

## The Drawbacks of Animal Research

### An Independent Study

When walking into a laboratory filled with animals doomed to meet their death, the room is filled with the pitiable internal cries of the innocent creatures. Rows of boxes containing rabbits, with only their little white heads sticking out, are set up to prepare for the tests. A laboratory worker comes around with the dropper containing a highly toxic substance and places a few painful drops in each rabbit's eyes. These poor living things are left to live in a world of blindness and anguish. As opposed to those rabbits who are force-fed products until they reach death, these blind rabbits would have to be considered the unlucky ones in that they have to remain in this sorrowful world of suffering. Though this account is fictional, it is based on actual scenarios. Welcome to the cruel world of animal research.

The history of animal research dates mainly back to the twenties and thirties. Many of the animal tests that are still being used now were actually formulated at that time, which predates current scientific knowledge ("Stop the Cruelty" 8). As early as the 1940s, animal studies were giving researchers misleading information. A human clinical investigation strongly indicated that asbestos causes cancer, however, animal studies did not show this. As a result, proper workplace precautions were not instituted in the U.S. until decades later ("Historical Impact..."). The cruelty involved in animal experimentation is horrifying. Each process varies depending upon the substance being tested. Workers in laboratories force-feed animals excessive amounts of products until half or all of the animals die ("Product and Cosmetic Testing"). Many brutal experiments have been done that are of dubious merit such as one that was funded by the March of Dimes. This test involved killing and comparing the brains of normal cats, kittens, cats who had one eye sewn shut for at least a year, and cats who were reared in complete darkness ("Understanding Claims. ."). When observing a dead animal on the side of the road, or hearing a story of the abuse of a pet, often times people say to themselves, "how can people be so cruel?"

Meanwhile, there are millions of animals being tortured in laboratories around the world. The American Anti-Vivisection Society states the ironic common view of people today when it says, "Torturing one animal is cruelty. Torturing many animals is science?" ("Product and Cosmetic Testing"). It is estimated that between seventeen to twenty-two million animals are used each year in medical research. These figures do not reflect rats, mice, fish, and farm animals which actually count for almost ninety percent of all the animals used. Therefore, evidence of cruelty, misconception, and inaccuracy all lead to the conclusion that the drawbacks of animal testing outweigh the benefits. Scientific testing is obviously harmful to the animals being tested upon. All types of animals are used for various tests including rabbits, monkeys, mice, rats, and even cats and dogs. Evidently, most experiments done to animals tend to maim them in some way, mostly physically, but mentally as well. Tests can be as minor as rubbing some acidic lotion into a rabbit's bare skin or as serious as force-feeding lotion to a rabbit until it eventually dies. Whether it be an ulceration to the skin, damage to the intestines, or permanent blindness, animal experimentation leaves some type of mark on the animal's life.

Irritancy tests leave rabbits permanently scarred. Rabbits are commonly used to test products which have to be placed into their eyes while being restrained. Their eyes do not produce tears to flush out irritants and they are also unable to rub their eyes or give themselves

any sort of relief ("Product and Cosmetic Testing"). An example of this type of test is the Draize test, which involves dripping a substance into a rabbit's eye and recording the damage over three to twenty-one days. Results of this test may vary from slight irritation to ulceration and complete blindness (Carlson 77). Another type of irritancy test involves shaving rabbits' fur and pouring highly toxic products onto their bare skin which leads to severe ulceration and scarring ("Product..."). Tests such as these leave rabbits, as with other animals, vulnerable in the hands of the scientist.

Rodents are most commonly used for experiments because they are considered "unpopular" animals. Because they are not protected under the Animal Welfare Act, they are more likely to be used in invasive experiments ("Understanding Claims..."). Eighty-five percent of the seventeen to twenty-two million animals used in U.S. experiments are rats and mice that are bred specifically for such use (Church 8). Though mice and rats go very much unacknowledged, they do have highly developed central nervous systems, feel pain, and suffer from the stress of confinement ("Understanding Claims..."). Monkeys are frequently tortured due to their "human-like" characteristics. They are often used to test the effects of radiation. At the Armed Forces Radiobiology Institute in Bethesda, Maryland, monkeys were exposed to various doses of radiation and then forced to run on a treadmill. Those monkeys that stopped running were given electric shocks to keep them moving. Some of the monkeys did not die for more than five days (Owen 45). Overall, monkeys tend to endure overly harsh tests. In 1982, a lab was shut down that contained monkeys with infected wounds, bones sticking out through their flesh, and chewed-off fingers and toes (Sherry 23). In the past, animals often survived the experiments only to starve or bleed to death afterwards (24).

