pathology, as head of the department. It was also voted to establish a department of water supplies and sewage disposal, with Dr. Willem Rudolfs in charge.

PROFESSOR F. H. ALBEE has resigned the chair of orthopedic surgery at the University of Vermont. The position has been filled by the appointment of Dr. B. H. Whitbeck, of New York City.

DR. PHILIP H. MITCHELL has been promoted from an associate to a full professorship of physiology at Brown University. He has been a member of the Brown faculty since 1907.

W. B. JEWELL, Ph.D. (Princeton, '26), has been appointed assistant professor of geology at Vanderbilt University.

AT the Utah Agricultural College, Dr. W. W. Henderson has been appointed professor of entomology and Dr. F. B. Wann associate professor of botany.

APPOINTMENTS in the college of mines and engineering of the University of Arizona have been made as follows: Professor James C. Clark, of the Westinghouse Electric Company, will be acting professor of electrical engineering during the absence of Dr. Paul Clarke; E. J. Borquist, of the University of Utah, will take the place of Professor Frank Garron, who has accepted a position in the faculty of the University of North Carolina, in the civil engineering department; Dr. R. J. Leonard, formerly of the University of Minnesota and the Oregon Agricultural College, will take the chair of geology and mineralogy left vacant by Professor Vincent L. Ayres.

DR. PEDRO N. ORTIZ has been appointed professor of tropical diseases at the Columbia School of Tropical Medicine, at San Juan, Porto Rico.

DISCUSSION

THE METRIC MOVEMENT

IN the House of Representatives, May 13, 1926, Mr. Britten introduced a joint resolution, relating to the establishment of commodity quantity units for general use in merchandising after 1935. The resolution is brief, consisting of about six lines, namely:

> That the United States Department of Commerce is authorized to establish commodity quantity units for general use in merchandising after 1935, standardizing the yard to the meter, the quart to the liter, the pound to five hundred grams, decimally divided.

Mr. Britten, it may be recalled, introduced H. R. Bill 10, extending the use of metric weights and measures in merchandising which gave the manufacturer and business man ten years to accommodate himself to conditions arising from the adoption of a metric system of weights and measures. Mr. Britten has made a long and praiseworthy fight to provide legislation lifting business methods out of the quagmire of antiquated, unscientific and inappropriate units.

It may be of interest to run over briefly the arguments advanced by those who are opposed to the introduction of metric units, as shown in the Hearings before the House Committee on Coinage, Weights and Measures, 69th Congress. In the main, these objections rest on anticipated expense, confusion and litigation.

A prime purpose of those who favor the use of the metric system is of course to eliminate confusion; but the opponents of the system persist in claiming that great confusion will result.

A typical line of argument is that of the American Railway Engineering Association. In the opinion of certain engineers it would cost the railroads of this country:

For changing mile posts	$ 1,835,000
For changing tariffs	100,000,000
For changing standard plans	15,000,000
For changing shop machinery, tools, etc.	216,000,000
Add also maintenance of property	60,000,000
And 6 per cent. on additional investment	19,970,000
Grand total over	400,000,000

Comment is hardly needed. Wear and tear of brain by engineers and others might have been included and listed at several million dollars. Nor has it occurred to these gentlemen that there might be some offset as the years rolled on due to the use of simplified accounts, time-saving units and scientific methods.

Opposed to this bugbear of expense, largely imaginative, may be set the experience of the Baldwin Locomotive Works filling an order on drawings made in metric units.

> The engines went through the shops without any extra cost or expense over and above what they would have cost built on the English system and with fewer mistakes than they would have expected to occur in the English system.

It may be recalled, too, that the bugbear of expense was held out as an objection to the introduction of proper heating apparatus in railway cars. Ditto automatic couplers. Ditto almost every improvement looking to safety of the travelling public. And yet no railroad man to-day would wish to return to coal stoves, old-fashioned brakes and couplers.

