

THE INTERNAL GRAIN TRADE OF  
THE UNITED STATES  
1850-1860<sup>1</sup>

The internal grain trade of the United States during the period ending with 1860<sup>2</sup> rested upon a territorial division of labor among the three great sections of the Union — the South, the East, and the West — which were in turn dependent upon foreign commerce. The South devoted itself “chiefly to the production of a few staples, turning out a great surplus of them for export and depending upon the other two sections for much of its agricultural produce,

<sup>1</sup> For a guide to the study of the agricultural history of the United States, see the writer's *Topical Studies and References on the Economic History of American Agriculture* (McKinley Publishing Company, Philadelphia, 1919).

<sup>2</sup> For a review of internal trade and transportation in the United States before the Civil War, see especially Day's *History of Commerce* (New Edition, 1914), Ch. XLVIII; Johnson's *History of Domestic and Foreign Commerce of the United States*, Vol. I, Chs. XIII, XIV; Way's *The Mississippi Valley and Internal Improvements, 1825-1840*, in the *Proceedings of the Mississippi Valley Historical Association*, Vol. IV, pp. 153-180; Cotterill's *Southern Railroads and Western Trade, 1840-1850*, in *The Mississippi Valley Historical Review*, Vol. III, pp. 427-441; Gephart's *Transportation and Industrial Development in the Middle West* in *The Columbia University Studies*, Vol. XXXIV, Chs. I-VIII; Meyer's *History of Transportation in the United States before 1860*; Bogart and Thompson's *Readings in the Economic History of the United States*, Ch. XVI; Callender's *Selections from the Economic History of the United States*, Ch. VIII; De Bow's *Industrial Resources of the Southern and Western States* (3 vols.); *Eighth Census of the United States, 1860*, Agriculture, pp. cxxix-cxxxiv, cxliv-clix; *Report on the Internal Commerce of the United States* (Bureau of Statistics, Treasury Department), 1887, pp. 178-223. The last named reference presents an historical sketch of the Mississippi River trade from its earliest beginnings to 1860.

For maps showing navigable rivers, canals, and railroads in the United States in operation in 1840, 1850, and 1860, see Meyer's *History of Transportation in the United States before 1860*, plates 1 to 5 inclusive following page 654; Day's *History of Commerce* (New Edition, 1914), pp. 504, 507, 508, 512, 513.

nearly all of its manufactures, and to a large extent for the conduct of its commerce. Both its exports and imports were carried largely by northern shipping, went through northern ports, and were either actually in the hands of the northern merchants or financed by northern capital. The northwest devoted itself chiefly to agriculture, depending at first entirely upon the South for its markets, but gradually acquiring after 1840 a home market in the northeast and a foreign one in Europe. New England and the Middle States were devoted principally to commerce and manufactures by which they were enabled to supply the needs of the other two sections, depending at first upon their own farmers for their agricultural supplies and later drawing them partly from the southern seaboard slave states and partly from the northwest, especially from the region about the Great Lakes.

“The great streams of commerce which resulted from this territorial division of labor were, first, the trade on the western rivers consisting principally of agricultural produce sent down the river to the planters — little southern produce was brought back except sugar and molasses from Louisiana; second, there was a large coasting trade, consisting of manufactures sent from northern to southern ports with return cargoes of southern staples for the supply of the northeastern states or for export, supplemented by some food supplies for New England; third, there was the trade of the seaboard cities with the West, made up for the most part of manufactures, imported and domestic, sent westward over the canals to the Ohio or the Lakes, and intended to supply the western farmers or to be forwarded down the rivers to the planters of the southwest.

