## SIX DECADES OF SCIENCE HIGHLIGHTS

Advent of radio broadcasting Bell Telephone Laboratories record sound electrically Robert H. Goddard launches first successful liquid-fuel rocket Hubble effect reported Radiation's genetic mutation rate demonstrated in fruit flies Charles Lindbergh's transatlantic crossing '28 Vladimir Zworykin develops TV camera Penicillin discovered Pluto discovered by Clyde Tombaugh Van de Graaf introduces his electrostatic generator Beginning of radio astronomy Discovery of the neutron Ernest O. Lawrence receives patent for the cyclotron Psychosurgery first performed by Portuguese neurologist Egas Moniz DuPont markets nylon First binary-counting computer, the Z-1, by Konrad Zuse '38-39 Discovery of nuclear fission First commercial television broadcast Enrico Fermi's "atomic pile" activated, first nuclear reactor '43 Demonstration that nucleic acids carry genetic information '43-44 Gerard Kuiper discovers atmosphere of Titan '44 Glenn T. Seaborg and colleagues discover elements 95 and 96 Melvin Calvin begins elucidating the dark reactions of photosynthesis First nuclear explosion (fission bomb) by a nuclear transformation East Pacific Rise observed Formal dedication of the ENIAC, first general-purpose electronic computer First public demonstration of Polaroid Land camera '47 '47 Invention of the transistor '48 Big bang cosmology'48 B. F. Skinner's Walden Two popularizes behavioral psychology theory First usable nuclear-powered electricity on Dec. 20 by EBR-1 Demonstration of thermonuclear fusion '52 Discovery of psychotropic properties of chlorpromazine Crick and Watson present "double helix" structure of DNA '52 '53 First open-heart surgery Jupiter's decametric radio bursts detected (Burke and Franklin) '54 54 55 Discovery of the antiproton Gordon Gould invents optically pumped laser amplifier '60 Invention of the laser First step in cracking the genetic code Beginning of X-ray astronomy
First successful interplanetary mission: Mariner 2 to Venus '62 First quasar discovered Nuclear test ban treaty signed by U.S., USSR and Britain '63 Jack S. Kilby receives patent for miniaturized electronic circuits R. B. Woodward and R. Hoffmann propose "The Conservation of Orbital Symmetry" 65 67 First pulsar discovered '68 Glomar Challenger first drills ocean floor '69 Hypothalamic hormones discovered '69 Neil Armstrong takes man's first step on the moon '70 Julius Axelrod receives Nobel prize for work on role of neurochemical transmitters in mental disorders Introduction of the first microprocessor Procedures devised to produce recombinant DNA molecules Smallpox eradicated First human-powered flight, Gossamer Condor, by Bryan Allen Rings of Uranus discovered by stellar occultation Unified theory of electromagnetism and the weak interaction First test-tube baby born Active volcanoes on lo revealed by Voyager 1 '80 Mt. St. Helens erupts