The role of spin-offs

Photo: Reidar Hahn, Fermilab

Basic research vs. political priorities: It's a timeless struggle. The conflict often comes down to competing timescales: Basic research tends to produce benefits in the long term, while politicians in a representative democracy are required to show their constituents what they are accomplishing in their current terms in office.

One way scientists try to defuse this tension is to talk about scientific spin-offs—the serendipitous application of basic research to the creation of new technology or products.

The real value in scientific spin-offs, apart from the new technologies or creations themselves, is that they reflect an integration of science into wider society. Science need not be relegated to a corner of human existence where atypical people work in atypical jobs. Science is a natural part of a healthy society.

Even given the value provided by spin-offs, it is important to remember that they are merely a consequence and never a justification for basic research. If you want a better system for steering tractors, or a better way to create new enzymes for medical purposes, you don't invest in a space program, even though these two technologies came as a result of NASA's investment in basic research.

The same is true in particle physics, where basic research has many and varied benefits that add considerable value to the original scientific purpose. Research that led to the creation of the Large Hadron Collider at CERN is spinning off technologies (see page 3), and development of the International Linear Collider is already at a stage where entrepreneurs can sensibly talk about spin-offs (page 22). These contributions show our basic research program is effective in advancing knowledge and connecting the rest of society with the scientific endeavor.

Scientists should never use spin-offs as a primary justification for research, but should embrace the fact that spin-offs make it easier for politicians to justify scientific funding to their constituents in this short-term, blockbuster-driven culture.

David Harris, *Editor-in-chief*

Symmetry
PO Box 500
MS 206
Batavia Illinois 60510
USA

630 840 3351 telephone
630 840 8780 fax
www.symmetrymagazine.org
mail@symmetrymagazine.org

symmetry (ISSN 1931-8367) is published 10 times per year by Fermi National Accelerator Laboratory and Stanford Linear Accelerator Center, funded by the US Department of Energy Office of Science.

symmetry