“Like the trade of the western rivers this trade between East and West was in the early times principally a movement of goods in one direction; for as already remarked,

little western produce found its way to the East until toward the end of the period. The Erie and Pennsylvania canals carried manufactures to the West but their east bound tonnage nearly all originated east of Buffalo and Pittsburg. The West paid for its manufactures from the proceeds of its sales of produce to the South in exactly the same way that New England and the Middle Colonies in the eighteenth century had paid for theirs by sales of produce to the West Indies. After 1850 the western produce sent east to tide water from the lake region became larger in amount than that which went down the rivers."<sup>3</sup>

The westward movement of population into the Mississippi Valley after the War of 1812 and the improvement of transportation facilities by the introduction of steamboat navigation on the western rivers, the construction of canals, and the extension of railroads into the region beyond the Allegheny mountains made possible that territorial division of labor which fostered the growth of a mutual economic dependence between geographic sections and the establishment of a predominant type of industry in each. That is to say, there was developed a rapidly growing tendency for each section to restrict its economic activities more exclusively to the production of those commodities for which it was best adapted. In this way each section produced a surplus of given commodities which were offered in exchange for the surplus commodities of other sections. Thus, there was developed that economic differentiation and mutual interdependence between sections which enabled the manufacturing and commercial East<sup>4</sup> to supply the

<sup>3</sup> Callender's *Selections from the Economic History of the United States*, p. 274.

<sup>4</sup> The East, or the manufacturing-commercial section, includes two groups of States: (1) the New England States of Massachusetts, Connecticut, Rhode Island, Maine, New Hampshire, and Vermont; and (2) the Middle Atlantic States of New York, Pennsylvania, New Jersey, Maryland, and Delaware. These two groups are also properly designated as the North Atlantic States.

South and West with merchandise, clothing, shoes, tools, and machinery, and the large quantities of imported articles required by these two sections; while the plantation South<sup>5</sup> was able to furnish the East with cotton for its factories and for export to Europe, at the same time supplying the North generally with sugar and molasses. The food-producing West,<sup>6</sup> on the other hand, was the region upon which the South and East were both becoming increasingly dependent for the breadstuffs and meat which constituted the leading products entering into the internal trade of the country.

It is the aim of this paper to review the significant features of the internal grain trade of the United States during the decade preceding the Civil War. These pages will be followed later by somewhat more detailed studies of the thirty-year period extending from 1860 to about 1890 which witnessed a complete revolution in American agriculture. This revolution made the United States the leading cereal producing and exporting country in the world and marked the emergence of those complex problems of distribution

<sup>5</sup> The South, or the planter section, includes Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Texas, Louisiana, and Arkansas.

<sup>6</sup> The West, or grain growing section, during this period, includes Ohio, Indiana, Illinois, Kentucky, Michigan, Wisconsin, Missouri, Iowa, Minnesota, and Kansas. It will be noted that Kentucky is listed as a western grain growing State.

While the "East" or the "North Atlantic Section" is a fixed term, being understood to include the six New England and the five Middle Atlantic States, the terms "South" and "West" are more or less elastic, depending upon the period and the subject under consideration. These three sections have been defined in accordance with the classification adopted by the Superintendent of the United States Census of 1860 in the report on agriculture. It will, therefore, be understood that this grouping of States is used in these pages. The Far Western States are omitted altogether from consideration in this paper, since they do not play an important rôle in the internal grain trade until after the Civil War when the trans-continental railroads bridged the gap between the Mississippi Valley and the Pacific Coast.

which to-day demand serious attention as the United States enters upon a period of reconstruction. The decade of the fifties prepared the stage for this great transformation which was hastened by the Civil War and completed before the close of the century. The present paper is therefore intended to furnish an historical background for these studies.

The internal grain trade had by 1860 become one of the leading economic interests binding the sections of the country together. Said the Superintendent of the United States Census of 1860: "The grain trade of the United States, viewed in all its features, is one of the chief marvels of modern commercial history. To trace its rise and progress would be almost to complete a record of the development of this entire continent, for it has been the leading agency in the opening up of seven-eighths of our settled territory. First, in the march of civilization, came the pioneer husbandman, and following close on his footsteps was the merchant; and after him were created in rapid succession our ocean and lake fleets, our canals, our wonderful network of railroads, and, in fact, our whole commercial system.

"The grain merchant has been in all countries, but more particularly in this, the pioneer of commerce, whether we refer to the ocean or the inland trade, and not till he was established could other commercial adventurers find a foothold. The commercial history of the United States is based mainly on breadstuffs — staples always marketable at some quotation wherever the human family dwells. . . .

