
SCIENCE

Index to Volume 124
July–December 1956

DAEL WOLFLE, *Executive Officer*
GRAHAM DUSHANE, *Editor*
CHARLOTTE V. MEETING, *Assistant Editor*

Editorial Board

MARK H. ADAMS	KARL LARK-HOROVITZ
WALLACE R. BRODE	EDWIN M. LERNER
BENTLEY GLASS	WILLIAM L. STRAUS, JR.

Editorial Staff

MARY L. CRABILL, SARAH S. DEES, OLIVER W.
HEATWOLE, YUKIE KOZAI, JEAN MCCARTHY, ELIZA-
BETH MCGOVERN, ELLEN E. MURPHY, ROBERT V.
ORMES, BETHSABE PEDERSEN, MADELINE SCHNEIDER,
JOSEPH TURNER, JACQUELYN VOLLMER

EARL J. SCHERAGO, *Advertising Representative*

Published by the
American Association for the Advancement of Science

1515 Massachusetts Avenue, NW, Washington 5, D. C.

Printed in Lancaster, Pa., by Business Press

No.	Date of Issue	Pages	No.	Date of Issue	Pages	No.	Date of Issue	Pages
3210	6 July	1-48	3219	7 September	421-460	3228	9 November	909-956
3211	13 July	49-96	3220	14 September	461-508	3229	16 November	957-1004
3212	20 July	97-144	3221	21 September	509-556	3230	23 November	1005-1052
3213	27 July	145-196	3222	28 September	557-604	3231	30 November	1053-1100
3214	3 August	197-244	3223	5 October	605-652	3232	7 December	1101-1180
3215	10 August	245-292	3224	12 October	653-700	3233	14 December	1181-1228
3216	17 August	293-340	3225	19 October	701-740	3234	21 December	1229-1268
3217	24 August	341-380	3226	26 October	741-868	3235	28 December	1269-1308
3218	31 August	381-420	3227	2 November	869-908			

Title Index

A

AAAS building dedication, 534
 AAAS cardiovascular research award, 1196
 AAAS conference on mathematics instruction, J. R. Mayor, 1219
 AAAS election results, 1288
 AAAS finances: report for 1955, D. Wolfe, 637
 AAAS meeting, New York, R. L. Taylor, 1127
 AAAS Theobald Smith award, 1287
 Abortion in the U.S.S.R., 578
 Accumulation of reduced pyridine nucleotides by illuminated grana, A. San Pietro and H. M. Lang, 118
 Acetoglyceride process patented, 258
 Action of guinea pig serum and human gamma globulin on the growth of a rat tumor, E. Jameson, H. Ainis, R. M. Ryan, 980
 Activity of cerebral neurons in the transition from wakefulness to sleep, M. Verzeano, 366
 Adams, Walter S., observer of sun and stars, P. W. Merrill, 67
 "Adenoviruses": group name proposed for new respiratory-tract viruses, J. F. Enders, J. A. Bell, J. H. Dingle, T. Francis, Jr., M. R. Hilleman, R. J. Huebner, A. M.-M. Payne, 119
 Aftereffect in the degradation of cellulose and pectin by gamma rays, R. E. Glegg and Z. I. Kertesz, 893
 Again, the "abominable snowman," W. L. Straus, Jr., 22
 Age, growth, and the LD₅₀ of x-rays, H. I. Kohn and R. F. Kallman, 1078
 Aging, J. E. Birren, 734
 Agriculture, food supplies, and atomic radiation, Committee on the Effects of Atomic Radiation on Agriculture and Food Supplies, National Academy of Sciences, 63
 Agronomic use of an x-ray-induced mutant, E. E. Down and A. L. Andersen, 223
 AIBS Connecticut meetings, I. Stewart, 1036
 Algae as sources of lysine and threonine in supplementing wheat and bread diets, J. M. Hundley, R. B. Ing, R. W. Krauss, 536
 American physical society, R. D. Huntoon, 496
 Amino acids formed in "primitive atmospheres," P. H. Abelson, 935
 Animal reproduction, D. W. Bishop, 497
 Anomalous carbon-14 content of carbon dioxide from sewer gas, R. L. Patterson, Jr., and I. H. Blifford, Jr., 1252
 Another case of anomalous pregnancy in a white rat, E. P. Yule and J. D. Sylvestre, 79

Another international conference on atomic energy, 717
 Another voice on radiation effects, 1020
 Anterior pituitary hormones available, 926
 Anthropological and ethnological sciences, W. L. Straus, Jr., 1157
 Anthropometry and industry, W. L. Straus, Jr., 310
 Anticlotting drug, 113
 Antiserotonins in hypertension and the antimetabolite approach to chemotherapy, D. W. Woolley and E. N. Shaw, 34
 Apomorphine test for tranquilizing drugs: effect of dibenamine, D. X. Freedman and N. J. Giarmann, 264
 Archeology in Alabama, 577
 Archeology in the Marquesas, 1196
 Architect reviews his files, the, W. Faulkner, 659
 Arctic flora study, 480
 Army ionizing radiation center, 1246
 Atom harvest, J. E. Pfeiffer, 409
 AEC assistance for foreign reactors, 716
 AEC foreign agreements, 213
 AEC officers abroad, 1020
 AEC-world bank agreement on aid for nuclear power plants abroad, 882
 Atomic trade fair, E. J. Scherago, 1038
 Australia free from rabies, R. N. Wardle, 1156
 Australian water conservation method, 1071
 Autoinhibition of bacterial endospore germination, R. L. Stedman, E. Kravitz, M. Anmuth, J. Harding, 403
 Avogadro, Amedeo, C. Hinshelwood; L. Pauling, 708

B

Bacteriophages in the American type culture collection, M. H. Adams, 529
 Batteries in England, H. N. V. Temperley, 276
 Belgian reactor ban, 358
 Bendix time-of-flight mass spectrometer, W. C. Wiley, 817
 Bensley, R. R., cytologist, E. V. Cowdry, 972
 Beryllium-10 produced by cosmic rays, J. R. Arnold, 584
 Biochemical basis for the toxicity of pentachlorophenol, E. C. Weinbach, 940
 Bioenergetics, A. Szent-Györgyi, 873
 Bioflavonoids and colds, 1140
 Biological action of polymyxin B, R. W. Krauss and R. A. Galloway, 939
 Biological decontamination of fission products, G. Yoshii, N. Watabe, Y. Okada, 320
 Biosynthesis of pelargonidin-3-glucoside-C¹⁴, G. E. Livingston and P. Markakis, 28
 Blockade of cardiac synapses by succinylcholine, D. P. Purpura and H. Grundfest, 319
 Blocking effect of ethyl alcohol on inhibitory synapses in the eye of *Limulus*, E.

F. MacNichol, Jr., and R. Benolken, 681
 Blood groups and disease, J. A. F. Roberts, 674; erratum, 1151
 Blood velocity in the aorta, 620
 Boltwoodite, a new uranium silicate, C. Frondel and J. Ito, 931
 Bony dimensions and the estimation of men's reference weight, J. Brožek, 685
 Borneo zoological expedition, 577
 Boshyan down, Lysenko up? 309
 Brain of birds, W. L. Straus, Jr., 479
 Breed, R. S., bacterial taxonomist, H. J. Conn, 256
 British and American engineering research, 68
 British Antarctic expeditions, 1142
 British report on radiation hazards, 112
 British research budget, 578
 Building radioactive since 1951, 883

C

Canadian industry and the scientific manpower shortage, 674
 Cancer mortality decline, 1246
 Cancer society on smoking, 1197
 Carlson, A. J., V. Johnson, 713
 Cell-wall mannan-protein of baker's yeast, G. Falcone and W. J. Nickerson, 272
 Centenary of J. J. Thomson, G. Thomson, 1191
 Centennial of discovery of Neanderthal man (editorial), W. L. Straus, Jr., and L. C. Eiseley, 1183
 Chamber for microelectrode studies in the cerebral cortex, P. W. Davies, 179
 Characteristic electrophoretic patterns of plasma proteins of orders of Amphibia and Reptilia, H. C. Dressauer and W. Fox, 225
 Chemically altered "permanent" behavior patterns in fish and their cure by reserpine, D. L. Keller and W. W. Umbreit, 407
 Child care council, 436
 Cholinergic effects of β -substituted derivatives of pyruvic acid, H. Busch, W. R. Martin, W. L. Nyhan, V. Zaratzian, 981
 Chondroitin sulfate and hyaluronic acid in syphilomas of cortisone-treated rabbits, F. A. H. Rice, 275
 Church service on science and religion at time of AAAS meeting, 1196
 Cigarettes and cancer, 68
 Clausen, R. E., geneticist, J. A. Jenkins, 1286
 "Clock" controlled activity rhythms in the fruit fly, S. K. de F. Roberts, 172
 Colchicine-induced polyploidy in *Chlamydomonas*, D. F. Wetherell and R. W. Krauss, 25
 Cold-adapted genetic variants of polioviruses, G. R. Dubes and M. Chapin, 586
 Comparative biology of marine species, R. Buchsbaum, 1300

- Comparative studies of lipoproteins by starch and paper electrophoresis, F. Paronetto, C.-I. Wang, D. Adlersburg, 1148
- Comparison of pinch-caliper and x-ray measurements of skin plus subcutaneous fat, S. M. Garn, 178
- Comparison of suggestibility during "light sleep" and hypnosis, T. X. Barber, 405
- Conference on scientific information, 1259
- Congenital malformations produced by amniotic-sac puncture, D. G. Trasler, B. E. Walker, F. C. Fraser, 439
- Congressional recommendations to promote scientific interchange, 309
- Consistent biochemical pattern in malignant tumors, A. K. Laird and A. D. Barton, 32
- Consistent running records, G. P. Meade, 1025
- Consistent set of running times, M. H. Lietzke, 178
- Contamination of human cell cultures by pleuropneumonia-like organisms, L. B. Robinson, R. H. Wichelhausen, B. Roizman, 1147
- Control of anthocyanin formation in plants, S. B. Hendricks and H. W. Siegelman, 938
- Control of cholesterol production, 1197
- Control of drinking behavior by means of an operant-conditioning technique, D. R. Williams and P. Teitelbaum, 1294
- Controlled burning of combustible materials, 926
- Conversion of 2-amino-4-hydroxypteridine to isoxanthopterin in *D. melanogaster*, H. S. Forrest, E. Glassman, H. K. Mitchell, 725
- Copenhagen natural radiocarbon measurements II, H. Tauber, 879
- Cornerstone (editorial), D. Woffle, 657
- Cosmic distance scale, J. J. Nassau and A. Blaauw, 282
- Council on Library Resources, Inc., 690
- Criteria for assessing effects of drugs on posttetanic potentiation, D. W. Esplin, 1150
- Crittenden, E. C., physical standards expert, W. R. Brode, 255
- Crucifix and dagger, O. V. Batson, 323
- Cryogenic instrumentation, J. G. Daunt, 777
- Crystal structure of meyerhofferite, C. L. Christ and J. R. Clark, 936
- Crystallization of cytidine diphosphate choline from yeast, I. Lieberman, L. Berger, W. T. Gimenez, 81
- Current status of insect control by radiation, C. C. Hassett, 1011

D

- Dahlberg, G., human geneticist, L. C. Dunn, 1196
- Dahlite identified as a constituent of prodissoconch I of *Pinctada martensii* (Dunker), N. Watabe, 630
- Dantzig, T., historian and interpreter of mathematics, M. H. Martin, 714
- Darcy centennial symposia, D. K. Todd, 1258
- Darwin centennial expedition, 1072
- Data processing for scientists, K. F. Heumann, 773
- Deep-sea diving record, 1141
- Dentistry in western U.S., 883
- Design study of a megacurie source, B. Manowitz, D. J. Metz, R. H. Bretton, 814
- Detection of the free neutrino: a confirmation, C. L. Cowan, Jr., F. Reines, F. B. Harrison, H. W. Kruse, A. D. McGuire, 103
- Detection of tumor-inducing factors in

- Drosophila*, L. Burton and F. Friedman, 220
- Deuel, Harry J., Jr., student of nutrition, J. M. Luck, 209; erratum, 483
- Deuterium-hydrogen fractionation during freezing of water, I. Friedman and A. C. Redfield, 938
- Devaux, H., plant physiologist, pioneer of surface physics, J. G. Kaplan, 1017
- Direct-reacting bilirubin, bilirubin glucuronide, in serum, bile, and urine, R. Schmid, 76
- Discriminatory temperature indication in the electron transport system, B. Chance and H. Baltscheffsky, 936
- Disposal and dispersal of radioactive wastes, Committee on Disposal and Dispersal of Radioactive Wastes, National Academy of Sciences, 17
- Distinction between effects on metabolic transport and passive transfer of ions, A. M. Shanes, 724
- Distribution of "motor" functions in the cerebral cortex in the conscious intact monkey, J. C. Lilly, 937
- Doctor draft, 821
- Does starvation increase sperm count? M. C. Chang, D. Sheaffer, W. H. Gantt, H. A. Teitelbaum, 1203
- Dual requirement of Walker carcinosarcoma 256 *in vitro* for asparagine and glutamine, R. F. Neuman and T. A. McCoy, 124

E

- EEG, consciousness, and sleep, C. W. Simon and W. H. Emmons, 1066
- Effect of free radicals on chromosomes of barley, L. L. Phillips, 889
- Effect of hypothermia on epileptiform activity in the primate temporal lobe, M. Baldwin, L. L. Frost, C. D. Wood, S. A. Lewis, 931
- Effect of the osmotic strength of the growth medium on the amino acid pool of *Escherichia coli*, R. J. Britten, 935
- Effect of oxygen on the stability of geologically important iron silicates, H. P. Eugster, 937
- Effect of a severe storm on electric properties of a tree and the earth, H. S. Burr, 1204
- Effect of starvation on sperm count and sexual reflexes, H. A. Teitelbaum and W. H. Gantt, 363
- Effect of tranquilizing drugs on fighting response of Siamese fighting fish, E. J. Walaszek and L. G. Abood, 440
- Effects of certain 19-nor steroids on the normal human menstrual cycle, J. Rock, G. Pincus, C. R. Garcia, 891
- Effects of certain 19-nor steroids on reproductive processes in animals, G. Pincus, M. C. Chang, E. S. E. Hafez, M. X. Zarrow, A. Merrill, 890
- Effects of fluorocompounds on mechanisms related to mitochondrial phosphate transfer, A. S. Fairhurst, R. E. Smith, E. M. Gal, 1208
- Effort to determine the amount of matter in space, 621
- 84th Congress: health and medicine, the (editorial), G. DuShane, 297
- Election of AAAS officers, 594
- Electron microscopy: cytology of cell fractions, A. B. Novikoff, 969
- Electronics for measuring human motions, J. Goldman and G. Nadler, 807
- Elevation of platelets in mid-cycle: an indication of ovulation, H. Pepper and S. Lindsay, 180
- Emission spectra of actinium, W. F. Meggers, M. Fred, F. S. Tomkins, 940
- Encoding nonintegers in a general *p*-adic number system, D. K. Cheng, 120

- Engineering center to be in New York, 1072
- Engineering graduates here and abroad, 821
- Enzymatic deficiency in primaquine-sensitive erythrocytes, P. E. Carson, C. L. Flanagan, C. E. Ickes, A. S. Alving, 484
- Enzymatic oxidation of glucose to gluconone in a red alga, R. C. Bean and W. Z. Hassid, 171
- Enzymatic oxidation of urate, H. R. Mahler, H. M. Baum, G. Hübscher, 705
- Enzymatic reduction of disulfide bonds in cell wall protein of baker's yeast, W. J. Nickerson and G. Falcone, 318
- Equilibrium diagrams and single crystal growth, S. Zeffoss, 9
- Erythromycin molecule, 821
- European atomic agreement, 310
- Evidence of evolutionary forces leading to the spread of lethal genes in wild populations of mice, L. C. Dunn, 936
- Evidence for nonexistence of *D*-aspartic acid in casein, M. N. Camien and M. S. Dunn, 1206
- Evolution of respiratory enzyme system during germination of *Bacillus subtilis*, Y. Hachisuka, N. Asano, M. Kaneko, T. Kanbe, 174
- Expanding universe, 114
- Experimental approach to the virotherapy of cancer, R. J. Huebner, R. R. Smith, W. P. Rowe, R. G. Suskind, R. Love, 938
- Extracellular deoxyribonucleic acid of bacteria and a deoxyribonuclease inhibitor, R. W. Catlin, 441
- Extraction of $C_{21}O_5$ and $C_{21}O_6$ steroids from aqueous media, S. Burstein, 1030

F

- Fact and artifact in the biology of schizophrenia, M. K. Horwitt, 429
- Factors limiting higher vertebrate populations, P. L. Errington, 304
- Facts and values (editorial), J. Turner
- Faith in educational exchanges (editorial), J. Turner, 703
- Fallout hearings proposed, 1140
- Fat changes during weight loss, S. M. Garn and J. Brožek, 682
- Federal support of research in the life sciences, W. V. Consolazio and M. C. Green, 522
- Fellowship of the Royal Society, D. C. Martin, 350
- Fertility and sterility, J. T. Velardo, 328
- First AEC awards ceremony, 1141
- Fish scales in a sediment core from Linsley Pond, Connecticut, K. L. Lagler and J. R. Vallentyne, 368
- FWS study of fish chemistry, 1247
- Fixed-field alternating-gradient accelerators, L. J. Laslett, 781
- Flotational lipoproteins extracted from human atherosclerotic aortas, M. Hanig, J. R. Shainoff, A. D. Lowy, Jr., 176
- Ford Foundation and Fund for Education combined, 1288
- Formation of UDPGla and related compounds by the soluble fraction of liver, F. Maley and H. A. Lardy, 1207
- Former members of AEC comment on its present policies, 619
- Fossil palm, 260
- Fowl pox vaccine associated with parthenogenesis in chicken and turkey eggs, M. W. Olsen, 1078
- Free neutrino found, 68
- French atomic power, 820
- Friends of the Pleistocene, N. R. Gadd, 372
- Future through science, the, G. T. Seaborg, 1275

G

- Galapagos research station, 480
 Gamma-ray activity of contemporary man, C. E. Miller and L. D. Marinelli, 122
 Geiger, Hans, A. T. Krebs, 166
 Generality of some academic reputations, F. R. Fosmire, 680
 Genetic effects of atomic radiation, Committee on the Genetic Effects of Atomic Radiation, National Academy of Sciences, erratum, 170
 Genetics congress resolution, 358
 Genetics of the leopard frog, B. Glass, 167
 Geological congress, R. C. Stephenson, 945
 Geological Survey water resources division, 674
 Geophysical research shaft, F. B. Estabrook, 686
 Geothermal survey of hot ground near Lordsburg, New Mexico, P. R. Kintzinger, 629
 Global flight to determine the earth's magnetic field, 620
 Glycogen turnover and metabolic inhomogeneity, DeW. Stetten, Jr., and M. R. Stetten, 941
 Goldfish erythrocyte antigens and serology, W. H. Hildemann, 315
 Gordon Research Conferences, W. A. Jordan, 1279
 Graduate students in Britain, H. N. V. Temperley, 355
 Graft-induced transmission to progeny of cytoplasmic male sterility in *Petunia*, R. Frankel, 684
 Graying of hair in rats fed a ration deficient in lysine, P. Vohra and F. H. Kratzer, 1145

H

- Hamsters and the common cold, 883
 Hardness of substances in the ideal state, A. E. Newkirk, 172
 Heat denaturation of serum albumin in presence of perfluorooctanoic acid, E. Ellenbogen and P. H. Maurer, 266
 Heavy water in Germany, K. Lark-Horowitz, 359
 Hersh, A. H., geneticist, D. P. Quiring and F. DeMarinis, 575
 Hidden history of a dictionary, W. C. Michels, 1156
 High-altitude studies of solar flares, 213
 High-polymer chemistry, R. A. Stewart, 1257
 High-pressure silicates, F. R. Boyd, 935
 Higher education (editorial), G. DuShane, 1123
 Histochemical evidence of protein-bound SH groups in plant tissues with 4-iodoacetamido-1-naphthol, L. W. Roberts, 628
 Hotel headquarters and housing, New York AAAS meeting, 130
 How many chromosomes? B. Glass, 576
 How shall we pay for research and education? P. E. Klopsteg, 965; erratum, 1144
 Hungary, 1288
 Hyksos tomb, 821

I

- Identification of protein disulfide reductase as a cellular division enzyme in yeasts, W. J. Nickerson and G. Falcone, 722
 Immunologic comparison of isolated surface membranes of *Bacillus megaterium*, J. W. Vennes and P. Gerhardt, 535
 Implantation of normal blood-forming tissue in radiated genetically anemic hosts, E. S. Russell, L. J. Smith, F. A. Lawson, 1076

- In defense of the nation (editorial), D. Wolffe, 201
 Index to *Science*, 1288
 India makes penicillin, 716
 Indians in the Peruvian Andes, 576
 Individuality in chimpanzee behavior, W. L. Straus, Jr., 212
 Induced biosynthesis of uricase in yeast, A. H. Roush and A. J. Domnas, 125
 Industrial uses of agricultural products, 1288
 Influence of adult tissue homogenates on formation of similar embryonic proteins, H. Walter, D. W. Allmann, H. R. Mahler, 1251
 Influence of "aging" on the characteristics of an electrodeless discharge, C. N. R. Rao, 583
 Influence of crystalline elastase on experimental atherosclerosis in the chicken, D. M. Tennent, M. E. Zanetti, W. H. Ott, G. W. Kuron, H. Siegel, 588
 Influence of invasiveness, hormones, and amphenone on steroids in adrenal carcinoma, T. F. Gallagher, A. Kappas, H. Spencer, D. Laszlo, 487
 Infrared emission spectrum of silicon carbide heating elements, J. E. Stewart and J. C. Richmond, 940
 Inhibition of yeast hexokinase by fluoride ion, N. C. Melchior and J. B. Melchior, 402
 Inhibitory mechanism of chlortetracycline on D-amino acid oxidase, K. Yagi, J. Okuda, T. Ozawa, K. Okada, 273
 Insect hosts of plant viruses, M. H. Adams, 257
 Instruments and man (editorial), G. DuShane, 771
 Interaction of hormonal effects: influence of triiodothyronine on androgen metabolism, H. L. Bradlow, L. Hellman, B. Zumoff, T. F. Gallagher, 1206
 Interferometric comparator, 1197
 Intermedin, B. Glass, 1019
 Intermittent conditioned reinforcement in chimpanzees, R. T. Kelleher, 679
 International atomic energy agency, 973
 International cancer statistics, 357
 ICAO standard atmosphere, 1071
 International cooperation in uranium exploration, 576
 International genetics, N. H. Horowitz, 989
 IGY in Denmark, B. Michelson, 408
 IGY observations of the ionosphere, 1072
 International relations in science and problems of visas, J. J. Nassau, 127
 International Society of Bioclimatology, F. Sargent II, K. Buettner, D. H. K. Lee, 1299
 Internuclear potential functions for bonds of polyatomic molecules, E. R. Lippincott, 938
 Ion transport in plants, E. Epstein, 937
 Irregular milking schedule, 259
 Irrigation and power in Australia, 259
 Isolation of a cardiac-active principle from mammalian tissues, E. Titus, H. Weiss, S. Hajdu, 1205
 Isolation and properties of corticotropin from bovine pituitary glands, C. H. Li and J. S. Dixon, 934
 Isolation of dengue virus from a human being in Trinidad, C. R. Anderson, W. G. Downs, A. E. Hill, 224
 Isolation of the infectious bovine rhinotracheitis virus, S. H. Madin, C. J. York, D. G. McKercher, 721
 Isotope separation, 883

J

- John Bull's other universities (editorial), J. Turner, 345
 Jong, H. H. de, experimental neurophysiologist, H. Baruk, 478

K

- Karpinski, Louis C., historian of mathematics, P. S. Jones, 19; erratum, 313
 Kinetic aspects of assembly and degradation of proteins, D. Steinberg, M. Vaughan, C. B. Anfinsen, 389
 Kinsey, A. C., zoologist, F. Payne, 881
 Kluyver, A. J., microbiologist, C. B. van Niel, 308
 Korean mineral assay laboratory, 258
 Korke, Seymour, biochemist, S. Ochoa, 617

L

- Laboratory for gulf fisheries, 259
 Lactic dehydrogenase activity of serum in mice with transplantable leukemia, C. Friend and F. Wróblewski, 173
 Lamont natural radiocarbon measurements III, W. S. Broecker, J. L. Kulp, C. S. Tucek, 154; erratum, 630
 Larger orbit for satellite, 359
 Larval stages and phylogeny as exemplified by the lung fluke of turtles, R. M. Cable and R. B. Crandall, 890
 Late-Pleistocene climates and deep-sea sediments, D. B. Ericson, W. S. Broecker, J. L. Kulp, G. Wollin, 385
 Latin American agricultural information, 717
 "Letters" in *Science* (editorial), G. DuShane, 249
 Localization and quantitation of water in biological samples by autoradiography, A. Engström and D. Glick, 27
 Louttit, C. M., psychologist, J. W. Carter, Jr., 526
 Low-level counting methods for isotopic tracers, W. H. Johnston, 801
 Low-temperature studies of reduced hemoproteins, R. W. Estabrook, 937
 Loyalty-security program, 210

M

- Magnetite crystals grown by hydrothermal method, 310
 Malaria, P. F. Russell, 447
 Malaria eradication in Mexico, 1197
 Malaria and sickle-cell anemia, B. Glass, 619
 Mammary tumor agent in mice, 69
 Manpower and education (editorial), G. DuShane, 565
 Marine biology, T. H. Bullock, 281
 Marine borer attack on lead cable sheath, L. R. Snoke and A. P. Richards, 443
 Mars approaches earth, 309
 Maternal and sexual behavior induced by intracranial chemical stimulation, A. E. Fisher, 228
 Mathematics teaching essay contest, 529
 Mauna Loa observatory, 531
 Mayer, André, scientist, soldier, statesman, J. Mayer, 616
 Mechanics of freezing in living cells and tissues, H. T. Meryman, 515
 Mechanism of action of aldolase and phosphotriose isomerase, B. Bloom and Y. J. Topper, 982
 Mechanism of sound production in the sculpin, S. B. Barber and W. H. Mowbray, 219
 Medical reactor, 260
 Medical research in perspective, J. A. Shannon and C. V. Kidd, 1185
 Meriones, M. M. Galton, 323
 Messages by meteor trails, 258
 Metabolism of glycine by bovine spermatozoa, R. J. Flipse, 228
 Meteorological aspects of atomic radiation, Committee on Meteorological Aspects of the Effects of Atomic Radiation, National Academy of Sciences, 105

- Method for predicting amount of strontium-89 in marine fishes by external monitoring, H. Boroughs, S. J. Townsley, R. W. Hiatt, 1027
- Method of preparing radioactive cations for tracing ground water, W. J. Lacey and W. de Laguna, 402
- Michigan reactor controversy, 358
- Michurin, Vavilov, and Lysenko, A. Lang, 277
- Microbiology in Mexico, F. B. Gordon, 1300
- Microcards for WMO's IGY work, 1020
- Microwave detection of metallic ions in plant material, K. Lark-Horovitz, 22
- Missing step in guinea pigs required for the biosynthesis of L-ascorbic acid, J. J. Burns, P. Peyser, A. Moltz, 1148
- Mist, control made easy, 436
- Mitochondrial self-duplication observed *in vitro*, H. A. Leon and S. F. Cook, 123; erratum, 368
- Mobility of calcium-45 after injection into western white pine, W. K. Ferrell and F. D. Johnson, 364
- Modification of the menstrual cycle in rhesus monkeys by reserpine, V. J. De Feo and S. R. M. Reynolds, 726
- Modified end-window counting tube for paper chromatograms, R. C. Fuller, 1253
- Molecular chemistry of mental disease, 716
- Molecular organization of genetic material, H. Kacser, 151
- Molecular structure and spectroscopy, H. H. Nielsen, 413
- Molecules in heavenly bodies, H. C. Urey, 496
- Moonwatch program, 620
- More mutation in males? B. Glass, 882
- Moving frontiers of science, R. L. Taylor, 945
- Multiple glaciation since the Ice Age, A. E. Harrison, 181
- Mutations in flax rust induced by ultraviolet radiation, H. H. Flor, 888

N

- NBS Boulder radio propagation engineering division reorganized, 1246
- National Bureau of Standards to be moved, 358
- National Committee, the (editorial), D. Wolffe, 7
- NIH Russian-English translation program, 974
- National library of medicine, 715
- NSF aids dissemination of federal research results, 530
- NSF appropriation, 436
- NSF employment profile of scientists, 1954-55, 1246
- NSF expands Soviet translation program, 68
- NSF program to make research results of other nations available, 974
- NSF report on federal budget for research, 1071
- NSF surveys nonprofit research institutes and commercial laboratories, 882
- National seed storage laboratory, 577
- Nature and mode of action of oxidation enzymes, H. Theorell, 467
- Neolithic period in Switzerland and Denmark, J. Troels-Smith, 876
- Neoplastic changes developing in epithelial cell lines derived from normal persons, A. E. Moore, C. M. Southam, S. S. Sternberg, 127
- Neuberg, C., biochemist, 1244
- F. Nord, H. Waelsch, 1244
- New adenovirus vaccine, 436
- New ARDC agency for small business, 1197