The attitude of the manufacturer is perhaps best shown by the testimony of the representative of the American Telephone and Telegraph Company. His concluding words are:

> You talk to a scientific man and he will say "I am in favor of the metric system. I think it is good." Now

what does he mean; he is a scientist, he does not worry about the cost of production. But when you talk to the man who has got to make money enough to keep him engaged producing goods and make a profit on his investment, he commences to get out a paper and figure out what it means.

But what if the man who *pays* is not the manufacturer; but the dear public? And while there may be manufacturers who keep scientific men employed for the mere pleasure of so doing, in general the ultimate gain goes not to the scientific worker but to the employer.

Perhaps the most amusing logic was that of the representative of the Retail Dry Goods Association. We quote:

> Some time ago a foreigner went into a store and said "I want to buy a collar." He expressed it in the metric system. The clerk said "We have not got it in that system, we have it in the English system. Can you tell me what it is in the English system?" He said "No, I can not tell you what it is in the English system." The clerk said, "I will tell you what to do, take off your collar and I will measure it." The man said, "I can not do that, it is attached to my shirt."

What happened after that we are not told. Evidently an impasse. Possibly there was no sale! Possibly the manager considered the expenditure of a tremendous sum to make up collars in metric units. And possibly some budding genius in real salesmanship got out of his pocket a piece of string, measured the neckband and then found the required size. And the mirage of tremendous expense faded pleasantly out of the scene.

One great mystery remains. "How did the hypothetical purchaser of collars expect to attach a second collar to a shirt already provided with one?" A second mystery is, "Why did the representative of the Retail Dry Goods Association offer this illustration as a valid argument against the use of metric units?"

Meanwhile engineers are quite generally decimalizing the inch. And across the big pond, the British are abolishing pole, furlong, league, grain, dram, stone, quarter, peck, bushel, chaldron, barrel, square rod, perch, rod and, last but not least, the hundredweight of 112 pounds. Our transatlantic slow-movers seem to be a lap ahead of us.

ALEXANDER MCADIE

BLUE HILL OBSERVATORY

INSTITUTIONAL SOURCES OF INDUSTRIAL RESEARCH MEN

IN a previous communication[1] we discussed our early experience in finding researchful young scientists. We think that every laboratory director will agree with the observation made therein that it should be his ambition to attract, rather than to seek, qualified scientific investigators. It is not so generally appreciated, however, that a knowledge of the domestic history of the important research training-schools not only facilitates the prognosis of the investigational possibilities of candidates therefrom, but also renders less difficult any necessary quests for research men possessing specific qualifications.

Researchful young men are most easily located in or through the universities, and therefore the laboratory director will find it advantageous to establish and maintain occasional contact as well as cordial relations of cooperation with the heads of the scientific departments of the larger educational institutions. This favorable connection between industry and education is one of the benefits that come from the regular attendance of both pure and applied scientists at conventions of professional societies and also at the meetings of the American Association for the Advancement of Science. We have been aided constantly and invaluably in getting chemists and other scientific specialists by our friendly relations of reciprocity with college and graduate-school teachers.

The list that follows presents the names of the institutions that have each supplied five or more incumbents of industrial fellowships of Mellon Institute during the past fifteen years (1912 to the present

INSTITUTIONS REPRESENTED IN LARGEST NUMBER IN MELLON INSTITUTE, 1912–1926

Names of Institutions	Degrees B.S. and A.B.	M.S. and M.A.	Ph.D. and Sc.D.
Allegheny College	5	1	
Carnegie Institute of Technology	8	1	
Chicago, University of	4	4	16
Clark University	4	3	1
Columbia University	7	7	2
Cornell University	7	2	4
Harvard University	2	2	4
Illinois, University of	15	10	7
Iowa State College	2	4	3
Johns Hopkins University	3		8
Kansas, University of	27	10	2
Nebraska, University of	3	5	
New Hampshire College	9	3	
Ohio State University	17	14	9
Pennsylvania State College	9		
Pittsburgh, University of	34	36	31
Southwestern University	5		
Wisconsin, University of	6	6	2
Yale University	5	3	10
Other institutions (102)	137	40	20

[1] Hamor, SCIENCE, n.s., *51* (1920), 625–7.