or by word of mouth, is expected to be released at this four-day gathering.

The American Association for the Advancement of Science is the great general society to which most American scientists belong. Total membership exceeds 27,000, and its meetings, which are held jointly with those of many of the 190 specialized scientific societies and groups affiliated with it, usually attract crowds of from 3,000 to 5,000 research men and teachers.

In normal times, the Association has held its meetings twice a year, one during the Christmas holidays and one in early summer. However, like all large societies, the Association has kept meetings rather strictly in abeyance during the war. A meeting was held in Dallas, Texas, during the Christmas week immediately after Pearl Harbor, because it had already been scheduled. It was deemed advisable to hold another meeting in Cleveland in the fall of 1944, but that was the only strictly wartime gathering of the Association's members. With war restrictions on travel now removed, a heavy attendance at St. Louis next spring is expected.

Science News Letter, October 20, 1945

In measuring shutter speed on a camera, the time interval meter clocks time consumed by one shutter operation at any speed setting. A photo tube picks up light and transposes it to voltage pulse first when the shutter opens and again when it closes. The dial records the interval. This measurement is taken without any mechanical attachment to the camera which might retard its movement. The device was used during the war to determine time interval in checking high-speed aerial cameras.

Science News Letter, October 20, 1945

PHYSIOLOGY

Bone Twists Affect Gait

The characteristic way in which a person walks is determined during the period when he learns to walk. Knowledge is useful in correcting bad foot posture.

➤ CERTAIN twists in the leg bones, developed during the years when children are learning to walk, largely determine the gait or characteristic way in which a person walks, it appears from studies reported by Dr. Herbert Elftman of Columbia University in the *American Journal of Physical Anthropology,* (Oct.).

The bones making up the upper and lower parts of your leg develop their twists independently. If you "toe in," the combination of these twists are in one direction; whereas, if you "toe out," the twists are in the opposite direction. Scientists, especially orthopedists, are interested in learning how each leg bone affects walking, because this knowledge is useful in correcting bad foot posture.

It is almost impossible to measure the twist in a leg bone during life, even with the X-ray. Dried bones are not entirely satisfactory either, because it is impossible to tell at what angles they were connected with one another. For example, if you straighten your leg and try toeing in and out, you will notice that the whole leg from the hip downwards turns with the foot. Thus it is necessary to study the leg as a whole. To solve this problem Dr. Elftman resorted to studying legs that have been taken off at the hip. All that he needed to do in such cases was to expose enough of the joints at the hip, knee and ankle to determine their axes. From the angles which these joints make with a standard plane he could determine the amount of twisting in each bone.

From Dr. Elftman's findings, there appears to be little relationship between the twist in the thigh bone and that in the lower leg bones. On the other hand, the twisting of the lower leg bones as seen in the ankle joint has a definite relationship to foot position. Dr. Elftman points out also that the twists in the adult bones are quite different in degree from those present at birth. Although the evidence is incomplete, it seems to indicate that the adult condition develops during the years when children learn to walk.

Science News Letter, October 20, 1945

ELECTRONICS

Electronic Device Measures Speed of Baseball

➤ THE SPEED of the baseball between the pitcher's hand and the catcher's mitt needs no longer be a guess; it can be measured, and timed accurately down to a ten-thousandth of a second. Electronics is the answer; a versatile electronic device does the job. The same device can measure the speed of the shutter on a camera or the rate of travel of a bullet from a rifle.

In measuring the speed of a moving body, two photo tubes with light sources aimed on them are set up with a known interval between them and directly in the line of flight of the moving object. The light sources shining on the photo tubes create two beams of light. A meter begins timing when the moving object breaks the first beam of light and ceases timing when it breaks the second. It records the time in thousandths of a second.

SCIENCE NEWS LETTER

Vol. 48 OCTOBER 20, 1945 *No. 16*

The weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St. N. W., Washington 6, D. C. NOrth 2255. Edited by WATSON DAVIS.

Subscriptions—$5.00 a year; two years, $8.00; 15 cents a copy. Back numbers more than six months old, if still available, 25 cents. Monthly Overseas Edition: By first class mail to members of the U. S. Armed forces, $1.25 a year. To others outside continental U. S. and Canada by first class mail where letter postage is 3 cents, $1.25; where letter postage is 5 cents $1.50; by airmail, $1.00 plus 12 times the half-ounce airmail rates from U. S. to destination.

Copyright, 1945, by Science Service, Inc. Republication 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.

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.

The New York Museum of Science and Industry has elected SCIENCE NEWS LETTER as its official publication to be received by its members.

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, American Philosophical Society; Otis W. Caldwell, Boyce Thompson Institute for Plant Research; Henry B. Ward, University of Illinois. *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:* C. G. Abbot, Smithsonian Institution; Hugh S. Taylor, Princeton University; Ross G. Harrison, Yale University. *Nominated by the Journalistic Profession:* A. H. Kirchhofer, Buffalo Evening News; Neil H. Swanson, Executive Editor, Sun Papers; O. W. Riegel, Washington and Lee School of Journalism. *Nominated by the E. W. Scripps Estate:* Max B. Cook, Scripps Howard Newspapers; H. L. Smithton, Executive Agent of E. W. Scripps Trust; Frank R. Ford, Evansville Press.

Officers—President: Harlow Shapley. *Vice President and Chairman of Executive Committee:* C. G. Abbot. *Treasurer:* Frank R. Ford. *Secretary:* Watson Davis.

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

Science Service, Inc. is collaborating with JSTOR to digitize, preserve, and extend access to *The Science News-Letter.* www.jstor.org