

## GERMANY AND THE METRIC SYSTEM.

TO THE EDITOR OF SCIENCE: In a recent issue of your journal a correspondent repeated the statement that the weights and measures of Germany were changed in 1870 from the old to the metric standards in a very short time; as he expressed it, it took "if not a fortnight, certainly only a few months, to make the 'masses' familiar with it, and about a year after the introduction there were but a few old and decrepit people that had been unable to master it."

This statement has frequently appeared in but a slightly modified form and backed by more or less high authority. Thus:

Lord Kelvin in the House of Lords, February 23, 1904: In Germany, France and Italy no inconvenience resulted from the introduction of the metric system, and there was no such thing as a complaint. The change in Germany occupied only two years. Sir W. Ramsay wrote: 'I was in Germany during the change there; it gave no trouble whatever and was recognized within a week.'

A witness before the Committee on Coinage, Weights and Measures at Washington, February 6, 1902: In talking to my head man about it—strange to say, we have one employee in a very important position, a German, who was in Germany in a somewhat similar position at the time the metric system was made compulsory there—he informed me that there is no real difficulty in making the change.

William Mauer, Secretary of the Germania Mills, Holyoke, Mass: The writer lived in Germany in 1871, when that country adopted the metric system, which gave great satisfaction, and the German population regretted at that time that they had not had the system long before.

Under any conditions such a radical change in the weights and measures of a country would be a cause of wonder. The very rapidity with which it is said to have been effected excites incredulity, which neither the eminence of the authorities who vouch for it nor a knowledge of the thoroughness of the rule of blood and iron by the Bismarckian régime can wholly remove. This doubt is further strengthened by testimony as to present conditions in Germany, of which a few examples follow:

Friedrich Frowein, Barmen, 1901, 'Kalkulator fuer Artikel der Textilbranche,' a handbook for textile workers. Gives complicated formulas for converting different standards, including the Prussian, Württemberg, Baden and Bavarian ells. Gives calculations of cost, all involving a variety of standards. In the one for cotton tape there are the French inch, the English yard, the French line, the English pound and the meter.

*Leipziger Monatschrift*, October 31, 1902. A yarn calculation table based on the Vienna inch, English yard, English pound and the meter.

The same journal, July, 1903. An article on textile calculations in which are found the Saxon inch, English yard and pound and the metric standards.

Donat, 'Methodik der Bindungslehre,' Leipzig, 1901. Gives a list of standards in use in Germany which include the following: Leipzig, Bohemian, Berlin, Brabant, Vienna, English and French ells; English, Leipzig, French and Vienna pounds; Leipzig, English, Vienna and French inches.

Sixteen different systems of numbering yarn are in use in Germany based on the Berlin pound, the kilogram and half-kilogram, the English yard, the Berlin, Brabant and Leipzig ells and the meter.

*Muenchner Allgemeine Zeitung*, 1902. At the session of the tariff commission on June 24, 1902, the introduction of the metric system for cotton yarn came up for discussion. According to Abgeordnete Muench-Ferber, who is a manufacturer of cotton and woolen goods at Hof, Bayern, the introduction of the metric system would throw the German weaving industry into *heillose Verwirrung* because the German machinery is based on the English system.

In the light of this evidence as to the present conditions of German standards, those who seek the truth about the metric system have a right to ask for something more convincing than a repetition of the old story about a miraculous change in Germany thirty-four years ago. The evidence in conflict with that story can not be laughed to one side. The fact that the weights and measures of a great German industry are in a state of chaos to-day is proof that what we are asked to accept as the miracle of 1870 is, in fact, a myth of 1904.

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BOSTON, MASS.,  
October 18, 1904.