

THE AMATEUR SCIENTIST

Experiments and constructions, challenges and diversions in the fields of Astronomy, Archaeology, Biology, Natural Sciences, Earth Sciences, Mathematical Machines, Aerodynamics, Optics, Heat and Electronics. Selected from Mr. Stong's clearing house of amateur activities, appearing monthly in *SCIENTIFIC AMERICAN*, and expanded with additional information, instructions, notes, bibliographies — and postscripts, from readers.

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A HOMEMADE ATOM SMASHER

For less than the average cost of a set of golf clubs, you can equip yourself for playing with electrons — the minute "spheres" surrounding the atom. With this apparatus you can transmute the elements, alter the properties of some common materials and, incidentally, learn much at first hand about the structure of matter. F. B. Lee, a chemical engineer and faculty member of the Erie County Technical Institute in Buffalo, N. Y., tells how to build and operate the machine. Some safety measures are suggested on page 359

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