- New ARDC research branch, 822
- New ACE information and research division, 1198
- New approach to the problem of man's origin, H. de Terra, 1282
- New atom smasher, 114; erratum, 313
- New chemical method to differentiate human-type tubercle bacilli from other mycobacteria, K. Konno, 985
- New electron tube, 884
- New high-altitude laboratory, 398
- New neurological research foundation, 1141
- New planned parenthood research committee, 927
- New principle of closed system centrifugation, J. L. Tullus, D. M. Surgenor, R. J. Tinch, M. D'Hont, F. L. Gilchrist, S. Driscoll, W. H. Batchelor, 792
- New technique for machining tungsten, K. Lark-Horovitz, 257
- N.Y. Botanical Garden laboratory, 1071
- New York meetings of the AAAS; 1887-1956, R. L. Taylor, 544
- New Zealand oil search, 716
- Nicotinic and glutamic acids, nicotinamide, and glutamine in cigarette tobacco smoke, D. A. Buyske, J. M. Flowlers, Jr., P. Wilder, Jr., M. E. Hobbs, 1081
- Nomenclature of enzymes of fatty-acid metabolism, H. Beinert, D. E. Green, P. Hele, O. Hoffman-Ostenhof, F. Lynen, S. Ochoa, G. Popják, R. Ruysen, 614
- Nonexistence of gravity shields, D. C. Peaslee, 1292
- Notes on the ecology of West Indian species of *Malpighia*, I. Vélez, 317
- Nuclear energy notes, 20, 397, 480
- Nuclear progress in India, 359
- Nuclear weapons tests, 925
- Nucleic acid and succinic dehydrogenase of rat liver after x-irradiation, L. L. Gershbein and B. K. Krotoszynski, 81

O

- Occurrence of a bitter principle in carrots, A. Dodson, H. N. Fukui, C. D. Ball, R. L. Carolus, H. M. Sell, 984
- Oceanography, fisheries, and atomic radiation, Committee on the Effects of Atomic Radiation on Oceanography and Fisheries, National Academy of Sciences, 13
- Odostomia impressa* parasitizing southern oysters, S. H. Hopkins, 628
- Of books and reading, L. Wallerstein, 590
- Oldest traces of early man in the Americas, 396
- Olmsted, J. M. D., physiologist and historian, H. M. Evans, 395
- On biochemical origins and optical activity, S. W. Fox, J. E. Johnson, A. Vegotsky, 923
- On the biosynthesis of the porphyrinlike moiety of vitamin B₁₂, D. Shemin, J. W. Corcoran, C. Rosenblum, I. M. Miller, 272
- On the estimation of physical quantities, L. E. Payne, 940
- On the mitotic movements of chromosomes, J. G. Carlson, 203
- On the presence of free sugars in filtered lake water, J. R. Vallentyne and J. R. Whittaker, 1026
- On respiratory impairment in cancer cells, S. Weinhouse; O. Warburg, D. Burk, A. L. Schade, 267
- On the space group and molecular orientation of azulene, Y. Takeuchi and R. Pepinsky, 126
- Optical isomerism and pharmacological action, a generalization, C. C. Pfeiffer, 29

- Ord kangaroo rat in captivity, B. N. Day, H. J. Egoscue, A. M. Woodbury, 485
- Organized labor and the new Michigan reactor, 577
- Origin of the elements in stars, F. Hoyle, W. A. Fowler, G. R. Burbidge, E. M. Burbidge, 611
- Osmotic gradients across cellular membranes, E. Grim, 221
- Osmotic pressure, F. P. Chinard and T. Enns, 472

P

- Pacific division (AAAS) meets, R. C. Miller, 733
- Paper permanency: labeled sulfur tests, K. Lark-Horovitz, 715
- Partial inactivation of lipoprotein lipase by bacterial "heparinase," E. D. Korn, 489
- Patent ruling, 212
- Pathologic effects of atomic radiation, Committee on Pathologic Effects of Atomic Radiation, National Academy of Sciences, 60
- Pathology of egg-adapted avian encephalomyelitis, E. Jungherr, F. Sumner, R. E. Luginbuhl, 80
- Peabody Museum expedition, 258
- Peace pills, 167
- Penetration of slow electrons through spore walls of *Bacillus megaterium*, H. P. Knauss, 182
- Peralta complex—a Sonoran variant of the Cochise culture, G. E. Fay, 1029
- Perkin centennial (editorial), W. R. Brode, 465
- "Permanent" alteration of behavior in mice by chemical and psychological means, D. L. Keller and W. W. Umbreit, 723
- Permeable spots in the cuticle of the thin-walled pegs on the antenna of the grasshopper, E. H. Slifer, 1203
- Phase microscopy 1954-56, O. W. Richards, 810
- Phosphagen of tunicates, W. L. Straus, Jr., 820
- Photoreactivation of ultraviolet-inactivated diphosphopyridine nucleotide, P. H. Wells, 31
- Physical anthropologists, B. L. Pope, 130
- Physical mechanisms of bacteriophage infection, A. Ore and E. Pollard, 430
- Physicians from abroad and medical competence, 479
- Physics institute expansion program, 1071
- Physics of semiconductor surfaces, R. L. Petritz, 635
- Physiological congress, A. E. Reif, 898
- Physiology of reproduction, C. G. Hartman, 595
- Placebos versus reserpine, 168
- Planet Pluto, the, G. P. Kuiper, 322
- Plant protection, R. L. Metcalf, 732
- Plasma 17-hydroxycorticosteroid changes related to reserpine effects on emotional behavior, J. W. Mason and J. V. Brady, 983
- Polio vaccine available, 167
- Population, H. Carter and S. Lewit, 187
- Possible mechanism of the accumulation of electrolytes by living cells, K. Sollner, 939
- Possible mechanism of tolerance to narcotic drugs, J. Axelrod, 263
- Postnatal determination of sex, J. J. Doehny, 277
- Precise coulometric titrations, J. K. Taylor and S. W. Smith, 940
- Preliminary announcement of the seventh New York AAAS meeting, erratum, 313
- Premedical and medical education, 213
- Preparation of nucleic acids from Ehrlich

- ascites tumor cells, J. S. Colter and R. A. Brown, 1077
 Preparation and properties of growth hormone from human and monkey pituitary glands, C. H. Li and H. Papkoff, 1293
 Preparation of pure hydroxyapatite crystals, A. Perloff and A. S. Posner, 583
 Present status of research on the physical constants at the National Bureau of Standards, R. D. Huntoon and A. G. McNish, 939
 Preview of programs at AAAS New York meeting, 990
 Priorities for polio vaccine, 113
 Production of increased circulating hemoglobin in mice, G. Keighley, H. Borsook, A. Graybiel, 439
 Programs at AAAS New York meeting, 1217
 Programs in mathematics, physical science, and earth science at AAAS New York meeting, 1039
 Progress in solving the problem of acute respiratory disease, J. A. Bell, 935
 Project rockoon, 673
 Proposed change in AAAS constitution, 945
 Protein adsorption on filter paper, H. Waldmann-Meyer and K. Schilling, 1028
 Proteins and calcium in serums of estrogen-treated roosters, O. A. Schjeide and M. R. Urist, 1242
 Protoplasmic streaming in plants sensitive and insensitive to chilling temperatures, D. A. Lewis, 75
 Provincial universities in the United Kingdom, T. I. Williams, 347; erratum, 978
 PHS aging research center, 1072
 Public school growth, 357

Q

- Quality and quantity, J. W. Still, 1155
 Quantum interactions of the free electron, R. D. Myers, 327
 Quantum theory of nuclear collective oscillations, R. A. Ferrell, 938
 Quantum yields of fluorescence of plant pigments, P. Latimer, T. T. Bannister, E. Rabinowitch, 585

R

- Rabbit embryos from one-quarter of an egg, G. DuShane, 397
 Radiation damage, R. R. Newell, 409
 Radiation death, 882
 Radiation in monkeys, 578
 Radiation and public knowledge (editorial), G. DuShane, 101
 Radiationproof photosensitive plastic, 1287
 Radio signals from Mars, 620
 Radio telescope in West Virginia, 310
 Radioactive fallout through September 1955, M. Eisenbud and J. H. Harley, 251
 Radioactive reserpine, 480
 Radiocarbon-based Pleistocene correlations and world-wide climatic change, T. N. V. Karlstrom, 939
 Radiocarbon dates of Mankato drift in Minnesota, H. E. Wright, Jr., and M. Rubin, 625
 Radiosensitivity factors in oat seeds: dormancy, water, and development, S. S. Ivanoff, erratum, 630
 Radiostrontium fallout from continuing nuclear tests, C. I. Cambell, 894
 Rapid ion-exchange method for determining total fluoride in impure KF·HF, F. A. Koehler and W. A. Levier, 175
 Rare infant disease identified, 883
 Ratio of ionium to uranium in coral lime-

- stone, J. W. Barnes, E. J. Lang, H. A. Potratz, 175
 Reaction of cell fractions of the thymus gland to enzymatic digestion and changes in osmotic pressure, J. R. C. Brown, 936
 Reaction of 8-quinolinol with cerium (III), W. W. Wendlandt, 682
 Reactor for Japan, 1020
 Reactors for Denmark and the Netherlands, 113
 Recent theoretical results in the propagation of VLF radio waves, J. R. Wait, 941
 Reform in security? (editorial), G. DuShane, 383
 Reiner, L., chemist and medical scientist, M. Green, 434
 Rejoinder to "Consistent running records," M. H. Lietzke, 1025
 Rejoinder to "Of books and reading," G. Gallup, 590
 Rejoinder to "Osmotic gradients across cellular membranes," W. A. Brodsky, W. S. Rehm, W. H. Dennis, 221
 Rejoinder to "Secondary-school science teachers," J. R. Mayor, 322
 Rejoinder to "What is behavioral science?" R. W. Tyler, 276
 Relation of ammonia excretion to urine pH in the guinea pig, R. Richterich-van Baerle, L. Goldstein, E. H. Dearborn, 74
 Relation between weight-lifting totals and body weight, M. H. Lietzke, 486
 Relationship between membrane potentials and repolarization in the rat atrium, J. L. Webb, 1209
 Relationship of hormone dosage to physiological response, DeW. Stetten, Jr., 365
 Relics of ancient culture in Japan, 927
 Religion in the age of science, R. W. Burhoe, 690
 Removal of phosphorus from hydrogen peroxide by kaolinite, S. C. Chang and M. L. Jackson, 1209
 Renal transport of *p*-aminohippurate labeled with oxygen-18, J. V. Taggart, 401
 Report of the Pentagon's new industrial security system, 821
 "Reports" in *Science* (editorial), G. DuShane, 1273
 Research and freedom (editorial), 427
 Research and freedom, W. S. Jarnagin, 1155
 Research at the grass roots? J. W. Still, 408
 Reserpine and the learning of fear, L. Stein, 1082
Retia mirabilia of cetaceans, W. L. Straus, Jr., 167
 Rigidity of the earth's core, F. Press, 1204
 Role of crystallization in polymers and proteins, P. J. Flory, 53
 Role of teachers in scholarship programs, H. S. Conway, 277

S

- Salaries for chemists, 531
 Salaries rise in civil service, 398
 Salk and Sabin vaccines, 821
 San Augustin plains—the geologic setting, C. F. Stearns, 539
 San Augustin plains—Pleistocene climatic changes, K. H. Clisby and P. B. Sears, 537
 San Augustin plains—the sediments, F. Foreman, 539
 Satellite and its vehicle, 619
 Science and the Department of State, H. Grundfest, 687
 Science and freedom, F. Dyson, 432
 Science and the modern world view, G. Holton, 327

- Science, secrecy, and Wall Street, 359
 STIP Boulder conference, J. R. Mayor, 38
 Science on TV (editorial), G. DuShane, 963
 Scientific basis of weather modification, J. E. McDonald, 86
 Scientific information in the U.S.S.R. (editorial), G. DuShane, 609
 Scientific method statistical inference, and the law, G. W. McElrath and J. E. Bearman, 589
 Scientific research in the Soviet Union, R. E. Marshak, 1125
 Scientists in the British civil service, E. McCrensky, 567
 Scientists' committee on security, 396
 Scientists and engineers: quantity plus quality, L. A. DuBridge, 299
 Scientists serve high schools, I. E. Wallen, 168
 Scientists: smug and bossy? A. M. Brues, 409
 Scientists on TV, 259
 Second atoms-for-peace team visiting Latin America, 1019
 Second B.S. degree for teachers, R. W. Lewis, 687
 Second pain: fact or artifact? M. H. Jones, 442
 Secondary-school science and mathematics (editorial), J. R. Mayor, 1009
 Secondary-school science teachers, J. J. Kollros, 322
 Selective action of pentobarbital on component behaviors of a reinforcement schedule, R. J. Herrnstein and W. H. Morse, 367
 Self-stimulation of the brain used as a screening method for tranquilizing drugs, J. Olds, K. F. Killam, P. Bachy-Rita, 265
 Semiconductors and phosphors, H. Y. Fan, 900
 Serum and liver transaminase activities in experimental virus hepatitis in mice, F. De Ritis, M. Coltorti, G. Guisti, 32
 Silver lining (editorial), G. DuShane, 917
 Small animals in the classroom, W. L. Straus, Jr., 530
 Smugness and "success," H. O. Albrecht, 687
 Social sciences and international peaceful cooperation, E. C. Hughes, 1157
 Society in the scientific revolution (editorial), Interim-Committee on the Social Aspects of Science: B. Commoner, G. Lasker, C. D. Leake, B. Williams, W. Pigman, 1231
 Soddy, F., interpreter of atomic structure, A. S. Russell, 1069
 Solar distillation of saline water, 1287
 Solar furnace in high-temperature research, T. S. Laszlo, 797
 Solar water heat, 883
 Solubility and color characteristics of leaf proteins prepared in air or nitrogen, M. Cohen, W. Ginoza, R. W. Dorner, W. R. Hudson, S. G. Wildman, 1081
 Solute and temperature effects in the pervaporation of aqueous alcoholic solutions, E. G. Heisler, A. S. Hunter, J. Siciliano, R. H. Treadway, 77
 Some biological applications of the x-ray microscope, V. M. Mosley, D. B. Scott, R. W. G. Wyckoff, 939
 Some effects of specific organic compounds on marine organisms, A. Collier, S. Ray, W. B. Wilson, 220
 Some experiments with fractionation by partial dialysis, L. C. Craig and T. P. King, 936
 Some highlights of astronomy in 1956, 1140
 Some issues concerning the control of human behavior, C. R. Rogers and B. F. Skinner, 1057

Some limits to popular science, 207
 Some properties of crystallized Coxsackie virus, C. F. T. Mattern and H. G. du-Buy, 940
 Some relations of later Tertiary volcanology and structure in eastern Oregon, T. P. Thayer, 941
 Some serotoninlike activities of lysergic acid diethylamide, E. Shaw and D. W. Woolley, 121
 Sonic techniques for industry, T. F. Hueter, 787
 South African observatory, 358
 Soviet physiology, C. D. Leake, 528
 Soviet satellite program, 674
 Space-time relationships in somesthetic localization, F. N. Jones, 484
 Speculations on cosmogony, M. Goldhaber, 218
 Sperm transport in the reproductive tract of the female rabbit, G. S. Greenwald, 586
 Spontaneous activity in denervated insect muscle, J. F. Case, 1079
 Spontaneous-mutation rates at specific loci in *Drosophila* males and females, B. Glass and R. K. Ritterhoff, 314
 Spontaneous rewarming of the hypothermic curarized dog, A. Y. Werner, D. Dawson, E. Hardenbergh, 1145
 Stability of the gene, C. C. Lindgren, 26
 Statement on Hungary, 1245
 Statistical estimation of the size of a small population, G. W. Boguslavsky, 317
 Stereochemical studies of building stones of collagen, B. Witkop, 941
 Stokes' edge waves in Lake Michigan, W. L. Donn and M. Ewing, 1238
 Storing molecular fragments, 357
 Stratosphere laboratory, 436
 Strontium content of human bones, K. K. Turekian and J. L. Kulp, 405
 Structure of the earth's crust from gravity measurements, H. E. Tatel, 941
 Structure of small "spherical" viruses, P. Kaesberg, 626
 Studies on polysaccharide formation by a rumen bacterium, R. N. Doetsch, B. H. Howard, S. O. Mann, A. E. Oxford, 936
 Studies on the snake mite, *Ophionyssus natricis*, in nature, C. E. Yunker, 979
 Subjective evaluation and reinforcing effect of a verbal stimulus, G. Mandler and W. K. Kaplan, 582
 Suicide in Denmark, 716
 Sulfhydryl groups and cell division, H. Stern, 1292
 Surface studies using ion-exchange autochromatography, R. E. Krehbiel and J. W. T. Spinks, 487
 Survey of atomic scientists, 883
 Survey of engineering professors, 69
 Survival of amino acids in marine sediments, J. G. Erdman, E. M. Marlett, W. E. Hanson, 1026
 Survival of enucleate cytoplasm of human cells in tissue culture, T. T. Crocker, L. Goldstein, R. Cailleau, 935
 Suspected correlation between blood-group frequency and pituitary adenomas, E. Mayr, L. K. Diamond, R. P. Levine, M. Mayr, 932
 Synoptic study of the airglow, F. E. Roach, 939

T

Taming and susceptibility to audiogenic convulsions, W. Bevan, M. Grodsky, G. Bostelmann, 74
 Tarnishing of silver mirrors, K. Lark-Horovitz, 435
 Teacher certification (editorial), J. R. Mayor, 513
 Teachers, second class? J. P. Heath, 686
 Ten Unitarian church services coordinated with AAAS meeting, 1287

Terminology, D. L. Jofte and S. Warren, 1155
 Theoretical and applied limnology, R. W. Pennak, 830
 Theoretical geophysics, E. H. Vestine, 234
 Timber outlook, 257
 Tissue-culture cultivation of cytopathogenic agents from patients with clinical hepatitis, W. A. Richtsel, R. A. Keltsch, F. M. Tekushan, I. W. McLean, Jr., 226
 Toxicity of ozone, 213
 Trailmarkers for Arctic, 435
 Training of high-school teachers, E. Bozler, 1156
 Tranquilizing drugs, 1020
 Tranquilizing drugs and behavioral disorders, 259
 Translations from the Russian (editorial), G. DuShane, 371
 Traveling high-school science libraries, H. J. Deason, 1013
 Tremor induced by Tremorine and its antagonism by anti-Parkinson drugs, G. M. Everett, L. E. Blockus, I. M. Shepperd, 79
 TB in the United States, 577
 TB and the yellow bacillus, 22

U

Ultrafractionated ultraviolet irradiation of yeast cells, J. G. Kereiakes, R. H. Hodgson, A. T. Krebs, 222
 U.S.S.R. opens new research center, 716
 U.K. university population, 358
 U.N. committee on effects of atomic radiation, 1019
 U.N. exhibit to commemorate Geneva nuclear conference, 577
 U.N. technical assistance pledges, 927
 U.S.-Australian submarine cruise, 479
 U.S.-Brazilian uranium agreements, 530
 USDA animal disease laboratory dedicated, 674
 USIA university catalog program, 1246
 U.S. physician and Laos, 480
 U.S.-Soviet cooperation, 822
 University of Michigan radiocarbon dates I, H. R. Crane, 664
 University research in the Soviet Union, 358
 University responsibilities and government money, P. E. Klopsteg, 919
 Uptake and turnover of calcium-45 by the guppy, H. L. Rosenthal, 571
 Uric acid metabolism and the mechanism of iron release from hepatic ferritin, S. Green and A. Mazur, 1149
 Urine of anthropoid apes, W. L. Straus, Jr., 435
 Uronic acid of chondroitin sulfate B, P. Hoffman, A. Linker, K. Meyer, 1252
 Use of acridine-orange fluorescence technique in exfoliative cytology, L. von Bertalanffy, F. Masin, M. Masin, 1024

V

Varying incidence of heart disease, 621
 Vault for the future, 22
 Venereal diseases and treponematoses, C. A. Smith, 496
 Visual contour and movement perception, W. M. Smith and W. L. Gulick, 316

W

Weese, A. O., ecologist, A. Richards, 477
 What is behavioral science? R. J. Williams, 276
 White House and unclassified research, the, 398
 Whittaker, Edmund T., mathematician and historian, H. Dingle, 208
 Why biophysics? A. V. Hill, 1233

Wiley pure food laws—a 50th anniversary (editorial), W. R. Brode, 149
 Williams, H. B., physician and physiologist, W. S. Root, R. H. Kruse, K. S. Cole, 527
 Wish you were here (editorial), J. A. Behnke, 51
 World Federation for Mental Health, M. Torre, 1258
 World-wide travel of atomic debris, L. Machta, R. J. List, L. F. Hubert, 474

X

X-ray microscopy of thin tissue sections, V. M. Mosley, D. B. Scott, R. W. G. Wyckoff, 683
 X-ray microscopy of veins of the skull, C. G. Hewes, W. C. Nixon, A. V. Baez, O. F. Kampmeier, 129

Y

Yerkes laboratories, 715

Author Index

A

Abelson, P. H., 935
 Abood, L. G. *See* Walaszek, E. J., 440
 Adams, M. H., 257, 529, 729, 730, 896
 Adlersberg, D. *See* Paronetto, F., 1148
 Ainis, H. *See* Jameson, E., 980
 Albrecht, H. O., 687
 Allmann, D. W. *See* Walter, H., 1251
 Alving, A. S. *See* Carson, P. E., 484
 Andersen, A. L. *See* Down, E. E., 223
 Anderson, C. R., 224
 Anfinson, C. B. *See* Steinberg, D., 389
 Anmuth, M. *See* Stedman, R. L., 403
 Arnold, J. R., 584
 Asano, N. *See* Hachisuka, Y., 174
 Ashbrook, J., 490
 Axelrod, J., 263

B

Bach-y-Rita, P. *See* Olds, J., 265
 Baez, A. V. *See* Hewes, C. G., 129
 Baldwin, M., 931
 Ball, C. D. *See* Dodson, A., 984
 Baltscheffsky, H. *See* Chance, B., 936
 Bannister, T. T. *See* Latimer, P., 585
 Barber, S. B., 219
 Barber, T. X., 405
 Bardach, J. E., 1085
 Barnes, J. W., 175
 Barton, A. D. *See* Laird, A. K., 32
 Baruk, H., 478
 Batchelor, W. H. *See* Tullis, J. L., 792
 Batson, O. V., 323
 Baum, H. M. *See* Mahler, H. R., 705
 Bean, R. C., 171
 Bearman, J. E. *See* McElrath, G. W., 589
 Beebe, W., 729
 Behnke, J. A., 51
 Beinert, H., 614
 Bell, J. A., 935. *See also* Enders, J. F., 119
 Bennett, I. L., Jr., 278
 Benolken, R. *See* MacNichol, E. F., Jr., 681
 Berger, L. *See* Lieberman, I., 81
 Bergmann, P. G., 230
 Berry, E. W., 231, 1085
 Bertalanffy, L. von, 1024
 Bevan, W., 74
 Birren, J. E., 734
 Bishop, D. W., 497
 Blaauw, A. *See* Nassau, J. J., 282
 Blifford, I. H., Jr. *See* Patterson, R. L., Jr., 1252
 Bloch, F., 1152
 Bloch, R., 37, 84

Blockus, L. E. *See* Everett, G. M., 79
 Bloom, B., 982
 Boguslavsky, G. W., 317
 Boroughs, H., 1027
 Borsook, H. *See* Keighley, G., 439
 Bostelmann, G. *See* Bevan, W., 74
 Bowman, K. M., 828
 Boyd, F. R., 935
 Bozler, E., 1156
 Bradlow, H. L., 1206
 Brady, J. V. *See* Mason, J. W., 983
 Branson, H., 593
 Breneman, W. R., 36
 Bretton, R. H. *See* Manowitz, B., 814
 Britten, R. J., 935
 Brode, W. R., 149, 255, 465
 Brodie, B. B., 540, 689
 Brodsky, W. A., 221
 Broecker, W. S., 154; erratum, 630. *See also* Ericson, D. B., 385
 Brown, J. R. C., 936
 Brown, R. A. *See* Colter, J. S., 1077
 Brožek, J., 685. *See also* Garn, S. M., 682
 Brues, A. M., 409
 Buchsbaum, R., 1300
 Buettner, K. *See* Sargent, F., II, 1299
 Bullock, T. H., 281
 Burbidge, E. M. *See* Hoyle, F., 611
 Burbidge, G. R. *See* Hoyle, F., 611
 Burhoe, R. W., 690
 Burk, D., 270
 Burns, J. J., 1148
 Burr, H. S., 1204
 Burstein, S., 1030
 Burton, L., 220
 Busch, H., 981
 Busemann, H., 83
 Buyske, D. A., 1081

C

Cable, R. M., 890
 Cabrera, N., 183
 Cailleau, R. *See* Crocker, T. T., 935
 Camien, M. N., 1206
 Campbell, C. I., 894
 Caples, W. G., 1032
 Carlson, J. G., 203
 Carolus, R. L. *See* Dodson, A., 984
 Carson, P. E., 484
 Carter, H., 187
 Carter, J. W. Jr., 526
 Casagrande, J. B., 230
 Case, J. F., 1079
 Catlin, B. W., 441
 Chance, B., 936
 Chang, M. C., 1203. *See also* Pincus, G., 890
 Chang, S. C., 1209
 Chapin, M. *See* Dubes, G. R., 586
 Cheng, D. K., 120
 Chinard, F. P., 472
 Christ, C. L., 936
 Clark, J. R. *See* Christ, C. L., 936
 Clisby, K. H., 537
 Cogan, E. J., 493
 Cohen, M., 1081
 Cole, K. S. *See* Root, W. S., 527
 Collier, A., 220
 Colter, J. S., 1077
 Coltorti, M. *See* Ritis, F. De, 32
 Committee on Disposal and Dispersal of Radioactive Wastes, National Academy of Sciences, 17
 Committee on the Effects of Atomic Radiation on Agriculture and Food Supplies, National Academy of Sciences, 63
 Committee on the Effects of Atomic Radiation on Oceanography and Fisheries, National Academy of Sciences, 13
 Committee on Genetic Effects of Atomic Radiation, National Academy of Sciences, erratum, 170
 Committee on Meteorological Aspects of the Effects of Atomic Radiation, National Academy of Sciences, 105
 Committee on Pathologic Effects of

Atomic Radiation, National Academy of Sciences, 60
 Commoner, B., 1231
 Conn, H. J., 256
 Consolazio, W. V., 522
 Conway, H. S., 277
 Cook, S. F. *See* Leon, H. A., 123; erratum, 368
 Corcoran, J. W. *See* Shemin, D., 272
 Corson, S. A., 84, 184, 633
 Cowan, C. L., Jr., 103
 Cowdry, E. V., 972
 Craig, L. C., 936
 Crandall, R. B. *See* Cable, R. M., 890
 Crane, H. R., 664
 Crocker, T. T., 935

D

DallaValle, J. M., 1254
 Daunt, J. G., 777
 Davies, F. T., 1297
 Davies, P. W., 179
 Dawson, D. *See* Werner, A. Y., 1145
 Day, B. N., 485
 Day, H. G., 183
 Dearborn, E. H. *See* Richterich-van Baerle, R., 74
 Deason, H. J., 1013
 Dees, B. C., 728
 Delahay, P., 1214
 DeMarinis, F. *See* Quiring, D. P., 575
 Dennis, W. H. *See* Brodsky, W. A., 221
 Dessauer, H. C., 225
 D'Hont, M. *See* Tullis, J. L., 792
 Diamond, L. K. *See* Mayr, E., 932
 Dingle, H., 208
 Dingle, J. H. *See* Enders, J. F., 119
 Dixon, J. S. *See* Li, C. H., 934
 Dodson, A., 984
 Doetsch, R. N., 936
 Doheny, J. J., 277
 Domnas, A. J. *See* Roush, A. H., 125
 Donn, W. L., 1238
 Dorner, R. W. *See* Cohen, M., 1081
 Down, E. E., 223
 Downs, W. G. *See* Anderson, C. R., 224
 Driscoll, S. *See* Tullis, J. L., 792
 Drucker, P. F., 1152
 Dubes, G. R., 586
 DuBridge, L. A., 299
 DuBuy, H. G. *See* Mattern, C. F. T., 940
 Dunn, L. C., 936, 1196
 Dunn, M. S. *See* Camien, M. N., 1206
 DuShane, G., 101, 249, 297, 383, 397, 565, 609, 771, 871, 917, 963, 1123, 1273
 Dyson, F., 432

E

Eastman, R. H., 35, 1255
 Edmondson, F. K., 541
 Egoscue, H. J. *See* Day, B. N., 485
 Eiseley, L., 1031. *See also* Straus, W. L., Jr., 1183
 Eisenbud, M., 251
 Ellenbogen, E., 266
 Emerson, A. E., 1213
 Emmons, W. H. *See* Simon, C. W., 1066
 Enders, J. F., 119
 Engström, A., 27
 Enns, T. *See* Chinard, F. P., 472
 Entner, N., 36
 Epstein, E., 937
 Erdman, J. G., 1026
 Ericson, D. B., 385
 Errington, P. L., 304
 Esplin, D. W., 1150
 Estabrook, F. B., 686
 Estabrook, R. W., 937
 Estermann, I., 543
 Eugster, H. P., 937
 Evans, E. A., Jr., 942
 Evans, H. M., 395
 Everett, G. M., 79
 Ewing, M. *See* Donn, W. L., 1238

