

to 1950, inclusive, has been published by the American Institute of Physics for the American Physical Society. Prepared at the University of Minnesota under the direction of J. W. Buchta, the index represents a complete reworking of the individual volume indices of the journal during the thirty-year period in the light of present-day reference requirements. The massive task of compilation was carried out with the support of the Office of Naval Research. Professor Buchta, who is the present editor of *Reviews of Modern Physics*, served from 1930 to 1950 as assistant editor of *The Physical Review*.

It was once intended that the Physical Society would publish a cumulative index of *The Physical Review* every tenth year, but that high objective has never been realized. Only one index of the journal has been published, and it covered the period from the first issue in 1893 through the year 1920. Publication of an index for 1921-30 was prevented by the depression, and the next target date of 1940 was interfered with by the Second World War.

One volume of the index (543 pp.) is a listing of authors; the second volume (498 pp.) is a comprehensive subject index. Copies are available from the American Institute of Physics, 57 East 55th Street, New York 22, N. Y., in both stiff paper binding and cloth binding. The prices, respectively, are \$10 and \$12 per two-volume set for members of the American Physical Society (limit: one set), and \$14 and \$16 for non-members.

Patent Claim Settled

Discovery in Rome Finally Pays Off

Settlement of a patent claim of long standing against the Atomic Energy Commission has been completed, according to the AEC, which announced on July 31st that payment of \$300,000 as compensation for partial revocation of a patent granted to seven atomic scientists in 1940, and for infringing use by the AEC and the Manhattan District, had been approved by the Commission and its patent compensation board. The patent, entitled "Process for the Production of Radioactive Substances", was granted in 1940 on the basis of work by the scientists in Rome prior to 1934; it involved the discovery that radioactive isotopes of a number of elements can be produced by exposing the elements to neutrons slowed down by passage through a moderating material.

Scientists holding an interest in the patent are Edoardo Amaldi of the Istituto fisico della Università in Rome, Oscar d'Agnostino of the Istituto di Sanita Pubblica in Rome, Enrico Fermi of the University of Chicago, Bruno Pontecorvo (?), Franco Rasetti of Johns Hopkins, Emilio Segre of the University of California at Berkeley, and Giulio Trabacchi, also of the Istituto di Sanita Pubblica. Each of them, with the exception of Pontecorvo, held an eighth interest, as did G. M. Giannini and Co., Inc., of Pasadena, assignee and legal owner of the patent. Pontecorvo, who disap-

peared in September 1950 after flying to Finland from England, originally held an eighth interest in the patent, but he assigned half of his interest to Eugene Ghiron-Fubini, Glen Head, Long Island, New York, in October 1942. Pontecorvo gave his power of attorney to the attorney for the applicants before his disappearance. The one-sixteenth share still assigned to Pontecorvo will be deposited in the U. S. Treasury pursuant to Treasury Departmental Circular No. 655, which governs the payment of funds to individuals in "certain" countries.

Miscellany

The vacancy on the Atomic Energy Commission caused by the resignation some months ago of former commissioner Thomas Keith Glennan has been filled by the appointment of Joseph Campbell, treasurer of Columbia University and its vice-president in charge of business affairs.

Donald A. Quarles, president of the American Institute of Electrical Engineers during the past year and an official of Western Electric and the Sandia Corporation, has been named Assistant Secretary for Research and Development in the Department of Defense. His nomination was confirmed by the Senate on July 30th. The new post was established in accordance with President Eisenhower's proposal of April 30th for reorganizing the Defense Department and for abolishing the Research and Development Board.

A new periodic chart of the elements has been issued by the Central Scientific Company. Three styles are available, giving the symbol, atomic number, atomic weight, electronic configuration, naturally occurring isotopes, principal oxidation states, valence electrons, melting point, boiling point and density for each element in the wall chart format. An $8\frac{1}{2} \times 11$ inch version is also made, suitable for student use. Full details may be obtained from the Central Scientific Company, 1700 Irving Park Road, Chicago 13, Illinois.

Standard letter symbols for meteorology have recently been approved by the American Standards Association and published by the American Society of Mechanical Engineers. The rapid growth of the science during World War II caused confusion in symbol usage, and the new standard has been established in the interests of uniformity. The list of symbols was prepared by a group of specialists from the armed services, government agencies, universities, airlines, and meteorological publications, under the administrative leadership of the ASME. Copies of the eleven-page *American Standard Letter Symbols for Meteorology* (Y10.10-1953) are available from the American Standards Association, 70 East 45th Street, New York, N. Y., or from the American Society of Mechanical Engineers, 39 West 39th Street, New York, N. Y., at \$1.00 per copy.

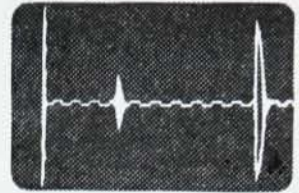
The American Association for the Advancement of Science, in cooperation with the Westinghouse Edu-

PHYSICISTS:

what's simac*?

It's newer than radar, sonar, loran and TV
Its commercial uses are almost limitless
It's the fast-growing field in which Sperry
ultrasonic equipment is paramount

IT'S
SONIC
INSPECTION
MEASUREMENT
AND
CONTROL



SIMAC, the most advanced method for non-destructive testing of metal and other materials.