"Commencing at an early period with the scant products of the Atlantic States, the grain trade was gradually pushed up the Hudson river as far as navigation would permit; and where that ceased, the Erie canal commenced and carried it to the Great Lakes. It was on the completion of

this great achievement that the real history of the grain trade of the United States began. Then it was that our 'inland seas' became the highway of a commerce which has already a magnitude surpassing that of many of the oldest European nations. Then it was that the vast territory west of the lakes, hitherto the home of the 'red man', and the range for the buffalo, became the attractive field for the enterprising pioneers of industry and civilization, who laid the foundations of what are now seven large and flourishing States of the Union, peopled by a population vigorous and hardy, and well calculated to succeed either in arts of peace or war.

"At the same time, the grain trade was steadily progressing up the Mississippi river into the heart of the west, and on whose banks were built large and flourishing cities, the great depots for nearly a quarter of a century for the products of the rich valley of that river.

"The grain trade has progressed, year after year, from small beginnings, till now it has become one of the leading interests of the country, and among the most important in its influence on the world, as on it depends much of the peace, happiness, and prosperity, not only of the people of the United States, but also of many of the kingdoms of Europe."<sup>7</sup>

A study of the grain trade of the United States shows that the production of corn has always exceeded that of wheat — amounting, as a matter of fact, to considerably more than half of all the other cereals (wheat, oats, barley, rye, and buckwheat) combined. As an article of commerce corn has not, however, been as important as wheat. The reasons for this are, first, that wheat is the most important breadstuff, constituting the article of prime necessity in the food consumption of the American people, and, second,

<sup>7</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. cxxxv, cxxxvi.

that wheat is especially well adapted to the requirements of commerce. It has therefore occupied the leading place in the grain trade of the United States since the beginning of the Colonial era. Corn does not possess these advantages. It is better adapted to the local markets for feeding purposes, going to the ultimate consumer largely in the form of beef, pork, poultry, and dairy products. Even so, however, corn forms an important article of commerce, second only to wheat in the list of cereals. Thus while primary emphasis should be given to wheat in a study of the grain trade of the United States considerable attention should be accorded to corn. Oats rank third in importance among the cereals; and barley comes next; with rye and buckwheat occupying positions of minor significance in the grain trade.

A comparison of wheat production by geographic sections for the decades ending with 1850 and 1860 shows that the six New England States in 1850 with a population of 2,728,000 produced 1,091,000 bushels of wheat, or two-fifths of a bushel per capita; in 1860 these States with a population of 3,135,000 produced 1,083,000 bushels, or three-eighths of a bushel per capita. In 1850 the five Middle Atlantic States with a population of 6,573,000 produced 35,067,000 bushels, or five and one-third bushels per capita; in 1860 these States with a population of 8,258,000 produced 30,503,000 bushels, or three and two-thirds bushels per capita. The eleven Southern States in 1850 with a population of 7,349,000 produced 17,796,000 bushels, or two and one-half bushels per capita; in 1860 these States with a population of 9,103,000 produced 31,442,000 bushels, or three and one-half bushels per capita. On the other hand, in 1850 the ten Western grain growing States with a population of 6,380,000 produced 46,076,000 bushels, or seven and one-fourth bushels per capita; in 1860 these States with a population

of 10,219,000 produced 102,251,000 bushels, or ten bushels per capita. The whole United States in 1850 with a population of 23,192,000 produced 100,486,000 bushels, or four and one-third bushels per capita; while in 1860 the entire country with a population of 31,443,000 produced 173,105,000 bushels, or five and one-half bushels per capita.<sup>8</sup>

A similar study of the corn production of the United States for this period shows that the New England States in 1850 produced 10,176,000 bushels, or four bushels per capita; in 1860 they produced 9,165,000 bushels, or three bushels per capita. The Middle Atlantic States in 1850 produced 61,414,000 bushels, or nine bushels per capita; in 1860 they produced 75,399,000 bushels, or the same number of bushels per capita as in 1850. The eleven Southern States in 1850 produced 238,210,000 bushels, or thirty-three bushels per capita; in 1860 they produced 282,627,000 bushels, or thirty-one bushels per capita. In 1850 the ten Western States show the relatively high return of 280,881,000 bushels, or forty-four bushels per capita, which in 1860 (including the returns from Nebraska which were now reported for the first time) was increased to 470,190,000 bushels, or forty-five bushels per capita. The entire corn crop of the United States in 1850 amounted to 592,071,000 bushels, or twenty-six bushels per capita, which in 1860 was increased to 838,772,000 bushels, or a slight fraction over the per capita production of 1850.<sup>9</sup>

