

science, it is expedient to legalize the use of the metric system of weights and measures.

Since the passing of this Act, there has not been any further legislation on this subject in the United Kingdom, but a Royal Commission has borne testimony to the progress of public opinion in favour of the metric system of weights and measures, and to its increasing use in scientific researches, and in the practice of accurate chemistry and engineering construction. The Commissioners, with the Astronomer Royal as Chairman, also stated their opinion, in a Report bearing date the 3rd of April, 1869, that the law should provide and that facilities should be afforded by the Government, for the introduction and use of the metric weights and measures in the United Kingdom, and that for this subject, metric standards should be legalized, and verified copies of them should be provided for general reference.

There has been a subsequent Report from the same Commission, dated 1st February, 1870, but this has reference solely to Troy weight, still partially in use, but the abolition of which is strongly recommended.

In their Report of 3rd April, 1869, the Royal Commissioners base their conclusions in favor of the metric system upon several considerations, one of which is the general adoption of this system "in many countries, both in Europe and other parts of the world, and more recently in the North German Confederation and in the United States of America." In support of this important statement, your committee deem it relevant to state that the metric system has already been adopted, and is in use either wholly or in part, in countries whose united population amounts to upwards of 400,000,000, as will be seen by the following tables.

Countries in which the system has been wholly adopted :

	Population.
France with Algiers.....	40,500,000
Belgium.....	5,000,000
Netherlands and Colonies.....	23,000,000
Italy.....	24,000,000
Papal States.....	700,000
Spain and Colonies.....	21,000,000
Portugal and Colonies.....	8,000,000
Greece.....	1,200,000
Mexico.....	8,000,000
Chili.....	1,600,000
Brazil.....	9,000,000
New Grenada.....	2,000,000
Other South American Republics.....	3,000,000
	146,000,000

Countries in which the metric system has been partly adopted :

	Population.
Switzerland.....	2,500,000
Hanse Towns.....	500,000
Denmark.....	3,000,000
Austria.....	37,000,000
British India.....	140,000,000
	183,000,000

Countries where it is permissive :

United Kingdom.....	29,000,000
United States of America.....	31,000,000
Prussia and North Germany.....	30,000,000
	90,000,000

On June 13th, 1868, the North German Parliament passed an Act adopting the metric system, and declaring its use permissive from 1st January, 1870, but compulsory on and after 1st January, 1872.

Between many of the above named countries and Canada, a large and growing business already exists and it seems desirable that the system upon which their computations of the bulk and weight of merchandise are founded, should be understood and put in practice in this Dominion.

Incidentally connected with the subject referred to your Committee, is the want of uniformity existing in the weights and measures of the four provinces which compose this Federation; and it may not be irrelevant to point out some of the omissions and discrepancies which characterize the statutes of Upper Canada, Lower Canada, New-Brunswick, and Nova Scotia, by which our weights and measures are still regulated.

And first it may be noticed that no common standards of weights and measures are established, nor are any means prescribed for ascertaining whether or not the old Provincial standards agree with, or differ from, each other, or should in future be, committed.

Again, certain old English measures of capacity, both dry and liquid, which have long since been abolished in the United Kingdom, are still in use and legal measures in parts of the Dominion. Of these the following instances may be cited :—

1st, The old English wine gallon, six of which are not quite equal to five of the Imperial gallon now in use in England.

2nd, The old English Winchester bushel, which is less, in the proportion of 32 to 33, than the Imperial bushel in England.

The following tabular statement exhibits certain discrepancies in stating the legal weight of a bushel of our staple grains and seeds, as well as of other articles of produce, which the laws of the various Provinces sanctions :—

	Ontario and Quebec.	Nova Scotia.	New Brunswick.
	lbs.	lbs.	lbs.
Wheat.....	60	60	60
Indian Corn.....	56	58	60
Rye.....	56	56	56
Pease.....	60		56
Barley.....	48	52 or 48	50
Oats.....	34	34	36
Beans.....	60		56
Clover Seed.....	60		56
Timothy Seed.....	48		40
Buckwheat.....	48		50
Potatoes and Turnips.....	60	{ 60 } { 40 }	56
Carrots, Parsnips, Beets and Onions.....			
Flax Seed.....	50		56
Hemp Seed.....	44		56
Blue Grass Seed.....	14		56
Castor Beans.....	40		
Salt.....	56		
Dried Apples.....	22		
Dried Peaches.....	33		
Malt.....	36	39	

In Quebec, it is provided that coals shall be sold by the chaldron or bushel, and that the chaldron shall contain six Imperial Winchester bushels, a measure which, it is believed, does not exist.

In Nova Scotia, the law defines the weight of a ton of coals as 2,240 lbs. avoirdupois.

In New Brunswick, coals are, by law, sold per ton weight, and the ton is fixed at 2,000 lbs. avoirdupois.

In Ontario, the ton weight, without any reference to coals, is fixed at 2,000 lbs. avoirdupois.

In Lower Canada, now Quebec, the old measures of the "arpent," the "minot," and the Paris foot, though obsolete in France, are still in use; and as the arpent is smaller than the English acre, and the minot somewhat larger than the bushel, it is clear that misconceptions may readily arise as to the comparative value and productiveness of land in Lower Canada estimated on this basis, and that even statistical returns, without great care on the part of those who furnish, as well as those who collect them, may be stated erroneously and to the disadvantage of that Province as compared with others where the English statute acre and the bushel are alone in use.

In view of all these circumstances, your Committee are of opinion that no time should be lost in establishing by law a uniform system of weights and measures throughout the Dominion. The duty of initiating legislation on a subject of such general importance necessarily devolves upon the Government; and your Committee are of opinion that another Session should not be allowed to pass without a comprehensive measure being submitted to Parliament.

With regard to the metric system, your Committee consider that it is excellent in principle, simple in its construction, and capable of being acquired with great facility, and as such they strongly recommend its introduction in Canada. As, however, so large a proportion of the trade of this country is carried on with Great Britain, your Committee suggest that her example may be safely followed, and that the metric system may, as in England, be made at first permissive and be adopted, as there, conjointly with her system of imperial weights and measures. This course would secure a uniform system of weights and measures for the various Provinces of this Dominion, and at the same time in conformity with that of the mother country, an object much to be desired.

In contemplation of the early adoption of the metric system, and