

UCSD one of main centers for study of superconducting materials; Larry Peterson director of the X-ray and gamma ray astronomy group; Joseph Gusfield develops a perspective toward understanding of public actions; Michael Cole has book in press which describes his research among the Vai people of Liberia

December 19, 1979

SUPERCONDUCTIVITY

The University of California, San Diego is one of the main centers for the study of superconducting materials, metals which conduct electric current with no resistance at extremely low temperatures (-430°F). Associate research physicist George Webb has discovered a two-step process in which small quantities of Nb₃Al can be prepared in an intermediate ductile form. Webb's research may be a first step in making long lengths of this compound which might someday be used in electrical generators and high speed ground transportation. Measurements carried out at the National Magnet Laboratory have been submitted for publication in the journal Applied Physics Letters in the first half of 1980.

THE GAMMA RAY OBSERVATORY

Astrophysicist Larry Peterson is director of the X-ray and gamma ray astronomy group, part of the newly formed Center for Astrophysics and Space Sciences at UC San Diego. The campus has the lead institution responsibility for the gamma ray spectrometer, one of the major instruments on the Gamma Ray Observatory. Construction on the instrument is expected to begin around the end of 1980 with an expected launch date for the observatory in 1985. The observatory will help astrophysicists study high energy electromagnetic radiation from supernovae, neutron stars, black holes, cores of galaxies and quasars.

ALCOHOL USE AND TRAFFIC SAFETY

In a book to be published later this year, sociologist Joseph Gusfield uses the public problem of drinking and driving as a means to develop a perspective toward the understanding of public actions, especially the actions of governmental and legal officials. Gusfield explores the apparent conflict between the strong moral sanctions against drinking and driving versus the actual practice of treating drunk driving as a rather routine traffic violation.

LITERACY AND INTELLECTUAL SKILL

Psychologist Michael Cole, who heads the Laboratory of Comparative Human Cognition at UC San Diego, has been studying the effects of literacy on the development of intellectual skills for the past several years. He has a book in press which describes his research among the Vai people of Liberia, who have no formal education system yet have developed their own writing system and use it to write letters, keep records and record events in diaries. Cole discusses the effects of literacy on the cognitive process, how he designed some new testing procedures which changed some notions about literacy and intellect, and the implications for worldwide literacy campaigns which routinely fail for reasons which defy explanation.

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