LETTERS  
Cancer Advisory Board: J. D. Rowley et al.; Defensive Weapons Development: E. Teller; R. J. Smith; Biological Backwaters?: S. A. Kolmes; Basic Research and the Public: G. S. Mumford; Dissolution of Kroc Foundation: E. E. Benes  

EDITORIAL  
Technological Cooperation with the Japanese: M. Goland  

ARTICLES  
The Most Luminous Stars: R. M. Humphreys and K. Davidson  
Balzan Prize to Ernst Mayr: S. J. Gould  

NEWS AND COMMENT  
High-Level Politics over Low-Level Waste  
Delay Likely in High-Level Program  
The Synthetic Fuels End Game  
Oil Prospectors Make a Strike in Paris  
At EPA, Two Top Scientists Come on Board  

Breifing: Baby Doe Rules Issued; Dole Promotes Patent Reform for Big Business; Ottinger, Nuclear Gadfly, to Quit Congress in 1984; DOE Warned on Plans for Restarting Reactor; For Some, NSF May Mean Non-Sufficient Funds; Carnegie Plan Promotes Prevention of Nuclear War  

RESEARCH NEWS  
First True RNA Catalyst Found  
One Billion Transistors on a Chip?  
Need a Catalyst? Design an Enzyme
BOOKREVIEWS

As the Twig Is Bent . . . , reviewed by G. V. Glass and M. C. Ellwein; Close Relationships, S. S. Brehm; Archaeology of the Central Mississippi Valley, J. E. Price; Time, Space, and Pattern in Embryonic Development, A. Monroy; Some Other Books of Interest; Books Received

REPORTS

Late Leonardian Plants from West Texas: The Youngest Paleozoic Plant Megafossils in North America: S. H. Mamay, J. M. Miller, D. M. Rohr


Native Cellulose: A Composite of Two Distinct Crystalline Forms: R. H. Atalla and D. L. VanderHart

Catalytic Activity of an RNA Molecule Prepared by Transcription in vitro: C. Guerrier-Takada and S. Altman

Molecular Dissection of Transcriptional Control Elements Within the Long Terminal Repeat of the Retrovirus: A. Srinivasan et al.


External Imaging of Cerebral Muscarinic Acetylcholine Receptors: W. C. Eckelman et al.

Neuromagnetic Evidence of Spatially Distributed Sources Underlying Epileptiform Spikes in the Human Brain: D. S. Barth et al.

Cerebellum: Essential Involvement in the Classically Conditioned Eyelid Response: D. A. McCormick and R. F. Thompson

A Monoclonal Antibody to Limbic System Neurons: P. Levitt

Activation of Pontine Cholinergic Sites Implicated in Unconsciousness Following Cerebral Concussion in the Cat: R. L. Hayes et al.

COVER

Massive star Eta Carinae (center) and its surrounding cloud of dusty gas. The ejection of this gas from the central star was observed about 140 years ago. This is a logarithmic isophote map in red light; the outer contours are fainter than the central spot by a factor of roughly 2000 in surface brightness. The width of the picture is about 0.5 arc minute or 1.3 light years at the 9000-light-year distance of Eta Carinae. Recently it was discovered that the large outer condensation on the right side is nitrogen-rich. See page 243. [Data for image were obtained with a SIT vidicon and 60-inch telescope at Cerro Tololo Inter-American Observatory, La Serena, Chile]