Although oats are of less significance as an article of commerce than either wheat or corn, it should be noted that the New England States produced about the same quantity of oats per capita as of corn; but while there was a per capita decrease in corn production from 1850 to 1860, the same period shows a per capita increase in the production of

<sup>8</sup> *Eighth Census of the United States, 1860, Agriculture, pp. xxix-xxxiii.*

<sup>9</sup> *Eighth Census of the United States, 1860, Agriculture, pp. xlvi-li.*



oats from three to three and one-half bushels. The Middle Atlantic States produced more oats in proportion to the number of people than any other section, the increase from eight to eight and one-half bushels being more than sufficient to offset the slight decrease in the production of corn but by no means enough to make up for the great decrease in the production of wheat. On the other hand, the Southern and the Western States both show decreasing returns for this period, the oats production of the Southern group declining from four and one-half bushels per capita in 1850 to only two bushels in 1860; while that of the Western group decreased from seven and one-half bushels per capita in 1850 to six and one-half bushels in 1860. The country as a whole shows a per capita decline in oats production from a little more than six bushels to less than five and one-half bushels.<sup>10</sup> Other cereals — barley,<sup>11</sup> rye,<sup>12</sup> and buckwheat<sup>13</sup> — occupy a very subordinate position in American agriculture as compared with wheat, corn, and oats, as shown by reference to Table I which gives the amount per capita of the different kinds of grains produced in the United States by geographic sections for the decennial years 1850 and 1860.

If the three principal breadstuffs — wheat, rye, and corn — be grouped together it will be found that New England in 1850 produced 12,837,000 bushels, or less than five bushels per capita, which was decreased by 1860 to 11,674,000 bushels, or less than four bushels per capita, or a decrease in proportion to population of twenty-seven per cent. The Middle Atlantic States in 1850 produced 105,859,000 bushels, or sixteen bushels per capita, which in 1860 was increased to

<sup>10</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. lxiv-lxvii.

<sup>11</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. lxviii-lxxi.

<sup>12</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. lix-lxi.

<sup>13</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. lxxi-lxxiv.

118,069,000 bushels — representing a decline to about fourteen bushels per capita, or a decrease in proportion to the number of inhabitants of nearly twelve per cent. In 1850

TABLE I

AMOUNT PER CAPITA EXPRESSED IN BUSHELS OF THE DIFFERENT KINDS OF GRAIN PRODUCED IN THE UNITED STATES BY GEOGRAPHIC SECTIONS FOR THE DECENNIAL YEARS 1850 AND 1860 <sup>14</sup>						
SECTIONS	WHEAT		CORN		OATS	
	1850	1860	1850	1860	1850	1860
NEW ENGLAND STATES	0.40	0.34	3.70	2.90	2.95	3.43
MIDDLE STATES	5.75	3.75	9.11	9.04	8.20	8.65
SOUTHERN STATES	2.47	3.49	30.83	30.83	4.46	2.18
WESTERN STATES	7.25	9.75	44.14	45.27	7.55	6.51
PACIFIC STATES	3.09	13.87	2.18	2.55	0.40	4.00
UNITED STATES AND TERRITORIES	4.33	5.44	26.04	26.12	6.32	5.49

  

SECTIONS	BARLEY		RYE		BUCKWHEAT	
	1850	1860	1850	1860	1850	1860
NEW ENGLAND STATES	0.15	0.38	0.57	0.42	0.22	0.30
MIDDLE STATES	0.56	0.54	1.57	1.47	0.96	1.40
SOUTHERN STATES	0.001	0.02	0.13	0.24	0.03	0.05
WESTERN STATES	0.11	0.43	0.19	0.49	0.25	0.41
PACIFIC STATES	0.05	7.88	1.001	0.10	0.002	0.07
UNITED STATES AND TERRITORIES	0.22	6.40	0.64	0.66	0.38	0.56

the Southern States produced 258,916,000 bushels, or thirty-five bushels per capita, which in 1860 was increased to 316,272,000 bushels, or the same amount per capita as in 1850. The Western States in 1850 produced 328,212,000 bushels, or fifty-one bushels per capita, which in 1860 was increased to fifty-six bushels per capita, or a per capita

