

1988 Fermilab Industrial Affiliates Roundtable: The Science-Technology Spiral and the Pace of Progress

Panel Discussion

Hirsh Cohen

(Moderator)



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I'm very grateful to be at this fine laboratory and see all of the quarks and leptons chasing around out there. When Leon Lederman wrote to me to set out my task, he said that he hoped for a wild, visionary free-for-all. My assignment, should I accept it, was to introduce, provoke, and see to it that these proceedings were not *too* much of a free-for-all. I did accept the assignment, and then I immediately burned his letter.

I want to tell you that all of us have very carefully thought about the title of this panel discussion, which is, "The Science-Technology Spiral and the Pace of Progress." I think each of my colleagues understands thoroughly what Leon meant when he invented that title. I also want to tell you that I think particle physicists are amongst our most eloquent scientists, besides all the great science that they do. Just to start things off, and to be sure that at least one spiral gets into this discussion, let me show you one view of a spiral (Fig. 1, page 28). I think you recognize what the mapping is - T^2 in this environment can only stand for technology transfer. There is a notion that science falls in some helical fashion down into the marketplace, an idea which we ought to talk about today. But the transformation has to go the other way, too. The marketplace has all kinds of things in it, including fun, which I hope some of you are thinking about giving to us.

Let me prejudice what everybody else says by telling you that, in my view, technology itself will move in and be useful to us if there is a use for it. Science

moves to become useful technology when there is a use for it. Later on, I hope we can talk about some of the cases where that turned out to be true very quickly, and other cases where it wasn't so true.

I'll show one other spiral (Fig. 2) just to remind you of some of the problems that have to do with spiraling from science into technology. I hope you can see what that's intended for. Spirals have to fit.

