

PUBLISHING NEWS

Particle

Students of physics, as well as of mathematics and the other natural sciences, should be aware of *Particle*, a quarterly magazine which is written, edited, and published by students for students. Teachers of high-school and college sciences will find interesting material in the publication, and may wish to have their own students contribute.

Particle was founded in April 1958 by Dunbar Aitkens, a physics major at the University of California at Berkeley, and Lloyd Prentice, a senior at Castlemont High School in Oakland. Aitkens observed at a local science fair that exhibitors had lots of ideas but no means of communicating them to others, whereupon he and his friend, Prentice, started a magazine devoted entirely to articles written by high-school students and college undergraduates about their original research, experiences, and thoughts. The following titles give some indication of the range of independent student work reported in the magazine: "A Small Rocket Telemetry System" by Philip A. Ekstrom, a freshman at the University of Washington in Seattle, "Sexual Reproduction in *Chlorella pyrenoidosa*" by Margaret Martin of El Cerrito High School in California, "Effects of Tranquilizers on Spinal Reflexes" by Gail JoAnn Noonan of Memphis State University in Tennessee, and "A Solid Propellant from Perchloric Acid" by Thomas Briggs of the University of California (a paper which was abstracted by *Chemical Abstracts*). Research performed under the direction of instructors is also represented, two examples being the articles on "The Preparation of Ferrocene"— $[(C_5H_5)_2Fe]$ —by Walter Patton of the University of California at Berkeley, who worked under Prof. William Jolly, and "Inelastic Scattering of 14-Mev Neutrons from Pb^{208} " by Roger Jensen, who did supervised work at the Lawrence Radiation Laboratory under an arrangement between the Laboratory and Livermore Joint Union High School.

Nonexperimental research published in *Particle* has included a geometric demonstration that certain flashes observed on the surface of Mars could not have been caused by reflections of sunlight from level bodies of water, together with computations predicting where on the Martian surface such flashes might be observed. That article was reviewed by Harvard Observatory's *Sky and Telescope*. Another paper represented a start at a mathematical analysis of a certain class of games, and the journal has carried a discussion and resolution of the relativistic-clock paradox. The articles are well printed and are complete with the customary figures and equations familiar to readers of scientific journals. The five articles in the most recent issue fill 42 pages. Ten additional pages contain an editorial, letters from

The Barkus-Rosenfeld Wallet-Card Tables

Included with this issue, in the form of a single perforated sheet, are two identical cards which are intended to be folded to wallet size and which contain data useful for those interested in nuclear and particle physics. The cards were prepared at the Lawrence Radiation Laboratory of the University of California and were printed and made available by the Laboratory for distribution in this manner as a service to the physics community. Full-size versions of the tables, together with certain other data, an explanation of the tables, and references are contained in a Berkeley report entitled *Data for Elementary-Particle Physics* (UCRL-8030) by Walter H. Barkus and Arthur H. Rosenfeld. That report is obtainable from the Technical Information Division, Lawrence Radiation Laboratory, University of California, Berkeley 4, Calif.

The authors have noted that Table I, which gives values for the masses and mean lives of elementary particles, is dated September 1960, as of the close of the Rochester Conference on High-Energy Physics. Some of these data are already superseded. For example, the mean life of the Λ (for which it was necessary to combine rather contradictory data in the report) has been carefully measured again. W. E. Humphry, in a private communication to the authors, quotes a value of $2.69^{+0.20}_{-0.15} \times 10^{-10}$ sec.

Two errors, both occurring in the first column of Table IV, were noticed after the cards were printed. The first entry at the top of the column should read:

$$N = 6.0249 \times 10^{23} \text{ molecules/gram-mole.}$$

The last line at the bottom of the column should begin:

$$E_n = \frac{1}{2} \frac{\mu_0^2 e^4}{(nh)^2} \dots$$

readers, puzzles and problems, and solutions to the problems in the preceding issue.

Having finally ceased to be a student, founder Aitkens has been succeeded as publisher of *Particle* by George M. Bergman. The magazine, which is now in the process of becoming incorporated as a nonprofit corporation, is produced by a fourteen-member editorial staff in a small loft over a garage in Berkeley. A larger staff of student representatives is spread over fifteen college and high-school campuses. The editors have been getting articles largely through personal contacts, through the efforts of the representatives, and by writing to the winners of science fairs. They are interested in extending the range of their contacts with potential student authors and it has been emphasized that they would especially welcome more contributions of articles from abroad.

By its contents and by its very existence, the journal

has demonstrated that science-minded students can be an effective force in the mission of stimulating more interest in science among secondary-school and college students. It is not intended to compete with regular scientific journals; rather, it is meant to give high-school and college students a medium for presenting the results of their research, for speaking their mind on scientific matters, and for learning and profiting from the experiences of other science students. Both idealistic and practical considerations, however, demand that the journal reach a wider audience. The editors judge that a subscription list of 5000 would enable the magazine to pay for itself. Subscriptions are \$1.80 for four successive issues—one year when things work out as they should, longer otherwise. Supporting subscribers pay \$10 and corporate subscribers \$50. An "endowing subscription" for \$400 brings copies of the magazine perpetually.

Particle's editorial loft is located at 2531 Ridge Road, Berkeley 4, Calif., and interested persons may communicate with the editors at that address.

Chemical Notation Systems

Various coding systems have been developed for describing the structures of chemical compounds. Some were designed primarily for use with punched-card equipment and others for use with computers. Some are suitable for use in indexes or printed lists and others are employed only for mechanized structure searching. Under a recently announced study program, to be carried out by the National Academy of Sciences—National Research Council, a thorough analysis of the characteristics of the existing systems will be conducted in terms of their similarities and differences, the uses now being made of them, the criteria which led to their adoption or development, the problems encountered in their use, the potentialities of each system for more widespread use, the needs not met by existing systems, and the purposes that might be served by agreement among chemists on a standardized system.

The one-year study, supported by a \$56 000 National Science Foundation grant, will be directed on a part-time basis by I. Moyer Hunsberger of the University of Massachusetts. He will be assisted by an advisory group including representatives of the NAS-NRC Committee on Modern Methods of Handling Chemical Information, the American Chemical Society, and other interested organizations. The study will be administered jointly by the Division of Chemistry and Chemical Technology and the Office of Documentation of the NAS-NRC.

In announcing the establishment of the study program, the Foundation noted that interest in the use of chemical coding systems first arose because of the need to find better means for describing chemical compounds than are provided by their names, many of which do not identify compounds uniquely and unambiguously. It was believed that notation based on the structures of compounds might serve the purpose better than the existing system of nomenclature. In addition, during



A position on the staff of the newly formed Applied Research Section at Convair/Fort Worth offers opportunity rarely found for physicists and engineers at the doctorate level. Active and mature programs in electronics, space mechanics, thermodynamics, and nuclear science are in progress. Research programs in the fields of astro physics, ultra high pressure physics, relativity, gravitation, physics of materials, and geophysics are in the formative stages of planning and activation.

As a research scientist or engineer at Convair/Fort Worth you hold a position that promises to be exciting and challenging. In addition, you will discover that Fort Worth is at once part of the Fort Worth-Dallas area that is now the nation's 6th market—2nd in aircraft—and a friendly community with countless educational, cultural, and recreational facilities. The climate is mild year 'round, cost of living is below the national average and adequate housing is available in all price ranges.

If you are interested in future stability and can qualify, a position within this section offers unlimited potential. For further information, forward your personal resume to Dr. E. L. Secrest, Chief of Applied Research, Convair/Fort Worth, P. O. Box 748 P, Fort Worth, Texas.



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