Many tests including the ones indicated contribute to the devastating loss of animals due to science. Though many experiments have been medically helpful, there are many animals being tortured in experiments that result in no new findings. This abuse that occurs in a laboratory full of animals may be shocking to people, but it is daily life for these creatures. Numerous animals do not even receive the privilege of being given anesthesia to ease the pain in the slightest bit. Testing and torture are two words that many laboratories need to learn how to distinguish. A more superficial drawback to animal research is that it is not time and cost effective. Tests that involve the use of animals tend to be much more costly and time consuming than the alternatives. The fact that these tests are completed over a longer duration can defer the advancement of science and medicine. Prolonged medical advancement is lost time for people waiting for the production of a vaccine or even a cure. Therefore, many times animal research is not worth the extreme amount of money and time put into it.

Animal tests involving a single substance may take many more years and cost one-hundred times more than ones not involving animals. Some animal tests may take as long as four to eight years and cost as much as \$400,000 or more. On the other hand, short-term non-animal studies cost as little as two hundred to four thousand dollars and can be completed in just days ("Alternatives..."). Often times, hypotheses are derived from irregularities in animal tests which waste considerable time and money (Bernard). Each year billions of U.S. health care dollars are being spent on animal experimentation. While these enormous sums of money are being consumed by animal experimentation, greater focus on other areas could lead to huge improvements in the health of this nation (Carlson 75). Jill Howard Church conveys a logical

opinion on the economic status of animal research when she states, "Add the cost of feeding, housing, medicating, operating on, and disposing of each laboratory "'subject' and the cost in dollars becomes almost as egregious as the cost in lives" (31). Though the fact that animal tests are costly is a relevant one, it's not as humanely important as the destruction of the lives involved.

Even though waiting years for accurate test results can be bothersome, there are also dangers.

Due to misleading results derived from animal experiments, important medical advances have been delayed. During the twenties and thirties, studies on monkeys were done that proved that the poliovirus infects mainly the nervous system, later, however scientists learned that this was because the viral strains they had administered through the nose had artificially developed a bond with the brain tissue. This experiment resulted in misdirected preventive measures and a longer wait for a vaccine. In many cases, non-animal tests could have even saved customers from coming in contact with certain products and would have taken a matter of days or months, not years (Bernard). In 1985, the EPA (Environmental Protection Agency) found that three animal tests had not shown an adequate degree of danger in the pesticide Mar so it called on the manufacturer to conduct more cancer studies on animals. Although these studies are still incomplete, the EPA has pulled Mar from the market. If other means of testing were used, fewer customers would have come in contact with Mar-treated products ("Alternatives..."). Examples such as these not only show the drawbacks of animal research, but the actual harm that it may cause.

When people are suffering from diseases with no found cure, and lives are at stake, time is an important factor. Each time a test goes wrong and provides inaccurate results, more lives are unnecessarily lost. Animal research can often take a toll on human lives and also endanger the animals used. As for the money involved, it could be used for projects that will actually provide effective results that will be beneficial. The money squandered could also go towards one of the many growing problems in the U.S. today, such as poverty. If the U.S. insists on spending such a large sum of money on this particular area of science, it should be worth the expense. As in all types of research, there is always room for some form of error. However, when dealing with living species such as rabbits, monkeys, etc., the mistakes should be kept to a minimum due to the fact that lives are at stake. In addition, animal testing is inaccurate in many cases. There are many factors that lead to this inaccuracy such as a contrast in infection environment and a difference in physiology between animals and humans. These conditions may even result in dangers for people.

Animals tend to contract diseases in conditions vastly different from the situations that confront humans. A healthy animal experiencing a sudden stroke does not undergo the slowly progressive arterial damage that usually occurs in human strokes. David Wiebers and his colleagues at the Mayo Clinic found that in a study of twenty-five compounds that reduced damage from ischemic stroke in rodents, cats, and other animals, none proved effective in human trials. These negative results were attributed to the discrepancy in how strokes naturally occur in humans and how they are experimentally triggered in the animals. The stress on laboratory animals can also provide another variable. This stress can also increase susceptibility to infectious diseases and certain tumors as well as influence levels of hormones

and antibodies, which can eventually alter the functioning of various organs (Bernard). Furthermore, it is more accurate to test on a living being that has naturally developed an illness than to artificially inject it with diseased cells. The differing physiology of rats and humans has a major effect on research. Cancer research is especially subject to differences in the physiology between humans and other animals. Animals

such as rats and mice synthesize within their bodies approximately one-hundred times the recommended daily allowance of vitamin C of humans, which is believed to help the body ward off cancer. In a study performed by David Salsburg of Pfizer Central Research, it was noted that of nineteen chemicals known to cause cancer in humans when ingested, only seven actually caused cancer in mice and rats. There are many animal studies testing the safety of drugs and other chemicals, that are doubtful because of the fact that tests on different species often provide conflicting results. For instance, in 1988, Lester Lave of Carnegie Mellon University reported in the journal "Nature" that dual experiments to test the carcinogenicity of two hundred-fourteen compounds on both rats and mice, agreed with each other only seventy percent of the time. From this, one could simply conclude that the correlation between rodents and humans would only be lower (Bernard).

