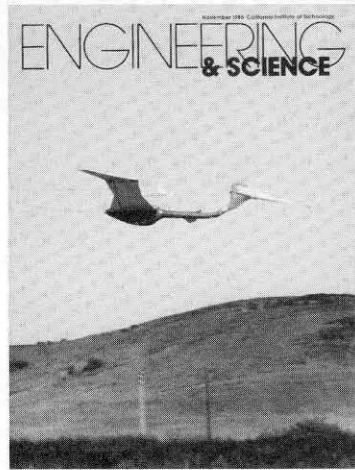


In This Issue



Look, up in the air — it's a . . . On the cover — a half-scale prototype (18-foot wingspan) replica of the giant pterodactyl, *Quetzalcoatlus northropi*, glides above Simi Valley in a radio-controlled test flight last August. This model was used to develop the lateral-control autopilot. The streamers trailing behind serve to indicate air flow to observers on the ground.

The working model of the prehistoric flying reptile is the creation of Paul MacCready. Known for his *Gossamer Condor*, which made the first sustained, controlled, human-powered flight in 1977, MacCready has also created the *Gossamer Albatross*, the first and only aircraft to be pedaled across the English Channel (as well as the *Gossamer Penguin*, *Solar Challenger*, and *Bionic Bat*).

Caltech gave MacCready its Distinguished Alumni Award in 1978; he earned his MS in physics here in 1948 and PhD in aeronautics in 1952 (his BS is from Yale).

His firm, AeroVironment, Inc., based in Monrovia, California, provides services and products in the fields of alternative energy, the environment, and aviation, in addition to building pterodactyls. The pterodactyl project has a remarkable density of Caltech alumni, including Peter Lissaman (MS 1955, PhD 1966), who



co-founded the company, Alec Brooks (PhD 1981), Henry Jex (MS 1953), and Alan Cocconi (BS 1980).

MacCready's article "The Great Pterodactyl Project," begins on page 18. Portions of the article appear in the National Air and Space Museum Research Report 1985 as "QN — The Time Traveler™." Other parts were adapted from his talk to the Southern California Skeptics at Caltech in October.

Delbrück vs. Descartes

In his acceptance speech on receiving the Nobel Prize for Physiology or Medicine in 1969, Max Delbrück previewed many of the epistemological topics that he would later discuss more fully in his series of Caltech lectures given first in 1974 and again in 1976. He described these lectures, entitled "Mind From Matter?," as an "investigation into human cognitive capabilities as expressed in various sciences," and his motivation for presenting them was "to summarize his lifelong exploration of the implications of [Niels] Bohr's philosophy for the possible sources of human knowledge."

Delbrück died in 1981 without having published these lectures as he had intended. They have, however, been issued as a book this fall by Blackwell Scientific Publications, Inc., edited by Delbrück's friend and former colleague, Gunther Stent. "The Cartesian Cut," one of the later chapters of the book, begins on page 6.

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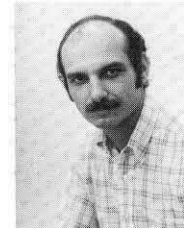
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David Hitlin and Rafe Schindler, co-authors of the article "Catching Some Zs," beginning on page 13, haven't really been dozing much lately. They've been designing and building a detector to capture in greater numbers the elusive Z^0 particle — first theorized in the unification of the electromagnetic and weak forces and observed experimentally only two years ago. The complex project, under Hitlin's direction, has been undertaken by groups from Caltech, the Stanford Linear Accelerator Center, Columbia University, University of Washington, and the TRIUMF Laboratory in Vancouver.

Hitlin, associate professor of physics, earned his BA (1963), MA (1965) and PhD (1968) from Columbia. Before coming to Caltech in 1979, he was assistant professor at Stanford.



Schindler is now assistant professor at SLAC, but began this article as a senior research fellow at Caltech, a position he had held since 1982. He holds a BA from University of Rochester (1974) and an MA (1975) and PhD (1979) from Stanford.