F

Fairhurst, A. S., 1208
 Falcone, G., 272. *See also* Nickerson, W. J., 318, 722
 Fan, H. Y., 900
 Faulkner, W., 659
 Fay, G. E., 1029
 Federer, W. T., 280
 Feo, V. J. De, 726
 Ferrell, R. A., 938
 Ferrell, W. K., 364
 Ferris, G. F., 411
 Feshbach, H., 943
 Fisher, A. E., 228
 Flanagan, C. L. *See* Carson, P. E., 484
 Flipse, R. J., 228
 Flor, H. H., 888
 Flory, P. J., 53
 Flowers, J. M., Jr. *See* Buyske, D. A., 1081
 Floyd, E. E., 491
 Foreman, F., 539
 Forrest, H. S., 725
 Fosmire, F. R., 680
 Fowler, W. A. *See* Hoyle, F., 611
 Fox, J. P., 370
 Fox, S. W., 923
 Fox, W. *See* Dessauer, H. C., 225
 Francis, T., Jr. *See* Enders, J. F., 119
 Frankel, R., 684
 Fraser, F. C. *See* Trasler, D. G., 439
 Fred, M. *See* Meggers, W. F., 940
 Freedman, D. X., 264
 Friedman, F. *See* Burton, L., 220
 Friedman, I., 938
 Friend, C., 173
 Frondel, C., 931
 Frost, L. L. *See* Baldwin, M., 931
 Fukui, H. N. *See* Dodson, A., 984
 Fuller, R. C., 1253
 Fullmer, H. M., 1085

G

Gadd, N. R., 372
 Gal, E. M. *See* Fairhurst, A. S., 1208
 Gallagher, T. F., 487. *See also* Bradlow, H. L., 1206
 Galloway, R. A. *See* Krauss, R. W., 939
 Gallup, G., 590
 Galton, M. M., 323
 Gantt, W. H., 1203. *See also* Teitelbaum, H. A., 363
 Garcia, C. R. *See* Rock, J., 891
 Gardner, T. S., 446
 Garn, S. M., 178, 682
 Gerhardt, P. *See* Vennes, J. W., 535
 Gershbein, L. L., 81
 Giarman, N. J. *See* Freedman, D. X., 264
 Gilchrist, F. L. *See* Tullis, J. L., 792
 Gilchrist, R., 494
 Gillette, J. R., 591
 Gimenez, W. T. *See* Lieberman, I., 81
 Ginoza, W. *See* Cohen, M., 1081
 Giusti, G. *See* Ritis, F. De, 32
 Glass, B., 167, 314, 576, 619, 882, 1019
 Glassman, E. *See* Forrest, H. S., 725
 Glegg, R. E., 893
 Glick, D. *See* Engström, A., 27
 Goldhaber, M., 218
 Goldman, J., 807
 Goldstein, L. *See* Crocker, T. T., 935
 Goldstein, L. *See* Richterich-van Baerle, R., 74
 Gordon, F. B., 1299
 Graybiel, A. *See* Keighley, G., 439
 Green, D. E. *See* Beinert, H., 614
 Green, E. L., 35
 Green, M., 434
 Green, M. C. *See* Consolazio, W. V., 522
 Green, S., 1149
 Greenhill, J. P., 369
 Greenwald, G. S., 586
 Grim, E., 221
 Grodsky, M. *See* Bevan, W., 74
 Grundfest, H., 687. *See also* Purpura, D. P., 319

Gulick, W. L. *See* Smith, W. M., 316
Gutenberg, B., 493, 829

H

Haar, D. ter, 325, 986, 1296
Hachisuka, Y., 174
Hafez, E. S. E. *See* Pincus, G., 890
Hajdu, S. *See* Titus, E., 1205
Hamer, W. J., 1032
Hanig, M., 176
Hanson, W. E. *See* Erdman, J. G., 1026
Hardenbergh, E. *See* Werner, A. Y., 1145
Harding, J. *See* Stedman, R. L., 403
Harley, J. H. *See* Eisenbud, M., 251
Harrison, A. E., 181
Harrison, F. B. *See* Cowan, C. L., Jr., 103
Hartman, C. G., 595
Hassett, C. C., 1011
Hassid, W. Z. *See* Bean, R. C., 171
Haxby, R. O., 1298
Heath, J. P., 686
Heisler, E. G., 77
Hele, P. *See* Beinert, H., 614
Hellman, L. *See* Bradlow, H. L., 1206
Hendricks, S. B., 938
Herrnstein, R. J., 367
Herzberger, M., 231
Heumann, K. F., 773
Hewes, C. G., 129
Hiatt, R. W. *See* Boroughs, H., 1027
Higgins, T. J., 490
Hildemann, W. H., 315
Hilgard, E. R., 1033
Hill, A. E. *See* Anderson, C. R., 224
Hill, A. V., 1233
Hilleman, M. R. *See* Enders, J. F., 119
Hinshelwood, C., 708
Hobbs, M. E. *See* Buyske, D. A., 1081
Hodgson, R. H. *See* Kerciakes, J. G., 222
Hoffman, P., 1252
Hoffman-Ostenhof, O. *See* Beinert, H., 614
Holm, R. W., 1084, 1153
Holt, R. R., 444
Holton, G., 327
Hopkins, S. H., 628
Hornyak, W., 1211
Horowitz, N. H., 989
Horwitt, M. K., 429
Householder, A. S., 324
Howard, B. H. *See* Doetsch, R. N., 936
Hoyle, F., 611
Hubert, L. F. *See* Machta, L., 474
Hübscher, G. *See* Mahler, H. R., 705
Hudson, R. P., 942
Hudson, W. R. *See* Cohen, M., 1081
Huebner, R. J., 938. *See also* Enders, J. F., 119
Hueter, T. F., 787
Huff, C. G., 184
Hughes, E. C., 1157
Hundley, J. M., 536
Hunter, A. S. *See* Heisler, E. G., 77
Huntoon, R. D., 496, 939
Hyman, L. H., 1213

I

Ickes, C. E. *See* Carson, P. E., 484
Ing, R. B. *See* Hundley, J. M., 536
Interim-Committee on the Social Aspects of Science, 1231
Ito, J. *See* Frondel, C., 931
Ivanoff, S. S., *erratum*, 630
Izquierdo, J. J., 411

J

Jackson, L. W. R., 1034
Jackson, M. L. *See* Chang, S. C., 1209
Jacobs, W., 1296
Jameson, E., 980
Jarnagin, W. S., 1155
Jeffrey, G. A., 325
Jenkins, J. A., 1286
Joftes, D. L., 1155

Johnson, F. D. *See* Ferrell, W. K., 364
Johnson, J. E. *See* Fox, S. W., 923
Johnson, P. T., 412
Johnson, V., 713
Johnson, W. H., 801
Jones, F. N., 484
Jones, M. H., 442
Jones, P. S., 19; *erratum*, 313
Jordan, W. A., 1279
Jungherr, E., 80

K

Kacser, H., 151
Kaesberg, P., 626
Kallman, R. F. *See* Kohn, H. I., 1078
Kampmeier, O. F. *See* Hewes, C. G., 129
Kanagy, J. R., 36
Kanbe, T. *See* Hachisuka, Y., 174
Kaneko, M. *See* Hachisuka, Y., 174
Kaplan, J. G., 1017
Kaplan, W. K. *See* Mandler, G., 582
Kappas, A. *See* Gallagher, T. F., 487
Karlstrom, T. N. V., 939
Karow, E. O., 369
Keighley, G., 439
Kelleher, R. T., 679
Keller, D. L., 407, 723
Kelson, K. R., 446
Keltsch, R. A. *See* Rightsel, W. A., 226
Kereiakes, J. G., 222
Kertesz, Z. I. *See* Glegg, R. E., 893
Kety, S. S., 827
Kidd, C. V. *See* Shannon, J. A., 1185
Killam, K. F. *See* Olds, J., 265
King, T. P. *See* Craig, L. C., 936
Kintzinger, P. R., 629
Klopsteg, P. E., 919, 965; *erratum*, 1144
Knauss, H. P., 182
Koehler, F. A., 175
Kohn, H. I., 1078
Kollros, J. J., 322
Kolodney, M., 1085
Konno, K., 985
Korn, E. D., 489
Kratzer, F. H. *See* Vohra, P., 1145
Krauskopf, K. B., 1031
Krauss, R. W., 939. *See also* Hundley, J. M., 536; Wetherell, D. F., 25
Kravitz, E. *See* Stedman, R. L., 403
Krebs, A. T., 166. *See also* Kereiakes, J. G., 222
Krehbiel, R. E., 487
Krogman, W. M., 1211
Krotoszynski, B. K. *See* Gershbein, L. L., 81
Kruse, H. W. *See* Cowan, C. L., Jr., 103
Kruse, R. H. *See* Root, W. S., 527
Kuiper, G. P., 322
Kulp, J. L. *See* Broecker, W. S., 154, 630; Ericson, D. B., 385; Turekian, K. K., 405
Kuron, G. W. *See* Tennent, D. M., 588

L

Lacey, W. J., 402
Lagler, K. F., 368
Laguna, W. de. *See* Lacey, W. J., 402
Laird, A. K., 32
Lang, A., 277
Lang, E. J. *See* Barnes, J. W., 175
Lang, H. M. *See* San Pietro, A., 118
Lardy, H. A. *See* Maley, F., 1207
Lark-Horovitz, K., 22, 257, 359, 435, 715
Larrabee, E., 1255
Lasker, G., 1231
Laslett, L. J., 781
Laszlo, D. *See* Gallagher, T. F., 487
Laszlo, T. S., 797
Latimer, P., 585
Lawson, F. A. *See* Russell, E. S., 1076
Leake, C. D., 528, 1231
Lederberg, J., 410
Lee, D. H. K. *See* Sargent, F., II, 1299
Leete, E., 1215

Leon, H. A., 123; *erratum*, 368
Levier, W. A. *See* Koehler, F. A., 175
Levine, R. P. *See* Mayr, E., 932
Lewis, D. A., 75
Lewis, R. W., 687
Lewis, S. A. *See* Baldwin, M., 931
Lewit, S. *See* Carter, H., 187
Li, C. H., 934, 1293
Libby, W. F., 1152
Lieberman, I., 81
Lietzke, M. H., 178, 486, 1025
Lilly, J. C., 937
Lindgren, C. C., 26
Lindsay, S. *See* Pepper, H., 180
Linker, A. *See* Hoffman, P., 1252
Lipmann, F., 1244
Lippincott, E. R., 938
List, R. J. *See* Machta, L., 474
Livingston, G. E., 28
Loeb, L. B., 35
Lotspeich, W. D., 1153
Loughridge, D. H., 278
Love, R. *See* Huebner, R. J., 938
Lowy, A. D., Jr. *See* Hanig, M., 176
Luck, J. M., 209; *erratum*, 483
Luginbuhl, R. E. *See* Jungherr, E., 80
Lynen, F. *See* Beinert, H., 614

M

Machta, L., 474
MacLeod, R. B., 83
MacNichol, E. F., Jr., 681
Madin, S. H., 721
Mahler, H. R., 705. *See also* Walter, H., 1251
Maley, F., 1207
Mandler, G., 582
Mann, H. B., 1297
Mann, S. O. *See* Doetsch, R. N., 936
Mann, W. M., 592
Manowitz, B., 814
Marinelli, L. D. *See* Miller, C. E., 122
Markakis, P. *See* Livingston, G. E., 28
Marlett, E. M. *See* Erdman, J. G., 1026
Marshak, R. E., 1125
Martin, D. C., 350
Martin, M. H., 714
Martin, W. R. *See* Busch, H., 981
Masin, F. *See* Bertalanffy, L. von, 1024
Masin, M. *See* Bertalanffy, L. von, 1024
Mason, J. W., 983
Mattern, C. F. T., 940
Maurer, P. H. *See* Ellenbogen, E., 266
Mayer, J., 616
Mayor, J. R., 38, 322, 513, 1009, 1219
Mayr, E., 932
Mayr, M. *See* Mayr, E., 932
Mazur, A. *See* Green, S., 1149
McCoy, T. A. *See* Neuman, R. E., 124
McCrensky, E., 567
McDonald, J. E., 86
McElrath, G. W., 589
McGuire, A. D. *See* Cowan, C. L., Jr., 103
McKercher, D. G. *See* Madin, S. H., 721
McLean, I. W., Jr., *See* Rightsel, W. A., 226
McNish, A. G. *See* Huntoon, R. D., 939
Meade, G. P., 1025
Meggers, W. F., 940
Melchior, J. B. *See* Melchior, N. C., 402
Melchior, N. C., 402
Merrill, A. *See* Pincus, G., 890
Merrill, P. W., 67
Meryman, H. T., 515
Metcalfe, R. L., 732
Meyer, K. *See* Hoffman, P., 1252
Metz, D. J. *See* Manowitz, B., 814
Michael, D. N., 541
Michels, W. C., 986, 1156
Michelson, B., 408
Miller, C. E., 122
Miller, I. M. *See* Shemin, D., 272
Miller, R. C., 733
Mitchell, H. K. *See* Forrest, H. S., 725
Moltz, A. *See* Burns, J. J., 1148
Moore, A. E., 127

Moore, A. R., 987
 Moraczewski, A., 1212
 Morse, W. H. *See* Herrnstein, R. J., 367
 Mosley, V. M., 683, 939
 Movius, H. L., Jr., 1297
 Mowbray, W. H. *See* Barber, S. B., 219
 Mullins, L. J., 185, 895
 Multhaus, R., 631
 Murray, R. G. E., 445
 Murray, R. L., 591, 827
 Myers, R. D., 327, 493

N

Nachtrieb, N. H., 1033
 Nadler, G. *See* Goldman, J., 807
 Nassau, J. J., 127, 282
 Neuman, R. E., 124
 Newell, R. R., 409
 Newkirk, A. E., 172
 Nickerson, W. J., 318, 722. *See also* Falcone, G., 272
 Niel, C. B. van, 308
 Nielsen, H. H., 413
 Nixon, W. C. *See* Hewes, C. G., 129
 Nord, F. F. *See* Lipmann, F., 1244
 Norris, A. H., 83
 Novikoff, A. B., 969
 Nyborg, W. L., 445
 Nyhan, W. L. *See* Busch, H., 981

O

Ochoa, S., 617; *See also* Beinert, H., 614
 Okada, K. *See* Yagi, K., 273
 Okada, Y. *See* Yoshii, G., 320
 Okuda, J. *See* Yagi, K., 273
 Olds, J., 265
 Olsen, M. W., 1078
 Ore, A., 430
 Ott, W. H. *See* Tennent, D. M., 588
 Oxford, A. E. *See* Doetsch, R. N., 936
 Ozawa, T. *See* Yagi, K., 273

P

Papazian, H. P., 410
 Papkoff, H. *See* Li, C. H., 1293
 Pappenheimer, A. M., Jr., 412
 Paronetto, F., 1148
 Patterson, R. L., Jr., 1252
 Pauling, L., 710, 1213
 Payne, A. M.-M. *See* Enders, J. F., 119
 Payne, F., 881
 Payne, L. E., 940
 Peaslee, D. C., 1292
 Pennak, R. W., 728, 830
 Pepinsky, R. *See* Takeuchi, Y., 126
 Pepper, H., 180
 Perloff, A., 583
 Petritz, R. L., 635
 Peyser, P. *See* Burns, J. J., 1148
 Pfeiffer, C. C., 29
 Pfeiffer, J. E., 409
 Phillips, L. L., 889
 Pigman, W., 1231
 Pincus, G., 890 *See also* Rock, J., 891
 Pitts, R. F., 85
 Plaskett, J. S., 279
 Pollard, E. *See* Ore, A., 430
 Pope, B. L., 130
 Popják, G. *See* Beinert, H., 614
 Posner, A. S. *See* Perloff, A., 583
 Potratz, H. A. *See* Barnes, J. W., 175
 Press, F., 1204
 Price, D., 631
 Pruitt, R. D., 411
 Purpura, D. P., 319

Q

Quiring, D. P., 575

R

Rabinowitch, E. *See* Latimer, P., 585
 Ramirez, F., 232

Rao, C. N. R., 583
 Ray, S. *See* Collier, A., 220
 Redfield, A. C. *See* Friedman, I., 938
 Rehm, W. S. *See* Brodsky, W. A., 221
 Reif, A. E., 898
 Reines, F. *See* Cowan, C. L., Jr., 103
 Reyerson, L. H., 729
 Reynolds, S. R. M. *See* Feo, V. J. De, 726
 Rice, F. A. H., 275
 Richards, A., 477
 Richards, A. P. *See* Snoke, L. R., 443
 Richards, H. G., 592
 Richards, O. W., 810, 1254
 Richmond, J. C. *See* Stewart, J. E., 940
 Richterich-van Baerle, R., 74
 Rightsel, W. A., 226
 Ritis, F. De, 32
 Ritterhoff, R. K. *See* Glass, B., 314
 Roach, F. E., 939
 Roberts, J. A. F., erratum, 1151
 Roberts, L. W., 628
 Roberts, S. K. de F., 172
 Robinson, L. B., 1147
 Rock, J., 891
 Rogers, C. R., 1057
 Roizman, B. *See* Robinson, L. B., 1147
 Root, W. S., 527
 Rosenblum, C. *See* Shemin, D., 272
 Rosenthal, H. L., 571
 Ross, A. W., 84
 Rothstein, J., 279, 492
 Roush, A. H., 125
 Rowe, W. P. *See* Huebner, R. J., 938
 Rubin, M. *See* Wright, H. E., Jr., 625
 Rudnick, D., 1085
 Russell, A. S., 1069
 Russell, E. S., 1076
 Russell, P. F., 447
 Ruyssen, R. *See* Beinert, H., 614
 Ryan, R. M. *See* Jameson, E., 980

S

Salvin, S. B., 943
 San Pietro, A., 118
 Sargent, F., II, 1299
 Sayre, A. N., 591
 Sax, K., 688
 Schade, A. L. *See* Burk, D., 270
 Scherago, E. J., 1038
 Schilling, K. *See* Waldmann-Meyer, H., 1028
 Schjeide, O. A., 1242
 Schmid, R., 76
 Scott, D. B. *See* Mosley, V. M., 683, 939
 Seaborg, G. T., 1275
 Sears, P. B., 444, 987. *See also* Clisby, K. H., 537
 Sell, H. M. *See* Dodson, A., 984
 Shainoff, J. R. *See* Hanig, M., 176
 Shanes, A. M., 724
 Shannon, J. A., 1185
 Shaw, E., 121
 Shaw, E. N. *See* Woolley, D. W., 34
 Sheaffer, D. *See* Chang, M. C., 1203
 Shemin, D., 272
 Shepperd, I. M. *See* Everett, G. M., 79
 Siciliano, J. *See* Heisler, E. G., 77
 Siegel, H. *See* Tennent, D. M., 588
 Siegelman, H. W. *See* Hendricks, S. B., 938
 Silva, M. *See* Salvin, S. B., 943
 Silverman, L., 1255
 Simon, C. W., 1066
 Simpson, G. G., 185
 Singer, S. F., 279
 Sisler, H. H., 633, 896
 Skinner, B. F. *See* Rogers, C. R., 1057
 Skramstad, H. K., 895
 Slifer, E. H., 1203
 Smith, C. A., 496
 Smith, L. J. *See* Russell, E. S., 1076
 Smith, R. E. *See* Fairhurst, A. S., 1208
 Smith, R. R. *See* Huebner, R. J., 938
 Smith, S. W. *See* Taylor, J. K., 940
 Smith, W. M., 316
 Snoke, L. R., 443

Snyder, L. H., 895
 Sollner, K., 939
 Southam, C. M. *See* Moore, A. E., 127
 Spar, J., 728
 Spencer, H. *See* Gallagher, T. F., 487
 Spinks, J. W. T. *See* Krehbiel, R. E., 487
 Stearns, C. E., 539
 Stedman, R. L., 403
 Stein, L., 1082
 Steinberg, D., 389
 Stephenson, R. C., 945
 Stern, H., 1292
 Sternberg, S. S. *See* Moore, A. E., 127
 Stetten, DeW., Jr., 365, 941
 Stetten, M. R. *See* Stetten, DeW., Jr., 941
 Stewart, I., 1036
 Stewart, J. E., 940
 Stewart, R. A., 1257
 Still, J. W., 408, 1155
 Straus, W. L., Jr., 22, 167, 212, 310, 435, 479, 530, 820, 1157, 1183
 Struik, D. J., 542
 Sumner, F. *See* Jungherr, E., 80
 Surgenor, D. M. *See* Tullis, J. L., 792
 Suskind, R. G. *See* Huebner, R. J., 938
 Sylvester, J. D. *See* Yule, E. P., 79
 Szent-Györgyi, A., 873

T

Taggart, J. V., 401
 Takeuchi, Y., 126
 Tatel, H. E., 941
 Tauber, H., 879
 Taylor, E. S., 324
 Taylor, J. K., 940
 Taylor, R. L., 544, 945, 1127; erratum, 313
 Teitelbaum, H. A., 363. *See also* Gantt, W. H., 1203
 Teitelbaum, P. *See* Williams, D. R., 1294
 Tekushan, F. M. *See* Rightsel, W. A., 226
 Temperley, H. N. V., 276, 355
 Tennent, D. M., 588
 Terra, H. de, 1282
 Thayer, T. P., 941
 Theorell, H., 467
 Thomson, G., 1191
 Tinch, R. J. *See* Tullis, J. L., 792
 Titus, E., 1205
 Todd, D. K., 1258
 Todd, J., 1211
 Tomkins, F. S. *See* Meggers, W. F., 940
 Topper, Y. J. *See* Bloom, B., 982
 Torre, M., 1258
 Townsley, S. J. *See* Boroughs, H., 1027
 Trasler, D. G., 439
 Treadway, R. H. *See* Heisler, E. G., 77
 Troels-Smith, J., 876
 Tucek, C. S. *See* Broecker, W. S., 154, 630
 Tullis, J. L., 792
 Turekian, K. K., 405
 Turner, J., 345, 703, 1055, 1215
 Tyler, A., 827
 Tyler, R. W., 276

U

Umbreit, W. W. *See* Keller, D. L., 407, 723
 Urey, H. C., 496
 Urist, M. R. *See* Schjeide, O. A., 1242
 Usher, A. P., 370

V

Vallentyne, J. R., 1026. *See also* Lagler, K. F., 368
 Vaughan, M. *See* Steinberg, D., 389
 Vegotsky, A. *See* Fox, S. W., 923
 Velardo, J. T., 184, 328, 632
 Vélez, I., 317
 Vennes, J. W., 535
 Verzeano, M., 366
 Vestine, E. H., 234
 Vohra, P., 1145

W

- Waelsh, H. *See* Lipmann, F., 1244
 Wait, J. R., 941
 Walaszer, E. J., 440
 Waldmann-Meyer, H., 1028
 Walker, B. E. *See* Trasler, D. G., 439
 Walker, R., 730
 Walker, R. A., 688
 Wallen, I. E., 168
 Wallerstein, L., 590
 Walter, H., 1251
 Wang, C.-I. *See* Paronetto, F., 1148
 Warburg, O., 269
 Wardle, R. N., 1156
 Warren, L. H., 369
 Warren, S. *See* Jofte, D. L., 1155
 Wassermann, F., 492
 Watabe, N., 630. *See also* Yoshii, G., 320
 Webb, J. L., 1209
 Weinbach, E. C., 940
 Weinhouse, S., 267
 Weiss, H. *See* Titus, E., 1205
 Wells, P. H., 31
 Wendlandt, W. W., 682
 Werner, A. Y., 1145
 Wetherell, D. F., 25
 Whittaker, J. R. *See* Vallentyne, J. R., 1026
 Wichelhausen, R. H. *See* Robinson, L. B., 1147
 Wigner, E. P., 1214
 Wilder, P., Jr. *See* Buyske, D. A., 1081
 Wildman, S. G. *See* Cohen, M., 1081
 Wiley, W. C., 817
 Williams, B., 1231
 Williams, D. R., 1294
 Williams, R. J., 276
 Williams, T. I., 347; erratum, 978
 Wilson, W. B. *See* Collier, A., 220
 Witkop, B., 941
 Wolffe, D., 7, 201, 326, 637, 657
 Wollin, G. *See* Ericson, D. B., 385
 Wood, C. D. *See* Baldwin, M., 931
 Woodbury, A. M. *See* Day, B. N., 485
 Woolley, D. W., 34. *See also* Shaw, E., 121
 Wright, H. E., Jr., 625
 Wróblewski, F. *See* Friend, C., 173
 Wyckoff, R. W. G. *See* Mosley, V. M., 683, 939

Y

- Yagi, K., 273
 Yagoda, H., 896
 Yang, C. N., 370
 York, C. J. *See* Madin, S. H., 721
 Yoshii, G., 320
 Youden, W. W., 943, 1255
 Yule, E. P., 79
 Yunker, C. E., 979

Z

- Zanetti, M. E. *See* Tennent, D. M., 588
 Zaratzian, V. *See* Busch, H., 981
 Zarrow, M. X. *See* Pincus, G., 890
 Zerfoss, S., 9
 Zettlemoyer, A. C., 494
 Zumoff, B. *See* Bradlow, H. L., 1206

Book Review Index

A

- Ackley, C. *See* Magill, P. L., 1255
Advances in Catalysis and Related Subjects, vol. VII, W. G. Frankenburg, V. I. Komarevsky, E. K. Rideal, Eds., 494
Advances in Electronics and Electron Physics, vol. VII, L. Marton, Ed., 325
Advances in Enzymology and Related Subjects of Biochemistry, vol. 17, F. F. Nord, Ed., 730
Advances in Food Research, vol. VI, E.