<sup>14</sup> The statistics here given are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. cxxix.

increase of ten per cent. For the whole United States the production of wheat, rye, and corn amounted in 1850 to 706,746,000 bushels, or over thirty bushels per capita, which in 1860 was increased to 1,033,000,000 bushels, or nearly thirty-three bushels per capita — an increase in proportion to population of eight per cent.<sup>15</sup>

If all the cereals listed in Table I be combined, it will be found that the per capita production of New England in 1850 amounted to only 7.99 bushels, which in 1860 declined to 7.77 bushels, thus showing a decline of .22 bushels per capita. The Middle Atlantic States produced 26.15 bushels in 1850 and 24.85 bushels in 1860, showing a decrease of 1.30 bushels per capita. In 1850 the Southern States produced 37.92 bushels and 36.81 bushels in 1860, which shows a decrease of 1.11 bushels per capita. The Western States, on the other hand, show an increase of from 59.62 bushels in 1850 to 62.96 bushels in 1860, or an increase of 3.34 bushels per capita, which was more than enough to make up for the decreased production of the East and South.<sup>16</sup>

The foregoing analysis by geographic sections of the per capita production of the six leading cereals — wheat, corn, oats, rye, barley, and buckwheat — shows the extent to which the manufacturing-commercial East and the cotton-growing South had by 1860 given way to the food-producing West in the production of grain, thus illustrating that territorial division of labor — mentioned at the beginning of this paper — which determined the general character of the internal trade during this period.

But a small proportion of the wheat produced in the United States before 1860 was exported. Of the 100,486,000 bushels produced in 1850, only 7,536,000 bushels were

<sup>15</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. lxi-lxiii.

<sup>16</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. lxi-lxiii.

exported, leaving 92,486,000 bushels, or four bushels per capita, for home consumption; while of the 173,105,000 bushels produced in 1860, only 17,213,000 bushels were exported, leaving 155,892,000 bushels, or five bushels per capita, for home use.<sup>17</sup> While the production and export of wheat varied from year to year, due to seasonal variations and foreign market fluctuations, the years 1850 and 1860 were comparatively normal years, hence the wheat available for home consumption, amounting to four bushels in 1850 and five bushels in 1860, represents a fair average for the ante-bellum period. The increase of one bushel per capita for home consumption during the decade shows a growing tendency on the part of the people to consume more wheat as transportation and milling facilities were improved.

Assuming an even distribution of wheat consumption throughout the country, it will be seen that in 1860 New England had a deficit of four and five-eighths bushels of wheat per capita, the Middle Atlantic States of one and one-third bushels, and the Southern States of one and one-half bushels; while the Western grain growing States had a surplus of five bushels per capita. The East and the South were therefore placed in a dependent relation to the West which was able alone to furnish the wheat needed to supply the growing deficits of these two sections. The dependence of the East was still further accentuated by the fact that this section consumed more wheat than the five bushels per capita average for the entire country.<sup>18</sup> This may reasonably be assumed for the following reasons:

<sup>17</sup> *Eighth Census of the United States, 1860, Agriculture, p. cxliv; Annual Report of the Commissioner of Agriculture, 1868, pp. 47, 48.*

<sup>18</sup> This statement is supported by Governor Andrew of Massachusetts in a message to the State legislature in which he described the dependence of New England on western wheat. His remarks are quoted in the *Eighth Census of the United States, 1860, Agriculture, p. cxlv.*

first, the Atlantic States were settled primarily by the English who for centuries had been consumers of wheat in their island state, and who upon emigrating to America gave special attention to providing themselves with this foodstuff; second, the milling industry was concentrated for the most part in the East, thus affording this section an advantage over the other sections in using wheat as a breadstuff; and, third, the East was provided with better means of transportation which facilitated the distribution of both wheat and flour among the people concentrated largely in the towns and cities on the seacoast and the rivers.

