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THE METRIC SYSTEM.

In last issue we printed a letter by F. A. Halsey, of New York, on the subject of the metric system. As believers in the metric system, we are always glad to offer fair play and ample space to those who, like Mr. Halsey, are wedded indissolubly to the time-honored but medley-burdened mediæval system of English weights and measures. Such articles do much good by drawing attention to the subject, and the more fully the subject is ventilated the more rapid becomes the advance of the superior, simpler and more scientific metric system. Beginning with a single nation, France, the metric system has spread from one country to another until, with the exception of the English-speaking countries, only uncivilized nations have failed to adopt it.

The burden of Mr. Halsey's letter appears to be that the English system is better than the metric system, that the metric system is not really used in European countries, but only pretended, and that a metric country can only construct machines to metric sizes.

Now, as regards the advantages of the metric system, they are sufficiently evident from the fact that all weights and measures are reduced to one unit—the

metre, for all volumes are in terms of the cubic metre, and all weights are in terms of a cubic metre of water, or a sub-decimal thereof. Consequently the metre, litre and gramme form an ideally simple trio of rationally connected units to which all sizes are referred, be it the micron or millionth of a metre for microscopic work, the millimetre or centimetre for tools, or the kilometre for road lengths. With three units as the stock-in-trade and a few names for decimal multiples and submultiples the system is harmonious, definite and complete. Against this we have a burdensome, indefinite and incoherent mass of English tables that few persons remember. We have over sixty different units of length, area, volume and weight, these units being connected by farcical and fanciful weird ratios, such as 5,280 feet in a mile and 43,560 square feet in an acre. In the centuries that are to come we cannot expect our descendants to believe that we at this age were even semi-civilized when they look back upon our present system of weights and measures.

The only valid objection to the metric system is that, being a decimal system, it does not lend itself to repeated division by halving. But that is an objection to our arithmetic, and not to the metric system. A duo-decimal arithmetic would have distinct advantages over a decimal arithmetic; but it is quite hopeless and impracticable to change the world's arithmetic; while a very large part of the world has already changed its weights and measures for the metric system, and it is clearly only a matter of time when all civilized nations will employ that system exclusively. No one complains that a dollar can only be divided by two twice before the even halving ceases (at twenty-five cents); whereas a pound sterling can be divided into successive halves four times before coming to a similar barrier at fifteen pence. The decimal coinage is, we all know, far superior to the old English system in spite of the limited capability of splitting in halves.

Moreover, in our English medley we constantly tend to the use of decimal subdivisions. Workmen in machine shops employ inches and mils, and commonly work to the nearest mil or decimal subdivision (1-1,000) of an inch, and do not go on splitting hairs and dividing by two. It is more rare to employ thirty-secondths than hundredths or thousandths. Similarly surveyors use feet and hundredths, not feet and inches. Hydraulic men use thousands or millions of cubic feet, or gallons, and not barrels or tons. Everywhere men struggle to throw off the duo-decimal yoke. Our money has already thrown off the fetters. Our weights and measures will do so sooner or later.

But the proof of the value of the metric system lies in the practical experience with it. All Europe uses it except England. No country regrets having made the change. The same outcry was made in each country by the conservatives before the change was made. In