RESEARCH PHYSICISTS

Sperry Products, Inc. now offers you an opportunity to diversify your experience, to join an expanding, completely independent organization, if you have a degree in physics and experience in research on ultrasonics, wave motion in solids, sonar techniques, seismology or piezo-electric transducers.

- Work for a smaller company in which your ability can be recognized quickly, your talents can thrive.
- Move your family to Danbury, Conn. in the foothills of the Berkshire Mountains, less than 2 hours drive from New York City. Moving expenses paid.

Find out more about available positions: send complete resume to W. J. Hatcher.

SPERRY PRODUCTS, INC.
DANBURY CONNECTICUT

*trade mark

Engineers & Physicists

- Mechanical Engineers
- Servo Engineers
- Electrical Engineers
- Chemists
- Physicists

The diversified research and development programs now in progress or

melpar, inc.

The Research Laboratory

of Westinghouse Air Brake Co. and its subsidiaries

Our representative, Mr. E. M. Lane, will interview at the Sherman Hotel in CHICAGO during the National Electronics Conference Sept. 28-30.



Write to Personnel Director,

MELPAR, INC. DEPT. C-3

452 Swann Avenue Alexandria, Virginia



New!

the makers of **contoura**—the only truly portable photo-copier bring you **constat**—the new portable dry processor!

Now! you can copy anything anywhere... in **45 seconds!**

Make your own photo-copies (up to $8\frac{1}{2}'' \times 14''$) of anything printed, written, typed or drawn... without the labor, bother, errors and time-devouring detail of long-hand copying or typing and proofreading. Do it as only CONTOURA-CONSTAT can.

Both are compact, light, portable... fit in brief case. Use them wherever your source material is... library, office, home, anywhere. Both fit in desk drawer when not in use.

CONTOURA, the only copier that reproduces book or magazine pages as easily as letters, without injury to binding. CONSTAT, the portable dry processor that develops without mess, darkroom, special baths, or unpleasant fumes. From

\$96⁶⁰ to \$161⁵⁰
GUARANTEED!

Write for NEW
ILLUSTRATED
FOLDER



The makers of the world's only Truly Portable Photo-Copier

F. G. LUDWIG, INC.

512 HIGH STREET, DEEP RIVER, CONN.

easy!

Place Contoura on copy paper over subject matter. No experience needed.



quick!

Press switch about 10 seconds. Negative can be processed at once or later.



neat!

No mess! Insert negative (left) and positive (right) in Constata Dry Processor.



fast!

Turn handle... peel papers apart... a dry print only 45 seconds from original to copy!



cational Foundation, is offering its seventh \$1000 award for outstanding science writing in magazines which will be presented next December 28th in Boston, Massachusetts, at the annual meeting of the AAAS. Entries (in triplicate) must be received no later than October 10th. For additional information and entry blanks write to AAAS—George Westinghouse Science Writing Awards, 1515 Massachusetts Avenue, N.W., Washington 5, D. C.

The Gravity Research Foundation is again offering ten awards (ranging from \$50 to \$1000) for 1500-word essays on "the possibilities of discovering: (a) some partial insulator, reflector or absorber of gravity, or (b) some alloy, or other substance, the atoms of which can be agitated or rearranged by gravity to throw off heat, or (c) some other reasonable method of harnessing the power of gravity. In none of the proposed experiments," the Foundation cautions, "can outside energy be used." Entries should be received no later than October 15th. For further information write to the Gravity Research Foundation, New Boston, New Hampshire.

Journal Notes

The Lyman-alpha line has been detected for the first time in the solar spectrum according to a report in the July 15, 1953, issue of *The Physical Review*. A grating spectrograph was mounted in an Aerobee rocket, which then was flown to 81 km for the exposure. This was the only line observed in the far ultra-violet, and its total intensity outside the earth's atmosphere was estimated to be 0.05 microwatt/cm².

A compact and portable particle accelerator that has been operated between 75 kv and 250 kv to give a focused beam of protons or deuterons of 300 microamperes is described in the June 1953 issue of *The Review of Scientific Instruments*. Designed around a commercially-available Cockcroft-Walton generator, the instrument can be run for "many hours" with little or no change in beam current. The tritium (d,n) He⁴ reaction has been used to produce neutrons, with yields claimed in excess of 10^{10} neutrons per second.

"Strife About Complementarity" is the title of a long article by L. Rosenfeld in the July 1953 issue of *Science Progress*, a quarterly review published by Edward Arnold & Co., London. Bohr's famous principle is discussed from a philosophical standpoint, and Rosenfeld enthusiastically demolishes here the idea of any all-pervading determinism in the universe. This is an old controversy, but his arguments are interesting and wide-ranging.

A complete table of isotopes is given in the April 1953 number of *Reviews of Modern Physics* by J. M. Hollander, I. Perlman, and G. T. Seaborg of the University of California at Berkeley. This table, 136 pages long, is "a complete list of all the radioactive and stable isotopes of the elements, together with a number of their salient features, as recorded in the literature or by private communication by approximately December 1952". References are given for all items.