A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

THE SCIENCE PRESS
11 Liberty St., Utica, N. Y. Garrison, N. Y.

New York City: Grand Central Terminal

Single Copies, 15 Cts. Annual Subscription, $6.00

Entered as second-class matter January 21, 1902, at the Post Office at Utica, N. Y., under the Act of March 3, 1879.

Vol. LV March 31, 1922 No. 1422

Dedication of the Norman Bridge Laboratory of Physics of the California Institute of Technology:
Presentation: DR. NORMAN BRIDGE........ 327
Address of Acceptance: DR. R. A. MILLIKAN........ 330
A Joint Investigation of the Constitution of Matter and the Nature of Radiation: DR. GEORGE E. HALP........ 332
Research in the Norman Bridge Laboratory: DR. H. A. LORENTZ........ 334
Biotic Areas and Ecologic Habitats: DR. L. R. DICE........ 335
Capture in Atlantic Waters of the Giant Ray: DR. E. W. GUDER..... 338
John Caspar Branner: DR. DAVID STARR JORDAN........ 340
Scientific Events:
The World Production of Coal in 1921; The Mount Everest Expedition; The American Chemical Society; The John Scott Medal Fund........ 341
Scientific Notes and News............... 344
University and Educational Notes.. 347
Discussion and Correspondence:
Selective Fertilization as an Indicator of Germinal Differences: DR. D. F. JONES.
Gravitational Absorption: DR. PAUL R. HELV........ 348
Scientific Books:
Wheeler on Social Beetles in British Guiana and Farquharson on the Biologies of Southern Nigerien Insects: PROFESSOR T. D. A. COCKERELL........ 350
Special Articles:
Sealing Tungsten into Pyrex: DR. L. T. JONES. A New Sclerotia on Mulberry: E. A. STIEGLER and A. E. JENKINS........ 352
The American Mathematical Society: PROFESSOR R. G. D. RICHARDSON........ 354

DEDICATION OF THE NORMAN BRIDGE LABORATORY OF PHYSICS OF THE CALIFORNIA INSTITUTE OF TECHNOLOGY

PRESENTATION BY NORMAN BRIDGE
This is one of a series of pleasant occasions that have attended the growth and metamorphosis of this school for nearly a third of a century.

Each one has marked some accession of value in its progress from a small affair with varied aims and moderate ambitions, to a concentration of effort on the most ambitious plans for the selection and excellence of the few. Sometimes the acquisition has been a material one, as of buildings, grounds and tools; sometimes it has been spiritual and intellectual. To-day we welcome both forms.

The changes in the institution have come through a process of elimination of the casual and easy—designed for the many; and of the engraving upon it of the more difficult, the more costly—and ultimately the more potent, for the few who can measure up to its requirements.

And the most telling addition of all has been the deliberate movement toward systematic research—otherwise the search for additions to the knowledge of the world.

We are gathered here to take note of the latest material addition to the equipment, as well as the latest spiritual and intellectual accession. This laboratory is undoubtedly a long step toward an ideal outfit for teaching; and for the research that is in the greatest demand at this time. But no man can guess what new facilities will be needed within a few years, for novel lines of research not now even thought of.

The growth of knowledge comes step by step; sometimes the steps are short, frequent, and strictly progressive; at other times they