

has fifty-nine endowed prizes to award in 1922, and 133 articles were received in competition. This year again the secretary commented on the handicap resulting from too specific directions in regard to the awarding of a prize, as conditions change rapidly from year to year. During the year, two new prizes were endowed: one pertaining to questions of general hygiene and the other to the medical treatment of facial neuralgia. The Herpin prize, for the "Abortive treatment of poliomyelitis," was awarded to Dr. A. Pettit of the Pasteur Institute, for his results with his antipoliomyelitis serum. He takes for the antigen the virulent medulla of monkeys. This year again the Audiffred prize "for a sovereign remedy for tuberculosis," consisting of a 3 per cent. government bond and representing an income of 24,000 francs, was not awarded, although six competing works were received. Nineteen of the prizes were not awarded; no competing articles were received for four of them. The recipients of the prizes were all physicians in France or the French colonies, with the exception of Professor C. Pezzi, of Milan, who shared with Laubry of Paris a prize for their "Manual on congenital heart disease." All but ten of the prizes are open to international competition.

THE Kaiser Wilhelm Institute for medicosocial education, which was formerly the Kaiser Wilhelm Academy for the advancement of military medicine, is to be transformed into a government institute for medical research. This institute, which was completed a few years before the war, is to turn over its excellent laboratories and its library, which is probably the largest medical library in Germany, to the service of scientific medical investigation.

R. B. MARSTON, editor of *The Publishers' Circular and Booksellers' Record*, London, writes to the *London Times* as follows: "With reference to the letter from Miss Charlotte Mansfield stating that a number of German publishers refuse to sell their chemical books to non-Germans, I am informed by authorities in the German book trade in Leipzig and Berlin that Miss Mansfield has been misinformed. There is no ban on the export of German works on chemistry or any other subject. Every German publisher is very glad to sell

his books—chemical or other—to non-Germans; but what may have given rise to the idea of refusal to export is that, owing to the great fall in the exchange value of the mark, German publishers are compelled to put a surcharge of 200 per cent., more in some cases, on copies exported to England and other countries. The German government supports the efforts of the book trade to protect itself in this respect, and customs officials at the frontiers are instructed to see that the surcharge is made. German publishers of expensive scientific works insist on a declaration in writing that purchasers in Germany will not export the works unless this surcharge is made—even then the cost to the English or other importer is still very low. During the war suggestions were made that some restraint should be put after the war on the world-wide dissemination of German science, but beyond this surcharge, which applies to books of all kinds, nothing has been done in this direction. I have experienced no difficulty in getting German military and technical works and find them, in spite of the surcharge, cheaper than before the war in most cases."

UNIVERSITY AND EDUCATIONAL NOTES

THE site at Woodland Avenue and Forty-second Street, Philadelphia, for the new buildings of the Philadelphia College of Pharmacy and Science, was dedicated February 23. Rear Admiral Braisted, former surgeon general of the navy and president of the college, delivered the dedicatory address. It was announced that more than \$1,000,000 had been collected since last November in the campaign for \$2,000,000 for the erection of buildings. The college was founded by Benjamin Franklin.

THE department of bacteriology of the University of Chicago will occupy this month its new laboratory, to be known as "Ricketts Laboratory South." Ricketts Laboratory South is a fireproof building, one story in height, situated a few yards to the south of Ricketts Laboratory, and has been erected at a cost of \$50,000. Like Ricketts Laboratory, it bears the name of Howard Taylor Ricketts, assistant professor in the university, whose researches in typhus fever led to the discovery of the

remedy for that great scourge, and who lost his life in Mexico City in May, 1910, from the fever which he was engaged in studying.

WE learn from the *Journal* of the American Medical Association that a campaign was opened in December in the United States to raise funds for the medical schools for women in India, China and Japan, which, if secured, would insure a gift of \$500,000 from John D. Rockefeller. Dr. Tehyi Hsieh, Dr. Ida Seudder, principal of the Women's Medical College, Vellore, India, and Dr. Mabel M. Manderson, former dean of the North China Medical College for Women, Peking, toured the United States lecturing for this movement. It was announced recently by the Woman's Foreign Missionary Society of the Methodist Episcopal Church that more than \$2,800,000 had been raised for the six oriental colleges for women.

ASSOCIATE PROFESSOR C. M. SPARROW, of the University of Virginia, has been promoted to a full professorship of physics.

At the University of Cambridge, Mr. J. B. S. Haldane, New College, Oxford, and Trinity College, has been appointed Sir William Dunn's reader in biochemistry, Mr. A. Hutchinson, Pembroke College, university lecturer in crystallography, and Dr. C. Shearer, Clare College, university lecturer in embryology.

DISCUSSION AND CORRESPONDENCE

RADIATION A FORM OF MATTER: UNPROVEN

WHAT is there about relativity that compels so many of its expositors to confuse terms hopelessly, to fail to distinguish between definition and proof, to adopt a spurious logic that would never be countenanced in another connection? Can it all be accounted for by the mental confusion that usually attends the use of well-known words to denote ideas that are new and more or less foreign to those previously denoted by them? Questions of this kind arise on reading such articles as Professor A. H. Compton's letter entitled "Radiation a form of matter,"¹ in which he claims to have demonstrated "that, according to the common signifi-

cance of the word, radiation must be considered as a form of matter."

His demonstration consists of two parts. First, he maintains that the existence of radiation pressure is proof that the radiation possesses mass; second, matter has been defined as "that which possesses mass or inertia"; hence radiation is matter.

That the first conclusion involves a logical fallacy should be evident to any one who is acquainted with the thump that can be given by a compressional wave traveling along a spiral spring, even though he were unacquainted with the physics of the prerelativity era. The existence of radiation pressure shows that there is a transmission of momentum with the wave, but this does not require that the inertia concerned with this momentum pertains to and travels with the radiation.

As regards the second part of the demonstration, it should be evident that nothing new can be proven by a verbal definition. We are concerned with groups of phenomena, ideas, concepts, not with mere words. Definite words are chosen to denote definite groups of phenomena, ideas or concepts; and it is only as we comprehend these that we understand the true significance of the word.

If a word is used to denote but a single property, then its definition merely names that property; for example, "Energy is the capacity for doing work." Such definitions are equivalent to mathematical identities; having found that one of the two terms of the definition is applicable to a given case, it is a mere truism to say that the other is likewise applicable, it adds nothing whatever to our knowledge of the subject under consideration. Such definitions classify by means of a single property, connote nothing, convey no implication either of similarity or of dissimilarity between other properties of the items that are grouped together by this classification.

If a word denotes, not a property, but a group of units each possessing many properties, some common to all units of the group, others differing from unit to unit, the proper conception of the significance of the word can be conveyed best in the manner employed in educating infants, by pointing out numerous diverse units belonging to the group. The verbal definition of such a word must be ex-

¹ SCIENCE, 52, 716, December 22, 1922.