- M. Mrak and G. F. Stewart, Eds., 183
Advances in Genetics, vol. VII, M. Demerec, Ed., 35
Agricultural Ecology, G. Azzi, 1034
Air Pollution Handbook, P. L. Magill, F. R. Holden, C. Ackley, Eds., 1255
 Albert, A. A., *Fundamental Concepts of Higher Algebra*, 1296
 Albertson, F. W. *See* Weaver, J. E., 444
Alcoholism as a Medical Problem, H. D. Kruse, Ed., 828
 Alexander, F., *Psychoanalysis and Psychotherapy*, 444
 Aller, L. H., *Gaseous Nebulae*, vol. 3, 986
 Allred, B. W. *See* Weaver, J. E., 444
 Amelinckx, S. *See* Dekeyser, W., 183
American Arbacia and Other Sea Urchins, The, E. B. Harvey, 987
American Foundations and Their Fields, W. S. Rich, 326
American Geophysical Union Antarctica in the International Geophysical Year, 1297
Antarctica in the International Geophysical Year, American Geophysical Union, 1297
Anatomy of the Honey Bee, R. E. Snodgrass, 730
 Arkell, W. J., *Jurassic Geology of the World*, 1086
 Association of the Bar of the City of New York, *Report of the Special Committee on the Federal Loyalty-Security Program of the Association of the Bar of the City of New York*, 688
Atomic Quest, A. H. Compton, 1152
Atoms and Energy, H. W. S. Massey, 493
Atoms and People, R. E. Lapp, 895
Automata Studies, C. E. Shannon and H. McCarthy, 493
Automation, Department of Scientific and Industrial Research (England), 1152
 Azzi, G., *Agricultural Ecology*, 1034

B

- Bacterial Anatomy*, E. T. C. Spooner and B. A. D. Stocker, Eds., 445
 Baenziger, N. C., Ed. *See* Wilson, A. J. C., Ed., 325
 Bailar, J. C., Jr., Ed., *The Chemistry of the Coordination Compounds*, 1033
 Ballam, J., Ed., *High Energy Nuclear Physics, Proceedings of the Sixth Annual Rochester Conference 3-7 Apr. 1956*, 1298
 Barbier, P. *See* Gastinel, P., 412
 Bargmann, W., *Histologie und Mikroskopische Anatomie des Menschen*, 492
 Bartels, J. *See* Flüge, S., 829
Begegnungen mit dem Vormenschen, G. H. R. von Koenigswald, 1297
Behavior Theory and Conditioning, K. W. Spence and G. Cumberlege, 1033
 Berkeley, E. C., and L. Wainwright, *Computers*, 1255
Bibliography of Solid Adsorbents, 1943-1953, V. R. Deitz, 729
 Bijvoet, J. M., Ed. *See* Wilson, A. J. C., Ed., 325
 Binet, L. *Précis de gérontologie*, 83
Biochemical Mechanisms in Inflammation, V. Menkin, 278
Biology of the Laboratory Mouse, Staff of the Roscoe B. Jackson Memorial Laboratory, G. D. Snell, Ed., 631
Biology of Senescence, The, A. Comfort, 446
 Birge, E. A., *a Memoir*, G. C. Sellery and C. H. Mortimer, 728
 Bitter, F., *Currents, Fields, and Particles*, 1211
 Blaschke, W., *Einführung in die Geometrie der Waben*, vol. IV, 83

- Blicke, F. F., Ed., *Medicinal Chemistry*, vol. II, 689
 Bodin, P. *See* Rostand, J., 410
Body Measurements and Human Nutrition, J. Brožek, Ed., 1211
 Bopp, F., Ed. *See* Sommerfeld, A., 84
 Boulding, K. E., *The Image*, 1255
 Bourlière, F. *See* Binet, L., 83
 Brillouin, L., *Science and Information Theory*, 492
 Brownell, G. L., Ed. *See* Hine, G. J., 896
 Brožek, J., Ed., *Body Measurements and Human Nutrition*, 1211
 Butler, J. A. V., Ed., *Progress in Biophysics and Biophysical Chemistry*, vol. 6, 185

C

- Carman, P. C., *Flow of Gases through Porous Media*, 1254
 Cartmell, E., and G. W. A. Fowles, *Valency and Molecular Structure*, 1213
Changing Universe, The, J. Pfeiffer, 541
 Charpie, R. A., Ed., *Physics and Mathematics*, 827
Chemistry of Carbon Compounds, vol. III, pt. B, *Aromatic Compounds*, E. H. Rodd, Ed., 1215
Chemistry of the Coordination Compounds, The, J. C. Bailar, Jr., Ed., 1033
Chemistry of Tanning Processes, The, K. H. Gustavson, 36
Child Development and Personality, P. H. Mussen and J. J. Conger, 987
Chromosome Botany, C. D. Darlington, 688
 Church, A., *Introduction to Mathematical Logic*, vol. 1, 1215
Clinical Electrocardiography, pt. 1, L. N. Katz and A. Pick, 411
 Cole, C. C., Jr., *Encouraging Scientific Talent*, 986
Color Atlas of Oral Pathology, U. S. Naval Dental School, 1084
Combustion Processes, vol. II, *High Speed Aerodynamics and Jet Propulsion*, B. Lewis, R. N. Pease, H. S. Taylor, Eds., 324
 Comfort, A., *The Biology of Senescence*, 446
 Compton, A. H., *Atomic Quest*, 1152
Computers, E. C. Berkeley and L. Wainwright, 1255
 Conger, J. J. *See* Mussen, P. H., 987
 Crawford, A. E., *Ultrasonic Engineering with Particular Reference to High Power Applications*, 445
Creatures of the Deep Sea, K. Günther and K. Deckert, 729
Cryptococciosis, M. L. Littman and L. E. Zimmerman, 943
 Cumberlege, G. *See* Spence, K. W., 1033
Currents in Biochemical Research 1956, D. E. Green, Ed., 942
Currents, Fields, and Particles, F. Bitter, 1211
 Curtin, D. Y. *See* Shriner, R. L., 232
 Curtiss, J. H., Ed., *Numerical Analysis*, 1211

D

- Darling, A. B. *See* Kirby, R. S., 370
 Darlington, C. D., *Chromosome Botany*, 688
 Deckert, K. *See* Günther, K., 729
 Deitz, V. R., *Bibliography of Solid Adsorbents, 1943-1953*, 729
 Dekeyser, W., *Les Dislocations et la Croissance des Cristaux*, 183
 Demerec, M., Ed., *Advances in Genetics*, vol. VII, 35
 Department of Scientific and Industrial Research (England), *Automation*,

- 1152; *Experimental Stress Analysis in the U.S.A. and Canada*, 1298; *A Handbook of Hardwoods*, 1212
 Deraniyagala, P. E. P., *Some Extinct Elephants, Their Relatives and the Two Living Species*, 185
Determination of Organic Compounds, K. G. Stone, 1255
Dislocations et la Croissance des Cristaux, Les, W. Dekeyser and S. Amelinckx, 183
 Doetsch, G., *Handbuch der Laplace-Transformation*, vol. II, pt. 1, 490
Dynamics of Living Protoplasm, The, L. V. Heilbrunn, 411

E

- Eckert, W. J., *Faster, Faster*, 943
Einführung in die Geometrie der Waben, vol. IV, W. Blaschke, 83
 Einstein, A., *The Meaning of Relativity*, 230
Electrochemical Affinity, P. Van Rysselberghe, 1214
Elements d'Immunologie Générale, P. Gastinel, R. Fasquelle, P. Barbier, 412
Eléments de Mécanique Quantique, Ph. Pluvinage, 943
Encouraging Scientific Talent, C. C. Cole, Jr., 986
Engineering in History, R. S. Kirby, S. Withington, A. B. Darling, F. G. Kilgour, 370
 Engle, E. T., Ed., *Hormones and the Aging Process*, 632
Enzymes: Units of Biological Structure and Function, O. H. Gaebler, Ed., 896
Essays in Biochemistry, S. Graff, Ed., 184
 Euler, U. S. von, *Noradrenaline*, 540
Evolution de la Lithosphere, Le, vol. I, Pétrogenèse, H. Termier and G. Termier, 231
Expanding Universes, E. Schrödinger, 370
Experimental Stress Analysis in the U.S. A. and Canada, Department of Scientific and Industrial Research (England), 1298

F

- Facing the Atomic Future*, E. W. Titterton, 895
 Fasquelle, R. See Gastinel, P., 412
Faster, Faster, W. J. Eckert and R. Jones, 943
Fertilization, Lord Rothschild, 827
Fire Research, 1955, H. M. Stationery Office, 1033
 Firth, M. A., Ed., *Handbook of Scientific and Technical Awards in the United States and Canada*, 828
 Fisher, H. I., *The Myology of the Whooping Crane*, *Grus americana*, 446
 Fitch, V. L., Ed. See Ballam, J., 1298
Floods, W. G. Hoyt and W. B. Langbein, 591
 Flüge, S., Ed., *Handbuch der Physik*: vol. 19, *Electrical Conductivity*, 1032; vol. 47, *Geophysics*, 829; vol. 14, *Low Temperature Physics*, 942; vol. 1, *Mathematical Methods*, 1214
Flow of Gases through Porous Media, P. C. Carman, 1254
Fluid Models in Geophysics, R. R. Long, Ed., 493
 Fowles, G. W. A. See Cartmell, E., 1213
 Frankenburg, W. G., Ed., *Advances in Catalysis and Related Subjects*, vol. VII, 494
 Fulton, T., Ed. See Ballam, J., 1298
Fundamental Concepts of Higher Algebra, A. A. Albert, 1296
 Fuson, R. C. See Shriner, R. L., 232

G

- Gaebler, O. H., Ed., *Enzymes: Units of Biological Structure and Function*, 896
Gaseous Nebulae, vol. 3, L. H. Aller, 986
 Gastinel, P., *Elements d'Immunologie Générale*, 412
Genetics and Metabolism, R. P. Wagner and H. K. Mitchell, 410
Geometrical Optics, L. C. Martin, 231
Gestation, C. A. Villee, Ed., 369
 Ginzberg, E., *The Negro Potential*, 593
 Glick, D., Ed., *Methods of Biochemical Analysis*, vol. III, 591
Gmelins Handbuch der Anorganischen Chemie, Gmelin Institute, Ed.: *Calcium*, pt. B, sec. 1, 896; *Copper*, pt. A, secs. 1 and 2, 633; vol. 44, *Thorium and Isotopes*, 494
 Gmelin Institute, Ed., *Gmelins Handbuch der Anorganischen Chemie*, 494, 633, 896
 Godwin, H., *The History of the British Flora*, 1084
 Goodman, D. C. See Fisher, H. I., 446
 Gottschalf, W. H., *Topological Dynamics*, vol. XXXVI, 491
 Graff, S., Ed., *Essays in Biochemistry*, 184
Grasslands of the Great Plains, J. E. Weaver, F. W. Albertson, B. W. Allred, A. Heerwagen, 444
 Green, D. E., Ed., *Currents in Biochemical Research 1956*, 942
 Günther, K., *Creatures of the Deep Sea*, 729
 Gustavson, K. H., *The Chemistry of Tanning Processes*, 36

H

- Handbook of Hardwoods*, A. Department of Scientific and Industrial Research (England), 1212
Handbook for the Identification of Insects of Medical Importance, A. J. Smart, 411
Handbook of Scientific and Technical Awards in the United States and Canada, M. A. Firth, Ed., 828
Handbook of South American Geology, W. F. Jenks, Ed., 1031
Handbuch der Laplace-Transformation, vol. II, pt. 1, G. Doetsch, 490
Handbuch der Physik, S. Flüge, Ed.: vol. 19, *Electrical Conductivity*, 1032; vol. 47, *Geophysics*, 829; vol. 14, *Low Temperature Physics*, 942; vol. 1, *Mathematical Methods*, 1214
 Harris, E. J., *Transport and Accumulation in Biological Systems*, 895
 Harvey, E. B., *The American Arbacia and Other Sea Urchins*, 987
 Hediger, H., *Studies of the Psychology and Behavior of Captive Animals in Zoos and Circuses*, 592
 Hedlund, G. A. See Gottschalf, W. H., 491
 Heerwagen, A. See Weaver, J. E., 444
 Heilbrunn, L. V., *The Dynamics of Living Protoplasm*, 411
 Heslop-Harrison, J., *New Concepts in Flowering Taxonomy*, 1153
High Energy Nuclear Physics, Proceedings of the Sixth Annual Rochester conference 3-7 Apr. 1956, J. Ballam, V. L. Fitch, T. Fulton, K. Huang, R. R. Rau, S. B. Treiman, Eds., 1298
 Hilgard, E. R., *Theories of Learning*, 83
 Hill, T. L., *Statistical Mechanics, Principles and Selected Applications*, 1296
 Hindle, B., *The Pursuit of Science in Revolutionary America, 1735-1789*, 542
 Hine, G. J., Ed., *Radiation Dosimetry*, 896

- Histologie und Mikroskopische Anatomie des Menschen*, W. Bargmann, 492
History of American Technology, J. W. Oliver, 370
History of the British Flora, The, H. Godwin, 1084
 Holden, F. R. See Magill, P. L., 1255
 Hopkins, G. H. E., and M. Rothschild, *An Illustrated Catalogue of the Rothschild Collection of Fleas (Siphonaptera) in the British Museum (Natural History)*, 412
Hormones and the Aging Process, E. T. Engle and G. Pincus, Eds., 632
 Horowitz, J. See Charpie, R. A., 827
 Hoyt, W. G., *Floods*, 591
 Huang, K., Ed. See Ballam, J., 1298
 Hughes, D. J. See Charpie, R. A., 827
 Humphries, J., *Rockets and Guided Missiles*, 279

I

- Illustrated Catalogue of the Rothschild Collection of Fleas (Siphonaptera) in the British Museum (Natural History)*, An, vol. II, *Coptosyllidae*, *Vermipsyllidae*, *Stephanocircidae*, *Macropsyllidae*, *Ischnopsyllidae*, *Hypsophthalmidae* and *Xiphopsyllidae*, G. H. E. Hopkins and M. Rothschild, 412
Image, The, K. E. Boulding, 1255
In Search of Adam, H. Wendt, 1031
International Dictionary of Physics and Electronics, The, W. C. Michels, Senior Ed., 728
Introduction to Electronic Analogue Computers, C. A. A. Wass, 895
Introduction to Mathematical Logic, vol. 1, A. Church, 1215

J

- Janot, M.-M., Ed. See Le Beau, P., Ed., 1212
 Jenks, W. F., Ed., *Handbook of South American Geology*, 1031
 Jones, R. See Eckert, W. J., 943
Jurassic Geology of the World, W. J. Arkell, 1086

K

- Katz, L. N., *Clinical Electrocardiography*, pt. 1, 411
 Keen, A. M., and S. W. Muller, Eds., E. T. Schenk and J. H. McMasters, *Procedure in Taxonomy*, 1213
Kernmomente, H. Kopfermann, 1152
 Kilgour, F. G. See Kirby, R. S., 370
 Kirby, R. S., *Engineering in History*, 370
 Koenigswald, G. H. R. von, *Begegnungen mit dem Vormenschen*, 1297
 Komarewsky, V. I., Ed. See Frankenburg, W. G., 494
 Kopal, Z., *Numerical Analysis*, 324
 Kopfermann, H., *Kernmomente*, 1152
 Korey, S. R., Ed., *Progress in Neurobiology*, vol. I, *Neurochemistry*, 827
 Kruse, H. D., Ed., *Alcoholism as a Medical Problem*, 828

L

- Langbein, W. B. See Hoyt, W. G., 591
 Lapp, R. E., *Atoms and People*, 895
Learning across Cultures, J. Watson and R. Lippitt, 230
 Le Beau, P., and M.-M. Janot, Eds., *Traité de Pharmacie Chimique*, vol. I, *Chimie Minérale*; vol. II, *Chimie Organique*; vol. III, *Chimie Organique*; vol. IV, *Chimie Organique*; vol. V, *Chimie Organique*, 1212
Lectures on Theoretical Physics, vol. V,

- A. Sommerfeld, F. Bopp, J. Meixner, Eds., 84
 LeVeque, W. J., *Topics in Number Theory*, vols. 1 and 2, 1297
 Lewis, B., Ed., *Combustion Processes*, vol. II, *High Speed Aerodynamics and Jet Propulsion*, 324
Life, the Great Adventure, J. Rostand and P. Bodin, 410
Linear Feedback Analysis, J. G. Thomason, 279
 Lippitt, R. See Watson, J., 230
 Littler, D. J. See Charpie, R. A., 827
 Littman, M. L., *Cryptococcosis*, 943
 Long, R. R., Ed., *Fluid Models in Geophysics*, 493

M

- Magill, P. L., F. R. Holden, C. Ackley, Eds., *Air Pollution Handbook*, 1255
Man in Search of His Ancestors, A. Senet, 1031
 Martin, L. C., *Geometrical Optics*, 231
 Marton, L., Ed., *Advances in Electronics and Electron Physics*, vol. VII, 325
 Massey, H. W. S., *Atoms and Energy*, 493
 McCarthy, H. See Shannon, C. E., 493
 McMasters, J. H. See Schenk, E. T., 1213
 Mead, M., *New Lives for Old*, 541
Meaning of Relativity, The, A. Einstein, 230
Medicinal Chemistry, vol. II, F. F. Blicke and C. M. Suter, Eds., 689
 Meixner, J., Ed. See Sommerfeld, A., 84
 Menkin, V., *Biochemical Mechanisms in Inflammation*, 278
Methods of Biochemical Analysis, vol. III, D. Glick, Ed., 591
 Michels, W. C., Ed., *The International Dictionary of Physics and Electronics*, 728
Microscopium, M. Rooseboom, 1254
 Mitchell, H. K. See Wagner, R. P., 410
Modern Views on the Secretion of Urine, F. R. Winton, Ed., 1153
 Montagna, W., *The Structure and Function of Skin*, 369
Moon, The, H. P. Wilkins and P. Moore, 490
 Moore, P. See Wilkins, H. P., 490
 Moore, R. C., Ed., *Treatise on Invertebrate Paleontology*, pt. F, *Coelenterata*, 1213
 Moret, L., *Précis de Géologie*, 592
 Morgan, R., *World Sea Fisheries*, 1085
 Mortimer, C. H. See Sellery, G. C., 728
 Mozley, A., *Sites of Infection*, 184
 Mrak, E. M., Ed., *Advances in Food Research*, vol. VI, 183
 Muller, S. W., Ed. See Keen, A. M., Ed., 1213
 Mussen, P. H., *Child Development and Personality*, 987
*Myology of the Whooping Crane, *Grus americana*, The*, H. I. Fisher and D. C. Goodman, 446

N

- Needham, J., *Science and Civilisation in China*, vol. 2, 631
Negro Potential, The, E. Ginzberg, 593
New Concepts in Flowering-Plant Taxonomy, J. Heslop-Harrison, 1153
New Lives for Old, M. Mead, 541
Noradrenaline, U. S. von Euler, 540
 Nord, F. F., Ed., *Advances in Enzymology and Related Subjects of Biochemistry*, vol. 17, 730
Numerical Analysis, Z. Kopal, 324
Numerical Analysis, J. H. Curtiss, Ed., 1211
 Nurnberger, J. I. See Korey, S. R., 827

O

- Oliver, J. W., *History of American Technology*, 370

P

- Paterno, F. E., *Pilot Plant Techniques of Submerged Fermentation*, vol. 17, 369
 Pavlov, I. P., *Physiology of Digestion*, 84
 Pease, R. N., Ed. See Lewis, B., Ed., 324
 Pettersen, S., *Weather Analysis and Forecasting*, vols. I and II, 728
 Pfeiffer, J., *The Changing Universe*, 541
Physics of Fully Ionized Gases, L. Spitzer, Jr., 35
Physics and Mathematics, ser. I, R. A. Charpie, J. Horowitz, D. J. Hughes, D. J. Littler, Eds., 827
Physiology of Digestion, I. P. Pavlov, 84
 Pick, A. See Katz, L. N., 411
Pilot Plant Techniques of Submerged Fermentation, vol. 17, F. E. Paterno, 369
 Pincus, G. See Engle, E. T., 632
 Platonov, K. I., *Suggestion and Hypnosis in the Light of the Concepts of I. P. Pavlov*, 184
 Pluvinaige, Ph., *Eléments de Mécanique Quantique*, 943
Polysaccharides in Biology, G. F. Springer, Ed., 729
 Ponder, E., *Protoplasmatologia. Handbuch der Protoplasmaforschung*, vol. X, *Red Cell Structure and Its Breakdown*, 37
Précis de Géologie, L. Moret, 592
Précis de Gérontologie, L. Binet and F. Bourlière, 83
Principles of Embryology, C. H. Waddington, 1085
Principles and Practice of Field Experimentation, J. Wishart and H. G. Sanders, 280
Principles of Renal Physiology, H. W. Smith, 85
Problems in Amoebiasis, C. W. Rees, 36
Procedure in Taxonomy, A. M. Keen and S. W. Muller, Eds., E. T. Schenk and J. H. McMasters, 1213
Proceedings of the Conference on Pathophysiologic and Therapeutic Problems of Terminal Conditions Associated with the Clinic and Practice of First Aid, State Publishing House of Medical Literature, 633
Proceedings of the International Conference on the Peaceful Uses of Atomic Energy, vol. 8, United Nations, 1085
Progress in Biophysics and Biophysical Chemistry, vol. 6, J. A. V. Butler, Ed., 185
Progress in Neurobiology, vol. I, *Neurochemistry*, S. R. Korey and J. I. Nurnberger, Eds., 827
Protoplasmatologia. Handbuch der Protoplasmaforschung: vol. X, *Red Cell Structure and Its Breakdown*, E. Ponder, 37; vol. XI, *Protoplasmatische Pflanzenanatomie*, L. Reuter, 84
Psychoanalysis and Psychotherapy, F. Alexander, 444
Psychology of Industrial Conflict, R. Stagner, 1032
Pursuit of Science in Revolutionary America, 1735-1789, The, B. Hindle, 542

R

- Radiation Dosimetry*, G. J. Hine and G. L. Brownell, Eds., 896
 Rau, R. R., Ed., See Ballam, J., 1298
Reactor Shielding Design Manual, T. Rockwell III, Ed., 591

- Recent Studies in Avian Biology*, A. Wolfson, Ed., 36
 Rees, C. W., *Problems in Amoebiasis*, 36
Report of the Special Committee on the Federal Loyalty-Security Program of the Association of the Bar of the City of New York, Association of the Bar of the City of New York, 688
Resonance in Organic Chemistry, G. W. Wheland, 35
 Reuter, L., *Protoplasmatologia. Handbuch der Protoplasmaforschung*, vol. XI, *Protoplasmatische Pflanzenanatomie*, 84
 Rich, W. S., *American Foundations and Their Fields*, 326
 Rideal, E. K., Ed. See Frankenburg, W. G., 494
 Robertson, J. M., Ed. See Wilson, A. J. C., Ed., 325
Rockets and Guided Missiles, J. Humphries, 279
 Rockwell, T., III, Ed., *Reactor Shielding Design Manual*, 591
 Rodd, E. H., Ed., *Chemistry of Carbon Compounds*, vol. III, pt. B, *Aromatic Compounds*, 1215
 Rooseboom, M., *Microscopium*, 1254
 Rostand, J., *Life, the Great Adventure*, 410
 Rothschild, Lord, *Fertilization*, 827
 Rothschild, M. See Hopkins, G. H. E., 412
 Rysselberghe, Van, P., *Electrochemical Affinity*, 1214

S

- Sanders, H. G. See Wishart, J., 280
 Schenk, E. T., and J. H. McMasters, *Procedure in Taxonomy*, 1213
 Schrödinger, E., *Expanding Universes*, 370
Science and Civilisation in China, vol. 2, J. Needham, 631
Science and Information Theory, L. Brillouin, 492
 Seitz, F., *Solid State Physics*, 279
 Sellery, G. C., *E. A. Birge, a Memoir*, 728
 Senet, A., *Man in Search of His Ancestors*, 1031
 Shannon, C. E., *Automata Studies*, 493
 Shriner, R. L., *The Systematic Identification of Organic Compounds*, 232
Sites of Infection, A. Mozley, 184
 Smart, J., *A Handbook for the Identification of Insects of Medical Importance*, 411
 Smith, H. W., *Principles of Renal Physiology*, 85
 Snodgrass, R. E., *Anatomy of the Honey Bee*, 730
Solid State Physics, F. Seitz and D. Turnbull, 279
Some Extinct Elephants, Their Relatives and the Two Living Species, P. E. P. Deraniyagala, 185
 Sommerfeld, A., Ed., *Lectures on Theoretical Physics*, vol. V, 84
 Spence, K. W., *Behavior Theory and Conditioning*, 1033
 Spitzer, L., Jr., *Physics of Fully Ionized Gases*, 35
 Spooner, E. T. C., Ed., *Bacterial Anatomy*, 445
 Springer, G. F., Ed., *Polysaccharides in Biology*, 729
 Staff of the Roscoe B. Jackson Memorial Laboratory, G. D. Snell, Ed., *Biology of the Laboratory Mouse*, 631
 Stagner, R., *Psychology of Industrial Conflict*, 1032
 State Publishing House of Medical Literature, *Proceedings of the Conference on Pathophysiologic and Therapeutic Prob-*

- lems of Terminal Conditions Associated with the Clinic and Practice of First Aid, 633
- Statistical Mechanics, Principles and Selected Applications, T. L. Hill, 1296
- Stewart, G. F., Ed. See Mrak, E. M., 183
- Stocker, B. A. D., Ed. See Spooner, E. T. C., 445
- Stone, K. G., Determination of Organic Compounds, 1255
- Structure and Function of Skin, The, W. Montagna, 369
- Structure Reports for 1942-1944, vol. 9, A. J. C. Wilson, Gen. Ed., N. C. Baenziger, J. M. Bijvoet, J. M. Robertson, Eds., 325
- Studies of the Psychology and Behavior of Captive Animals in Zoos and Circuses, H. Hediger, 592
- Suggestion and Hypnosis in the Light of the Concepts of I. P. Pavlov, K. I. Platonov, 184
- Surugue, J., Techniques Générales du Laboratoire de Physique, vol. I, 543
- Suter, C. M., Ed. See Blicke, F. F., 689
- Systematic Identification of Organic Compounds, The, R. L. Shriner, R. C. Fuson, D. Y. Curtin, 232

T

- Taylor, H. S., Ed. See Lewis, B., Ed., 324
- Technical Education, P. F. R. Venables, 278
- Techniques Générales du Laboratoire de Physique, vol. I, J. Surugue, 543
- Termier, G. See Termier, H., 231
- Termier, H., L'Évolution de la Lithosphere, vol. I, Pétrogenèse, 231
- Theories of Learning, E. R. Hilgard, 83
- Thomason, J. G., Linear Feedback Analysis, 279
- Titterton, E. W., Facing the Atomic Future, 895
- Topics in Number Theory, vols. 1 and 2, W. J. LeVeque, 1297
- Topological Dynamics, vol. XXXVI, W. H. Gottschalk and G. A. Hedlund, 491
- Traité de Pharmacie Chimique: vol. I, Chimie Minérale; vol. II, Chimie Organique; vol. III, Chimie Organique; vol. IV, Chimie Organique; vol. V, Chimie Organique, P. Le Beau and M.-M. Janot, Eds., 1212
- Transport and Accumulation in Biological Systems, E. J. Harris, 895
- Treatise on Invertebrate Paleontology, pt. F, Coelenterata, R. C. Moore, Ed., 1213
- Treiman, S. B., Ed. See Ballam, J., 1298
- Turnbull, D. See Seitz, F., 279

U

- Ultrasonic Engineering with Particular Reference to High Power Applications, A. E. Crawford, 445
- United Nations, Proceedings of the International Conference on the Peaceful Uses of Atomic Energy, vol. 8, 1085
- U.S. Naval Dental School, Color Atlas of Oral Pathology, 1084

V

- Valency and Molecular Structure, E. Cartmell and G. W. A. Fowles, 1213
- Venables, P. F. R., Technical Education, 278
- Villee, C. A., Ed., Gestation, 369

W

- Waddington, C. H., Principles of Embryology, 1085
- Wagner, R. P., Genetics and Metabolism, 410

- Wainright, L. See Berkeley, E. C., 1255
- Wass, C. A. A., Introduction to Electronic Analogue Computers, 895
- Watson, J., Learning across Cultures, 230
- Weather Analysis and Forecasting, vols. I and II, S. Pettersen, 728
- Weaver, J. E., Grasslands of the Great Plains, 444
- Wendt, H., In Search of Adam, 1031
- Wheland, G. W., Resonance in Organic Chemistry, 35
- Wilkins, H. P., The Moon, 490
- Wilson, A. J. C., Ed., Structure Reports for 1942-1944, vol. 9, 325
- Winton, F. R., Ed., Modern Views on the Secretion of Urine, 1153
- Wishart, J., Principles and Practice of Field Experimentation, 280
- Withington, S. See Kirby, R. S., 370
- Wolfson, A., Ed., Recent Studies in Avian Biology, 36
- World Health Organization, Yellow Fever Vaccination, 370
- World Sea Fisheries, R. Morgan, 1085

Y

- Yellow Fever Vaccination, World Health Organization, 370

Z

- Zimmerman, L. E. See Littman, M. L., 943

Analytic Subject Index

A

- AAAS, awards of, 1196, 1287; and committee on social aspects of science, 1231; and conference on mathematics instruction, 1009, 1219; 50-year members of, 1158; financial report of, 637; and the future of science, 1275; and Gordon Research Conferences, 1280; history of New York meetings of, 544; and Neanderthal man centennial, 1183; new headquarters building of, 534, 657, 659; New York 1956 meeting of, 130, 313, 945, 990, 1039, 1088, 1127, 1196, 1217, 1287; officers of, 594, 1288; and Perkin centennial, 465; proposed changes in constitution of, 945; report of Pacific division of, 733; and science teachers, 513, 687; Science Teaching Improvement Program of, 168, 322, 529; and study on use of science counselors, 38; and traveling high-school science libraries, 1011; and University of Texas science consultant program, 261
- Aberdeen University, 349
- Aberystwyth University, 349, 354
- Abortion, U.S.S.R. legislation on, 580
- Absorption spectra, of cerium chelates of 8-quinolinol, 682
- Abstracting, in U.S.S.R., 609
- Academic reputations, of fields of college study, 680
- Accelerator, fixed-field alternating-gradient, 781; insect control by electron, 1011; new particle, 114; symposium on high-energy particle, 87
- Acetoglyceride, patented process for, 258
- Acoustic instrumentation, for industry, 787
- ACTH. See Adrenocorticotrophic hormone
- Actinium, emission spectra of, 940
- Adams, W. S., obituary, 67
- Adenosine triphosphate (ATP), effect of myosin on, 873
- Adenovirus, proposed as name for new group of respiratory-tract viruses, 119; vaccine for, 436
- Adrenal gland, cancer of, 487; effects of 17-hydroxycorticosteroid and reserpine on, 983
- Adrenocorticotrophic hormone (ACTH), bovine preparation of, 934; control of, 899; in treatment of adrenal cancer, 487
- Advertised products in Science, index of, 838
- Africa, sickle-cell anemia and malaria in people of, 619
- Age, of election to Royal Society, 352; and x-ray sensitivity, 1078
- "Aging," and electrodeless discharge, 583
- Aging, report of conference on, 236, 734
- Agriculture, conference on foreign, 831; industrial use of products from, 1288; Latin-American information on, 717; and national seed-storage laboratory, 577; and nuclear energy, 63, 109
- Agronomy, use of x-ray-induced mutant in, 223
- Air Research and Development Command, new procurement agency of, 1197; new research branch of, 822; and scientific manpower, 1220
- Airglow, synoptic study of, 939
- Alabama, archeology of, 577
- Alaska, power reactor for, 480
- Alcaligenes, as source of slime-layer DNA preparations, 441
- Alcohol, inhibitory synapses blocked by ethyl, 681; pervaporation of aqueous, 77
- Alcohol dehydrogenases, 469
- Aldolase, study of action of, 982
- Algae, action of polymyxin B on, 939; colchicine-induced polyploidy in, 25; enzymatic oxidation of glucose in red, 171; and evolution, 953; quantum yield of fluorescence in, 585; as sources of lysine and threonine, 536
- Allantoin, enzymatic formation of, 705
- Alloxanic acid, enzymatic formation of, 705
- American Academy of Arts and Sciences, and conference on world-view, 327
- American Academy of Microbiology, establishment of, 88
- American Association of Physical Anthropologists, meeting report of, 130
- American Association of Physics Teachers, meeting report of, 448
- American Association of Variable Star Observers, and astronomical events of 1956, 1140
- American Cancer Society, and report on smoking, 1197
- American Council on Education, new information and research division of, 1198
- American Institute of Biological Sciences, meeting report of, 1036
- American Institute of Human Paleontology, and Neanderthal man centennial, 1183
- American Institute of Physics, and fundraising campaign, 1071; and translation of Soviet scientific journals, 871
- American Institute of Public Opinion, and book-reading habits, 590
- American Physical Society, meeting report of, 38, 496
- American Psychiatric Association, and evaluation of pharmacotherapy in mental illness, 167, 990
- American Psychological Association, symposium report of, 1057
- American Society for Horticultural Science, meeting report of, 1036
- American Society of Human Genetics, meeting report of, 1036
- American Society of Naturalists, meeting report of, 1036
- American Society of Plant Physiologists, meeting report of, 1036

