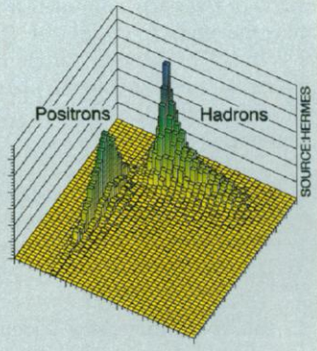
LETTERS

Ups and downs

Recent successes in measuring the "spin structure of the neutron" (right) give physicists hope that they can "track down the missing spin." The consequences of restructuring biology departments at large universities are discussed. A reader proposes that institutions that grant Ph.D.'s also guarantee employment for their graduates. Researchers at the Food and Drug Administration are said to bring "the latest research findings to bear" on regulating vaccines and drugs. And it is said that "many sources" indicate German science recovered slowly after World War II.



Spin Studies

We applaud our colleagues at the Deutsches Electronen-Synchrotron (DESY) in Hamburg, Germany, for their successful operation of the HERMES detector (A. Watson, Research News, 21 Mar., p. 1742), which reconfirmed results on the spin structure of the neutron that had previously been measured at the European center for particle physics (CERN) and the Stanford Linear Accelerator Center (SLAC). The experiments described by Watson are of a kind called "inclusive," where the inelastically scattered lepton (mu-meson at CERN, electron at SLAC, positron at DESY) is detected and the nucleon final state system is not analyzed. This is what has been done at CERN and SLAC for more than a decade in a wider kinematic range than is accessible in HERMES. The precision of the most recent SLAC data is far better than has been achieved at HERMES.

The real power of HERMES lies in its potential to capture the debris of the protons and neutrons after they are struck by high energy positrons from the HERA ring. If all goes as hoped, analysis of these fragments should provide additional information about the spin content of these particles. HERMES might even "track down the missing spin" and help resolve a conundrum (I would hardly call it a "crisis") that has been intriguing the particle physics community since the late 1980s.

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Mergers of Botany and Biology Departments

In the article "Biology departments restructure" by Wade Roush (News & Comment, 14 Mar., p. 1556), Rytas Vilgalys of Duke University is quoted as saying that botany at several schools, including Indiana University (IU), has "gone into eclipse" or has lost influence as a result of its merger with zoology. Although the merger of taxon-based departments may have injured botanical studies at other universities, botany at IU has been strengthened by its integration with other disciplines after the interdepartmental merger in 1978. The merged department was replaced by the Plant Sciences Graduate Program, which currently includes 18 faculty members, representing an increase of four plant scientists since the merger. Faculty hires since the merger represent all levels of analysis, ranging from molecular to organismal. In addition, IU plant sciences faculty do not appear to have lost influence in the Department of Biology. The department chair and directors of three of the six graduate programs in biology are plant science faculty. Further evidence of continued excellence in botanical studies at IU includes a recent graduate research traineeship award in the plant sciences from the U.S. Department of Agriculture and a "top 10%" ranking by the 1996 Gourman Report. The continued success of botany at IU suggests that departmental realignments need not weaken taxon-specific disciplines, but that instead they may serve to invigorate research areas that might otherwise decline.

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