ARTICLE V.—THE GRAIN TRADE.—*Extract from a paper on "The Graphical Delineation of Statistical Facts," by Arthur Harvey, Esq., Fellow of the British Statistical Society, Statistical Clerk to the Finance Department, Associate Member.*

(Read before the Society, 21st. January, 1863.)

The Grain Trade of the Northern portion of this continent is a subject well suited for graphical delineation, and I present you with a Map shewing the direction and comparative magnitude of its principal channels. I believe it will enable the enquirer easily to perceive where the great current of this commerce flows, and where are its great reservoirs, which must be tapped to bring more of it through Canada.

The chief sources of this Trade are situated, as you will perceive, in the States of Illinois and Wisconsin, and, already a mighty stream, it issues from the Ports of Chicago and Milwaukee. Flowing past Green Bay and Sheboygan, not without receiving important accessions, it leaves Lake Michigan for Lake Huron, its breadth representing no less than 71,137,067 bushels.* Here it gives off what is now a rill, but what may hereafter widen far beyond our present conception ; 595,449 bushels found their way last year by Collingwood to Lake Ontario. Another stream of 298,698 bushels diverged at Goderich and one of 1,335,721 bushels at Sarnia. The main current, con-

* In the following calculations, barrels of flour are reduced to bushels of wheat by the usual trade rule of multiplying by *five*. "Other grain" includes Peas, &c. "Corn" means Indian corn.

tinuing its majestic flow, receives the chief contribution of Michigan at Detroit, and of Indiana and parts of other states at Toledo, and in Lake Erie reaches its grandest development, representing, according to the most careful calculations, no less than 107,691,145 bushels. A branch is given off at Dunkirk, where, last season, 5,748,713 bushels were received, and an important bifurcation occurs near the foot of the Lake, the principal portion; viz, 72,804,188 bushels, going *via* Buffalo, and 29,138,244 bushels passing over the Welland peninsula to Lake Ontario, of which 24,571,634 went by canal and 4,566,610 by railway. Of the Buffalo branch, by far the greater portion; viz, 55,696,-362 bushels goes Eastward by the Erie Canal, (the rest entering into consumption or going Eastward by rail,) and of the Welland branch the greater portion seeks the same outlet, *via* Oswego, whence 18,155,927 bushels were forwarded towards Syracuse. The fact thus becomes painfully evident that, in spite of our magnificent canals, on which the smallest locks are 9 feet in depth, 26½ feet in width, and 150 feet in length * with an unfailing supply of water and many other advantages, the Erie canal, 360 miles long, less than six feet in depth, with 71 locks of 110 feet in length by 18 in breadth, practically monopolizes the Western Trade. This fact is proved by the Table of Grain Receipts for the past seven years (which will be found in the appendix) whose admirable form was suggested by Denis Donohoe, Esq,

* Dimensions of the St. Lawrence and Welland Canal Locks.

St. Lawrence Canal Locks are 200 feet long between the gates
45 " in width and
9 " on sills
and can pass vessels 186 feet long
44½ broad and
9 " deep.

Welland Canal Locks are 150 feet long between the gates
26½ " wide and
10 " on sills
and can pass vessels 142 " long
26 " broad and
10 " deep.

Her Britannic Majesty's Consul at Buffalo, whose figures I have been able to verify, and in some unimportant instances to correct, by the kindness of the United States Collectors of Customs at most of the points mentioned. To make the Table as complete as possible, the receipts at the termini of the two chief inland railways of the States are added. It clearly shews that in no one year since 1856 has Montreal received more than 13½ per cent of the total Eastward movements from the Lake Regions (which include Canada) and of these receipts the greater part was of Canadian grain and flour, which could hardly go elsewhere.

Having followed the Trade in grain thus far, and illustrated what may be called the statistics of production, let us now investigate those of consumption. The Eastern States produce but little wheat, the census of 1860 giving the following figures :—

New England States	Population.	Bus. of wheat grown
Maine.....	628,279	233,877
New Hampshire..	326,073	238,966
Vermont..... ..	315,098	431,127
Massachusetts....	1,231,066	119,783
Rhode Island.....	174,620	1,131
Connecticut.....	460,147	52,401
Total.....	3,135,283	1,077,285

The consumption must evidently be much in excess of this. Lower Canada is in a somewhat similar position, for by the census of 1861 it contained 1,111,566 people and produced but 2,563,114 bushels of wheat. It is difficult to estimate correctly the quantity of flour an individual uses when there is plenty of food of every other kind around him, but I suppose I shall be far under the mark, if I say every man, woman and child consumes a barrel of flour per annum. This estimate would indicate a deficiency in

New England in 1859-60 of 2,919,844 barrels or 14,599,220 bushels, and in Lower Canada in 1860-61 of 598,944 barrels or 2,994,720 bushels. These calculations are somewhat random, since the harvests in these years may or may not be considered average ones, but as we have not, (what we should have) annual statistics, we must be content with them; they certainly account for a very considerable quantity of the grain received. The exports however dispose of the chief portion of the enormous supply in question. The map shews the way in which about 80,000,000 bushels found their way abroad, and I repeat the figures in a table at the end of the paper. The greater portion of these exports went to Europe, but no inconsiderable quantity, probably 3 to 4,000,000 bushels, was for the supply of Newfoundland, Nova Scotia, and the other maritime Provinces of British North America. I append a table showing the imports of grain into Great Britain last year, by which it will be seen that about half the supply of the mother country came from her descended nation and colonies on this continent.

I conclude this portion of my paper by adverting to the fact that the shipments from the Upper Lake ports do not exactly agree with the receipts at the places where the Trade must and does pass, and that there are similar discrepancies in all the other figures. They are however comparatively trifling, and a closer correspondence was perhaps not to be expected from statistics gathered in different places, from the statements of different persons, made under different conditions.

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Total
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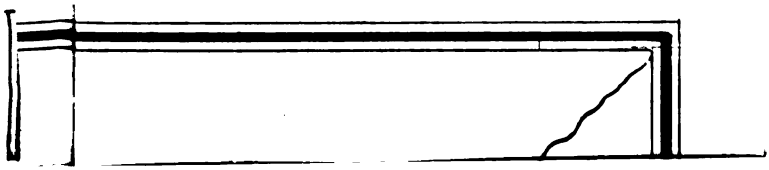
1857.

t, s.	Corn, bushels.	Other grain, bushels.
...	.....	196,466
		150,000
		14,400
		1,993,140
		73,346
		1,342,010
		64,702
		216,435
		8,900
		204,652
		4,264,051

r cent.

bushels
rain.

17,264
03,872
62,704



great additional discomfort we might experience, with