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Next time you want to take home some felicitous feline or captivating canine for your very own: watch out. She may be patented.

Little known and lesser understood is the fact that in the United States, the Patent Office actually grants patents on animals, much as it does on toasters and tennis racquets. Although there is no law permitting this, there is none forbidding it either, and our Patent Office has for the last 15 years given out over 450 of these patents, largely at the behest of entrepreneurs in genetic engineering. These patents cover everything from genetically engineered mice to conventionally bred rabbits, from diseased dogs to cloned goats, and even one animal species merely newly discovered!

What is a patented animal anyway? Why would anyone want to do such a thing? And what does it mean for the future of animal welfare, from mice in laboratories to animals used for food?

In general, a patent is a government grant of a temporary monopoly over a particular invention, usually for a period of up to 20 years. During that time, the patent holder may exclude all others from making, using, or selling the invention. Inventors who are the first to invent something new (either something revolutionary or, more often, just an improvement to an existing thing) can file for a patent with the U.S. government, but they have to pass through some quite stringent criteria. The invention has to be not only new but also not obvious to people working in the field pertaining to the invention. Furthermore, the invention has to be fully and clearly described in writing, so that any person working in the pertinent field can reproduce the thing patented. In this way, the public gains knowledge of something it would not otherwise know. In return, the possibility of a temporary monopoly is an incentive for the inventor to disclose that knowledge.

It all seems so reasonable, and perhaps so, but only in the context of the four types of things that, by law, can be patented. For centuries, there have been only four categories that could even be considered for a patent: 1) a process of performing some act, 2) a machine, 3) a manufactured article, or 4) a “composition of matter” (which, loosely, usually refers to chemicals or their mixtures). In all four categories, things can be made that are reproducible enough to be described in writing and can fairly be considered as the product of some person’s mental, inventive capacities. The patent system was devised at the beginning of the Industrial Revolution, and not coincidentally, the patent system works for industrial items.

Throughout the nearly two centuries of the U.S. patent system, living organisms, life itself, were considered outside the scope of the system. You couldn’t get a patent on life. This was based on several reasons, including the fact that an animal or a plant could not rationally be placed in one of the four enumerated categories; and more importantly, because flora and fauna were rightly considered within the realm of nature: they were called “products of

nature.” In 1873, the U.S. Patent Office actually granted a patent to Louis Pasteur for purified yeast, but that was based on the mistaken assumption that it was inanimate, not animate. This mistake was not used as a precedent for later mistakes.

The floodgates for life patenting were opened in 1980, however, when the U.S. Supreme Court, by a slim majority, reversed long-standing patent policy and allowed a patent on a bacterium, one that had been genetically altered. This one case somehow led the way for the government to grant patents on all living things, with the notable exception of human beings. It was the burgeoning biotechnology industry, which had so recently discovered recombinant methods for splicing genes in and out of plants and animals, that relentlessly pressed for the reversal in policy and its later extensions. Industry felt it needed legal protection for the products of its recombinant methods, since all living things have that inconvenient propensity to self-reproduce.

In 1987, the animal welfare community was stunned to learn that the U.S. Patent Office had decided that animals should likewise be patented. The first grant they handed out was for the “Harvard Mouse.” This was a mouse transformed so as to be genetically predisposed to get cancer, given even the slightest insult by a potential carcinogen. Some saw it and its ilk as potential ‘disease models,’ against which likely ‘cures’ and drugs could be tested to ameliorate dread diseases. The animal welfare community saw (and sees) the situation differently, since *patenting* an animal is in no way necessary in order to *use* an animal in medical research. The only thing for which a patent is necessary is to commercialize something on a vast scale. A patent on anything, including an animal, is usually needed in order to rationalize an industry and make it profitable.

To forestall the massive enticement that patents on animals would provide to those who do animal experimentation, a coalition led by the Animal Legal Defense Fund promptly challenged government policy on patenting animals. An appeals court rebuffed them, however, indicating that mere onlookers, no matter how well intentioned, have no place in deciding whether or not a patent should be granted. Since that time, the 454 granted animal patents have be-

come the foundation for some big business indeed.

For example, take the case of the patented ‘Alzheimer’s mice.’ These are mice genetically engineered to produce human amyloid precursor protein, a substance believed to cause or have a close association with Alzheimer’s disease in humans. As many as 200,000 such demented mice have been bred as ‘models’ against which to test possible ‘cures’ for Alzheimer’s. One reporter has remarked, “Alzheimer’s mice have earned six-figure stud fees.”

Although no cures have been announced as yet, the financial stakes have become enormous, owing to the patents on the mice. One of the first such Alzheimer mice patents is owned by Elan Pharmaceuticals. Elan found out that some researchers in Minnesota had independently developed similar mice, and began doing a brisk business of selling them for about \$800,000 apiece. Elan did not take well to researchers apparently ignoring its patent, and in 1999 was able to sue them for patent infringement.