- American Society for Testing Materials, and committee on radiation effects, 1219
- American Society of Tropical Medicine and Hygiene, meeting report of, 1041
- American Society of Zoologists, meeting report of, 1036
- American Type Culture Collection, and available bacteriophages, 529
- Amino acids, algae as sources of, 536; in growth medium of *Escherichia coli*, 935; in marine sediments, 1026; in primitive atmospheres, 935
- D-Amino acid oxidase, chlortetracycline inhibition of, 273
- p-Aminohippurate (PAH), and transport in kidney, 401
- 2-Amino-4-hydroxypteridine, in *Drosophila melanogaster*, 725
- δ -Aminolevulinic acid, 272
- Ammonia, guinea pig excretion of, 74
- Amnion, congenital defects caused by puncture of, 439
- Amphetamine, in treatment of adrenal cancer, 487
- Amphetamine, optical isomerism of, 29
- Amphibians, electrophoresis and taxonomy of plasma proteins in, 225
- Androgens, effect of triiodothyronine on, 1206
- Anemia, blood-group susceptibility to, 674; implanted normal blood-forming tissue in mice with, 1076; malaria and sickle-cell, 619
- Animal Disease Laboratory, 674
- Animals, atomic radiation and production of, 65; factors limiting populations of, 304; federal support of research in management of, 523; as teaching tool in classroom, 530
- Antarctic expeditions, British, 1142
- Anthocyanin, in plants, 938
- Anthropology, and the "abominable snowman," 22; and comparison of urine in primates, 435; and early man in America, 396, 577; and expedition to Marquesas Islands, 1196; of Indians in Peruvian Andes, 576; meeting reports on, 130, 1157; and new approach to problem of man's origin, 1282; of Polynesians, 258
- Anthropometry, and industry, 310
- Antibiotic, polymyxin B as, 939
- Antihistamine, and effect on *Betta splendens*, 440; and effect on guppy, 407
- Antimatter, gravitation of, 1292; speculations on, 218, 496
- Antimetabolite, in chemotherapy, 34
- Anti-Parkinson agents, search for, 79
- Antiserotonin, in hypertension, 34
- Aorta, atherosclerotic, 176; blood velocity in, 620
- Apes, urine of anthropoid, 435
- Aphanocapsa koordersii*, in decontamination of fission products, 321
- Apomorphine, and tranquilizing drugs, 264
- Apparatus, for Bendix time-of-flight mass spectrometer, 817; for brain self-stimulation, 265; for chemical and electric stimulation of brain, 228; for closed-system centrifugation, 792; for collection of radioactive fallout, 105; for controlled burning of combustible materials, 926; for controlling drinking behavior in rats, 1294; for cultivating human cells in tissue culture, 935; for data processing 773; for detection of free neutrino, 103; for direct end-window counting on paper chromatography, 1253; industrial acoustic, 787; for interferometric comparisons, 1197; for large-diameter deep-sea corer, 168; for low-level counting with isotopic tracers, 801; for measuring human motions by electronics, 807; for measuring natural gamma-ray activity in human being, 122; for microelectrode studies in cerebral cortex, 179; for particle acceleration, 114; for pervaporation of aqueous alcoholic solutions, 78; for precise coulometric titrations, 940; for producing hypothermia on primate brain, 931; for solar furnace, 797; for studying visual contour and movement perception, 316; for ultraviolet irradiation of yeast, 222
- Archeology, in Alabama, 577; and correlation between Miocene volcanism and deformation, 941; and expedition to Marquesas Islands, 1196; and fossil palm and reptile teeth, 260; and glaciation since Ice Age, 181; and oldest traces of man in Americas, 396; of Polynesian people, 258; and radiocarbon dates from Lamont, 154; and radiocarbon dates of Mankato drift, 625; and radiocarbon dates from Michigan, 664; and radiocarbon dating of Neolithic period, 876, 879; and relics of ancient Japanese culture, 927; and restoration of Pskov, 675; and Sonoran variant of Cochise culture, 1029; and survival of amino acids in marine sediments, 1026; and tomb of Hyksos period, 821; and world-wide climatic change, 939
- Architecture, Durham University and naval, 347; of new AAAS building, 659
- Arctic, electronic trailmarkers for, 435; flora study in, 480
- Argentina, and zoonoses center, 437
- Armed Forces Medical Library, transfer of, 715
- Ascorbic acid, and effect on barnacle, 220; missing step required for *in vivo* synthesis of, 1148; and role in cell division in lily, 1292
- Asparagine, Walker carcinosarcoma requirement for, 124
- D-Aspartic acid, and nonexistence in casein, 1205
- Association of Technical Writers and Editors, proposed merger with Society of Technical Writers, 187, 901
- Aster, virus transmitted by insects to, 257
- Astronomy, and American visitors to U.S.S.R., 578; and approach of Mars to earth, 309; contributions of W. S. Adams to, 67; and cosmic distance scale, 282; and detection of radio waves from Mars, 620; 1956 highlights in, 1140; and molecules in heavenly bodies, 496; and Moonwatch program, 620; and observatories for, 358, 531; and speculations on fundamental symmetry in cosmogony, 218; and status of Pluto, 322; and structure of earth's crust, 941; and supernovae as source of cosmic rays, 674; and synoptic study of airglow, 939; and synthesis of elements in stars, 611; television program on, 259
- Astrophysics, and determination of earth's magnetic field, 620; and molecules in heavenly bodies, 496; and Moonwatch program, 620; and speculations on fundamental symmetry in cosmogony, 218; and synoptic study of airglow, 939; and synthesis of elements in stars, 611; and test firing of earth-satellite vehicle, 619
- Atherosclerosis, and control of cholesterol production, 1197; flotation lipoproteins extracted from aortas in, 176; influence of elastase in experimental, 588
- Athletic records, for running, 1025
- Atlantic Ocean, replacement of surface water of, 15
- Atmosphere, radioactivity in, 105; and solar flares, 673; and transport of radioactive debris, 474
- Atom Harvest, 409
- Atomic energy. *See* Nuclear energy
- Atomic Energy Research Institute, in Japan, 260
- Atomic Industrial Forum, Inc., report of trade fair of, 1038
- Atomic radiation. *See* Radiation, nuclear
- Atomic structure, contributions of F. Soddy to, 1069
- Atomic weight, work of Avogadro on, 710
- Atoms-for-peace team, and visit to Latin America, 1019
- Atrolactamide, optical isomerism of, 29
- Atropine, in control of tremor, 79; optical isomerism of, 29
- Attitudes, formation of, 680
- Aub, J. C., retired, 115
- Audubon Society of Canada, and objections to trapping cranes, 884
- Australia, irrigation project in, 259; and marsupial census, 578; and U.S. submarine cruise, 479; water conservation method in, 1071
- Autoradiography, and radioautography, 1155
- Aviation medicine, 361
- Avogadro, A., work of, 708
- Azerbaijan, and solar water heating, 883
- Azulene, crystal structure of, 126

B

- Baccalaureate Origins of Science Doctorates Awarded in U.S., 1946-1950*, 117
- Bacillus globigii*, as autoinhibitor of bacterial endospore germination, 403
- Bacillus megaterium*, immunology of isolated membranes in, 535; penetration of slow electrons through spore walls of, 182
- Bacillus polymyxa*, biological action of polypeptide of, 939
- Bacillus subtilis*, respiratory pathways in germination of, 174
- Bacillus* sp., yellow, 22
- Bacon, F., 351
- Bacteria, contribution of R. S. Breed to, 256; entry of phage into, 430; and immunology of isolated membranes, 535; and inactivation of lipoprotein lipase, 489; and inhibition of deoxyribonuclease, 441; polysaccharide formation by sheep rumen, 936. *See also* *Bacillus*
- Bacteriophage, available collection of, 529; and penetration into host, 430
- Balance of nature, shortcomings of Darwinian version of, 304
- Balanus* sp., effect of ascorbic acid on, 220
- Bamboo, available in Cuba, 1291
- Banded killifish (*Fundulus d. diaphanus*), in sediment core, 368
- Bangor University, 349, 354
- Banks, J., 352
- Bar Association of the City of New York, and security, 383
- Barbiturate, and effect on *Betta splendens*, 440
- Barium, as a hazard to human beings, 14
- Barley, effect of inorganic free radicals on chromosomes of, 889
- Barnacle (*Balanus* sp.), effect of ascorbic acid on, 220
- Battery, quality of English, 276
- Bean, navy (*Phaseolus vulgaris*), x-ray-induced mutant in, 223
- Behavior, action of pentobarbital on pigeon, 367; in animal population, 306; contributions of A. C. Kinsey to study of sexual, 881; control of rat drinking, 1294; effect of ascorbic acid on barnacle, 220; effect of niacinamide on oyster, 220; effect of reserpine on, 407, 983; 1082; effect of taming on rat, 74, 486; effect of tranquilizing drugs on, 167, 259, 264, 440; effect of verbal reinforcers on human, 582; and intermittent conditioned reinforcement, 679; permanent alteration of, 723; of rats affected by intracranial chemical stimulation, 228; report of meeting on ani-

- mal, 830; rhythmic time-control of fruit fly, 172; science and study of human, 276, 1055, 1057; variability in chimpanzee, 212
- Behavioral sciences, biographical volume on, 483; contributions of C. M. Louttit to, 526; status of, 276; Yerkes Laboratory for, 715
- Bendix mass spectrometer, applications for, 817
- Bensley, R. R., obituary, 972
- Benzyl analog of serotonin (BAS), in hypertension, 34
- Berlin, reactor for West, 397
- Beryllium, radioactive, in atmospheric studies, 111; produced by cosmic rays, 584
- Betta splendens*, effect of tranquilizing drugs on, 440; for phase microscopy, 813
- Bibliography, of regional vegetation, 978
- Bikini, radioactivity in water near, 14
- Bile, bilirubin in, 76
- Bilirubin glucuronide, in jaundiced human beings, 76
- Biochemistry, and behavioral science, 276; and biophysics, 1233; and biosynthesis of vitamin B₁₂, 272; of catalases and peroxidases, 471; contribution of A. J. Kluyver to, 308; contributions of S. Korkes to, 617; contributions of A. Mayer to, 616; contributions of C. Neuberger to, 1244; of cytochrome, 470; and enzymatic oxidation of urate, 705; and glycogen turnover and metabolic inhomogeneity, 941; and impaired respiration in cancer cells, 267; and origins of biochemical world, 923; of oxidation enzymes, 467; of plasma proteins in amphibians and reptiles, 225; and principle of closed-system centrifugation, 792; and toxicity of pentachlorophenol, 940; of yellow enzyme, 468
- Bioenergetics, study of, 873
- Bioflavonoids, and inability to combat colds, 1140
- Biological effects of atomic radiation, study on, 13, 17, 60, 63, 409, 580; U.N. committee to study, 1019; viewpoint of committee on, 925; world meeting on, 498
- Biological rhythms, of activity in the fruit fly, 172
- Biology, and applications of x-ray microscope, 939; and behavioral science, 276; contributions of A. Mayer to, 616; environmental, 1204; federal support of research in, 523; handbook of data in, 1202; mechanism of freezing in, 515; and physics, 1233; proposed international research station for, 480; proposed source book for, 1022; report of conference on marine, 281, 1300; of schizophrenia, 429; translation of Russian papers in, 974
- Biophysics, analysis of study of, 1233; and behavioral science, 276; and electric properties of tree, 1204; and freezing of living cells and tissues, 515
- Bird, egg-adapted encephalomyelitis in, 80; evolution of brain of, 479; influence of adult tissue homogenates on formation of similar embryonic proteins in, 1251; proteins and calcium in serums of estrogen-treated, 1242
- Birmingham University, 345, 348, 354
- Bitterness, in carrots, 984
- Black-carbon method, for radiocarbon measurements, 154
- Black Sea, and disposal of radioactive wastes, 15
- Blankenhorn, M. A., retired, 718
- Blood, closed-system centrifugation of, 792; drug for clotting of, 113; enzymatic deficiency in primaquine-sensitive, 484; erythrocyte antigens in goldfish, 315; and implantation of normal blood-forming tissue in irradiated anemic mice, 1076; ovulation indicated by rise in platelet level of, 180; of Peruvian Indians, 576; phase microscope in study of, 812; producing increased circulating hemoglobin in, 439; proteins and calcium levels in, 1242; velocity of aortic, 620
- Blood group, and disease susceptibility, 674; and pituitary adenomas, 932
- Body weight, bony dimensions in determination of, 684; fat changes during loss of, 682
- Boltwoodite, 931
- Book reading, public attitude toward, 590
- Books, in traveling high-school science library, 1013
- Borneo, zoological expedition to, 577
- Bos* sp., glycine metabolism by sperm of, 228
- Boshyan, G. M., 309
- Botanical Society of America, meeting report of, 1036
- Botany, new laboratory for, 1071
- Bovine serum albumin (BSA), and interaction with perfluorooctanoic acid (PF), 266
- Boyle, R., 351
- Brachionus plicatilis*, in decontamination of fission products, 320
- Brain, apparatus for studying cortex of, 179; behavioral effects of chemical stimulation of, 228; in birds, 479; blood-group frequency and tumor of, 932; and consciousness and sleep, 1066; distribution of motor function in monkey, 937; effects of 17-hydroxycorticosteroid and reserpine on, 983; hypothermia and epileptiform activity of, 931; screening of tranquilizing drugs by self-stimulation of, 264; somesthetic localization and function of, 484; synchronization of electric activity in, 366
- Brazil, and agreement on uranium with U.S., 530
- Bread, enriched by algae, 536
- Breed, R. S., obituary, 256
- Bridgeman, P. W., conference honoring, 327
- Bristol University, 348, 354
- British Abstracts of Medical Sciences*, new name for, 362
- British Medical Research Council, and report on nuclear hazards, 20
- Brode, W. R., professional data on, 594
- Bromine, radioactive, 402
- Brownian motion, of chain elements, 55; as result of chilling in plants, 75
- Bucher, W. H., retired, 115
- Bufo marinus*, study of sciatic nerve of, 724
- Bulgaria, reactor for, 397
- Burning, technique for control of, 926

C

- Cabbage, anthocyanin formation in red, 938
- Calcium, in cherry, 317; in estrogen-treated rooster serum, 1242; in fish, 14
- Calcium, radioactive, uptake and turnover by guppy, 571; and use in Western white pine, 364
- Cambridge University, 345
- Camera, undersea, 169
- Canada, nuclear power plant in, 621
- Canadian High Polymer Forum, report of, 1257
- Cancer, action of guinea pig serum and human gamma globulin on, 980; blood-group frequency and brain, 933; blood-group susceptibility to, 674; and cigarette smoking, 68; consistent biochemical pattern in, 32; control of agent of mammary, 69; hormone changes in adrenal, 487; impaired respiration in, 267; lactic dehydrogenase activity of serum of mice with, 173; meetings to study African problems in, 283; radiation as cause of, 1020; and requirement for asparagine and glutamine, 124; statistics of mortality from, 357, 1246; study of survival of cells of, 935; study of virotherapy in, 938; tissue-culture growth of epithelial, 128; Warburg theory of, 267. *See also* Tumor
- Candida albicans*, mechanism of cell division in, 722
- Carassius auratus*, erythrocyte antigens and serology in, 315
- Carbon, radioactive, in atmospheric studies, 111; in biosynthesis of strawberry pigment, 28; carbon dioxide proportional-counting system for measurements of, 154; price of, 480; in sewer gas carbon dioxide, 1252; in study of effects of radioactive materials, 15. *See also* Radiocarbon dates
- Carbon-black method, for determining radiocarbon dates, 665
- Carbon dioxide, anomalous content of radiocarbon in sewer gas, 1252; in proportional-counting method for radiocarbon measurements, 154
- Cardiff University, 349, 354
- Cardiotonic substance, in mammalian tissues, 1205
- Caribbean Sea, replacement of surface water of, 15
- Carlson, A. J., obituary, 713
- Carrot, effect of chilling on streaming in, 75; study of bitterness in, 984
- Cartography, of Asia and Far East, 88
- Casein, nonexistence of D-aspartic acid in, 1205
- Cat, blockage of heart synapses in, 319; brain electric activity in wakefulness and sleep in, 366; effect of cholinergic drugs on, 981; effect of LSD-25 on, 122
- Catalase, biochemistry of, 471
- Cathode rays, work of J. J. Thomson on, 1191
- Cattle, cardiac-active principle in tissues of, 1205; interaction of perfluorooctanoic acid (PF) with serum albumin (BSA) of, 266; irregular milking schedule for, 259; preparation and properties of growth hormone in, 1293; reactions of thymus gland in, 936; supply of growth hormone of, 926; viral rhinotracheitis in, 721
- Cavendish, H., 352
- Cavitation, in liquid processing, 787
- Cell. *See* Cytology
- Cellulose, effect of gamma rays on, 893
- Centennial, of death of Avogadro, 708; of discovery of Neanderthal man, 1183; of, N. Tesla, 373; of J. J. Thomson, 327, 1191; of University of Maryland, 327
- Centrifugation, closed system for, 792; differential, 969
- Cephalochordates (lancelets), phosphagens in, 820
- Cerium (III), reaction of 8-quinolinol with, 682
- Cerium, radioactive, as a hazard to human beings, 14; tagging of fleas with, 822
- Cesium, radioactive, as a hazard to human beings, 14, 122
- Cetaceans, theory of function of "blood-vascular bundle" in, 167
- "C-fiber" pain, 442
- Chalonge, D., and the visa problem, 127
- Chelation, of cerium, 682; of radioactive cations for use as ground-water tracers, 402
- Chemistry, and accumulation of electrolytes by living cells, 939; Avogadro and, 708; contributions of N. E. Gordon to, 1278; contributions of L. Reiner to, 434; contributions of F. Soddy to, 1069; and internuclear distance in poly-

- atomic molecules, 938; of leather manufacturing, 347; of mental disease, 716; and quantum interactions of free electron, 327; salaries in, 531; television program on, 259
- Chemoreceptor, of grasshopper, 1203
- Chemotherapy, antimetabolite approach to, 34
- Cherry (*Malpighia*), ecology of, 317
- Chicken, adult tissue homogenates and similar embryonic proteins in, 1251; egg-adapted encephalomyelitis in, 80; fowl pox vaccine associated with parthenogenesis in, 1079; influence of elastase on experimental atherosclerosis in, 588
- Chilling injury, in plants, 75
- Chimpanzee, behavioral variability in, 212; conditioned reinforcement in, 679; effect of hypothermia on epileptiform activity in temporal lobe of, 931; and susceptibility to common cold, 883; urine of, 435; at Yerkes Laboratory, 715
- Chlamydomonas*, colchicine-induced polyploidy in, 25
- Chlorella*, action of polymyxin B on, 939; quantum yield of fluorescence in, 585; as source of lysine and threonine, 536
- Chlorophyll, quantum yields of fluorescence of, 585
- Chloroplasts, illuminated, in reduction of pyridine nucleotides, 118
- Chlorpromazine, and effect on *Betta splendens*, 440; and effect on guppy, 407; rat brain for screening of, 265; for treating behavioral disorders, 259
- Chlortetracycline, as inhibitor of D-amino acid oxidase, 273
- Cholesterol, control of production of, 1197; in serum lipoproteins, 1148
- Choline, new derivative of, 81
- Cholinergic effects, of derivatives of pyruvic acid, 981
- Chondroitin sulfate, concentration effect of cortisone in syphilomas on, 275; isolation of uronic acid from, 1252
- Chordates, phagocytes in, 820
- Chortophaga viridifasciata*, mitosis in neuroblasts of, 203
- Chromatographer, for use with mass spectrometer, 817
- Chromatography, and adsorption of proteins, 1028; modified apparatus for paper, 1253; in purification of synthetically prepared radioactive glucosone, 171; and surface ionic exchange, 487
- Chromosomes, and free radicals in breakage of, 889; mitotic orientation and movements of, 203; number of human, 576; theory of duplication of, 151. *See also* Genetics
- Cigarette smoke, nicotinic and glutamic acids in, 1080
- Citrullus vulgaris*, protoplasmic streaming in, 76
- Civil Service, scientists in British, 567
- Clam (*Venus mercenaria*), effect of LSD-25 on heart of, 121
- Clarke, H. T., retired, 115
- Classification, of scientific data, 776
- Clausen, R. E., obituary, 1286
- Clearing factor (lipoprotein lipase), role of heparin in, 489
- Cleft palate, from amniotic puncture, 439
- Climate, changes in San Augustin Plains, 537; determination of Pleistocene, 385
- Climatology, and Australian water conservation method, 1071; report of meeting on bio-, 1299
- Cloud physics, 86
- Cobalt, radioactive, source of megacurie amounts of, 814
- Cocaine, in studies of metabolic transport and passive transfer of ions, 724
- Cochise culture, Sonoran variant of, 1029
- Cockroach (*Periplaneta americana*), spontaneous activity in denervated muscle in, 1079
- Cody, M. D., retired, 823
- Coenzyme, cytidine diphosphate (CDP) choline as, 81
- Coincidence principle, of H. Geiger, 166
- Colchicine, and polyploidy in algae, 25
- Cold, common, inability of bioflavonoids to combat, 1140; susceptibility of hamster to, 883
- Coleman, H. S., retired, 114
- Collagen, random coil configuration in, 53; studies of building stones of, 941
- Colligative properties, and osmotic pressure, 474
- Columbia River, and atomic wastes, 14
- Commission on Security, 383
- Committee on Disposal and Dispersal of Radioactive Wastes, report of, 17
- Committee on the Effects of Atomic Radiation on Agriculture and Food Supplies, report of, 63
- Committee on Effects of Atomic Radiation on Oceanography and Fisheries, report of, 13
- Committee on Meteorological Aspects of the Effects of Atomic Radiation, report of, 105
- Committee on Pathologic Effects of Atomic Radiation, report of, 60
- Commonwealth Fund, 345
- Communication, and abstracts of world literature on demyelinating diseases, 73; and AEC foreign agreements, 213; of federal research results, 530; by meteor trails, 258; and nuclear scientists' visit to Latin America, 1019; and scientific interchange, 309; and translations of scientific information, 871
- Congenital defects, from amniotic puncture, 439
- Consciousness, and electroencephalographic patterns, 1066
- Constants, status of research on physical, 939
- Contour perception, 316
- Convulsions, effect of taming on rat susceptibility to, 74
- Cook Technological Center, opening of, 678
- Coral limestone, analysis of ionium, uranium, and thorium in, 175
- Corn, histochemical localization of sulfhydryl groups in, 628
- Corticosteroids, from aqueous media, 1030
- Corticotropin, from bovine pituitary glands, 934
- Cortisone, and effect on chondroitin sulfate and hyaluronic acid in syphilomas, 275
- Coryphaena hippurus*, predicting radiostrontium in, 1027
- Cosmic distance scale, report of conference on, 282
- Cosmic rays, and map of world, 310; and possible source in supernovae, 674; production of beryllium-10 by, 584
- Cosmogony, speculations on fundamental symmetry in, 218
- Cosmology, conference on, 282
- Coulometric titrations, 940
- Council for Basic Education, formation of, 169
- Council on Library Resources, Inc., formation of, 690
- Crab, blocking effect on inhibitory synapses in horseshoe, 681
- Cranes, proposals to trap whooping, 884
- Crassostrea virginica*, effect of niacinamide on, 220
- Crittenden, E. C., obituary, 255
- Crop production, and atomic radiation, 64
- Cryogenic instrumentation, 777
- Crystal growth, by hydrothermal process, 310; of hydroxyapatite by hydrothermal bomb method, 583; in living cells, 516; methods of, 9; physical principles of, 515; in polymers and proteins, 53
- Crystal structure, of azulene, 126; of Coxsackie virus, 940; of meyerhofferite, 936; of small spherical viruses, 626
- Cucumis melo*, protoplasmic streaming in, 76
- Cunningham, E. R., retired, 360
- Curare, and effect on hypothermic dogs, 1145
- Curry, W. A., retired, 115
- Cytidine diphosphate (CDP) choline, 81
- Cytology, of cell fractions, 969; and cell-wall composition of yeast, 272; chemistry in, 939; and chromosome orientation and movements during mitosis, 203; and consistent biochemical pattern in tumor fractions, 32; and contamination of human cultures, 1147; contributions of R. R. Bensley to, 972; and determination of water content in biological samples, 27; and enzymatic reduction of cell-wall protein, 318; and freezing in biological systems, 518; and goldfish erythrocyte antigens, 315; of human epithelium, 127; and immunology of isolated bacteria membranes, 535; mechanism of cellular division, 722; and principle of closed-system centrifugation, 792; and osmotic gradients in mammalian tissues, 221; and respiratory impairment in cancer cells, 267; and sulfhydryl groups in cell division, 1292; and theory of duplication of chromosomes, 151; and tissue-culture cultivation of cytopathogenic agents, 226; and transport of *p*-aminohippurate, 401; use of fluorescence microscopy in, 1024; value of phase microscope in, 812
- Cytoplasm, survival of human enucleate, 935

D

- Dagger (†), use of in scientific writing, 323
- Dahlberg, G., obituary, 1195
- Dahlite, as constituent of prodissoconch I of *Pinctada martensii*, 630
- Dallas Archeological Society, 396
- Dalton, J., 352
- Dantzig, T., obituary, 714
- Darcy, H., centennial of, 1258
- Darwin, C. 352, 480
- Darwin Anniversary Committee, Inc., proposed centennial expedition of, 1072
- Data processing, integrated and electronic, 773
- Daucus carota*, protoplasmic streaming in, 76
- Davies, C. E., professional data on, 594
- Davis, J. J., retired, 22
- Davy, H., 350, 354
- Deep-sea diving, new record in, 1141
- Dehydration, of alcoholic solutions, 77; of food by pervaporation, 77
- De Jong, H. H., obituary, 478
- N-Demethylation, of narcotic drugs, 263
- Demmon, E. L., retired, 1021
- Dendrocalamus strictus*, available in Cuba, 1291
- Dengue virus, isolated from human being, 224
- Denmark, and IGY, 408; and nuclear research station, 480; study of Neolithic period in, 876, 879; suicide in, 716
- Dentistry, in western U.S., 883
- Desoxyribonucleic acid (DNA), of bacteria, inhibitor for, 441; and its role in genetics, 151; in x-irradiated rat liver, 81
- Deuel, H. J., Jr., obituary, 209
- Deuterium-hydrogen fractionation, in water freezing, 938
- Devau, H., obituary, 1017
- Diabetes, blood-group susceptibility to, 674

Dialysis, fractionation by partial, 936
 Diazo reaction, on bilirubin in body fluids of jaundiced human beings, 76
 Dibenamine, and effect on dogs, 264
 Diet, algae-supplemented, 536
 Digestion, contribution of H. J. Deuel, Jr., to studies of, 209
 Dihydroxyacetone phosphate (DHAP), condensation of, 982
 Diphosphopyridine nucleotide (DPN), photoreactivation of ultraviolet inactivated, 31; photosynthesis in reduction of, 118
Dipodomys ordii, laboratory breeding of, 485
 Diving, new record in deep-sea, 1141
 Doe, J., retired, 71
 Dog, effect of LSD-25 on, 121; influence of starvation on sperm count in, 363, 1203; renal transport of oxygen-18 labeled *p*-aminohippurate in, 401; spontaneous rewarming in hypothermic curarized, 1145; in study of skull veins, 129; tranquilizing drug effects on, 264; tremor produced in, 79
 Dolphin (*Coryphaena hippurus*), predicting radiostromium in, 1027
 Dromoran, optical isomerism of, 29
Drosophila melanogaster, mutation in, 314, 882; rhythmic time-controlled behavior of, 172; study of pteridine pigments in, 725; tumor-inducing factors in, 220
 Drugs, antiheparin, 113; cholinergic, 981; conference on use of psychiatric, 692; effects on posttetric potentiation, 1150; and learning of fear, 1082; mechanism of tolerance for narcotic, 263; for mental illness, 990, 1020; and optical isomerism, 29; prompt reporting of reactions to, 884
 Drugs, tranquilizing, apomorphine test for, 264; and behavioral disorders, 259; brain self-stimulation screening of, 265; and chemically altered behavior in fish, 407; and effects on emotional behavior, 167, 983; and effects on Siamese fighting fish, 440; menstrual cycle in monkey affected by, 727; presurgical effect of, 168; in treatment of mental illness, 990, 1020
 Durham University, 345, 347, 350, 354
 Dye, commercialization of synthetic, 465

