Measures, Weights, and Coins.

(*Daily-News.*)

We have no hesitation in assigning to the Hon. Thomas Ryan the merit of having cleared the ground for a reform, in the system of measures, weights and coins of this Dominion. We are indebted to him for the progress we have made towards a settlement of the copyright question but the larger labor on which he has entered will, when consummated, entitle him to the thanks of every class of society. Few save those who are practical farmers, can appreciate the loss, annoyance and inconvenience of the want of any recognized standard of weight. The consequences are interminable squabbles; sales are made by the bushel, but the puzzle is to know what a bushel is. The Winchester has been abandoned in England for the imperial bushel. The Minot is no longer known in France, and the only remedy therefore has been to refer to weight. Wheat for example is sold at 62 or 64 lbs per bushel, so while the process of measuring it is retained the value of the measure is rejected for the weight. There is an instinctive repugnance to relinquish time-honored customs. Agriculturists are essentially conservative, yet the evils of the existing mode of measuring grain are so universally confused, that the reforms suggested by Senator Ryan will be gladly accepted. In 1854 we kept our books according to what was called the Halifax currency of pounds, shillings and pence, but our trading relations with the United States led the Parliament to see the necessity of introducing the decimal system which that country had borrowed from France. We have since grown enamoured with the simpler arithmetic of dollars and cents; yet it is precisely the same principle which Senator Ryan wishes to apply to weights and measures. The science of metrology has not enjoyed the study it merits. Our main excuse is that we paused to see the policy of British statesmen, and learn from them whether the metric system could be introduced amongst a people with ancient usages. In France the experiment was easy under a Government virtually despotic, but in each quarter of Great Britain distinct and differing modes of measuring the same article prevail. In Ireland wheat and oats though sold by the barrel vary in weight. The Scotch boll, the English quarter, the Imperial bushel, are all in use. We had not reached uniformity under the late union, and Confederation discloses the contradictions and confusion when the same term is used in different Provinces: as for instance the bushel of barley is assumed to weigh 48 lbs. in Ontario and Quebec, 52 or 48 in Nova Scotia, and 50 in New Brunswick. It is obvious that under such complications trading operations are embarrassed and litigation invited. The New Brunswick merchant if he ordered a cargo of barley would think himself entitled to 50 lbs. per bushel, while the Canada shipper would keep within the law if he delivered on board ship 48 lbs. to the bushel. Whatever enactment be passed care will be observed in its wording, so as not to clash with pre-existing contracts. The *rente viager* under which declining old age secures an income describes the *minot* and *arpent*, an equivalent must therefore be provided. The report of the select committee of the Senate on the subject of establishing a uniform international system of measures, weights and coins, of which Senator Ryan was chairman, is clear and satisfactory. He assigns the date of the metric system in Europe to the time of Louis the 14th; but two hundred years before Christianity the Chinese taught the Indians, Arabs and Japanese values by group signs, for 10, 100 and 1,000 with multiplier added to the left, and the Moguls introduced into Russia the Asiatic *Suanpan* reckoning machine, which has successive rows of strings to represent thousands, hundreds, tens, units. The French long since rejected Fahrenheit's clumsy mode of determining temperatures to which we adhere. In Fahrenheit's days no one conceived the possibility of a cold exceeding 32 degrees below the freezing point of water, and he assigned 212 as the temperature of boiling water. The centigrade graduation has many advantages over Farenheit's. (1) Its zero is at the freezing point of water; (2) its 100 degrees is the boiling point of water, degrees of cold are degrees below zero, and are preceded by the *minus* sign, thus—3 deg. may be read 3 degrees of cold or 3 degress below zero. There is one very admirable suggestion in the report. Senator Ryan calls the attention of the Government to the importance of causing the metrical system to be taught in all schools over which they exercise control, and obliging candidates for the civil service to possess a knowledge of the subject. Meanwhile the duty of the press is to educate the public mind and render the reform popular by pointing out its manifold advantages. As the first step in that direction we reproduce the report of the Senate in full. It will endure criticism and the more it is studied and understood by all classes, for it appeals to all, the more will it grow in public esteem. We are sure our readers will not grudge the space we devote to this interesting document. We but ask for it a careful reading.

