷

The fact is that insects, although they have the smallest brains containing thousands of neurons, can learn and exhibit memory (Alloway 1972) has led researchers and great thinkers to theoretical considerations regarding the consciousness of insects.

... Strangely, I believe that cockroaches are conscious..... I believe that many quite simple animals are conscious, including more attractive beasts like bees and butterflies..... I can't prove that they are, but I think in principle it will be provable one day and there's a lot to be gained about thinking about the worlds of these relatively simple creatures, both intellectually—and even poetically. I don't mean that they are conscious in even remotely the same way as humans are; if that we were true the world would be a boring place. Rather the world is full of many overlapping alien consciousnesses Alun Anderson, Editor-in-Chief, New Scientist.⁸⁸

⁸⁶<http://www.vkm.no/dav/413af9502e.pdf>.

⁸⁷<http://discovermagazine.com/2007/jan/cockroach-consciousness-neuron-similarity>.

⁸⁸http://edge.org/q2005/q05_4.html#andersona.

15 Conclusion

The soul is the same in all living creatures, although the body of each is different.

Hippocrates (460 BC–377 BC)

Sentience encompasses awareness and consciousness as well as intelligence (the ability to solve problems) and intuition (to reason) emotion based. Sentience encompasses and recognizes a universe of positive and negative emotional experiences including those of suffering. A sentient being is aware of his or her surroundings and is aware of heat, cold, hunger, and thirst as well as the feelings related to these sensations. In short, a sentient being is a conscious, thinking, feeling being.

In concluding this chapter, the author would like to state that animals fulfill these sentient criteria in the same way as do humans, but this may differ in some aspects. Animals in all forms experience pleasure, joy, and pain. They have their own form of sentience, and because humans lack consciousness on the same level, humans are unable to perceive the communication forms of animals. There could one day come a time when animals challenge human beings on this reality. Maybe one day man will be able to decode communication and awareness levels held by animals. In doing, so man might begin to equate himself with humans living in the past to a time when clothes were not even worn.

This presentation on ethics and animal welfare in the fashion and lifestyle industries has attempted to present and clarify relevant issues faced by today's decision maker. The possibility to explore the subject of ethics and animal welfare and how to justify one's choice has never been so readily at hand. Today's, the productions of which rely on the use of animals, must clarify the question of why man needs to relate to animal ethics and welfare.

This must be clarified not only to quell the mounting pressure from consumers who themselves are beginning to ask this question, but because it is vital to recognize that the ethical treatment and welfare maintenance of nonhuman beings and humans beings are perhaps one in the same.

We are used to regarding the oppression of blacks and women as among the most important moral and political issues facing the world today. These are serious matters, worthy of the time and energy of any concerned person. But animals? Surely the welfare of animals is in a different category altogether, a matter for old ladies in tennis shoes to worry about. How can anyone waste their time on equality for animals when so many humans are denied real equality? (Singer 1979)

Scientific studies on animals, including rats, pigs, goats, and bees, all show the same optimistic/pessimistic response. It seems that the life of an animal can be good or bad and that the inner state of an animal at any given moment has an influence on the short-term feeling it experiences. Their lives matter to them just as humans' lives matter to man. An animal's desire for rewards is part of its sentient makeup, namely, the capacity to feel as do human beings.⁸⁹

Recognizing the ethical dilemma humans are finding themselves in regarding the welfare of animals is in itself relevant. How can humans do good while they are seduced into a sense of luxury and quality that is dependent on materials that come from animals? To abandon all use of animals can be compared with the practices of monks and nuns, who forsake much of the world's goods in favor of something seen as higher than themselves, something not possible to measure or prove. Answering such a question calls for a sacrifice for some and a conscious position for others to take.

In the future, producers, manufacturers, fashion brands, and designers will undoubtedly encounter problems of consequence and reliability in their decisions when working with animals whether it involves fur, skin, wool, or feathers. The question then will be this: Is it more fruitful to take action regarding these issues by becoming more knowledgeable and insightful or by taking traditional defensive role.

Knowing and showing will be the way to transparency. To demonstrate and explain choices toward an ethical approach and to be honest and transparent: These are the next steps. Labeling will must be improved in order to tell the true and full story of what kind of animals are used, where were they bred, and what kind of slaughter methods were used.

The potential for collaboration across disciplinary boundaries should not be ignored in this industry. Ethical thinkers, NGO, farmers, manufacturers, and designers should all collaborate together for future production and possibilities.

All matter, energy, and life are an interconnected unit; all are inseparable including human and nonhuman beings. That humans are an integral part of nature is something everyone should cherish, revere, and preserve in all its magnificent beauty and diversity.

As never before researchers are questioning nonhuman animals' inner lives, and the capabilities for probing these issues are growing more and more sophisticated. This notion gives this author an optimism that the neglectful and abusive expressions seen today within the human-animal relationship will evolve through a better understanding, through compassion by recognizing the inherent value of all life, and through striving to treat all living beings with respect through a direct understanding of this concept.

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⁸⁹<http://www.livescience.com/49093-animals-have-feelings.html>.

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