E

Earth, electric properties of, 1204; proposal for geophysical penetration of, 686; structure of crust of, 941
 Earth satellite, gold coat for, 1247; larger orbit for IGY, 359; program for volunteer watchers of, 620; test firing of vehicle of, 619; U.S.S.R. program for, 674, 1020
 Earthquake. *See* Seismology
 Ecological Society of America, meeting report of, 830, 1036
 Ecology, and atomic radiation, 15, 66; contribution of A. O. Weese to, 477; and limiting factors in higher vertebrate populations, 304; report of meeting on, 830; and studies in parasitism, 979; of West Indian cherry, 317
 Edge-wave theory, Lake Michigan application of, 1238
 Edinburgh, University of, 345, 349, 353
 Education, in British universities, 1122; in Central America, 822; college, 680, 824, 1123, 1155; and control of human behavior, 1058; and distribution of U.S. university catalogs abroad, 1246; engineering, 69, 299, 345, 841; and exchange teachers, 399, 703; federal aid to, 522, 624, 919; high-school, 513, 1009, 1156; manpower shortage in, 565, 977; and mathematics curriculum, 901, 1009, 1219; medical, 213, 361, 532; and population crisis, 357, 965, 1276; programs in nuclear energy, 437, 532; regulations in U.S.S.R., 1074; and standard of MS degree, 687; technical, 901; in United Kingdom, 345, 347, 355; use of small animals in primary, 530
 Eel, phase microscope in study of, 812
 Elastase, crystalline, and experimental atherosclerosis, 588
 Elastic mechanisms, 53
 Election of officers, AAAS, 1288; AAAS, Arctic branch, Alaska division, 831; AAAS, Pacific division, 329; American Academy for Cerebral Palsy, 1260; American Association of Neuropathologists, 236; American College of Dentists, 1301; American Electroencephalographic Society, 373; American Ethnological Society, 132; American Institute of Mining, Metallurgical, and Petroleum Engineers, 452; American Medical Writers' Association, 1042, 1301; American Microscopical Society, 637; American Nuclear Society, 38; American Pharmaceutical Association, 1220; American Psychological Association, 500; American Rheumatism Association, 596; American Society of Agricultural Engineers, 329; American Society of Biological Chemists, 38; American Society of Civil Engineers, 831; American Society for Engineering Education, 1260; American Society for Horticultural Science, 992; American Society of Human Genetics, 637; American Society of Limnology and Oceanography, 132; American Society of Mammalogists, 132; American Society for Metals, 373; American Society of Parasitologists, 831; American Society for Quality Control, 132; American Society for Testing Materials, 188; American Society of Zoologists, 992; Associação Brasileira de Química, 500; Association for Computing Machinery, 831; Association of Military Surgeons, 1301; Botanical Society of America, Inc., 1957, 831; Gamma Sigma Delta, 188; International Association of Milk and Food Sanitarians, Inc., 992; Kresge-Hooker Science Library Associates, 1260; Massachusetts Society for Research in Psychiatry, 38; Mineralogical Society of America, 1220; Mississippi Valley Medical Society, 1260; Mycological Society, 1042; National Association of Science Writers, 236; Nature Conservancy, 1220; New Mexico Academy of Science, 1260; Paleontological Research Institution, 946; Phi Lambda Upsilon, 596; Phi Sigma Society, 1042; Phi Tau Sigma, 236; Physiological Society of America, 637; Poultry Science Association, 500; Reticuloendothelial Society, 946; Society of Exploration Geophysicists, 453; Society of General Physiologists, 637; Society for Industrial and Applied Mathematics, 1220; Society for Nondestructive Testing, 373; Society of Nuclear Medicine, 329; Society of Protozoologists, 596; Soil Conservation Society of America, 1260; South Carolina Academy of Science, 946; Southern Association of Science and Industry, 188; Technical Writing Improvement Society, 329; Tennessee Academy of Science, 1301; Tissue Culture Association, 373, 596; Virginia Academy of Science, 452; Western Section of the American Society of Plant Physiologists, 946; Wilderness Society, 1042; Xi Sigma Pi (forestry), 1956-58, 637
 Electric power, produced by nuclear energy, 109
 Electricity, contributions of J. J. Thomson to, 1191; and electric environment of tree and earth, 1204; and influence of "aging" on electrodeless discharge, 583; and nonexistence of gravity shields, 1292
 Electroencephalogram (EEG), and consciousness and sleep, 1066
 Electrolytes, accumulation of, by living cells, 939
 Electromagnet, liquid hydrogen-cooled, 779
 Electron, spore walls in *Bacillus megaterium* penetrated by, 182; quantum interactions of free, 327; work of J. J. Thomson on, 1191
 Electron microscope, for studying cell fractions, 969
 Electron tube, new, 884
 Electronics, for data processing, 773; for measuring human motions, 807
 Electrophoresis, paper, of plasma proteins in amphibians and reptiles, 225; and protein adsorption, 1028; for studying serum lipoproteins, 1148
 Embryology, and effects of injected adult tissue homogenates on organ formation, 1251; embryos from one-fourth of egg, 397; and parthenogenetic development of fowl eggs, 1078; value of phase microscope in study of, 812
 Emotional stress, effects of, 429
 Encephalomyelitis, in adapted chick embryo, 80
 Endocrinology, and adrenal carcinoma, 487; and physiological response to hormone dose, 365; and preparation of growth hormone, 1293; and problems of fertility and sterility, 328; and supply of bovine growth hormone, 926
 Energy, atomic. *See* Nuclear energy
 Energy transfer, in living cell, 585
 Engineering education, graduates in, 299, 821; in Great Britain, 345, 347; loss of teachers in, 69
 Engineering Societies Building, proposed site of, 1072
 Engineering Standards Committee, formation of, 24
 Engineers Joint Council, professional standards report of, 73
 England, Antarctic expeditions of, 1142; educational resources of, 345, 347, 355; and engineering graduates, 821; and exchange of nuclear information, 20; and expenditure of research budget, 578; and scientists in civil service, 567; U.S. Atomic Energy Commission office in, 1020. *See also* United Kingdom
 Entomology, as teaching medium in high-school biology courses, 71
 Enzyme, action of oxidation, 467; cellular division, 722; effect of temperature on respiratory, 936; of fatty-acid metabolism, 614; and inhibition of yeast hexokinase by fluoride, 402; as model for narcotic drug receptors, 263; reduction of disulfide bonds in protein by, 318; study of uricase, 705; transaminase activities in viral hepatitis, 32; yellow, 468
 Enzyme deficiency, in primaquine-sensitive blood, 484
 Enzymology, inactivation of lipoprotein lipase by heparin, 489; and molecular chemistry of mental disease, 716; nomenclature in, 614
 Epinephrine, optical isomerism of, 29
 Epizootiology, of hemorrhagic disease of muskrats, 304
 Equilibrium. *See* Phase equilibrium
Erodium cicutarium, protoplasmic streaming in, 76
 Erratum, for "Blood groups and disease," J. A. F. Roberts, 1151; for "Genetic effects of atomic radiation," summary report of Committee on Genetic Effects of Atomic Radiation, 170; for "Harry

J. Deuel, Jr., student of nutrition," J. M. Luck, 483; for "How shall we pay for research and education?" P. E. Klopsteg, 1144; for "Lamont radiocarbon measurements III," W. S. Broecker, J. L. Kulp, C. S. Tucek, 630; for "Louis C. Karpinski, historian of mathematics," P. S. Jones, 313; for "Mitochondrial self-duplication observed *in vitro*," H. A. Leon and S. F. Cook, 368; for "New atom smasher," 313; for "Provincial universities in the United Kingdom," T. I. Williams, 978; for "Radiosensitivity factors in oat seeds: dormancy, water, and development," 630

Erythromycin, molecular structure of, 821

Escherichia coli, amino acids in growth medium of, 935

Estrogen, proteins and calcium in serums of birds treated with, 1242

Ethnology, report of congress on, 1157

Ethyl alcohol, and blocking of inhibitory synapses in eye, 681

Euratom, 310

Europe, unusual pneumonia in, 883

European Organization for Nuclear Research, symposium of, 87

Euthynnus yaito, predicting radiostromium in, 1027

Evolution, and biochemical origins, 923; of brain of birds and mammals, 479; and lethal genes in mouse, 936; and new approach to origin of man, 1282; and phylogeny of lung fluke of turtles, 890

Exchange visitors to U.S., and permanent residence, 168

Executive for Small Business, establishment of, 1197

Exeter, University College of, 354

Experimental method, F. Bacon and, 351

Eye, effect of ethyl alcohol on synapses in *Limulus*, 681

F

Fallout, arrival times of, 475; AEC report on, 531; categories of, 105; hazards of nuclear, 1140; radioactive cesium in human being from, 122; of radiostromium, 894; through September 1955, 251. *See also* Radioactive materials

Faraday, M., 352

Fat, changes in human, 682; pinch-caliper and x-ray measurement of, 178

Fatty acid, nomenclature for metabolism of, 614

Fear, reserpine and learning of, 1082

Federation of American Scientists, and scientific interchange, 309

Fertility, conference on, 328; effect of starvation on sexual, 363, 1203; and synthetic progestins, 890, 891

Fetal injury, by amniotic puncture, 439

Filaree, effect of chilling on streaming in, 75

Films, on nuclear energy and related subjects, 1144

Fish, at Galapagos Islands, 480; mechanism of sound production in, 219; new laboratory for study of, 259; predicting radiostromium in, 1027; reserpine as cure for chemically altered behavior in, 407; in sedimentation core, 368; study of chemistry of, 1247; and study of effects of radioactive materials, 15; uptake and turnover of radiocalcium in, 575

Fisheries, and effects of atomic radiation, 13

Fission products, biological decontamination of, 320; measurement of, 251

Fixed-field accelerators, 781

Flavobacterium, for study of heparin and lipoprotein lipase, 489

Flavoprotein, as discriminatory temperature indicator, 936

Flax rust fungus, mutations induced by ultraviolet radiation in, 888

Flea, radiocerium tagging of, 822

Fluorescein, fluorescence of, 585

Fluorescence, of photosynthetic pigments, 585

Fluorescence microscopy, in exfoliative cytology, 1024

Fluoride, inhibition of yeast hexokinase, 402

Fluorine ion-exchange, determination of, 175

Fluorocompounds, and effects on phosphorylation, 1208

Food chain, in study of radioactive materials, 15

Food preservation, by irradiation, 66, 678; by pervaporation, 77

Food supply, and atomic radiation, 63

Foraminifera, as evidence for Pleistocene climates, 385

Ford Foundation, in merger with Fund for Education, 1288

Forest research center, in Tennessee, 361

Fossil, of palm, 260

Foundation for Instrumentation Education and Research, establishment of, 1041

Fowl pox vaccine, and parthenogenesis, 1079

Fractionation, of deuterium-hydrogen in water freezing, 938; by partial dialysis, 936

France, electricity by atomic power in, 820; nuclear reactor for, 480; U.S. Atomic Energy Commission office in, 1020

Frank, P., conference honoring, 327

Franklin, B., 352

Freezing, in living cells and tissues, 515

Friends of the Pleistocene, meeting report of, 372

Frog, leopard (*Rana pipiens*), genetics of, 167

Fruitfly. *See Drosophila melanogaster*

Fry, T. C., retired, 622

Fuel processing, for nuclear reactors, 18

Fulbright program, 703

Fund for Education, in merger with Ford Foundation, 1288

Fundulus diaphanus, in sediment core, 368

Fungicide, results of tests with, 678

Fungus, mutations induced by ultraviolet radiation in, 888; resistance to, 223

Furnace, solar, in high-temperature research, 797

G

Galapagos Islands, as proposed site for research station, 480

Galilee, Hyksos tomb found at, 821

Gallup poll, and book-reading habits, 590

Gamma globulin, and effect on tumor, 980

Gamma rays. *See* Radiation, gamma

Garrett, H. E., retired, 115

Gas analysis, by sonic techniques, 787

Gas-sample technique, for determining radiocarbon dates, 665

Geiger, H., 50th anniversary of thesis of, 166

Geiger counter, for isotopic tracing, 802

Gene-conversion, 26

Genetics, and available bacteriophages, 529; as basis for behavioral variability in chimpanzee, 212; and behavioral science, 276; and cellular division, 722; of *Chlamydomonas*, 25; and chromosomes of barley, 889; and chromosomes in human cells, 576; and cold-adapted variants of poliovirus, 586; and congenital defects by amniotic-sac puncture, 439; contributions of R. E. Clausen to, 1286; contributions of G. Dahlberg to, 1195; contributions of A. H. Hersh to, 575; and cytoplasmic sterility transmitted to progeny in *Petunia*, 684; and damaging effects of radiation, 14, 101, 112, 409, 498; in determination of specificity and molecular organization, 151; federal support of research in, 523; and goldfish erythrocyte antigens, 315; and implantation of normal blood-forming tissue in irradiated anemic mice, 1076; of leopard frog (*Rana pipiens*), 167; of marine life as affected by radioactive materials, 14; and mutations in male *Drosophila*, 882; of navy bean, 223; and plant protection, 732; and process to eliminate hand removal of hybrid seed corn tassels, 169; report of congress on, 358; report of Japanese symposia on, 989; of sickle-cell anemia and malaria, 619; and spontaneous mutation rates in fruitfly, 314; and spread of lethal genes in mouse, 936; and theories of gene stability, 26; in U.S.S.R., 277

Geology, and fossil palm, 260; and high-pressure silicates, 935; and iron silicates, 937; and Mankato drift, 625; and new approach to origin of man, 1282; and Pleistocene climates, 385, 537; and radiocarbon dates from Lamont, 154; report of congress on, 945; and rigidity of earth's core, 1204; of San Augustin Plains, 539; and Stokes' edge waves, 1238; and structure of earth's crust, 941; and study of Neolithic period in Switzerland and Denmark, 876, 879; and survival of amino acids in marine sediments, 1026; television program on, 259; and U.S.-Australian submarine cruise, 479; and uranium exploration, 576; and volcanic effects in eastern Oregon, 941; and world-wide climatic change, 939

Geophysics, and amount of matter in space, 621; and electric properties of tree, 1204; formation of Venezuelan association for, 992; and global flight to determine earth's magnetic field, 620; Liverpool Observatory and Tidal Institute of, 348; and penetration of earth's crust, 686; report of conference on theoretical, 234; and Stokes' edge waves, 1238

George Washington University, and vault for the future, 22

Geothermal survey of hot ground, 629

Geriatrics, report of conference on, 734

Germanium, and physics of semiconductor surfaces, 635; single crystal growth of, 12

Germany, heavy water for, 359; radio-telescope for, 531

Germination, autoinhibition of bacterial endospore, 403; of *Bacillus subtilis*, 174

Gerontology, report of conference on, 734

Gibbon, urine of, 435

Gilmore, H. R., Jr., retired, 260

Glaciation, of St. Lawrence lowlands, 372. *See also* Geology

Glasgow University, 349, 353

Glass, B., professional data on, 594

Globigerina inflata, as climatic indicator, 385

Globorotalia, as climatic indicator, 385

Glucose, in red alga, 171

Glucuronide, bilirubin, in jaundiced human beings, 76

Glutamine, in cigarette smoke, 1080; Walker carcinosarcoma requirement for, 124

Glutathione, and effect on cell division in lily, 1292

Glycine, bovine spermatozoa metabolism of, 228

Glycogen, metabolic inhomogeneity and turnover of, 941

Glycolysis, in cancer cells, 267
 Golden shiner, in sediment core, 368
 Goldfish (*Carassius auratus*), erythrocyte antigens and serology in, 315
 Golgi apparatus, electron microscope study of, 971
 Gordon, N. E., and contributions to science, 1279
 Gordon Research Conferences, history of, 1278
 Gorham, L. W., retired, 260
 Gorilla, urine of, 435
 Government, and control of human behavior, 1059; and effects of nuclear radiation, 13. *See also* U.S. Government
 Graham, R., retired, 214
 Grana, in accumulation of reduced pyridine, 118
 Grasshopper, mitosis in neuroblasts of, 203; permeable spots on antenna of, 1203
 Gravity, in determining structure of earth's crust, 941
 Gravity shields, nonexistence of, 1292
 Graying, in rats, 1145
 Great Britain. *See* England; United Kingdom
 Greenland, seeding of quinoa for, 260
 Growth, effects of taming on rat, 74; influence on x-ray sensitivity of, 1078
 Growth hormone, available supply of bovine, 926; characteristics of human, monkey, and bovine, 1293
 Guinea pig, as classroom pet, 530; effects of yellow bacillus on, 22; missing step for L-ascorbic acid biosynthesis in, 1148; relation of ammonia excretion to urine pH in, 74; tumor inhibition by serum of, 980
 Gulonolactone, absence of, in guinea pigs, 1148
 Guppy (*Lebistes reticulatus*), reserpine as cure for chemically altered behavior in, 407; radiocalcium in, 571

H

Haggard, H. W., retired, 823
 Hale, D. H., retired, 578
 Hale, M. W., retired, 1142
 Halley, E., 352
 Hamster, and susceptibility to common cold, 883
 Hardness, of substances in ideal state, 172
 Hawaii, high-altitude observatory in, 531
 Health, of aging persons, 734; federal support of research in community, 523; and legislation, 297; and radioactive materials, 13, 17; training program for personnel in public, 825. *See also* Mental health
 Health Research Facilities Act, funds available under, 400
 Heart, blockage of synapses of, 319; digitalislike principle in, 1205; membrane potentials and repolarization in, 1209
 Heart disease, in Asia, 69; and control of cholesterol production, 1197; flotational lipoproteins and atherosclerosis, 176; geographic variations in incidence of, 621
 Heat, nuclear reactor release of, 17
 Heidelberger, M., retired, 115
 Helium, production and uses of liquid, 778
 Hematology, and new principle of closed-system centrifugation, 792; phase microscope in study of, 812
 Hematopoiesis, in irradiated anemic mice, 1076
 Hemichordates (sea acorns), phagocytes in, 820
 Hemin proteide, purification of, 470
 Hemoglobin, production of increased circulating, 439

Hemoproteins, low-temperature studies of reduced, 937
 Heparin, neutralizer for, 113
 Heparinase, inactivation of lipoprotein lipase by, 489
 Hepatitis, tissue culture and cytopathogenic agents in, 226
 Herbicide, 2,4-D, for control of sagebrush, 169
Heronimus chelydrae, life-history and taxonomy of, 890
 Herschel, W., 352
 Hersh, A. H., obituary, 575
 Hexokinase, delayed fluoride inhibition of yeast, 402
 High-polymer chemistry, report of forum on, 1257
 Hill reaction, in reduction of diphosphopyridine nucleotide (DPN), 118
 Histochemistry, localization of SH groups by methods of, 628
 Histology, value of phase microscope in, 812
 Historadiography, for determination of water content in biological samples, 27
 History of mathematics, contributions of T. Dantzig to, 714
 History of science, contributions of H. Geiger to, 166; contributions of J. M. D. Olmsted to, 395; contributions of E. T. Whittaker to, 208
 Homogenates, of liver and heart and formation of similar embryonic proteins, 1251
 Hooke, R., 351
 Hormone, available supply of anterior pituitary, 926; and influence on steroids in adrenal cancer, 487; interaction of effects of, 1206; physiological response to dosage of, 365; proteins and calcium in serum of birds treated with, 1242. *See also* Growth hormone
 Hot ground, near Lordsburg, N.M., 629
 Hull University, 347, 354
 Human being, behavior control in, 1057; behavior disorders and tranquilizing drugs in, 259; bilirubin in jaundice in, 76; and biological effects of nuclear radiation, 13, 60, 405, 498; and biology of schizophrenia, 429; bony dimensions and estimation of body weight in, 685; cancer biochemical pattern in, 32; in cancer studies, 128; and changes of EEG in wakefulness and sleep, 1066; contamination of cell cultures of, 1147; dengue virus isolated from, 224; early records of, 396, 577; effect of 19-nor steroids on reproduction in, 890; effect on tumor of gamma globulin from, 980; effect of verbal reinforcers on learning in, 582; electronics for measuring motions of, 807; elevation of platelet level as indication of ovulation in, 180; fat changes during weight loss in, 682; flotational lipoproteins in atherosclerotic aortas in, 176; growth hormone in, 1293; growth of Walker-256 cells in serum of, 124; hormone changes in adrenal cancer in, 487; hormone interaction in, 1206; incidence of malaria and sickle-cell anemia in, 619; and instruments, 771; natural gamma-ray activity of, 122; new approach to origin of, 1282; number of chromosomes in cells of, 576; and ozone toxicity, 213; pain sensation in, 442; preparation of nucleic acids from ascites tumor cells in, 1077; primaquine-sensitive erythrocytes in, 484; rare pneumonia in, 883; somesthetic localization and brain function in, 484; strontium content in bones of, 405; techniques for measuring skin and fat of, 178; tissue-culture cultivation of cytopathogenic agents in, 226; urine of, 435; weight-lifting ability and

body weight in, 486; and x-ray microscopy of tissue sections, 683
 Humanities, and science, 327
 Hungary, American resources made available to refugee scientists from, 1288; request for exchanges of visits with scholars of, 1245
 Hunt, J. K., retired, 311
 Hurricane, ship for research on, 69
 Huxley, T. H., 352
 Hyaluronic acid, concentration effect of cortisone in syphilomas on, 275
 Hydrogen, production and uses of liquid, 778
 Hydrogen bomb tests, proposed ban of, 975
 Hydrogen peroxide, and enzymatic oxidation of uric acid, 705; removal of phosphorus from, 1209
 Hydroxyapatite, in bones of vertebrates, 630; synthesis of pure, 583
 Hyksos period, discovery of tomb from, 821
 Hypertension, and antiserotonins, 34
 Hypnosis, comparison with suggestibility during light sleep, 405
 Hypothermia, and epileptiform activity in temporal lobe, 931; international symposium on, 899; and rewarming in curarized dogs, 1145

I

Ice Age, multiple glaciation since, 181
 Iduronic acid, from chondroitin sulfate B, 1252
 Illinois Institute of Technology, nuclear reactor at, 72
 Ilotycin. *See* Erythromycin
 Immunochemistry, of interaction between BSA and PF, 266
 Immunology, of isolated bacteria membranes, 535; in studies of goldfish, 316
 Indexing of scientific data, 776
 India, and development of small industries, 168; institute of technology for, 437; and new penicillin plant, 716; nuclear progress in, 359
 Indians, study of Peruvian, 576
 Indole, as behavior inducer, 407, 723
 Industry, and anthropometry, 310; and cherry, 317; and disposal of radioactive materials, 13; and English universities, 347; and instruments, 771; nuclear energy in, 17, 20, 109; and report of Pentagon's new security system, 821; report on scientific research in, 882; scientific manpower shortage in Canadian, 674; sonic techniques for, 787; and synthetic dyes, 465; and use of agricultural products, 1288; value of phase microscope in, 813
 Information, storage and retrieval systems for, 773
 Infrared. *See* Radiation, infrared
 Insect, and control by irradiation, 1011; permeable spots on antenna of, 1203; spontaneous activity in denervated muscle of, 1079; as transmitter of plant virus, 257
 Insemination, artificial, 497
 Institute for the Unity of Science, and conference on world-view, 327
 Instrument Society of America, and establishment of foundation, 1041
 Instrumentation. *See* Apparatus
 Insurance, and disposal of radioactive materials, 17
 Interferometry, ultrasonic, 787
 International Association of Scientific Hydrology, meeting report of, 1258
 International Astrophysical Symposium of Liege, report of, 496
 International Atomic Energy Agency, 69, 917, 973

International Atomic Exposition, removal of offices of, 637
 International Civil Aviation Organization, adoption of standard atmosphere of, 1071
 International Commission on Radiological Protection, 112
 International Commission on Zoological Nomenclature, 24, 313, 438, 720, 978, 1202
 International Conference on the Peaceful Uses of Atomic Energy, exhibit to commemorate, 577
 International Conference on Quantum Interactions of Free Electron, report of, 327
 International Conference on Scientific Information, meeting report of, 1259
 International Congress on Animal Reproduction, report of, 497
 International Congress of Anthropological and Ethnological Sciences, report of, 1157
 International Congress of Human Genetics, report from, 358, 576
 International Cooperation Administration, and visit to Latin America, 1019
 International Educational Exchange Program, and visit to Latin America, 1019
 International Fertility Association, meeting report of, 328
 International Genetics Symposia, report of, 989
 International Geological Congress, report of, 945
 International Geophysical Year, and Arctic ice observation, 822; in Denmark, 408; and earth satellite, 359; microcarding of observations during, 1020; and observations of ionosphere, 1072; and studies of solar storm effects, 213, 673; U.S.S.R. satellite program for, 674, 1020
 International Mars Committee, 309
 International Physiological Congress, report of, 898
 International School of Nuclear Science and Engineering, 580
 International Society of Bioclimatology and Biometeorology, organization of, 1299
 International Society of Theoretical and Applied Limnology, report of congress of, 830
 International Symposium on High Energy Physics, available proceedings of, 1144
 International Symposium on Venereal Diseases and Treponematoses, report of, 496
 International Union of Biological Sciences, meeting report of, 1158
 International Union of Geodesy and Geophysics, meeting report of, 1258
 Interplanetary space travel, organization for, 116
 Invertebrates, phosphagens in, 820
 Iodine, radioactive, in atmospheric studies, 109; price of, 480
 Iodoacetamido-1-naphthol (IAN), as histochemical reagent for SH groups, 628
 Ion exchange, and autochromatography, 487; in fluoride determination, 175
 Ion transport, in plants, 937
 Ionium, in coral limestone, 175
Ipomoea batatas, protoplasmic streaming in, 76
 Ireland, universities in, 349, 354
Iridophycus flaccidum, oxidase in, 171
 Irish Sea, as reservoir for atomic wastes, 14
 Iron, in cherry, 317; synthesis of, in stars, 611; and uric acid in release of ferritin, 1149
 Iron lung, automatically patient-adapted, 214
 Irradiation. *See* Radiation

Irrigation, in Australia, 259
 Isomerism, optical, and drug action, 29
 Isomethadone, 29
 Isotopes, inventory of stable, 72. *See also* Radioisotopes
 Isoxanthopterin, in *Drosophila melanogaster*, 725

J

Japan, nuclear reactors in, 21, 260, 1020; relics of ancient culture in, 927; status of genetics in, 989; uranium mining in, 975
 Jet stream, study of, 114
 Joint Committee on Atomic Energy, and nuclear fallout hazards, 1140
 Joint Program for Technical Education, report of, 901
 Journals, new, *Agricultural Marketing*, 217; *Annales d'Histochimie*, 217; *British Chemical Engineering*, 217; *Bulletin of the Florida State Museum, Biological Sciences*, 217; *Bulletin of the Fund for the Republic*, 217; *Chromatographic Methods*, 217; *Combustion and Flame*, 1075; *GeoTimes*, 217; *International Abstracts of Biological Sciences*, 362; *Journal of Fluid Mechanics*, 217; *Journal of the Textile Machinery Society of Japan*, 217; *Mada*, 217; *Medical History*, 1291; *Nematologica*, 217; *Nickelore*, 217; *Nuclear Instruments*, 887; *Revue Francaise d'Etudes Cliniques et Biologiques*, 217; *Technical Digests*, 217; *Transactions of Chinese Association for the Advancement of Science*, 217; *Your Radiologist*, 217

K

Kahn, R. L., retired, 115
 Kaolinite, for removal of phosphorus from hydrogen peroxide, 1209
 Karpinski, L. C., obituary, 19
 Kidney, *p*-aminohippurate transport in, 401
 Kinsey, A. C., obituary, 881
 Klopsteg, P. E., professional data on, 594
 Kluyver, A. J., obituary, 308
 Korean Mineral Assay Laboratory, 258
 Korke, S., obituary, 616
 Kyropoulos method (withdrawal), of single crystal growth, 10

L

Labor unions, and objection to Michigan reactor, 577
 Lactic dehydrogenase (LD), in serum of leukemic mouse, 173
 Lake, edge waves in, 1238
 Lake-sediment core, fish scales in, 368
 Lancelet, phosphagens in, 820
 Laos, and U.S. physician, 480
 Latin America, and agricultural information, 717; and visiting nuclear scientists, 1019
 Law, and disposal of radioactive materials, 17; and statistical theory and methodology, 589
 Lead, marine borer penetration of, 443
 Leaf, anaerobic preparation and properties of proteins in, 1081
 Leafhopper, as host of plant viruses, 257
 Learning, effect of taming on rat, 74; verbal reinforcers and, 582
Lebistes reticulatus, reserpine as cure for chemically altered behavior in, 407; study of radiocalcium in, 571
 LeChatelier's principle, and crystallization, 55
 Lecithin, coenzyme for synthesis of, 81
 Leeds University, 345, 347, 354
Leptospira, and *Meriones*, 323
 Leukemia, increased serum lactic dehy-

drogenase activity in mouse with, 173.
See also Cancer
 Library, traveling high-school science, 1013
 Life sciences, federal support of research in, 522
Lilium longiflorum, sulfhydryl groups in cell division in, 1292
 Limestone, analysis of ionium, uranium, and thorium in coral, 175
 Limnology, and fish scales in lake-sediment core, 368; report of congress on, 830
Limulus, effect of ethyl alcohol on synapses in eye of, 681
 Lipoprotein lipase, role of heparin in, 489
 Lipoproteins, comparative studies of, 1148
 Lister, J., 352, 353
 Little, C. C., retired, 399
 Liver, changes on x-irradiation of, 81; cytology of, 969; formation of uridine diphosphoglucosamine in, 1207
 Liver enzyme, crystallization of, 469
 Liverpool, University of, 347, 354
 Liverworts, V. Schiffner collection of, 217
 London University, 345, 348
 Los Alamos Scientific Laboratory, and discovery of free neutrino, 68
 Louttit, C. M., obituary, 526
 Loyalty. *See* Security
 Lung fluke (*Heronimus chelydrae*), life-history and taxonomy of, 890
Lycopersicon esculentum, protoplasmic streaming in, 76
 Lysenko, T. D., 277, 309
 Lysergic acid diethylamide (LSD), behavioral response in mice to, 723; and chemically altered behavior in fish, 407; serotoninlike effect of, 121
 Lysine, algae as sources of, 536; graying of hair caused by deficiency in, 1145
 Lysolecithin, in mammalian tissues, 1205