Report of the Select Committee of the Senate on the Subject of Establishing an Uniform, International, Decimal, System of Measures, Weights, and Coins, and to Report how far such a system can be Advantageously Applied to the Measures, Weights, and Coins of this Dominion.

The Senate Committee Room.

Friday, 29th April, 1870.

The Select Committee appointed to enquire what steps have been taken, and what progress has been made in the United Kingdom towards establishing a uniform international decimal system of measures, weights, and coins, and to report how far such a system may be advantageously applied to the measures, weights and coins of this Dominion, now beg leave, in obedience to the order of reference of the twenty-first day of March last, to report as follows:—

The subject of weights and measures, first occupied the attention of your Committee, and they find that two systems are at present legalized and prevail in the United Kingdom, viz: the Imperial which is non-decimal and the Metric which is decimal.

The origin of the metric system in Europe dates as far back as the reign of Louis XIV, when the inconvenience and confusion arising from the variety of weights and measures in France were so strongly felt that a Royal Commission was appointed to investigate the question, and report on some suitable standard,. In 1790, M. Talleyrand presented a report on the uniformity of weights and measures, and it was decided that the cooperation of England should be invited in establishing an international system. Political complications, however, arose which at the time prevented the realization of this generous proposal; but the fundamental principle of the metric system, as then established, is that it should be international. After a lapse of nine years, a standard metre and standard kilogram were approved by the Corps Legislatif, and have ever since been preserved in the archives of the state at Paris. It was not, however, until so late as the year 1837 that the metric system was conclusively adopted in France. In that year the Legislative Chambers, moved by numerous petitions, enacted that on and after the 1st January, 1840, all weights and measures of any other standard or denomination than those of the metric system should be illegal. From this period upwards of ten years had elapsed, when consequent on the establishment of universal exhibitions,—inaugurated by that of London in 1851, which was followed by that of Paris in 1855—the attention of scientific and philanthropic as well as practical men of business was directed to this subject, and the jurymen and commissioners of the latter exhibition drew up a declaration, the spirit of which is well exemplified in the following concluding recommendation: "They consequently deem "it their duty earnestly to recommend to the consideration of their "respective Governments, and of enlightened individuals, friends of "civilization, and advocates for peace and harmony throughout the "world, the adoption of an uniform system of weights and measures, "computed decimally both in regard to its multiples and divisions, "and also in regard to the elements of all the different units."

Action was also taken by the statistical congress assembled in Brussels and in Paris, in 1853 and 1855, in favor of international uniformity, and subsequently, in September, 1855, an international association was formed, whose objects are expressed in the following extract from their proceedings:—

"The undersigned have determined to form an association, com- "posed of members chosen from the different civilized nations, who "shall engage to devote themselves each in his own country, by "means of committees corresponding with one another, to the establishment, in all civilized countries, of an uniform decimal system of "weights and measures, and as far as possible, of monies."

Amongst the branches of this association formed in different countries, the most active from the commencement has been the British. After mature deliberation, this association decided that the metre, with its decimal system, is the best unit of length, and has since strenuously advocated its introduction, and mainly contributed to place it in the position which it now holds in the United Kingdom, where nearly 60 per cent of the total export and import trade of the country is carried on with people using the metric system.

In the year 1835, the Imperial system of weights and measures was established by law in England. Since then no other system was legalized until the 29th July, 1864; when, by Act of Parliament, 28 Vict. c. 117, the use of the metric system was made permissive; and it is now, conjointly with the Imperial system, in use throughout the United Kingdom.

The preamble of this Act (which Act being very short, and, at the same time, containing valuable information relative to the metric system, is given at length in the appendix to this Report) sets forth that for the promotion and extension of the internal as well as the foreign trade of the United Kingdom, and for the advancement of