meetings at the National Bureau of Standards in Washington on December 27 to 30. Over 400 persons registered for the meetings, including 315 from out of town. Seventy-nine papers were presented. The address of the retiring president, Dr. Lyman J. Briggs, on "The National Standards of Measurement," was followed by an inspection of these standards in the laboratories of the bureau. The joint dinner was attended by nearly 300 persons and was followed by a lecture by Dr. Harvey Fletcher on "Auditory Patterns," with experimental demonstrations. The next evening Professor P. W. Bridgman addressed the physics teachers on "Society and the Intelligent Physicist." The new officers of the American Physical Society are: John T. Tate, *president;* John Zeleny, *vice-president;* W. L. Severinghaus, *secretary,* and Geo. B. Pegram, *treasurer.*

THE National Advisory Cancer Council has recommended to the Surgeon General a grant of $11,900 to Cornell University Medical College, New York City, for work during a period of two years by Dr. Dean Burk, under the direction of Dr. Vincent du Vigneaud, professor of biochemistry, on cell metabolism fundamental to cancer, with the understanding that for the purposes of this study Dr. Dean Burk may be appointed a fellow in the National Cancer Institute.

THE Committee on Scientific Research of the American Medical Association invites applications for grants of money to aid in research on problems bearing more or less directly on clinical medicine. Preference is given to requests for moderate amounts to meet specific needs. For application forms and further information, apply to the committee at 535 North Dearborn Street, Chicago, Illinois.

DISCUSSION

BIOLOGICAL RESEARCH FILMS

IN view of the now considerable number of research films that have been produced in various widely distributed laboratories it appears highly desirable that these films be collected at some central point. Not only would such a collection serve to record, index and make available these valuable data, but also it should be useful to encourage and improve the quality of future research films.

It has been suggested that a cross-indexed and abstracted collection of such films relating generally to biological research be established at the Marine Biological Laboratory, Woods Hole, Mass. The plan, as outlined below, has received approval from the director of the laboratory and from the managing editor of the *Biological Bulletin,* providing a sufficient interest is expressed by biological investigators and others who have already made or who plan to use films in their research or teaching.

The collected suggestions of nine investigators who have produced films appear to crystallize around the following three interrelated points: (1) The establishment of a centrally located film library. (2) Appointment of an editorial board of film reviewers. (3) Publication of collected film abstracts in a recognized journal.

(1) The Marine Biological Laboratory as an independent institution, already equipped with an almost unequalled library and being visited by the most representative cross-section of biologists, seems a logical choice for location. As part of the library activities, one print together with a complete negative including titles should be submitted for cataloguing and permanent storage. At first, the author or his department might donate either the master negative or a copy, while the laboratory (if a source of funds can be found) could supply the positive.

(2) To assume responsibility for the plan's operation, it would be necessary for the trustees of the laboratory to appoint a board of review, consisting of three members. Its function would include passing upon the films submitted, rejecting those imperfectly titled, photographed or organized. In this manner the quality of films might be improved from year to year. Preference would be given those films of primary interest to workers in the Marine Biological Laboratory.

(3) To provide a running catalogue of the collection, a one-page abstract of each film accepted would be published annually in a winter issue of the *Biological Bulletin,* under separate heading, such as the *Biological Film Bulletin* or *Film Supplement.* Whenever desirable it is planned to print one or two frames from the film with each abstract. Copies of abstracts would be furnished to authors under the same conditions as hold for papers now published, and eventually the collected abstracts might be published in pamphlet form.

Even should the first years of operation of the above plan result in only few films being placed on record, it is nevertheless hoped that biological research will be substantially aided. It may become desirable to furnish at reasonable cost extra prints (approximately $15.00 per reel) to institutions and to individuals who request them. However this latter suggestion may considerably increase the sum of three hundred dollars now necessary to start the plan. For the present, rental of the films seems out of the question.