M

Machines, for data processing, 773. *See also* Apparatus
 Macromolecules, determination in genetic material of specificity of, 151
 Magnetic focusing, and fixed-field alternating-gradient accelerators, 781
 Magnetic refrigerator, 779
 Magnetite crystals, grown by hydrothermal process, 310
 Major, R. T., professional data on, 594
 Malaria, eradication of, 447, 675, 1197; and sickle-cell anemia, 619
Malpighia, ecology of, 317
 Mammals, cardiac-active principle in tissues of, 1205; evolution of brain of, 479
 Manchester University, 345, 347, 354
 Manhattan Society for Mental Health, and directory of mental health resources, 581
 Mankato drift, radiocarbon dates of, 625
 Mann, W. M., retired, 975
 Mannan-protein, in cell wall of yeast, 272; in cell division of yeasts, 722
 Manpower. *See* Scientific manpower
 Marine biology, report of conference on, 281, 1300
 Marine borer, attack on lead cable sheath by, 443
 Marine resources, effects of radioactive materials on, 13
 Marquesas Islands, archeology in, 1196
 Mars, and close approach to earth, 309; detection of radio waves from, 620
 Marshall scholarships, 345
 Marsupial, Australian census of, 578
Martesia, penetration of lead cable by, 443
 Maryland, University of, centennial of, 327
 Mass spectrometer, applications for, 817
 Massachusetts Institute of Technology, proposed nuclear reactor for, 533
 Mathematics, of Bendix mass spectrom-

- eter, 818; conference on instruction in, 1219; contributions of T. Dantzig to, 714; contributions of L. C. Karpinski to history of, 19; contributions of E. T. Whittaker to, 208; and cosmic distance scale conference, 282; of determining weight-lifting ability from body weight, 486; encoding nonintegers in, 120; essay contest on teaching of, 529; and estimation of physical quantities, 940; and logarithmic relationship in racing events, 178; new high-school course in, 116; of osmotic pressure, 472; and populations of higher vertebrates, 304; report of conference on curriculum in, 901; in secondary schools, 1009; and statistics of small population, 317; of Stokes' edge waves, 1238; U.S. Army research center for, 72
- Maxwell, J. C., 352
- Mayer, A., memorial to, 624; obituary, 616
- Measurement, of astronomical distances, 282; gravity, 941; of radioactive fallout, 105, 251; of skin and fat by pinch-caliper and x-ray methods, 178; sonic damping, 787; and status of research on physical constants, 939
- Medical Research Council of Great Britain, and report on radiation hazards, 112
- Medicine, application of phase microscope to, 813; and bioflavonoids for combating colds, 1140; and biophysics, 1233; and child care council, 436; competence of foreign-trained physicians in, 479; contributions of A. J. Carlson to, 713; contributions of H. H. De Jong to, 478; contributions of A. Mayer to, 616; contributions of L. Reiner to, 434; contributions of H. B. Williams to, 527; education in, 361; enlarged VA research program in, 214; enrollment in schools of, 532; federal support of research in, 522; and knowledge of effects of atomic radiation, 22; and legislation, 297; national library of, 297, 715; and nuclear energy, 109; nuclear reactor for work in, 260; perspective in research in, 1185; proposed change of program in school of, 213; and rare pneumonia in infants, 883; report of meeting on tropical, 1041; and special draft law, 821; and synthesis of vasopressin, 310; translation of Russian papers in, 974; and U.S. physician in Laos, 480; uses of erythromycin in, 821; winner of Theobald Smith award in, 1287
- Megacurie source, in power reactors, 814
- Melampsora lini*, mutations induced by ultraviolet radiation in, 888
- Melanin formation, in rats, 1145
- Melon, effect of chilling on streaming in honeydew, 75
- Membrane potential, and repolarization in rat atrium, 1209
- Menstrual cycle, effects of 19-nor steroids on, 891; and elevation of platelet levels, 180; modified by reserpine, 726
- Mental health, conference on use of drugs in, 692; directory of resources for, 581; molecular chemistry of, 716; report of conference on pharmacotherapy in, 990; report of world federation for, 1258; research in mental, 429; and tranquilizing drugs, 1020
- Meprobamate, and effect on *Betta splendens*, 440; for treating behavioral disorders, 259. *See also* Drugs, tranquilizing
- Mercury, separation of isotopes from radioactive, 883
- Meriones*, species of, 323
- Meromyosins, in heart, 873
- Mesantoin, optical isomerism of, 29
- Metabolism, of glycine by bovine sperm, 228; and glycogen turnover, 941; nomenclature of fatty-acid, 614; of pure cancer cells, 269; transport and passive transfer of ions in, 724; of uric acid, 705
- Metallurgy, at Sheffield University, 347; and technique for machining tungsten, 257
- Meteorology, and British Antarctic expeditions, 1142; experiments in high-altitude, 436; at international conference on weather control, 86; in long-distance communication, 258; at new observatory in Hawaii, 531; and nuclear radiation, 105; and Pleistocene climates, 385; report of meeting on bio-, 1299; and Stokes' edge waves, 1238; and transport of atomic debris, 475; and weather testing, 483
- Methadone, optical isomerism of, 29
- Methamphetamine, optical isomerism of, 29
- Methane, in sewer gas, 1252
- Mexico, malaria eradication in, 1197; microbiological work in, 1299
- Meyerhof quotient, 267
- Meyerhofferite, structure of, 936
- Michigan, objection to reactor in, 577, 675; radiocarbon dates of University of, 664
- Michurin, 277
- Microbiology, and contamination of human cell cultures, 1147; contribution of A. J. Kluyver to, 308; report of meeting on, 1299
- Microcards, for IGY work, 1020
- Micrococcus*, as source of slime-layer DNA preparations, 441
- Microorganisms, and phase microscope, 811
- Microscopy, bibliography on phase, 810; biologic applications of x-ray, 939; in exfoliative cytology, 1024; study of cell fractions by electron, 969; study of skull veins by x-ray, 129; study of thin tissue sections by x-ray, 683
- Microsomes, electron microscope study of, 970
- Microwaves, for detection of metallic ions in plant material, 22
- Midwestern Conference of Parasitologists, report of, 132
- Midwestern Universities Research Association, 781
- Milking schedule, for cows, 259
- Miltown (meprobamate), in treatment of behavior disorders, 259. *See also* Drugs, tranquilizing
- Mineral, effect of oxygen on iron silicate, 937; high-pressure silicate, 935; Korean laboratory for assay of, 258; new uranium silicate, 931; proposed map on distribution of, 38
- Mineralogy, of San Augustin Plains, 539
- Mink, population studies on, 307
- Minnesota, radiocarbon dates of Mankato drift in, 625
- Minnow (Cyprinidae) in sediment core, 368
- Miocene period, and volcanic rocks in Oregon, 941
- Mite (*Ophionyssus natricis*), phase microscope in study of, 812; studies of, 979
- Mitochondria, electron microscope study of, 969; origin and/or formation of, 123; phosphate transfer in, 1208
- Mitosis, chromosome orientation and movements during, 203. *See also* Cytology
- Molecular fragments, storage of, 357
- Molecular structure, symposium on, 413
- Molecule, internuclear potential functions for bonds of polyatomic, 938; work of Avogadro with, 708
- Mollusk, attack on lead cable sheath by, 443
- Molybdenum, report on metallurgy of, 678
- Monazite, as a source of natural radiation, 498
- Monkey, distribution of motor functions in brain of, 937; effects of atomic radiation on, 578; effect of reserpine on, 167, 726, 983; preparation and properties of growth hormone in, 1293; tremor produced in, 79
- Moonwatch program, 620
- Moray, R., 351
- Mortality, cancer, 357, 1246; prenatal, 676
- Mouse, breeding standards for, 887; control of breast tumor in, 69; Coxsackie virus in muscle of, 940; effects of cholinergic drugs on, 981; in experiments with viral hepatitis, 32; implantation of blood-forming tissue in irradiated, 1076; increased activity of serum lactic dehydrogenase during leukemia in, 173; influence of age and growth on x-ray sensitivity in, 1078; permanently altered behavior in, 723; producing increased circulating hemoglobin in, 439; spread of lethal genes in, 936; tremor produced in, 79
- Mullite, synthesis of, 11
- Muscle, mechanics of contraction of, 873; spontaneous activity in denervated insect, 1079; stress-strain curves for, 59
- Muskrat, population studies on, 306
- Mutation, in *Drosophila*, 882; in flax rust by ultraviolet radiation, 888; in males and females, 314; x-ray induced in bean, 223. *See also* Genetics
- Mycobacteria, differentiation of human-type tubercle bacilli from other, 985
- Mycological Society of America, meeting report of, 1036
- Myosin, energetics of, 873

N

- Narcotic, and effect on *Betta splendens*, 440
- National Academy of Sciences, and conference on evaluation of pharmacotherapy in mental illness, 990; and handbook of biological data, 1202; and mouse-breeding standards, 887; and nuclear weapons testing, 925; and scientific manpower, 1220; and study on biological effects of atomic radiation, 13, 17, 60, 63, 105
- National Advisory Council on Health Research Facilities, legislation for, 297
- National Association of Science Writers, and survey of science news reading, 116, 398
- National Association of State Directors of Teacher Education and Certification, 513
- National Bureau of Standards, contribution of E. C. Crittenden to, 255; interferometric comparator of, 1197; and Mauna Loa observatory, 531; new home for, 358; reorganization in Boulder laboratories of, 1246; research on physical constants at, 939; and storage of molecular fragments, 357; use of students in, 623
- National Commission on Teacher Education and Professional Standards, 513
- National Committee for the Development of Scientists and Engineers, 88, 299
- National Conference on the Evaluation of Pharmacotherapy in Mental Illness, report of, 990
- National Council on Infant and Child Care, establishment of, 436
- National Foundation for Infantile Paralysis, and Sabin vaccine, 821
- National Geographic Society, and excavations in Alabama, 577; new camera used by, 169
- National Institutes of Health, appropriations for, 297; center for aging research

in, 1072; and conference on evaluation of pharmacotherapy in mental illness, 990; and medical research, 1185; and Russian-English translation program, 974; and scientific research in universities, 919; and specialized training in steroid investigation, 482; and supply of anterior pituitary hormones, 926

National Library of Medicine, 168, 297, 715

National Merit Scholarship Corporation, 718

National Neurological Research Foundation, establishment of, 1141

National Science Foundation, appropriation for, 436; and chemical research instrumentation, 825; and conference on world-view, 327; and cosmic distance scale conference, 282; and cost of education and research, 522, 919, 965, 1186; and dissemination of federal research results, 530; and federal budget for research, 1071; and program to make research results available, 974; and report on federal organization for scientific activities, 581; and report of nonprofit research and commercial laboratories, 882; and report of theoretical geophysics, conference of, 234; translation program of, 68, 871; and traveling high-school science libraries, 1013

National Vitamin Foundation, annual report of, 624

Neanderthal man, centennial of discovery of, 1183

Negro, primaquine-sensitive erythrocytes in, 484

Nematodes, susceptibility of cherry to, 317

Neoplasm, changes in, 127

Neothunnus macropterus, predicting radiostrontium in, 1027

Nerve, metabolic inhibition and potassium influx in, 724

Neuberg, C., obituary, 1244

Neuroblasts, mitosis in chromosomes of grasshopper, 203

Neurology, establishment of new foundation for, 1141

Neurons, and cerebral activity in sleep, 366

Neurophysiology, contribution of H. H. De Jong to, 478; and inhibitory synapses in invertebrate, 681

Neuropsychiatry, contribution of H. H. De Jong to, 478

Neutrino, discovery of free, 68, 103

Neutrons, production of, in stars, 611

New Mexico, geology of San Augustin Plains in, 537

New Mexico Institute of Mining and Technology, geothermal survey by, 629

New York Botanical Garden, dedication of new laboratory of, 1071

New Zealand, search for oil in, 716; seismology in, 884

Newton, I., 352

Niacin, in cherry, 317; mycobacteria production of, 985

Niacinamide, effect of, on oyster, 220

Nicotiana glutinosa, protoplasmic streaming in, 76

Nicotinamide, in cigarette smoke, 1080

Nicotinic acid, in cigarette smoke, 1080

Nirvanol, optical isomerism of, 29

Nobel lecture, in medicine, 467

Nomenclature, of enzymes of fatty-acid metabolism, 614; for new group of respiratory-tract viruses, 119; for new palm genus, *Sanmiguella*, 260; zoological, 24, 313, 438, 720, 978, 1202

19-Nor steroids, effects of, on reproduction, 890, 891

Notemigonus crysoluecas, scale of, in sediment core, 368

Nottingham, University College of, 354

Nuclear debris, and transport from nuclear tests, 474. *See also* Fallout

Nuclear energy, civilian uses of, 109; effects of, 13, 17; exchange of information on, 20; films on, 1144; and fixed-field accelerators, 781; French production of electricity from, 820; H. Geiger and, 166; and generation of electricity, 917; in industry, 17, 20, 73; international cooperation on, 310; and Latin America, 1019; and megacurie source, 814; new particle accelerator for study of, 114; and process for extracting plutonium, 397; proposed international conference on, 717; and relationship with internuclear distance, 938; report of international conference on, 973; Soviet progress in use of, 20; state regulations on, 73; and U.S.-Brazilian agreements, 530

Nuclear fallout. *See* Fallout

Nuclear radiation. *See* Radiation, nuclear

Nuclear reactor, aid for foreign, 716, 882; appeal for peacetime use of, 20; Belgian ban of, 358; for Bulgaria, 397; in Canada, 621; for Denmark and the Netherlands, 113; design study on deuterium-moderated, 1202; disposal of wastes from, 13; for France, 480; gas-cooled, 73; in India, 359; for industry, 17, 887; insect control with wastes from, 1011; for Japan, 21, 260, 1020; medical, 260; as megacurie source, 814; in Poland, 21; to propel ships, 397; proposed for Alaska, 480; proposed near Chicago, 930; proposed at M.I.T., 533; proposed in Michigan, 358, 577, 675; for research, 72; as source of power production, 917; tabulation of U.S., 975; for West Berlin, 397

Nuclear Science and Engineering Training in the United States, publication of, 24

Nuclear weapons, and accumulation of radiostrontium, 894; effects of tests of, 13; fallout from explosions of, 105, 112, 474; proposed ban on testing of, 975; safety in testing of, 925

Nucleic acid, from Ehrlich ascites tumor cells, 1077; in x-irradiated rat liver, 81

Nucleoprotein, as carrier of genetic specificity, 151

Nucleotide, accumulation of pyridine, 118

Number system, encoding nonintegers in a *p*-adic, 120

Nutrition, algae-supplemented diet to improve, 536; and biosynthesis of vitamin B₁₂, 272; contribution of H. J. Deuel, Jr., to study of, 209; of Peruvian Indians, 576; and sexual fertility, 363; and status of mental patients, 429

O

Obstetrics, and prenatal mortality in post-mature infants, 675

Ocean, and Pleistocene sediments, 385; radioactive materials in, 13; solar energy for distillation of water from, 1287

Oceanography, and edge waves, 1238; and effects of atomic radiation, 13; research in, 482

Odostomia impressa, as parasite on oysters, 628

Office of Naval Research, and scientific research in universities, 919

Oil, New Zealand search for, 716

Oldenberg, H., 352

Olmsted, J. M. D., obituary, 395

Ophionyssus natricis, studies of, 979

Optical activity, and biochemical origins, 923

Optical isomerism, and drug action, 29

Orang-utan, urine of, 435

Oreopithecus, in study to determine origin of man, 1282

Organization of the Federal Government for Scientific Activities, 581

Osmotic gradients, within mammalian cells, 221

Osmotic pressure, meaning of, 472

Ovulation, elevation in platelet level as indication of, 180; inhibitors, of, 890, 891

Oxford University, 345, 347

Oxidation, of glucose to glucosone by enzyme in red alga, 171; mechanism of biological, 705

Oxygen, radioactive, for labeling PAH, 401

Oyster (*Crassostrea virginica*), effect of niacinamide on, 220; as host for snail parasites, 628

Ozone, toxicity in human being, 213

P

Pain, delayed, 442

Pakistan, national science institute in, 69

Paleobiogeography, and fish scales in lake-sediment core, 368

Paleontology, and fossil palm, 260; and new approach to origin of man, 1282

Palm, new genus, *Sanmiguella*, of, 260

Pan-American Sanitary Organization, executive committee, meeting of, 87

Paper, tests of permanency of, 715

Paramphistomatoidea, and lung fluke of turtle, 890

Parasitology, and malaria eradication in Mexico, 1197; snail parasite of southern oysters, 628; and snake mite, 979

Parkinsonism, drugs producing, 79

Parthenogenesis, and fowl pox virus, 1079

Patent ruling, concerning application date, 212

Pauling and Corey α -helix, 56, 58

Pectin, effect of gamma rays on, 893

Pelargonidin-3-glucoside-C¹⁴, biosynthesis of, 28

Penicillin, and new plant in India, 716

Pentachlorophenol, study of toxicity of, 940

Pentobarbital, rat brain reaction to, 265; and learning response, 367

Peralta complex, as a Sonoran variant of Cochise culture, 1029

Perfluorooctanoic acid (PF), and interaction with bovine serum albumin (BSA), 266

Periplaneta americana, spontaneous activity in denervated muscle in, 1079

Perkin centennial, 71, 372, 465

Peroxidase, biochemistry of, 471

Personnel, Training, and Human Engineering Research, report of symposium on, 1220

Peru, biological study of Indians in, 576

Pervaporation, of aqueous alcoholic solutions, 77

Petunia, transmission of sterility to progeny in cytoplasm of, 684

Pharmacology, of cardiac synapses, 319; official position of U.S.S.R. on, 899; of optical isomers, 29

Pharmacotherapy, in mental illness, 990

Phase equilibrium, and single crystal growth, 9

Phase microscopy, bibliography on, 810

Phaseolus vulgaris, x-ray-induced mutant in, 223

Phi Tau Sigma, new chapter of, 236

Philosophy, of biophysics, 1236; of experimental method, 351; and science, 327

Pholadidae, attack on lead cable sheath by, 443

Phosphate transfer, effects of fluorocompounds on, 1208

Phosphoarginine, in protochordates, 820

Phosphocreatinine, in protochordates, 820

Phospholipids, in mammalian tissues, 1205; in serum lipoproteins, 1148

- Phosphors, report of international congress on, 900
- Phosphorus, in cherry, 317; and removal from hydrogen peroxide, 1209
- Phosphotriose isomerase, study of action of, 982
- Photography, of deep seas, 169; radiation-proof plastic for, 1287
- Photoreactivation, of ultraviolet inactivated diphosphopyridine nucleotide, 31
- Photosynthesis, excitation energy in, 585; in reduction of diphosphopyridine nucleotide (DPN), 118
- Phylogenetic relationships, shown by electrophoresis of plasma proteins, 225; exemplified by lung flukes of turtles, 890
- Physical constants, status of research on, 939
- Physics, apparatus for high-energy, 781; and biology, 1233; cloud 86; contribution of E. C. Crittenden to, 255; contributions of H. Devaux to surface, 1017; contribution of H. Geiger to, 166; contributions of F. Soddy to, 1069; contributions of J. J. Thomson to, 1191; contributions of E. T. Whittaker to, 208; crystal growth and solid-state, 12; and estimation of physical quantities, 940; fallout and steady-state, 15; and freedom in U.S.S.R., 427, 432; history of dictionary of, 1156; and osmotic pressure, 472; of semiconductor surfaces, 635; of sonics, 789; symposium on high-energy, 87; television program on, 259
- Physics of Semiconductor Surfaces, report of conference on, 635
- Physiology, contributions of A. J. Carlson to, 713; contribution of H. Devaux to plant, 1017; contributions of A. Mayer to, 616; contribution of J. M. D. Olmsted to, 395; contributions of H. B. Williams to, 527; and hormone dosage, 365; and inhibitory synapses in invertebrate, 681; osmotic pressure in, 472; and principle of closed-system centrifugation, 792; report of international meeting on, 898; of reproduction, 595; of sound production in fish, 219; in U.S.S.R., 528
- Pigeon, pentobarbital and component behaviors of reinforcement schedule in, 367
- Pigment, fluorescence of photosynthetic, 585; pteridine, 725
- Pinctada martensii*, dahlite as constituent of prodissoconch I in, 630
- Pine, ancient, 884; mobility of radiocalcium in Western white, 364
- Pituitary adenoma, and correlation with blood groups, 932
- Pituitary hormones, isolation and properties of bovine, 932; preparation of, 1293
- Plague, tagged fleas for study of, 822
- Plankton, in decontamination of fission products, 320
- Planned Parenthood Federation of America, meeting sponsored by, 595; research committee of, 927
- Plant, control of anthocyanin formation in, 938; effect of chilling on protoplasmic streaming in, 75; fluorescence of pigments of, 585; on Galapagos Islands, 480; ion transport in, 937; microwave detection of metallic ions in, 22; report on conference for protection of, 732; in San Augustin Plains, 537; study of arctic, 480
- Plant management, federal support of research in, 523
- Plant physiology, in U.S.S.R., 528
- Plant virus, transmitted by insects, 257
- Plasma, closed-system centrifugation of, 792
- Plasma 17-hydroxycorticosteroid, effect of reserpine on, 983
- Plasma proteins, of reptiles and amphibians, 225
- Plastics, as aid in growing strawberries, 168
- Platt, R. R., retired, 115
- Pleistocene, climates and deep-sea sediments in, 385; climatic changes in, 537; climatic change correlated with radiocarbon dates, 999; report of research on, 372
- Pliocene, ancestral hominid from, 1282
- Pluto, status of, 322
- Plutonium, French production of, 821
- Plutonium-beryllium neutron sources, availability of, 71
- Pneumocystis carinii*, as cause of rare pneumonia, 883
- Pneumonia, rare drug-resistant, in infant, 883
- Poland, nuclear energy research center in, 21
- Poliomyelitis, cold-adapted genetic variants of virus of, 586; new-type iron lung for victims of, 214; outlook in, 675; priority for vaccine for, 113, 167; and Salk and Sabin vaccines, 821
- Pollen, as basis for studying Pleistocene climatic changes, 538; fish scales in Cl zone of, 368
- Polybrene, as antiheparin drug, 113
- Polyethylene tape, for closing wounds, 168
- Polymer, report of forum on chemistry of high, 1257; role of crystallization in, 53
- Polymyxin B, biological action of, 939
- Polyplody, *Chlamydomonas* and colchicine-induced, 25; physiology of, 25
- Polysaccharide, aftereffect of gamma radiation on, 893; rumen bacterium as agent in formation of, 936
- Population, and cancer mortality, 357; and effects of nuclear radiation, 62, 112; and growth in public schools, 357; statistical estimation of size of a small, 317; of higher vertebrates, 304; in United Kingdom universities, 358; U.S. child, 675; world trends in, 187
- Population Association of America, meeting of, 187
- Population Council, meeting sponsored by, 595
- Porphyry, of vitamin B₁₂, 272
- Porpoise, heat-regulatory function of *rete mirabile* in, 167
- Positive rays, study by J. J. Thomson on, 1191
- Posttetanic potentiation (PTP) effects of drugs on, 1150
- Potassium, in human being, 122; in nerve fibers, 724
- Potassium, radioactive, in oceans, 14
- Potassium acid fluoride, determination of fluoride in, 175
- Potato, pervaporation for dehydration of, 77
- Powellite, synthesis of, 11
- Praesodymium, as a hazard to human beings, 14
- Predation, as limiting factor in animal populations, 304
- Pregnancy, in rat, 79; and 19-nor steroids, 890, 891
- Prenatal mortality, 676
- Priestley, J., national shrine honoring, 117, 1202
- Primaquine, erythrocyte sensitivity to, 484
- Primates, comparison of urine in, 435
- Prodissoconch, dahlite as constituent of, 630
- Professional Standards and Employment Conditions*, 73
- Progestins, synthetic, 890, 891
- Prolactin, available supply of ovine, 926
- Promethium, as a hazard to human beings, 14
- Proteins, of amphibians and reptiles, 225; anaerobic preparation and properties of leaf, 1081; in cell wall of yeast, 272; enzymatic reduction of cell-wall, 318; in estrogen-treated rooster serum, 1242; filter paper adsorption of, 1028; influence of adult tissue homogenates on formation of similar embryonic, 1251; role of crystallization in, 53; structure of fibrous, 56; synthesis and degradation of, 389
- Protein disulfide reductase, and role in cellular division, 722
- Protein metabolism, contribution of H. J. Deuel, Jr., to knowledge of, 209
- Protomyosins, in heart, 873
- Protoplasmic streaming, effect of chilling on, in plants, 75
- Pskov, restoration of ancient city of, 675
- Psychiatry, conference on use of drugs in, 692; and directory of mental health resources, 581
- Psychic function, drugs affecting, 264
- Psychology, and attitudes of students toward fields of study, 680; and behavioral science, 276; and conditioned reinforcement in chimpanzee, 679; contributions of C. M. Louttit to, 526; and EEG, 1066; and experiments with verbal stimulus, 582; and permanent alteration of behavior, 723; and physiological vision, 681; and somesthetic localization and brain function, 484
- Pteridine pigments, 725
- Pure Food and Drugs Act, anniversary commemoration of, 73
- Pyridine nucleotides, accumulation of reduced, 118
- Pyruvic acid, β -substituted analogs of, 981
- Pyura*, phosphocreatine in, 820

Q

- Quantum physics, contributions of E. T. Whittaker to, 208
- Quantum theory, of nuclear collective oscillations, 938
- Queen's College, Dundee, 349
- Queen's University (Belfast), 349, 354
- Quinidine, optical isomerism of, 29
- Quinine, optical isomerism of, 29
- Quinoa, seeding of, in Greenland, 260
- 8-Quinolol, reaction of cerium (III) with, 682

R

- Rabbit, as classroom pet, 530; effects of 19-nor steroids on reproduction in, 890; embryos from one-fourth of egg of, 397; increased circulating hemoglobin in, 439; sperm transport in female, 586
- Racing records analysis, 178
- Radicals, chromosome breakage induced by free, 889
- Radiation, for insect control, 1011; sources of, 814
- Radiation, atomic. *See* Radiation, nuclear
- Radiation, gamma, effects on cellulose and pectin, 893; from radioactive fallout, 251; sources of, 678
- Radiation, infrared, and spectrum of silicon carbide heating elements, 940
- Radiation, nuclear, AAAS symposium on, 534; Army center for ionizing, 1246; biological effects of, 20, 112, 409, 498, 1020; control of use of, 101, 109, 112; dangers and benefits of, 917; death from, 882; and effects on monkeys, 578; and effects of nuclear weapons testing, 925; and effects on oceans and fisheries, 13; and effects on plastics and electric insulation, 1219; and food preservation, 678; genetic damage caused by, 101, 112; meteorological aspects of, 105; pathologic effects of, 60; photosensitive plastic not affected by, 1287; report of meeting on, 1019; sharing of informa-

