The interesting and challenging Opinion column by Lee Smolin is based on two assumptions: first, that it is beneficial and desirable for humanity to have many geniuses; and second, that administrative, bureaucratic, and financial measures could achieve this goal. I disagree with both assumptions.

Physics geniuses such as Galileo, Isaac Newton, James Clerk Maxwell, and Albert Einstein—and also geniuses in other fields—appear at a rate of about one in a century. Nobody can tell what produces a genius; presumably it is a confluence of genetic, physiological, environmental, historical, and societal factors. How could one then suggest means to increase the frequency of genius emergence? Furthermore, for "ordinary" people, and for society, it seems to take a long time to understand, appreciate, and apply the deep insights and teachings of geniuses. Then why should we wish to have more of them, more frequently than nature produces them? Besides, not even geniuses create new knowledge only from within themselves: Rather, a slow, natural, and cooperative process of ripening insight and understanding of a field erupts, through the genius of the inspired person, into a new worldview, or at least a new paradigm.

Smolin's major proposal is the creation of special institutions, independent of academia, that would foster nontraditional-thinking, innovative young scientists in making breakthroughs not envisaged in customary settings. Of course, such centers would need substantial financial backing, and so would the young geniuses-to-be. Thus again much boils down to a pledge of money. But as the author reminds us, and as is commonly known, Einstein did much of his pioneering work when he was not sponsored by any institution or establishment. Even later, he worked more creatively than anybody else at that time, in a traditional (not special) academic group environment. Money and its large-scale dispensation to envisioned goals is no panacea. And "social engineering" never leads to acceptable results anyway.

Smolin says, "This one person [Einstein] did more to advance physics than most of the rest of us put together have since." With utmost respect for and admiration of Einstein, I disagree. While he singlehandedly revolutionized our understanding of space and time, a group of individuals—Werner Heisenberg, Erwin Schrödinger, Paul Dirac, Niels Bohr, Eugene Wigner, and the like—taught us a new picture of matter at least as astounding, and they more generally revolutionized our whole thinking about nature's laws by developing quantum theory.

I also oppose Smolin's claim that foundations of quantum theory are nowadays a neglected field. For the past 30 years, especially inspired by the insights (individual, but not engineered in special centers) of people like John Bell, Eugene Wigner, John A. Wheeler, Hans D. Zeh, Roland Omnès, and very many others, tremendous progress has been achieved in clarifying the foundations, meaning, and interpretation of quantum theory. Those clarifications were verified and confirmed by numerous magnificent experiments.

As a final remark, no statistical evidence supports Smolin's concern that talented, creative, young US physicists are "brain-drained" en masse to other parts of the world. What I see is the continued influx of foreign scientists, not only Asian students who do not return to their mother countries, but also, for example, a stream of distinguished Russian scientists.

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Lee Smolin gives some very good reasons for the modern lack of Einstein-type scientists. I can add some reasons that exist in Denmark.

Here PhD students are generally treated like employees and are chosen with increasing frequency to perform short, narrowly defined tasks in connection with, for example, projects funded by the European Union. Instead of receiving financial support to study a novel problem under a professor's guidance, PhD students are increasingly left to fill in the blanks on projects that are already well defined; the projects are all laid out in a contract already, it seems, and the students have little room in their schedules for developing individual projects. Some typical EU-funded PhD projects are simply uninspiring and tend to involve programming and computer data-wrangling. These are not unimportant skills, of course, but a PhD study should also include time for creative thinking, especially as the end of school approaches.

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