Many substances that appear safe in animals have later proved dangerous to people. Animal experiments can mislead researchers and contribute to illnesses or deaths by failing to predict the toxic effect of drugs. In the early 1950s, cell cultures from monkeys, rather than humans, were used for vaccine production. As a consequence; millions of people were exposed to potentially harmful monkey viruses. In the early 1980s, a commonly used painkiller, called zomepirac sodium, was withdrawn from the market after it was implicated in fourteen deaths and hundreds of lifethreatening allergic reactions, which were due to erroneous results. The drug milrinone, which raises cardiac output, was shown to increase survival of rats with artificially induced heart failure. In contrast however, humans with severe chronic heart failure taking this drug had a thirty percent increase in mortality (Bernard). Again, this shows the disparity between natural human diseases and those that are artificially induced. Naturally, a small percent error is expected in any experiment, but when the subjects are different in so many aspects, it is hard to believe that they can be compared so closely. When it comes to contracting diseases, there is a huge difference between genetically or naturally acquiring one and being injected with one. Under these two conditions, the disease takes on a different form and even progresses differently. Besides, when human beings get sick, do they stay cooped up in a box and get poked and prodded everyday? The environment and surroundings are completely different which often has some sort of effect on the progression of the illness. Because of these differences in physiology and habitat, it is no wonder that some substances are determined to be safe in animals, yet prove dangerous to people.

In conclusion, there are many non-animal alternatives that are sometimes more accurate. In fact, all significant advances related to diseases such as AIDS, Alzheimer's, and cancer have come from the use of alternatives ("Alternatives..."). There are numerous ways to conduct the same experiment without the cruelty and mass loss of lives. From simple human studies to human cell cultures and even computer structures, alternatives are becoming more and more abundant and useful in today's medical world. Because products are not required by law to be tested on animals, it is not necessary to put harmless creatures through needless torture. In terms of cosmetics and other products that would need toxicity-type tests, there are many ways

of testing that do not require the use of animals. Scientists are able to predict whether or not it would be irritating or dangerous to humans based on chemical reactions caused by the product. Also, products can be tested by growing human cells in a culture. Scientists feel that this type of testing will eventually eliminate the Draize Computer technology has also expanded the ability to predict the toxicity of chemicals using structural analysis. A computer program called TOPKAT has vast

data on chemical activity and is able to predict the probable activity of new compounds based upon their structure ("Product and Cosmetic Testing"). With all these qualified alternatives, millions of animals could be saved each year if only scientists could recognize that their archaic ways of animal torment are no longer necessary. Hopefully in the future, barbarous tests will be replaced with alternatives and more animals will be able to see life beyond the laboratory walls. To many people's disbelief; the testing of certain products on animals is not required by law. The FDA requires that products such as pharmaceuticals and eye-care products be tested on animals, but not cosmetics and personal care products such as soap, shampoo, toothpaste, deodorant, etc. Although, the FDA does require that ingredients be proven safe, but this does not mean that they should be tested on animals. Also, the Consumer Product Safety Commission (CPSC), which regulates household goods, does not require animal tests. The main reason that cosmetic manufacturers tend to test on animals is to protect themselves from lawsuits. If one of their products were to injure a customer, the fact that the company conducted animal tests can be used in court to suggest the company did all it could to protect the consumer ("Product..."). Due to the selfishness of companies, more and more selfless animals are dying every day. In fact, every three seconds an animal dies in an American lab (AAVS).

Ultimately, the drawbacks of animal testing clearly outweigh the benefits. Given all the new alternatives being formulated and the ones that have proven accurate time and time again, it seems almost barbaric to maintain this inhumane practice around at times when it is not even necessary. Granted, animal research has helped in some major medical breakthroughs, but there are countless ways in which it is clearly misused. Dogs have been helpful in such developments as open-heart surgery, pacemakers, and heart transplants (Roleff 51). About 200,000 people require the use of dialysis every year in the U.S. The drug that is essential for dialysis is heparin, which must be extracted from animal tissues and tested for safety on anesthetized animals (58). Tests such as these that result in benefiting the health of society are worthwhile. However, large-industry cosmetic testing on animals should be abolished altogether due to the flood of new technology that provides more precise results. Many people today are too self-absorbed to think of all the animals who have suffered and gone through unimaginable pain just so that they can make themselves look "beautiful". Ingrid Newkirk, PETA President, stated it clearly when he said, "When it comes to feeling, like pain, hunger, and thirst, a rat is a pig is a dog is a boy" (Sherry 32). In other words, animals experience agony just like humans do which means that maybe researchers should insure that their experiments on animals will be worth the torment. Due to the numerous faults found with animal research, in many cases alternatives lacking the use of animals may prove more beneficial.