- tion on, 409; and use in agriculture and food supply, 63
- Radiation, ultraviolet, effect on yeast, 222; mutations in flax rust induced by, 888; and photoreactivation of inactivated DPN, 31
- Radiation, x-, of genetically anemic mice, 1076; for inducing mutations in beans, 223; influence of age and growth to sensitivity to, 1078; for measurement of skin fat, 178; and rat liver changes, 81
- Radio astronomy, 310, 347, 1140
- Radio waves, from Mars, 620; propagation of very low frequency, 941
- Radioactive cations, for ground water tracing, 402
- Radioactive elements. *See* Beryllium; Bromine; Calcium; Carbon; Cerium; Cesium; Cobalt; Iodine; Mercury; Oxygen; Potassium; Sulfur; Strontium
- Radioactive materials, accidental hazards of, 18; biological decontamination of, 320; British report on effects of, 20; building contaminated by, 883; from continuing nuclear weapons tests, 894; disposal and dispersal of, 17; and effect on guppy, 571; and effects on oceans and fisheries, 13; fallout of, 122, 251, 894; meteorological aspects of, 105; pathologic effects of, 60; and transport from nuclear tests, 474; and use in agriculture and food supply, 63. *See also* Fallout; and individual elements
- Radioactivity, atmospheric, 105; and effects on oceans and fisheries, 13; and fallout through September 1955, 251; in fish, 1027; of human being, 122; seasonal and geographic variations in level of, 621; stratospheric, 105; in study of surface features in *Bacillus megaterium*, 182
- Radioautography, and autoradiography, 1155
- Radiobiology, and ultraviolet irradiation of yeast, 222
- Radiocarbon dates, and climatic history, 939; of deep-sea sediments, 385; of early man in Americas, 396; of fish scales, 368; of Mankato drift in Minnesota, 625; for Neolithic period, 876, 879; by University of Michigan, 664
- Radioisotopes, in agricultural products, 63; availability of, 887; and effective tagging of fleas, 822; and effects on marine life, 13; for insect control, 1011; methods for low-level counting of, 801; program for distribution of, 18
- Radiomimetic chemicals, and chromosome breakage, 889
- Radish, effect of chilling on streaming in, 75
- Radium, contamination of building by, 883; in oceans, 14
- Radon, 110
- Rana pipiens*, genetics of, 167
- Random flights, 53
- Raphanus sativus*, protoplasmic streaming in, 76
- Rat, anomalous pregnancy in, 79; biosynthesis of L-ascorbic acid in, 1148; in cancer studies, 128; as classroom pet, 530; control of cholesterol in, 1197; controlling drinking behavior in, 1294; effects of cholinergic drugs on, 981; effects of fluorocompounds on mitochondrial phosphate transfer in, 1208; effects of 19-nor steroids on reproduction in, 890; effect of reserpine on, 167, 1082; in experiments with algae-supplemented diet, 536; fission of mitochondria in liver of, 123; formation of uridine diphosphoglucosamine in liver of, 1207; graying of hair in lysine-deficient, 1145; increased circulating hemoglobin in, 439; inducing tolerance to narcotic drugs in, 263; inhibition of tumor in, 980; intracranial chemical stimulation in, 228; laboratory breeding of Ord kangaroo, 485; liver changes on x-irradiation of, 81; membrane potentials and repolarization in atrium of, 1209; self-stimulation of brain of, 265; taming effects in, 74
- Ravdin, I. S., retired, 927
- Reactor. *See* Nuclear reactor.
- Reading University, 348, 354
- Redshift, and expanding universe, 114
- Refrigerant, production and transportation of low-temperature, 777
- Reiner, L., obituary, 434
- Relativity, contribution of E. T. Whittaker to, 208
- Relaxation phenomena, 787
- Religion, and science, 690, 1196
- Repolarization, and membrane potentials in rat atrium, 1209
- Reproduction, knowledge of human, 927; need for research in physiology of, 595; and 19-nor steroids, 890, 891; in rabbit, 586; report of congress on animal, 497; and tranquilizing drugs, 727
- Reptiles, electrophoresis and taxonomy of plasma proteins in, 225; on Galapagos Islands, 480; teeth of ancient, 260
- Research, British appropriation for, 578; in British universities, 356; in Denmark, 480; dissemination of results of federal, 530; on effects of atomic radiation, 13; engineering, 68; Federal support of life science, 522, 919; and freedom, 1155; future outlook for, 965; H. Geiger and, 166; inadequate operating funds for, 965; in nonprofit institutes and commercial laboratories, 882; program to make available results of foreign, 974; and science teachers, 408, 686; support for medical, 1185; in U.S.S.R., 358, 974, 1125; White House attitude toward unclassified, 398
- Research Committee of National Association of Manufacturers, 1125
- Reserpine, behavioral response in mice to, 723; effect on behavior in monkeys, 167, 726, 983, 1082; effect on behavior in rats, 167, 265, 1082; and effect on *Betta splendens*, 440; menstrual cycle in monkeys affected by, 726; presurgical effect of, 168; radioactive, 480; rat brain screening of, 265
- Respiration, in cancer cells, 267; effects of temperature on, 936; in germinating *Bacillus subtilis* spores, 174; progress in acute diseases of, 935
- Riboflavin, in cherry, 317
- Ribonucleic acid (RNA) from Ehrlich ascites tumor cells, 1077; in x-irradiated rat liver, 81
- Richards, H. F., retired, 928
- Rivers, radioactive materials in, 13
- Roark, R. C., retired, 1289
- Rock, J., retired, 1199
- Rockets, nuclear propulsion of, 674
- Rockoon, project, 673
- Rodent, species of, 323
- Romalea microptera*, permeable spots on antenna of, 1203
- Rowan, W., collection of vertebrates, 581
- Royal Society of London, 345, 350
- Royal Technical College, 349
- Running records, analysis of, 178; consistent, 1025
- Rutherford, E., 352, 354, 355
- Rutile, synthesis of, 11
- St. Andrews University, 349
- Salk, J. M., poliomyelitis vaccine of, 821
- Salt dome, as permanent storage for radioactive wastes, 15
- San Augustin Plains, geologic setting and sediments of, 539; Pleistocene climatic changes in, 537
- Sanmiguelia*, fossil palm genus, 260
- Sapphire, synthesis of star, 11
- Satellite, earth. *See* Earth satellite
- Scenedesmus*, action of polymyxin B on, 939; as source of lysine and threonine, 536
- Scheelite, synthesis of, 11
- Schizophrenia, biology of, 429
- Schroff, J., retired, 115
- Science, letters section in, 249; publication date of index to, 1288; suggestions to contributors to, 1273; technical papers in, 1273; in vault for the future, 22
- Science, federal support of research in, 522; and the future, 1275; and instruments, 771; limits to popularization of, 207; and modern world-view, 327; in secondary schools, 1009; and television programs, 259, 963
- Science books, for high schools, 1013
- Science Clubs of America, 168
- Science counselors, study on use of, 38
- Science fairs, in search for potential science students, 168
- Science reporting, study of, 116. *See also* Communication
- Science and society, and attitude toward commercial products, 276; and effects of atomic radiation, 13; and scientific revolution, 1231
- Science teachers, atomic energy course for, 170; certification of, 513; and educational exchange program, 623; and employment of retired scientists and engineers, 216; and graduate credit, 322, 687; and need for new techniques, 1277; and research experience, 322, 408, 686; and role in scholarship programs, 277; and Shell merit fellowships, 825; training of high-school, 1156
- Science teaching, efforts toward improving, 116, 901, 965, 1009, 1219, 1277; and proposed source book in biology, 1022; and traveling high-school science library, 1013; use of entomology in, 71
- Science Teaching Improvement Program, 38, 168, 322, 529
- Scientific abstracting, in U.S.S.R., 609
- Scientific Basis of Weather Modification Studies, international conference on, 86
- Scientific information, federal support of research in, 524; machine handling of, 773; plans for international conference on, 1259
- Scientific literature, reading of, 590; translation of Soviet, 68
- Scientific manpower, and American Physical Society, 496; in British civil service, 567; Canadian industry shortage of, 674; and dentist survey in western U.S., 883; employment records on, 1246; meeting on, 88, 1220; and program of National Bureau of Standards, 623; search for, 977; and shortage in education, 216, 361, 565, 901, 1013; and survey of atomic scientists, 883; training of, 299, 825, 1155
- Scientific method, 351, 589
- Scientific research. *See* Research
- Scientific revolution, society in the, 1231
- Scientific writing, style in, 277
- Scientists, attitude of, 409, 687; in British civil service, 567; data processing for, 773; employment statistics of, 531, 1246; foreign travel of, 127, 687, 1019, 1245; NAS-NRC resources made available to refugee Hungarian, 1288; production of, 299; and religion, 690; and teacher certification, 513

- Scientists' Committee on Security, 383, 396
- Scintillators, low-level liquid, 805
- Scopolamine, in control of tremor, 79
- Scotland, universities in, 349, 353
- Screen-wall counter, for isotopic tracing, 802
- Sculpin, mechanism of sound production in, 219
- Sea acorns, phosphagens in, 820
- Sea squirts, phosphagen in, 820
- Security, and bar association, 201; and D. Chalonge, 127; and *The Federal-Loyalty Security Program*, 201, 210; and international educational exchanges, 703; reform in, 383, 821; and science committee, 396; and science in future, 1278; and secrecy in science, 358, 687; and U.S.S.R. science, 427, 432; and White House attitude toward unclassified research, 398
- Sediment, amino acids in marine, 1026; Pleistocene climates and deep-sea, 385; in San Augustin Plains, 539
- Seed storage, national laboratory for, 577
- Seismology, in New Zealand, 884; and rigidity of earth's core, 1204; and structure of earth's crust, 941
- Semiconductor, physics of surfaces of, 635; report of international congress on, 900
- Semiconductor Device Research, report of conference on, 500
- Sense organs, of grasshopper, 1203
- Serology, and goldfish erythrocyte antigens, 315
- Serotonin, antimetabolites of, 34; effects of analogs of, 122; and effect on guppy, 407
- Serpasil. *See* Reserpine
- Serum, bilirubin in, 76; proteins and calcium levels in, 1242; tumor inhibited by guinea pig, 980
- Serum albumin, heat denaturation of, with perfluorooctanoic acid, 266
- Serum lactic dehydrogenase (SLD), in leukemic mouse, 173
- Sexual reflexes, effect of starvation on, 363
- Shales, amino acids in marine, 1026
- Sheep, rumen bacterium forming polysaccharide in, 936
- Sheffield University, 345, 347, 354
- Shell, dahlite in larval, 630
- Shell merit fellowships, 825
- Shellfish, and concentration of elements, 14
- Siamese fighting fish (*Betta splendens*), effect of tranquilizers on, 440
- Sierra Nevada Range, in study of glaciation, 181
- Silicates, effect of oxygen on iron, 937; high-pressure, 935
- Silicon, single crystal growth of, 12
- Silver, tarnishing of mirrors of, 435
- Sleep, and brain electric activity, 366; and EEG, 1066; relation of hypnosis to light, 405
- Sloth, heat-regulatory function of *rete mirabile* in, 167
- Smith, A. de F., retired, 115
- Smith, E. H., retired, 114, 437
- Smith-Mundt program, 703
- Smoking, and lung cancer, 68, 1197; and nicotinic and glutamic acids, 1080
- Snail (*Odotostoma impressa*), as parasite on oysters, 628
- Snake mite (*Ophionyssus natricis*), studies of, 979
- "Snowman," abominable, 22
- Social sciences, biographical volume on, 483; report of international meeting on, 1157
- Society, and science, 13, 276, 1231
- Society of General Physiologists, meeting report of, 1087
- Society for Industrial Microbiology, meeting report of, 1036
- Society of Nuclear Medicine, annual meeting of, 283
- Society of Technical Writers, proposed merger with Association of Technical Writers and Editors, 187, 901
- Soddy, F., obituary, 1069
- Sodium, in nerve fibers, 724
- Sodium citrate, in pervaporation of aqueous alcoholic solutions, 77
- Sodium iodide scintillation spectrometer, 804
- Soil management, federal support of research in, 523
- Solar energy, for distillation of sea water, 1287; and high-temperature furnaces, 797; house heating by, 69; water heating by, 883
- Solar flares, study of, 673
- Solar still, to remove minerals from water, 69
- Solar storms, study of, 213
- Solute effects, in pervaporation of aqueous alcohol solutions, 77
- Solution, solid, and crystal growth, 12
- Somatropin, properties of human, monkey, and beef, 1293
- Somesthesia, and space-time relationships, 484
- Sonics, techniques for industrial, 787
- Sound production, in sculpin, 219
- South Africa, observatory in, 358
- Southampton, University of, 348
- Space, effort to determine amount of matter in outer, 621
- Space-time relationship, in somesthetic localization, 484
- Spectrometer, Bendix mass, 817; for low-level scintillation counting, 804
- Spectroscopy, symposium on, 412
- Spectrum, of actinium, 940; infrared, 940; of silicon carbide heating elements, 940
- Spermatozoa, effect of starvation on, 363, 1203; glycine metabolism by bovine, 228; and transport in female rabbit, 586
- Spinal cord, effects of drugs on posttetric potentiation in, 1150
- Starch electrophoresis, for studying serum lipoproteins, 1148
- Stars, synthesis of elements in, 611
- Starvation, and sperm count, 363, 1203
- Statistics, and scientific method in law, 589; size estimation of small population by, 317
- Stereochemistry, of building stones of collagen, 941
- Sterility, conference on, 328; in *Petunia*, 684
- Steroid, in adrenal cancer, 487; from aqueous media, 1030; 19-nor, 890, 891; specialized training in investigation of, 482
- Stokes' edge waves, 1238
- Stratosphere, radioactivity in, 105
- Strawberry, biosynthesis of major pigment of, 28
- Streptomyces erythreus*, as source of erythromycin, 821
- Stress, and elastic behavior of polymers, 55
- Strontium, in human bones, 405
- Strontium, radioactive, fallout of, 109, 251, 894, 925; in fish, 14; predicting amount of, 1027
- Strutt, J. (Lord Raleigh), 352
- Studdiford, W. E., retired, 481
- Sturgis, S., retired, 718
- Succinic dehydrogenase, of x-irradiated liver, 81
- Succinylcholine, blockage of cardiac synapses by, 319
- Sugars, presence in filtered lake water of free, 1026
- Suicide, in Denmark, 716
- Sulphydryl groups, in cell division, 1292; histochemical demonstration of, 628; in yeast cell-wall protein, 318
- Sulfur, radioactive, in paper permanency tests, 715
- Sun, study of flares from, 673
- Supernovae, as source of cosmic rays, 674
- Surface studies, ion-exchange autochromatography in, 487
- Swansea University, 349, 354
- Sweetpotato, effect of chilling on streaming in, 75
- Switzerland, study of Neolithic period in, 876, 879
- Symposium on Molecular Structure and Spectroscopy, report on, 412
- Syphilomas, concentration of chondroitin sulfate and hyaluronic acid in, 275

T

- Taxonomy, contribution of R. S. Breed to, 256; contribution of A. J. Kluyver to, 308; of lung fluke of turtle, 890; of *Malpighia*, 317; and new genus of palm, 260; of plasma proteins in amphibians and reptiles, 225; and protochordates, 820
- Technique, absorption spectra of cerium chelates as analytic, 682; for acetoglyceride process, 258; for biosynthesis of uricase in yeast, 125; for blocking heart synapses, 310; for breeding kangaroo rat in captivity, 485; for calculating ideal ultimate tensile strength, 172; for calculating radioactive fallout, 251; for capturing and storing molecular fragments, 357; for cerebral cortex studies, 179; for closed-system centrifugation, 792; for controlled burning of combustible materials, 926; for controlling drinking behavior in rat, 1294; for cultivating human cells in tissue culture, 935; for decontaminating fission products, 320; for deriving consistent set of running times, 178; for detection of free neutrino, 103; for determining amino acids in marine sediments, 1026; for determining *p*-aminohippurate transport in kidney, 401; for determining EEG patterns in consciousness and sleep, 1066; for determining free sugars in filtered lake water, 1026; for determining niacin production by mycobacteria, 985; for determining number of human chromosomes, 576; for determining radiocarbon content in sewer gas, 1252; for determining relationship of hormone dosage to physiological response, 365; for determining respiratory pathways in germinating spore of *Bacillus subtilis*, 174; for determining spectral emissivity, 940; for determining total fluoride, 175; for determining water content in biological samples, 27; for development of fixed-field alternating-gradient accelerators, 781; of differential centrifugation, 969; for differentiating human-type tubercle bacilli from other mycobacteria, 985; for electronic trailmarkers, 435; for encoding nonintegers in general *p*-adic number system, 120; for end-window counting on paper chromatograms, 1253; for extraction of corticosteroids from aqueous media, 1030; for fluorescence microscopy in exfoliative cytology, 1024; for growing magnetite crystals, 310; for growing Walker carcinosarcoma, 124, 256; for histochemical detection of SH groups, 628; for inducing hypothermia in curarized dogs, 1145; for inducing intracranial chemical stimulation, 228; for inducing tolerance to narcotic drugs, 263; for ion-exchange autochromatography, 487; for isolation of bovine rhinotracheitis virus, 721; for isolating coenzyme cytidine diphosphate from yeast, 81; for low-level counting with isotopic tracers, 801; for low-temperature study

- of reduced hemoproteins, 937; for machining tungsten, 257; for making precise coulometric titrations, 940; for measuring human motions by electronics, 807; for measuring natural gamma-ray activity in human being, 122; for measuring proteins and calcium in serum, 1242; for measuring radiocarbon by the carbon dioxide proportional-counting system, 154; for measuring skin and fat, 178; for moisture control, 436; for pervaporation of aqueous alcoholic solutions, 77; of phase microscopy, 810; for predicting amount of radiostrontium by external monitoring, 1027; for preparing growth hormone, 1293; for preparing nucleic acids from tumor cells, 1077; for preparing pure hydroxyapatite crystals, 583; for preparing radioactive cations for tracing ground water, 402; for producing beryllium-10 by cosmic rays, 584; for producing hypothermia on primate brain, 931; for producing increased circulating hemoglobin, 439; for producing liquid hydrogen and helium, 778; for protein adsorption on filter paper, 1028; for protein synthesis, 390; for purifying cytochrome, 470; for radiocarbon dating, 665; rain-making, 86; for removal of tassels of hybrid seed corn, 169; Rockoon, 673; for scientific data handling, 773; for screening tranquilizing drugs by brain self-stimulation, 265; for separating mercury isotopes, 883; for separating uronic acids from chondroitin sulfate B, 1252; for showing oxidation of glucose in red alga, 171; for showing reaction cycle of peroxidase, 471; for showing reaction cycle of yellow enzyme, 468; for single crystal growth, 9; in sonic analysis, 787; for statistical estimation of size of small population, 317; for study of aspartic acid content in casein, 1206; for study of serum lactic dehydrogenase activity in leukemic mouse, 173; for study of solubility and color properties of plant proteins and viruses, 1081; for study of visual contour and movement perception, 316; for three-dimensional study of skull veins by x-ray microscopy, 129; for tissue-culture cultivation of cytopathogenic agents, 226; for ultraviolet irradiation of yeast, 222; for use of solar furnace in high-temperature research, 797; of water conservation in Australia, 1071; of x-ray microscopy of thin tissue sections, 683
- Technology, and instruments, 771
- Telephone, transoceanic, 621; U.S.-Alaska underwater, 1288
- Telescope, radio, in England, 347; in Germany, 531; in West Virginia, 310
- Television, as scientific aid, 963
- Temperature, biological use of low, 515; and effects in pervaporation of aqueous alcohol solutions, 77; effects on primate brain of cooling of body, 931; and influence on biological systems, 1087; machines for producing low, 776; reduced hemoproteins affected by low, 937; respiratory enzymes affected by, 936; solar furnace for high, 797; spontaneous rise of dog body, 1145
- Tennessee River, and atomic wastes, 14
- Tensile strength, of substances in ideal state, 172
- Teredinidae, attack on lead cable by, 443
- Tesla, N., centenary of, 283
- Tetracycline, and cell culture contamination, 1147
- Theory, on fundamental symmetry in cosmogony, 218; of multiple glaciation since Ice Age, 181
- Thiamine, in cherry, 317
- Thiol, histochemical demonstration of, 628
- Thomson, J. J., 352; centennial of, 327, 1191
- Thomson, W. (Lord Kelvin), 352, 353
- Thorazine (chlorpromazine), in treatment of behavior disorders, 259
- Thorium, in coral limestone, 175; in oceans, 14
- Thoron, 110
- Threonine, algae as sources of, 536
- Thymus gland, and enzymatic digestion, 936
- Timber resources, publication on, 257
- Time-space relationship, in somesthetic localization, 484
- Tissue, cardiac-active principle in mammalian, 1205; x-ray microscopy of human, 683
- Tissue culture, of algae as source of amino acids, 536; of cytopathogenic agents from hepatitis patients, 226; of isolated surface membranes of *Bacillus megaterium*, 535; pleuropneumonia-like organisms as contaminants of, 1147; and Spanish laboratory for, 675; for studying human chromosomes, 576; survival of human enucleate cytoplasm in, 935; of Walker carcinosarcoma 256 cells, 124
- Tissue implants, in irradiated anemic mice, 1076
- Titration, precise coulometric, 940
- Toad (*Bufo marinus*), study of sciatic nerve of, 724
- Tobacco, effect of chilling on streaming in, 75
- Tobacco mosaic virus, anaerobic isolation and properties of, 1081
- Tobacco smoke, nicotinic and glutamic acids in, 1080
- Tomato, effect of chilling on, 75
- Touster, O., as winner of Theobald Smith award, 1287
- Trace elements, in human tissues, 405
- Tracer elements, and ground water, 402
- Track records, for running, 1025
- Trailmarkers, electronic, for Arctic, 435
- Tranquilizing drugs. *See* Drugs, tranquilizing
- Transaminase activities, in mouse viral hepatitis, 32
- Transistor, in study of semiconductor surfaces, 635
- Tree, electric properties of, 1204; mobility of radiocalcium in, 364
- Trematodes phylogeny and taxonomy of, 890
- Tremor, in adapted chick embryo, 80; drugs producing, 79
- Tremorine, for producing tremor, 79
- Triiodothyronine, influence of, on androgen metabolism, 1206
- Trinidad, dengue virus isolated from human being in, 224
- Tritium, 111
- Tsunamis, in Lake Michigan, 1238
- Tubercle bacilli, differentiation of other mycobacteria from human, 985
- Tuberculosis, disease resembling, 22; in United States, 577, 1247
- Tumor, of brain and blood-group frequency, 932; consistent biochemical pattern in, 32; in fruitfly, 220; inhibition of rat, 980; preparation of nucleic acid from ascites, 1077. *See also* Cancer
- Tuna, predicting radiostrontium in, 1027
- Tungsten, new technique for machining, 257
- Tunicates, phosphagen in, 820
- Turkey, fowl pox vaccine associated with parthenogenesis in, 1079
- Turnip, anthocyanin formation in, 938
- Turtle, lung fluke of, 890
- Ultraviolet radiation. *See* Radiation, ultraviolet
- U.S.S.R., American astronomers in, 578; biology in, 309; and engineering graduates, 821; and exchanges of visits with scholars of Hungary, 1245; genetics in, 277, 989; legislation on abortion in, 578; new regulations for scientific education in, 1074; new research center in, 716; pharmacology in, 899; physiology in, 528, 899; restoration of ancient city in, 675; satellite program of, 674, 1020; scientific research in, 358, 427, 432, 609, 871, 1125, 1155; translation of scientific literature from, 68, 871, 974; and U.S. cooperation in Arctic ice observation, 822; U.S. scientists and engineers versus, 299; and use of nuclear energy, 20
- United Engineering Trustees, Inc., proposed new engineering center of, 1072
- United Kingdom, and exchange of nuclear information, 20; provincial universities of, 345, 347; and translations of Russian scientific information, 871; university population in, 358; *See also* England
- United Nations, and exhibit commemorating Geneva nuclear energy conference, 577; and technical assistance pledges, 927
- UNESCO, and meeting on international peaceful cooperation, 1157; report of symposium of, 1071
- United Nations Scientific Committee on Effects of Atomic Radiation, meeting report of, 1019
- United States, and exchange of nuclear information, 20; tuberculosis in, 577
- United States-United Kingdom Agreement for Cooperation, on safeguards to power reactors, 88
- U.S. Atomic Energy Commission, and atomic power plants abroad, 716, 882, 1020; and available spent fuel elements, 678; comments on policies of, 619; and cooperation in uranium exploration, 576; and deuterium-moderated reactors, 1202; and expenditure for medical research, 1186; and fallout data, 251, 531, 1140; first awards ceremony of, 1141; and food irradiation reactor, 678; and foreign agreements, 213; foreign offices of, 1020; and medical reactor, 260; and Michigan reactor, 358, 577, 675, 822, 1021; nuclear reactor training program of, 437, 532, 580; and "pool" type reactor, 675; and propulsion of rockets, 674; and rights to inventions, 621; and scientific research in universities, 919; and tabulation of U.S. nuclear reactors, 975; and translation of Soviet scientific journals, 871; and traveling lecture program, 623; and visit to Latin America, 1019
- U.S. Department of Agriculture, and forest research center, 361; and national seed-storage laboratory, 577; publication on timber by, 257
- U.S. Department of Defense, and expenditures for medical research, 1186; and report of security system, 821
- U.S. Department of Health, animal-disease laboratory of, 674
- U.S. Department of Health, Education, and Welfare, and expenditures for medical research, 1186
- U. S. Fish and Wildlife Service, and study of fish chemistry, 1247
- U.S. Geological Survey, revision of water resources division of, 674
- U.S. Government, and aid to higher education, 624; and legislation for health, 297; and peacetime nuclear reactors, 20; report of organization of scientific activities of, 581; and support of life sciences research, 522; and translation

U

of Soviet scientific journals, 871; and travel of scientists, 687; university responsibility for research funds of, 919; and uranium in Brazil, 530; and U.S.S.R. cooperation in Arctic ice observation, 822

U.S. Information and Educational Exchange Act of 1948, amendment to, 168

U.S. International Educational Exchange program, 623

U.S. Office of Education, and college statistics, 824

U.S. Patent Office, and ruling concerning application date, 212

U.S. Public Health Service, appropriations for, 297; center for aging research of, 1072; and medical research, 1185; and national library of medicine, 715; and public-health training program, 825; and release of polio vaccine, 113, 167; and study of plague, 822; and survey of dentists, 883; and tranquilizing drugs, 1020

U.S. Veterans Administration, and expenditure for medical research, 1186

U.S. Weather Bureau, and Mauna Loa observatory, 531

Universe, expansion of, 114

University, English provincial, 347; research in, 919, 965

Uranium, in coral limestone, 175; international cooperation in exploration of, 576; in Japan, 975; new silicate of, 931; in oceans, 14; U.S.-Brazilian agreement on, 530

Urea, enzymatic formation of, 705

Ureidoimidazole carboxylic acid (UIDC), enzymatic formation of, 705

Ureidosuccinic acid, thermal synthesis and origins of, 923

Uric acid, enzymatic oxidation of, 705; and release of ferritin iron, 1149; in yeast cell, 125

Uricase, induced biosynthesis of, 125; mechanism of action of, 705

Uridine diphosphoglucosamine (UDPG-la), in rat liver, 1207

Urine, bilirubin in, 76; pH of guinea pig, 74

Urochordates, phosphagen in, 820

Uronic acid, from chondroitin sulfate B, 1252

V

Vaccine, for adenovirus, 436; for poliomyelitis, 113, 821

Vasopressin, synthesis of, 310

Vavilov, N. I., 277

Vegetation, bibliography of regional, 978

Veins, x-ray microscope study of skull, 129

Veneral disease, international symposium on, 496

Venezuelan Geophysical Association, formation of, 992

Venus mercenaria, effect of LSD-25 on, 121

Verneuil method (flame fusion), of single crystal growth, 11

Vertebrate, limiting factors in populations of, 304; phosphagens in, 820; W. Rowan collection of, 581

Veterans Administration, enlarged medical research program of, 214

Vickers indentation hardness, and substances in ideal state, 172

Virotherapy, of cancer, 938

Virus, avian encephalomyelitis, 80; bovine rhinotracheitis, 721; cold-adapted genetic variants of polio, 586; insect transmission of plant, 257; and invasion into host, 430; isolation of dengue, 224; isolation and properties of tobacco mosaic, 1081; new respiratory-tract, 119; parthenogenesis and fowl pox, 1079; properties of crystallized Cocksackie, 940; Spanish laboratory for study of, 675; structure of small spherical, 626; susceptibility of hamster to cold, 883; transaminase changes in mouse hepatitis, 32; vaccine for respiratory, 436

Vision, and contour perception, 316

Vital statistics, and effects of radiation, 113

Vitamin A, in cherry, 317

Vitamin B₁₂, biosynthesis of, 272

Vitamin C, in cherry, 317

Vitamins, and effect on marine organisms, 220

Vitrification, of living cells and tissues, 515

Volcanology, in eastern Oregon, 941; in New Zealand, 884; in Salvador, 1289

Volta, A., 352

W

Wakefulness, and brain electric activity, 366

Wales, universities in, 348, 349, 354

Warburg, O., cancer theory of, 267

Water, Australian conservation of, 1071; in biological samples, 27; fractionation in freezing of, 938; Germany and heavy, 359; in hot ground in New Mexico, 629; presence of free sugars in filtered lake, 1026; requirements for pure, 17; solar energy for distillation of sea, 1287

Waterman, A. T., professional data on, 594

Watermelon, effect of chilling on streaming in, 75

Watt, J., 352

Waves, Stokes' edge, 1238

Weather, chamber for testing, 483; effect of atomic explosions on, 111

Weather control international conference on, 86

Weese, A. O., obituary, 477

Weight, body, in relation to weight-lifting, 486

Weller, C., retired, 718

West Indies, cherry of, 317

Western Technical Writing Institute, 72

Western white pine, translocation of calcium in, 364

Westinghouse Research Laboratories, dedication of, 825

Whale, heat-regulatory function of *rete mirabile* in, 167

Wheat, enriched by algae, 536

Whittaker, E. T., obituary, 208

Wiley, H. W., memorial to, 1022

Williams, H. B., obituary, 527

Wilt, resistance to, 223

Wind, study of, 114

World Federation for Mental Health, meeting report of, 1258

World Health Organization, and malaria control, 447; and study of biological effects of atomic radiation, 498

World Meteorological Organization, use of microcards by, 1020

World-view, and science, 327

Wren, C., 351

Wright, J. K., retired, 115

X

Xanthine oxidase, in *Drosophila melanogaster*, 725

X-radiation. *See* Radiation, x-

X-ray microscope, biological applications of, 683, 939

Y

Yeast, cell-wall composition of, 272; cellular division in, 722; crystallization of enzyme of, 469; effect of ultraviolet irradiation on, 222; enzymatic reduction of cell-wall protein in, 318; induced biosynthesis of uricase in, 125; isolation of coenzyme cytidine diphosphate choline from, 81

Yeast hexokinase, delayed fluoride inhibition of, 402

Yerkes Laboratories, transfer of, 715

Z

Zetek, J., retired, 70

Zinc, in fish, 14

Zoology, contributions of A. C. Kinsey to, 881; and expedition to Borneo, 577; nomenclature in, 24, 313, 438, 720, 978, 1202

Zoonoses, Argentine center for study of, 437

