COLUMBIA UNIVERSITY has received a gift of $15,000 from the Borden Company to be used for research in the field of food chemistry and nutrition, and $6,000 from an anonymous donor for the laboratory of surgical research.

WESTMINSTER Hospital Medical School, London, has been offered by A. J. H. Carlill £20,000 towards the establishment of a pathological unit as a memorial to his father.

THE Jefferson Medical College has created a department of bronchoscopy and esophagoscopy. Dr. Chevalier Jackson, professor of laryngology in the college, has been elected to the professorship of the new department. Dr. Fielding O. Lewis has been elected to fill the chair vacated by Dr. Jackson.

DR. GEORGE A. TALBERT, associate professor of physiology at the University of Nebraska College of Medicine, has been appointed professor of physiology at the University of North Dakota School of Medicine.

DR. D. S. MORSE, of Cornell University, has been appointed assistant professor of mathematics at Union College.

DR. HARRY H. KNIGHT, assistant professor of entomology and curator of the insect collection at the Farm School of the University of Minnesota, has resigned to accept a similar position at the Iowa State College.

EDUARDO DIAZ LUQUE was recently appointed professor of physics at the Universidad Nacional in Mexico City; he is also doing work for the Mexican Light and Power Company.

PROFESSOR HENRY BRIGGS, who has been for several years professor of mining engineering in the Heriot-Watt College, Edinburgh, has been appointed to the newly established chair of mining in the University of Edinburgh.

DR. HANS V. HABERER, of the University of Innsbruck, has been appointed professor of surgery at the University of Graz, to take the place of Professor v. Hacker.

DISCUSSION AND CORRESPONDENCE

ALKALINE REACTION OF THE COTTON PLANT

IN an article which has recently appeared under the above title (SCIENCE, September 19, 1924, page 268), Mr. J. E. Mills has referred to some observations published about a year ago by Mr. C. M. Smith regarding the alkaline reaction of the dew of the cotton plant (*J. Agric. Research*, 1923, *26*, 192). The subject was incidentally considered by Mr. Smith in connection with an investigation of "arsenical injury to plants," and from an examination made by him of dew collected from the plants, he was led to conclude that its alkalinity was to be attributed to the presence of the bicarbonates of calcium and magnesium. It was also observed by him that "the dew gave a reaction alkaline even to phenolphthalein," which he stated would indicate the presence of soluble hydroxide or salts of very weak acids. Mr. Mills has now noted (*loc. cit.*) that it would hardly seem possible that the alkalinity of the dew can be attributed to these compounds.

In collaboration with the Bureau of Entomology of the U. S. Department of Agriculture an investigation was undertaken by the undersigned for the purpose of determining the volatile constituents of the cotton plant and of ascertaining their attraction for the boll-weevil. This work was begun in the summer of 1923 and has continued to engage our attention to the present time. Although the complete results of this investigation will be published in due course in a scientific periodical, in view of the above-mentioned article by Mr. J. E. Mills and also the statements relating to the subject from time to time in the daily press it seems desirable that we should now place on record some of our observations.

The chemistry of the cotton plant is a very complex subject, and although much progress has been made in our investigation of it, considerable time will still be required for its complete elucidation. We now particularly wish to state that we believe the alkalinity of the dew of the cotton plant to be attributable, at least in part, to the presence of ammonia and trimethylamine, since we have determined the presence of these substances in it and have also obtained the same substances in very much larger amounts from the products of distillation of the cotton plant with steam. Both ammonia and trimethylamine are evidently emanations from the plant, and it has already been ascertained that the trimethylamine possesses a particular attraction for the boll-weevil. An account of the numerous other substances that have been isolated from the cotton plant and completely identified must be reserved for a future publication.

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RADIOACTIVITY OF RIPE TOMATOES

IN cooperation with the Bureau of Standards a project for experimental study was outlined in the

summer of 1923, the object being to determine whether or not any radioactive substance occurred in food and if so its significance. Owing to unforeseen circumstances, the experimental work could not be begun at that time. In June of the present year, however, a beginning was made, the food chosen being ripe tomatoes. These were washed in distilled water and then pulped by passing the fruit through a meat grinder of household size. The pulped fruit and juice, 900 cc altogether, was tested for radioactive substance in accordance with the procedure followed at the Bureau of Standards of the United States Department of Commerce, the determinations being made by W. H. Wadleigh, of that bureau. The glass flask containing the pulp and all the other equipment used was taken from stock which had not been exposed to radioactivity. The experimental conditions were such as to prevent the concentration of the pulped fruit and juice during the experiment.

The results obtained are reported in the following table in comparison with Washington city water which was used as a check, its radioactivity being known:

OCCURRENCE OF RADIOACTIVE SUBSTANCES IN RIPE TOMATOES

		Milimicrograms per liter	
1924	Washington city water		
June 11	for comparison	1.00	
June 17	Ripe tomato pulp and juice	3.28	
June 24	do	4.20	
July 2	do	0.98	result considered unreliable
July 10	do	1.45	
July 15	do	1.14	

After the first determination for radioactivity, the tomatoes were set aside and again tested at the end of a week. This procedure was continued, five tests in all being made with the original material.

The radioactivity noted, though relatively small, was pronounced, being more than three times as great as that of city water. It is also apparent that the amount diminished as time passed.

The topics which suggest themselves for consideration in continuing the work are numerous. One of primary importance is to determine whether or not the radio-active substance is carried into the fruit by ground water taken up by the growing plant or whether it had another origin. Others have to do with the relationship, if any, between such phenomena and nutrition problems now receiving attention.

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THE METRIC SYSTEM

IN SCIENCE for September 5 there is a letter on the metric system which gives an incorrect impression as to the position of the engineering profession on this question.

The engineer necessarily uses the unit of measure that is the legal standard in the country where he is working, but it does not make any difference whether the unit used is a foot or a meter. The essential thing is that it shall be a *decimal* system, and the engineers of the world are now using a decimal system exclusively for all measurements and calculations. The unit of measure in this country is the foot, and all measurements are made in feet and decimal parts of a foot. The surveyor's chain or steel tape is 100 feet long, graduated in feet and tenths and hundredths. The leveling rod is graduated in tenths and hundredths with a vernier reading in thousandths of a foot. All measurements of every kind are made in these decimal divisions of the foot and all calculations for steel-work, track-work and earth-work, for it would be impossible to apply trigonometry to measurements expressed in feet and inches.

After the calculations are completed the engineer has to convert his decimal fractions into inches and sixteenths for the steel worker and into cubic yards for the grading contractor. Of course all mathematical handbooks for engineers contain tables for converting decimal parts of a foot into inches and sixty fourths, and all railway engineers learn the "twenty-seven times" multiplication table so that they can divide by twenty-seven as easily as most people can divide by twelve, but if manufacturers would use a decimal system also it would save the engineer a great deal of unnecessary trouble and many mistakes, for every translation from one system to the other introduces one more possibility of error.

There is no doubt that a duodecimal system would be more convenient sometimes if our system of numbers were also duodecimal, but the important thing is that our system of measures should agree with our system of numbers.

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THE letter by Mr. John Satterly regarding the use of metric weights and measures which appeared in the September 5th issue of SCIENCE is of special interest. From visits to Canada, east and west, I can state that his attitude is very unusual. The work of Dr. J. C. McLennan, of Toronto University, is important in this connection. He writes:

In the early part of 1906, at the request of the Honorable L. B. Brodeur, minister of inland revenue of the Dominion Government of Canada, I agreed to deliver