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Mart for Science: Can’t Avoid It; Can’t Beat It

By reading *Science-Mart[[1]](#footnote-1)* by Philip Mirowski one would think that the university of 2011 is a “bad” place to do science. I do not think this is the case; there are plenty of positive things about the university of 2011. In addition, there are more fundamental questions such as, what are the goals of universities? What are the alternatives for the research currently being done and how to fund it? The world’s resources are scarce – money needs to be allocated somehow. We need to look at the modern university not backwards from what has changed, but at what it is and what’s good about this new model.

 What is the goal of science? A disinterested exploration down whatever path looks interesting? Or a tool that increases standards of living worldwide? Prof. Mirowski thumbs his nose at the new “neoliberal” order, but how has the new model changed people’s standards of living? If we look at standards of living, they have certainly increased worldwide, and especially in the United States.[[2]](#footnote-2)



Now it is very hard to say what benefits came from universities. Our universities are becoming better at taking research and translating it out into the world. While research might be slightly more encumbered by IP claims, the overall effect seems to lead to a positive benefit to the world. Prof. Mirowski does not attempt to answer this; he merely looks at published papers, which I believe is a very limited way to look at the output of science, especially if one believes that the goal of science is to lead to improvements in life.

MIT occasionally does studies about how it has innovation. One study by Edward Roberts, a professor of Management at MIT, found 25,000 MIT alumni-founded companies worldwide, which were still in business.[[3]](#footnote-3) This does not count the companies that merely work with current MIT faculty and students.

In addition, I think getting students to think about their work’s application real world is a positive thing. MIT hosts many events during the year to encourage students to be interested in entrepreneurship.[[4]](#footnote-4) Many of these students go into business with technology from the lab they were working in. As Prof. Mirowski pointed out much of this research was funded by the government. But the government does not always have a use for the technology, so it allows universities to license it to people who can commercialize it. I believe that this pipeline has never been as primed to produce tangible benefits for people as today.

Now it is also important to realize that a product is not ready to go when it leaves the university lab. A research paper is a long way from a product. Almost all biomedical companies have labs on their own where they do more of the development work. Corporations know that universities excel at basic research, not product development, because of their openness and dedication to basic research. That is why they rely on universities to do the basic research.

 What would science look like today if corporations did not step in to fill the funding gap created by the drawdown of the cold war? Instead of expanding, universities would have shrunk, causing them to have to shrink all programs, including humanities programs. In addition, where would this science occur if it was not occurring in a university? In a private lab? As Prof. Mirowski points out himself, IP rules for corporations are even stricter than at today’s universities. At universities, even with restrictive research contracts, students still get exposure to the cutting edge of their field. Faculty members and researchers can still comingle, even if they are unwilling to share exact ideas. At the MIT Media Lab, a largely corporate funded lab, they bill communication with other sponsors as one of the advantages of the lab.[[5]](#footnote-5) Instead of shrinking, universities have been expanding. In the past ten years MIT has added a new:[[6]](#footnote-6)

* Biology lab
* Brain and Cognitive Science laboratories
* Business school expansion
* Media Lab expansion
* Two Undergraduate dormitories
* Three graduate dormitories
* Athletic Center expansion

Science is more expensive today than at every point in history. [[7]](#footnote-7) As science grows more advanced, it needs new labs and equipment. In particular, as science chases more and more discoveries, those discovers require more and more specialized equipment. Costs also rise from the new layers of accountability and transparency required this day and age. The world is more complex. As machines do more of the actual work, people are left to manage the context of their work. As professors become responsible for more and more, they delegate more to hired assistants. Today’s science lab leaders act more like middle managers, leading and overseeing their labs. In addition, science is a well-paying job, and it comes with an array of benefits, including health care. The cost of health care goes up around 10% a year. This needs to be paid for somehow.

Finally, with the international growth of science, sponsors have a greater of choice of where they want to conduct research. As with anything, the more money that gets poured into science, the more startups are starting to want to grab a piece of the pie. Many countries also realize the benefits that higher education has on their economies and are rushing to set up systems of their own. The United Arab Emirates, Singapore, and Chile, all have visited MIT, and two of the three have agreements in place where MIT helps to set up their universities.[[8]](#footnote-8),[[9]](#footnote-9),[[10]](#footnote-10) The world has scarce resources, and a growing number of claims on those resources.

Prof. Mirowski has never proposed a better way of allocating money to science than our current model. Any model will have flaws. How do you try and predict which research will pay off? How do you bring research to the commercial arena while protecting the openness of universities? These are questions we will continue to answer in the future, but I do not believe the situation is as dire as Prof. Mirowski makes it seem.  If we believe that the goal of science is to produce tangible benefits for humanity, then it appears the new form of university is more successful than ever. There seems little alternative or going back to the old model, so the new way of science seems to be the best we have. Modern universities are not all that “bad.”

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