Would NIH have funded Darwin?

It is scarcely controversial, at least among scientists, that evolution is the key construct in biology. Research on genetic manipulation is now an important component of NIH's portfolio. But would NIH have supported development of the underlying theory? In the days of the gentleman scientist, young Charles Darwin was supported by family funds. But those days are over. Imagine how Darwin's application would have fared in today's review process (Specific Aims: (1) Sail to the tropics (2) Collect fossils (3) Construct a story about natural selection)

My sense is that NIH funds work for which applications must be readily apparent. Furthermore, it seems virtually impossible for them to fund theory development. They interpret their charge, to improve the nation's health, to mean that they must focus on interventions that promise demonstrable changes in health status. In contrast, the development of an important theory in physics is considered worthwhile even if the theorist does not include an empirical test in his or her presentation.

Max Planck's quantum theory, published in 1900, had no supporting evidence until Robert Milliken's oil-drop experiment appeared in 1911. Surely Milliken was inspired by the theory that he had read about. Eventually, both Planck and Milliken won Nobel prizes in physics for their work.

String theory has been around for some 20 years, and continues to draw massive funding from NSF, even though its proponents admit that the evidence to support it will not be forthcoming until technological advances are made. Almost surely, those advances will come from folks not associated with the development of the theory itself. The physics community recognizes that people who develop theories are not necessarily skilled experimentalists who can provide evidence, and also that some theories will not be testable now.

Of course, NIH cannot afford simply to fund anyone who promises to present a great idea. Fortunately, there is already a place a model for how to fund the development of theory, and it might be worthwhile for NIH to explore how NSF handles that responsibility.

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