It is earnestly requested that all those interested in

this plan will forward to the undersigned their own suggestions and criticisms, together with a definite statement as to the conditions under which they would be willing to submit both new and old negatives or prints to the Marine Biological Laboratory film collection. It would also be extremely helpful if any interested in obtaining extra prints from such a collection would communicate with us. Needless to say, furtherance of the plan will depend almost wholly upon the response from readers of this note.

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ANOTHER TREATMENT OF THE UNITS FOR F = ma

IN the October 14, 1938, issue of SCIENCE Professor Perkins says that there are only two essentially different ways of handling gravitational measures of force. I am not quite sure what Professor Perkins would call *essentially* different, but there is certainly another way which looks different and does not involve some of the difficulties which he discusses.

Let us use only $F = ma$. The quantities are all to be measured in units from Table 1 and for a particular problem must all come from the same horizontal row of the table.

TABLE 1

		Length	Time	Mass	Force	Energy
Absolute ...	Metric	cm	sec	gm	dyne	erg
	English	ft	sec	pound	poundal	ft poundal
Gravitational or Engineering	Metric	cm	sec	metric slug	gm-f	gm-f cm
	English	ft	sec	slug	pound-f	ft pound-f

The pound-f and gm-f are defined as the weight of a pound mass and gm mass respectively.
The slug and metric slug are defined as the masses to which a pound force and gram force respectively will give unit acceleration (1 ft/sec², 1 cm/sec²).
K.E. $\frac{1}{2}mv^2$, $F_c = mv^2/r$, Work = Fs = change in potential energy.

We do not expect other formulas to be so written that we can enter them without first reducing the quantities involved to certain particular sets of units and still have the answer in terms of familiar units. We should do the same with $F = ma$.

With this treatment, only a single set of formulas is needed. Furthermore, no "g's" are scattered over these formulas like salt over a plate of food. In this country at present it is hardly possible to ignore "ft lb" of energy and horse power (= 550 ft lb-f per sec). Hence, however much the physicists would like to forget gravitational units, they must continue to teach both systems, but that does not need to mean that there must be two sets of formulas.

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THE MOVEMENT OF WATER FROM CONCENTRATED TO DILUTE SOLUTIONS THROUGH LIQUID MEMBRANES

IN the experiment of W. J. V. Osterhout and J. W. Murray[1] recently commented on by H. E. Bent[2] it appears to us that the permeability of the membrane for the solvent as well as for the solute deserves special consideration.

If the membrane were permeable only for the solvent there would be a contradiction of the second law of thermodynamics. However, the fact that the solute is simultaneously transferable contributes a positive reduction in free energy which fully compensates the work required for the apparently anomalous movement of a certain amount of solvent.

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THE AMERICAN ASSOCIATION OF SCIENTIFIC WORKERS

IN a recent issue of SCIENCE (December 16, 1938) the announcement was made of the formation of a branch of the American Association of Scientific Workers in Boston and Cambridge, Mass. It is hoped to establish similar branches of this association in various centers as a means of bringing together scientists of different disciplines to study the problems of science and society and to endeavor to give effect to the natural desires of scientists as members of democratic society. Its program is in accord with publicly expressed opinions of prominent men of science, including leaders of the American Association for the Advancement of Science, and it is hoped that active groups of the American Association of Scientific Workers and individual members will be able to cooperate with the American Association for the Advancement of Science in its activities in the field of science and society.

Not long after the founding of the American Association of Scientific Workers the following letter was received from Sir F. Gowland Hopkins, president of the Association of Scientific Workers in Great Britain and a past president of the British Association for the Advancement of Science and of the Royal Society:

I am much interested to learn of the foundation of the American Association of Scientific Workers, whose policy and program are so closely parallel to those of the Association of Scientific Workers in Great Britain.

In these days when science plays so great a part in every field of modern life it is essential for scientific workers to organize, both to protect their own economic and professional status and to work for the better organization and application of science for the benefit of the com-

[1] SCIENCE, 87: 430, 1938.
[2] SCIENCE, 88: 525, 1938.