

PHYSICS

Sound Washes Clothes

➤ **CLEANER** clothes with shorter hours at the washing machine may be in store for housewives, thanks to sound waves of such high frequency that you cannot hear them.

How sound waves can save hours in washing was disclosed in preliminary reports of experiments conducted by a team of scientists at the Pennsylvania State College.

Cotton fabric was scientifically soiled so that 50 washings by a commercial laundry would remove 90% of the dirt, if the best possible procedures were used. Three commercial laundries washed the cloth for from 50 to more than 58 hours.

Best whiteness produced by the laundries was equal to that obtained in the laboratory after only one hour in a pan of soap and water which was placed above an ultrasonic siren.

In another test, only 80% as much dirt was removed with only soap and water washing in the laboratory for more than 16 hours as was removed by the one-hour "sound wash."

Soap and water were changed only five times during the ultrasonic cleaning, while the laboratory washing had 50 changes. In the commercial laundries, the soap and water went through 50 complete cycles, each consisting of three suds and series of rinses.

First scientific report of the ultrasonic laundry experiments was published in the *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA* (Jan.) by Drs. H. K. Schilling, I. Rudnick, C. H. Allen, Pauline Beery Mack and Joseph C. Sherrill. They emphasize that they are giving only preliminary findings from early—but successful—experiments.

Science News Letter, February 5, 1949

MEDICINE

Drugs Don't Cure Heartburn

➤ **RX FOR HEARTBURN:** a change in eating habits and "therapeutic discussions." This, in brief, is the prescription found successful by two Philadelphia physicians, Drs. Henry J. Tumen and Edwin M. Cohn of the University of Pennsylvania Graduate School of Medicine and the Jewish Hospital.

Drugs, including antacids, are of little use in treating heartburn, they report in the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (Jan. 29).

Eating too fast, gulping down food, washing it down with large quantities of water (two or three glasses per meal), free use of carbonated drinks and gum chewing

with its constant swallowing and gulping were the bad habits that led to heartburn.

All these practices, the doctors explained, could overstretch the stomach, reverse the normal direction of its food digesting and propelling action, cause air and fluids to be forced back into the food pipe from throat to stomach and consequently increase the activity of this pipe, called the esophagus.

Nervous tension also plays an important part in heartburn. The extremely tense, easily offended, over-critical person who is quick to anger and gets "burnt up easily" is likely to have heartburn, the Philadelphia doctors found. The "therapeutic discus-

sions" helped these people see the relation between their tenseness and the heartburn and to see how to overcome both.

Heartburn is not due to any organic disease of the digestive organs, nor is it due to excessive stomach acidity, the doctors state.

Their findings are based on a study of 120 patients coming consecutively to the office for various digestive disorders. Of this group, 21 men and 25 women had heartburn. All were helped by the discussions and change in eating habits. Patients with more severe personality problems were encouraged to get psychiatric treatment. In three cases this was definitely helpful.

Science News Letter, February 5, 1949

SCIENCE NEWS LETTER

Vol. 55 FEBRUARY 5, 1949 No. 6

50,200 copies of this issue printed

The Weekly Summary of Current Science, published every Saturday by SCIENCE NEWS LETTER, 1719 N. St., N. W., Washington 6, D. C., NORTH 2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change, please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Copyright, 1949, by Science Service, Inc. Reproduction of any portion of SCIENCE NEWS LETTER is strictly prohibited. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service. Science Service also publishes CHEMISTRY (monthly) and THINGS of Science (monthly).

Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., Pennsylvania 6-5566 and 360 N. Michigan Ave., Chicago, STAtE 4439.

SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Nominated by the American Association for the Advancement of Science: Edwin G. Conklin, Princeton University; Karl Lark-Horowitz, Purdue University; Kirtley F. Mather, Harvard University. Nominated by the National Academy of Sciences: Harlow Shapley, Harvard College Observatory; Warren H. Lewis, Wistar Institute; R. A. Millikan, California Institute of Technology. Nominated by the National Research Council: Hugh S. Taylor, Princeton University; Ross G. Harrison, Yale University; Alexander Wetmore, Secretary, Smithsonian Institution. Nominated by the Journalistic Profession: A. H. Kirchhofer, Buffalo Evening News; Neil H. Swanson, Baltimore Sun Papers; O. W. Riegel, Washington and Lee School of Journalism. Nominated by the E. W. Scripps Estate; H. L. Smithton, E. W. Scripps Trust; Frank R. Ford, Evansville Press; Charles E. Scripps, Scripps Howard Newspapers.

Officers—President: Harlow Shapley, Vice President and chairman of Executive Committee: Alexander Wetmore, Treasurer: O. W. Riegel, Secretary: Watson Davis.

Staff—Director: Watson Davis. Writers: Frank Thone, Jane Stafford, A. C. Monahan, Marjorie Van de Water, Martha G. Morrow, Ron Ross, Lydia Schweiger. Science Clubs of America: Joseph H. Kraus, Margaret E. Patterson. Photography: Fremont Davis. Sales and Advertising: Hallie Jenkins. Production: Priscilla Howe.

Question Box

AGRICULTURE

How are scientists learning about the use of phosphorus by plants? p. 82.

BIOLOGY

Of what crime have cockroaches now been found guilty? p. 83.

CHEMISTRY

What products are now being obtained from tree stumps? p. 90.

ENTOMOLOGY

Does an insect pest sometimes have its own fifth column? p. 92.

FORESTRY

What size trees are preferred by porcupines? p. 88.

GENERAL SCIENCE

What 40 high school seniors will receive scholarships in universities for science studies? p. 87.

Photographs: Cover, Navy; p. 84, Westinghouse; p. 85, Earle Ferris Co.; p. 86 and 87, Fremont Davis, Science Service staff photographer; p. 90 Douglas F. Lawson.

GENETICS-CHEMISTRY

What chemical is important in heredity? p. 83.

HORTICULTURE

How can you get ice off your favorite lawn shrub? p. 95.

MEDICINE

How can bow legs be cured? p. 83.
How can chewing gum cause heartburn? p. 84.

PHYSICS

How can inaudible sound help with the laundry? p. 84.

RESOURCES

How much potential farm land does Alaska have? p. 93.

ZOOLOGY

In what way will Deamer the lemur contribute to scientific knowledge? p. 86.