The Harvard Mouse patent noted above has also been a big business bonanza for its proprietor, DuPont Corporation, which has control of the patent, and has been aggressive in ensuring that U.S. researchers, including those at universities and non-profit organizations, obtain a license to ‘use’ their mouse species. Even those who receive a free license must not share the mice with unauthorized parties and must file annual reports with DuPont. This is indicative of how lucrative these patents are, and also the far-reaching levels of control that patents offer.

All of the obvious financial inducements offered by the patenting of animals in laboratories amounts to a stimulus, by our federal government, of greater and greater levels of research in animal use and suffering. While lip service is paid to the gradual reduction in animal use, the incentive structure speaks otherwise.

But some might opine, “Isn’t it right that genius and inventiveness be rewarded by patent rights, just as it is in other fields?” Such a sentiment belies just what it takes to get an animal patent in the U.S. As mentioned above, the animal sought to be patented has to be novel (new) and “non-obvious,” as well as having to be somehow described in a reproducible way. ▶▶▶

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For instance, in one patent application, a university researcher was seeking a patent on a rat whose sole difference from other rats was that an aluminum salt and a protein were injected into his brain, with intent to cause cerebral deformity. Nobody previously had ever had the idea to do this particular hideous thing to a rat, and so the procedure was deemed new and nonobvious. Still, the patent examiner in charge of the case was skeptical. She demanded that the researcher explicitly claim in the patent that the animal had some permanent “phenotypic” change after the injection. The researcher complied by claiming that the rat also had plaque deposits in his brain as a result of the treatment. In other words, the Patent Office essentially demands, “Show me the damage!” Then you’ll get your patent.

In another case, a researcher was seeking to patent a beagle, who was placed in a state of immune system compromise, and then infected with a dose of fungus in his lungs. Out of a superabundance of caution, the patent examiner wanted to be sure that the patent would not cover dogs who had accidentally come down with a fungal infection. Once it was indicated in the claims that the infection was so bad the dog would invariably die, however, the patent was promptly granted.

In an increasingly large number of cases, pharmaceutical companies are obtaining patents on mice in laboratories that do not even exist yet! This occurs when a new human gene is isolated in a test tube and then patented. As almost an afterthought, the companies are asking for (and the patent office is routinely granting) patent claims on “mice containing our new human gene.” In their haste to get their ‘gene’ patent, the companies make a throwaway claim to the animal they will (eventually) use to determine the function of that gene. What this amounts to is a financial encouragement to genetically engineer animals who do not

yet exist. This can only increase the numbers of animals made to suffer.

Our study at PatentWatch Project indicates that fewer than 1 percent of all animal patents are for animals who can arguably be considered ‘improved’ in any way. This scant 1 percent comprises animals with more lean muscle mass or greater infection resistance, but, even so, this is no guarantee of enhanced welfare for the animals so patented, since they may be ‘improved’ only enough to test pathogens on them!

This is a perverse incentive structure in which a sentient, feeling being is involved. One can creatively play with machines and chemicals all one likes, and deservedly get patents; but, in the case of animal patents, the creativity is almost always directed towards increasingly hideous ways of making

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animals suffer. The argument that society must reward genius completely breaks down in the case of patents on animals.

In dozens more patents, the animal is one used for food, in some cases engineered to produce in her milk anything from spider silk to human proteins, and in other cases, merely conventionally bred. The power of a patent is so extreme that it extends to actually prohibiting a farmer from reproducing his own animals, since the act of sexual reproduction would be considered patent infringement. This impoverishes farmers while further demeaning what it means to be an animal.

Some corporations and researchers continue to argue for the benefits of animal patenting. Whatever the ethical or legal problems, they insist that they need to patent research animals as an incentive to cure diseases such as AIDS and cancer.

The argument that medical researchers will not seek to cure disease unless they can patent the creatures with which they work is a disservice to most in the medical community. There is already more than

enough incentive for medical research. Companies and researchers can patent their cures and their medicines, can monopolize their drugs for 20 years or more, and can become rich and world-renowned in the process of finding cures. Can anyone seriously suggest that insufficient motivation exists to solve the puzzle of AIDS or cancer and that researchers will do so only if they can also patent their research animals?

While the benefits of animal patenting are illusory, the threat posed by patenting higher life forms is very real. In supporting the patenting of higher mammals, a spokesman for a major research center once stated: “Animals are no different than shovels.” If we go along with the redefinition of higher life as no different than shovels or machines, we must ask follow-up questions: What rights are inherent to machines? What protections against unusual punishments or cruelty? What level of love, concern, or care? What kind of society would we be if all animals were legally defined as no different than machines or manufactures? Canada’s Supreme Court has already wisely determined that Canadians do not wish to live in such a society, and has banned animal patents. It is time for the United States to do likewise. The call of the animal-loving community should be for a full, complete, and permanent ban on patenting animals.

Get the profit out of animal suffering! Stem the tide of patenting animals today, and a stream of tomorrow’s horrors will thus be curbed. **AV**

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