

Assessing the use of animals in scientific and commercial testing

This research report aims to outline information on topic 1 for the International Scientific Corporation: “Assessing the use of animals in scientific and commercial testing”. This will include the provision of background information on the topic, the definition of key terms, and information regarding prevalent countries and organizations involved in the topic at hand. Furthermore, the report will reference UN resolutions, and further attempts previously made at resolving the issue at hand, meanwhile providing ideas for solutions, possibly be discussed within committee.

Key Terms

In vivo – when something is observed or executed in a living organism, it is performed “in vivo”

In vitro – in latin, this means “within the glass”; the practice refers to experiments done in a non-living organism, usually in a controlled environment

Vivisection – the practice of subjecting living animals to cutting operations, especially in order to advance physiological and pathological knowledge.¹

The Draize test – testing how harmful chemical are to the human eye by applying them to the eye of a living animal. The other eye is used as a control, in order to observe the effect of the chemical on the subjected eye.

Microdosing – giving small doses of a new medicine to human volunteers in order to test how cells respond without triggering a whole-body effect; often regarded as an alternative to animal experimentation.

Sentience – feeling or sensation as distinguished from perception and thought²

Background Information

Using animals for testing and research purposes has been a common practice for centuries, with the first documented vivisections being done by Aristotle in the 4th century BC³. Ever since, animal testing and experimentation has led to incredibly significant scientific discoveries, not least allowing for accurate descriptions of blood circulation, and the discovery of medicines such as insulin and, in later history, the development of antibiotics such as penicillin. Furthermore, in vivo experiments are still being used today to further our understanding of for example organ transplants and neurological diseases, meanwhile also playing a large role in the testing of commercial

¹ <http://www.dictionary.com/browse/vivisection>

² <https://www.merriam-webster.com/dictionary/sentience>

³ <https://plato.stanford.edu/entries/aristotle-biology/>

products like soap. As such, it is evident that the use of animals in scientific and commercial testing has benefitted human living conditions immensely. However, as the testing increased throughout the 19th and 20th century with the emergence of more commercial products (for example make-up), so did the public's objection to it. As such, multiple agencies working against animal experimentation emerged, for example the European Coalition to End Animal Experiments (ECEAE) and People for the Ethical Treatment of Animals (PETA). These organizations aimed to spread their message to the general public and by the 1990's⁴ the disagreement regarding animal testing had become well-documented. Though laws and regulations (as elaborated upon later in this document) have been put in place since, discrepancies still arise when discussing whether the knowledge gained from the use of animals in scientific and commercial testing outweighs the distress caused the animals used for experimentation.

Major Countries and Organizations Involved

The European Union

The EU has done much to stop inhumane testing on animals within European countries, especially when it comes to commercial testing. After its formalization in 2013, all animals containing vertebrae are protected by the *EU Directive 2010/63/EU*⁵. As of 2004, the testing of cosmetic products on animals has been outlawed thanks to an amendment of the Cosmetic Directive⁶.

Japan

Japan has several documents and legislations concerning animal experimentation, including the law for the Humane Treatment and Management of Animals (2005) and the Standards Relating to the Care and Management, and Alleviation of Pain and Distress of Experimental Animals (2006), which implies that animal experimentation is necessary. As such, Japan recognizes the benefits of scientific testing on animals, meanwhile attempting to minimize the harm done to the animals in question.

USA

The Animal Welfare Act of 1996 means that animal testing in the United States must adhere to certain standards of care; these standards are regulated by an Institutional Animal Care and Use Committee (IACUC). However, while these standards of care must generally be upheld, the act also implies that if the standards interfere with

⁴ <http://www.aboutanimaltesting.co.uk/background-history-animal-testing.html>

⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:276:0033:0079:en:PDF>

⁶ https://en.wikipedia.org/wiki/Cosmetics_Directive

the experiment at hand, the standards of care may be compromised. Meanwhile, the act does not protect all vertebrate animals (as commonly seen in the regulations of other nations), but is limited to mammals.

Further information: https://en.wikipedia.org/wiki/Animal_testing_regulations

Relevant UN Resolutions

At this point in time, no UN resolution concerned with the use of animals in scientific and commercial testing have been passed. However, there exists the World Organization for Animal Health, which could be imagined to undertake any concerns regarding animals testing. The organisation is in close relation to the World Health Organization and the Food and Agriculture Organization of the United Nations.

Further information: <http://www.oie.int/en/>

Meanwhile, the adoption of a Universal Declaration of Animal Welfare is possibly underway.

Read the full proposal here: <https://www.globalanimallaw.org/database/universal.html>

Further information on UDAW: https://en.wikipedia.org/wiki/Universal_Declaration_on_Animal_Welfare

Previous Attempts to Solve the Issue

Attempts to solve the issue of animal experimentation for scientific and commercial purposes have risen particularly in the past two or 3 decades. With the public becoming aware of ongoing practices, governments have experienced increased pressure to deal with the problem of how animals used for testing are treated, and how the results of the testing transfers to the use of products by humans. All legislations, resolutions and laws mentioned above have been attempts at controlling the way animals are used in testing, the most notable being the complete prohibition of cosmetic testing on animals in Europe. However, as animal testing has proven valuable in the search for especially scientific knowledge, extensive measures to handle the issue at hand have been scarce (seen by the lack of official UN material concerned with the matter), and regional at best.

Possible Solutions

Solutions to problems regarding animal experimentation come in two forms: those controlling the use of animals in testing, and those trying to eliminate the use of animals in testing. Seeing as ways in which to control the use of animals in scientific and commercial testing have been displayed above (eg. in the UDAW), the possible solutions given here will revolve around the minimization of animal testing all together.

Alternatives to animal testing:

- In vitro experimentation, performed not on living animals, but instead on cells outside of a living organism. With the development of medical technology, this practice is becoming more and more precise. The recent invention of 'organs-on-chips', for example, gives way to testing of drugs, disease patterns and toxicity without the use of animals. Along the same lines is the development of blood tests that can be used to gauge the side effects of different medicines.
- Specifically for drug research, computer modeling poses a great replacement for animal testing, with models today being able to predict how a certain chemical drug will react towards a disease within the human body.
- Microdosing is yet another alternative to the use of animals in the field of medicine. See the definition above.

Further information: <http://www.peta.org/issues/animals-used-for-experimentation/alternatives-animal-testing/>

BIBLIOGRAPHY

Background

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<https://plato.stanford.edu/entries/aristotle-biology/>

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