

Lecture notes

A physics course that hooked a generation reminds us that teachers need support.

It's a 50-year-old physics textbook that runs to 1,500 pages and whose contents were declared a failure by its famous author. It is also, according to various online reviews “spellbinding” and “an extraordinary book written by an extraordinary man”. One goes as far as to say: “Here's the deal. If ya wanna do this whole physics thing vanilla-style, go buy and read a nice physics textbook. If you want to taste physics — really take it in, like a delicious chocolate mousse or a symphony orchestra or Shakespeare done by British folk, this is where you have to be.”

Perhaps the most extraordinary thing about *The Feynman Lectures on Physics*, the book in question, is that it was nearly strangled at birth. Robert Leighton, chair of a committee tasked with spicing up the physics teaching at the California Institute of Technology in Pasadena in the early 1960s, did not think that Richard Feynman was the right man for the job. “That's not a good idea,” was his original response. “Feynman has never taught an undergraduate course. He wouldn't know how to speak to freshmen, or what they could learn.” (At around the same time, incidentally, an official at Decca Records decided that “The Beatles have no future in show business”.)

Leighton was won round, but the transition from a limited series of lectures — delivered only once by Feynman, between 1961 and 1963

— to a textbook that still inspires devotion five decades on was equally hesitant. As Matthew Sands, who helped to organize the lectures and is a co-author on the book, recalled in 2005, the first draft received from the publishers was a “disaster” (M. Sands *Phys. Today* **58**, 49–55; April 2005). A well-meaning editor had rewritten Feynman's informal style into more traditional textbook-speak; notably, the physicist's conversational ‘you’ had been inelegantly changed to ‘one’. (Sands also recalled Feynman's first reaction to the idea that he would share authorship credit with Sands and Leighton: “Why should your names be there? You were only doing the work of a stenographer!”)

As Rob Phillips explores in an In Retrospect article on page 30 of this issue, *The Feynman Lectures* has endured because it was ahead of its time, and because “his introduction to elementary physics seems to have higher aspirations — the love of nature and a grasp of it through experimentation and reasoning”. In Feynman's hands, physics turned from a description of the world to a way of thinking about it, and a generation was hooked.

The popularity of the lectures and the enduring appeal of the books that grew from them are often attributed to the individual and spontaneous genius of Feynman. But they were painstakingly prepared and practised, and had generous financial backing. (The lectures were part of broader changes to the teaching at Caltech's physics department funded with some US\$1 million from the Ford Foundation.)

This is a lesson that university officials would do well to remember as funding is cut and pressure placed on faculty members to cram more into their timetables. Those who can, teach, but they need support. ■

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