

BLOG by Ray Greek MD August 25th 2010

A [press release](#) from Johns Hopkins:

Researchers at Johns Hopkins have shown that using specific drugs can protect nerve cells in mice from the lethal effects of Parkinson's disease.

(The scientific article can be read in [Nature Medicine](#).)

There are numerous problems with this statement. I will list only two.

1. Mice do not suffer from Parkinson's disease. Scientists can induce as Parkinson's-like symptoms, but that is not the same thing as Parkinson's disease.
2. Mice cannot predict drug and disease response for humans. (See [Animal Models in Light of Evolution](#) for more.)

This is yet another example of those with a vested interest in using animals misrepresenting the importance of such models. Why do they misrepresent the importance of what they do? Money. To begin with, universities make money from research that uses animals. With every NIH grant that a researcher receives, the university takes a percentage. The average that the university receives is probably well over 50%. So if a researcher needs \$1 million for a research project, he must apply for at least \$2 million so the university can take their cut. Ahrens:

No matter how many extramural scientists and other personnel are paid on any one NIH grant, there is only one PI [primary investigator] per grant; and all transfers of funds are made not to PIs personally, but to the institutions in which they are employed. All NIH awards consist of direct cost allowances for salaries, permanent equipment, supplies, travel, and publication costs, but also of indirect cost allowances for administration, energy, security, library, and custodial services. Thus, direct costs support the research institution of the PI, while indirect costs are paid to meet the overhead costs of the institution in which the PI works. (Ahrens 1992)

Where does all this money go? Ahrens continues:

By far the largest percentage of NIH support for new R01's... is awarded to applicants for studies of animal (or microbial) models of human disease. Yet, most experienced investigators realize that animal models of arteriosclerosis, diabetes, hypertension, and cancer are different in important ways from the human condition they are intended to simulate.

Between 1977 and 1987 only 7.4 per cent of the NIH's R01 funding went to basic patient-oriented research.

But isn't all animal use overseen by animal care and use committees?

Since most overhead is brought into the university by a small number of research professors (at Stanford, 5% of the faculty bring in over one-half of the indirect cost dollars), proposals to reduce research output are not looked on with favor by many university administrators.

(US_Congress_Office_of_Technology_Assessment 1991)

In 1988, the president of the Institute of Medicine (IOM) cautioned that medical research was leaning too heavily on basic animal experiments and not enough toward clinical observation. He called it an "emperor has no clothes" scenario. (Smith 1988) An IOM survey revealed that NIH gave only 15-17% of total grant money from 1990-1991 to research which could be regarded as human clinical research. This included research with human cells and tissues. Only 4.5% went to lab research involving humans. (Marshall 1994) In 1993, the National Cancer Advisory Board declared that clinical research was in "crisis." The next year the National Cancer Institute (NCI), a division of NIH, allocated only 1% of its total R01 funds to clinical research. (No_Authors_Listed 1996)

Here are three quotes from *The Politics of Pure Science* by Daniel S. Greenberg (Greenberg. 1999) that tie into the above.

1) Greenberg quotes from a Report of the Task Force on the Health of Research, Science, Space, and Technology Committee, U.S. House of Representatives, 1992:

. . . the community of federally funded researchers shares many attributes with other interest groups that receive federal support: it resists change; it seeks additional resources as a cure for internal stress; it develops political (i.e., subjective and partisan) strategies to promote its agenda and demonstrate the need for special treatment; it unselfconsciously gives its own values primacy; and, in particular, it strives to show that it is an essential contributor to the national interest.

2) Greenberg quotes from a congressional hearing, (House Committee on Science, Restructuring the Federal Science Establishment: Hearings before the House Science Committee, 104th Cong., 1st sess., June 28, 1995.) where George A. Keyworth II, White House science adviser in the Reagan administration, stated: American science has become a bureaucracy. As with all bureaucracies, preserving the status quo has become the overarching goal, replacing the pursuit of excellence.

3) Greenberg:

However, success in the politics of science has been accompanied by ethical doubts and contention. Failings in openness, collegiality, respect for human and animal experimental

subjects, and scientific and financial integrity are common topics in scientific journals and on a thriving conference circuit. The hand wringing, arguments, and recriminations go on, within and beyond the boundaries of science. But ethical concerns are a sideshow of science, providing grist for the press and moralizing politicians, though with little actual effect on the conduct of the research enterprise. Within science, the ethical issues are overshadowed by material concerns. These concerns consume more energy than any attempts to rectify ethical shortcomings. More money for more science is the commanding passion of the politics of science. More is deemed better, including the production of more scientists from a university system that is well supported by, but ingeniously decoupled from, the general economy. Even in these prosperous times, young Ph.D. graduates, once hopeful but now often embittered, stack up in low-wage postdoctoral holding patterns. The growing corporate presence in science arouses unease—as did the military presence, huge and pervasive during the Cold War but now receded, and, strangely enough, mourned in academic quarters for the loss of its money. Nonetheless, the courtship between university-based science and industry persistently intensifies, with academe often the suitor, in single-minded pursuit of more money for science.

In order to understand why the animal model persists, I suggest that you also read *Science, Money, and Politics* by Greenberg and *Trust Us! We're Experts* and *Toxic Sludge Is Good For You* both by Rampton and Stauber. The scientific value using animals to predict human response to drugs and disease was lost long ago; unfortunately the monetary value was not. Scientists have biases just like everyone else. And, just like everyone else, they like money and some will compromise the search for truth to obtain it.

References

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