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and that in the formulæ the numerical value of m also implies a local unit of mass. But to avoid confusion it is best that in formulæ for application m should be replaced by W/g . And, in any comparison of results involving different values of g , let each force be expressed in poundals by simply multiplying by the local value of g .

Professor Greenhill has made a marked innovation in this matter as compared with the usage of recent English writers. Calling the pound the unit of weight, and refusing to regard weight as a force but rather as "the quantity which is determined by the operation of weighing," he practically makes the pound a unit of mass; and, abandoning the formula $W = mg$, puts W for the number of pounds, so that in formulæ it appears where we are accustomed to see m . Then, with regard to force he says "it is convenient to take the attraction of the earth on a pound weight as the unit of force, and to call it the *force of a pound*"; this is the British unit of force in universal use in all practical problems of architecture, engineering, mechanics, and artillery."

As contrasted with the usual notation supposing absolute units to be employed, W is thus merely put in the place of m so that Wg instead of mg is the expression in poundals for the force of gravity acting on the body. At the same time, however, Professor Greenhill uses F , R , and other symbols of force as co-dimensional with W , so that they are the numbers of local pounds of force, and it must be remembered that the expressions for the same forces in poundals are Fg , Rg , etc. With regard to gravitation and absolute units, he says: "The attraction of the earth in any locality provides such a convenient and invariable measure of force that all instruments, great and small, for measuring force and work are calculated and graduated originally in gravitation measure; the reduction to absolute measure if required being made subsequently by means of the local value of g ; presumably determined previously with the greatest attainable accuracy by means of pendulum experiments."

NOTES.

A REGULAR meeting of the NEW YORK MATHEMATICAL SOCIETY was held Saturday afternoon, April 7, at half-past three o'clock, the president, Dr. McClintock, in the chair. Mr. Pomeroy Ladue, of the University of Michigan, having been duly nominated, and being recommended by the council, was elected to membership. The president announced the resignation on account of ill health of the treasurer, Mr.

Harold Jacoby, and stated that the council had appointed Professor R. S. Woodward as his successor. Mr. Jacoby taking the place thus left vacant in the council. A set of amendments to the constitution, recommended for adoption by the council, were read by the secretary.

Professor W. Woolsey Johnson read a paper entitled "Gravitation and absolute units of force." An abstract of this paper appears in the present number of the BULLETIN: see p. 197. In the discussion which followed the paper, Mr. C. S. Peirce proposed that the term *galileo* be applied to the unit of acceleration in the C. G. S. system.

Mr. C. S. Peirce exhibited an arithmetic of 1424, from the valuable collection of Mr. George A. Plimpton of New York. It is an extensive manuscript work written in Latin, and has been entirely unknown to the historians of mathematics. The author was Rollandus, a Portuguese physician, known for a work upon surgery and another upon physiognomy. He was a minor canon of the Sainte-Chapelle and a protégé of John of Lancaster, to whom the arithmetic bears a flowery dedication.

THE summer meeting of the NEW YORK MATHEMATICAL SOCIETY will be held this year on August 13, 14, 15, and not on August 20, 21, 22, as announced in the last number of the BULLETIN. The first general session of the American Association for the Advancement of Science will be held on August 16. At the time of making the announcement a month ago, it was anticipated that the American Association would meet one week later.

Dr. E. STUDY has been made Professor of Mathematics at the University of Bonn to succeed Professor Minkowski, who was called to Königsberg.

DURING the second semester of the current year the mathematical courses at the Sorbonne, as announced in *L'Indicateur des Cours publics*, are: Appell, Dynamics of systems. Bousinesq, Turbulent and whirling movement of fluids in conduits of great cross-section. Hermite, Theory of Eulerian integrals and Theory of elliptic functions. Picard, Differential equations from the point of view of mathematical physics. Poincaré, Calculus of probabilities.

T. S. F.

THE German mathematicians will meet this year in Vienna, September 24-30. At this time will take place both the meeting of the *Deutsche Mathematiker-Vereinigung* and that of the first (mathematical) section of the *Versammlung deutscher Naturforscher und Aerzte*. Professor W. Dyck of