While these considerations lead to the conclusion that the East consumed more than five bushels per capita, it is reasonable to assume that the South used less than this amount. It is an established fact that corn rather than wheat was the principal breadstuff of the negro population. The same may be said to have been largely true of the white non-slaveholding population of the back country, living remote from the channels of the wheat trade and devoted principally to the raising of corn and hogs. The slave holding population, too, was accustomed to using corn, though principally dependent on wheat, as a breadstuff. Even to-day it is conceded that the South generally consumes more corn than the North. These considerations justify the assumption that the South must have consumed less than the general average of five bushels per capita for the whole nation, thus lessening its dependence on the West. But even so, it is estimated that the South purchased an average of 10,000,000 bushels of wheat annually from the North in the decade ending with 1860<sup>19</sup>—which amount added to the wheat production of this section in the latter year, would give the South four and one-half bushels per capita for domestic use.

<sup>19</sup> Fite's *Social and Industrial Conditions in the North during the Civil War*, note 1, p. 18.

The pioneer West for obvious reasons, (among which may be mentioned the type of settlers, the conditions of frontier life, and the comparative absence of the facilities enjoyed by the East for using wheat as a breadstuff) may be assumed not to have exceeded five bushels per capita for home use; though as transportation and market facilities were developed and the milling industry was moved westward, this section, showing a decided preference for wheat, increased its per capita consumption of this article.

As already explained, corn as an article of commerce is of less significance than wheat. Consequently, even a smaller proportion of the amount produced has been exported. Of 592,071,000 bushels produced in 1850, only 6,595,000 bushels were exported; while of the 838,772,000 bushels produced in 1860, but 15,449,000 bushels were exported.<sup>20</sup> By far the greater proportion of corn was therefore consumed at home. But corn is largely an animal food, reaching the ultimate consumer mainly in the form of meat, dairy, and poultry products. In determining the actual extent to which the East and the South were dependent on the West in respect to this article, it therefore becomes necessary to consider the corn-growing industry in relation to the live-stock, dairy, and poultry industries. But even so, the East and the South, as the United States Census of 1860 shows, were fast becoming dependent on the West for corn as well as for live stock and live stock products. Thus while corn goes to market principally in the form of the latter, and has an important relation to the live stock markets, its importance as an article of commerce only will be considered in this paper.

The rise and development of the internal grain trade of the United States may really be said to date from the com-

<sup>20</sup> *Eighth Census of the United States, 1860, Agriculture, p. cxliv; Annual Report of the Commissioner of Agriculture, 1868, pp. 49, 50.*

pletion of the Erie Canal in 1825. This new avenue to the West stimulated the westward flow of the tide of immigration from the Eastern States and from Europe into the fertile prairie country along the Great Lakes frontier, at the same time opening up a route for the direct shipment of western grain to the East. Before that date the only outlet for western products was the Mississippi River. The South therefore had become the market for the surplus grain and live stock of the Upper Mississippi Valley, not only consuming increased amounts of this surplus as it devoted more attention to the raising of the staple plantation products, but also exporting great quantities to the Eastern States and to Europe. New Orleans thus had become the great export trade center.

The completion of the Erie Canal, however, and the construction of the Welland Canal in 1833, connecting Lake Erie with Lake Ontario, opened two avenues to the Atlantic Coast: one by way of the Hudson River to New York City and the other by way of the St. Lawrence River direct to Great Britain and the continent of Europe. As the settlement of the Great Lakes region proceeded, the amount of grain diverted to the eastward steadily increased. The development of the canal system<sup>21</sup> in the thirties and forties, followed by the rapid extension of railroads into the Middle West<sup>22</sup> in the fifties gave a further stimulus to the westward movement, at the same time diverting more and more of the western surplus grain from the southern to the eastern routes and trade centers.

The Mississippi River no longer enjoyed a monopoly of

<sup>21</sup> For an account of the development of waterways and canals in New York, Pennsylvania, and the Middle West, see Meyer's *History of Transportation in the United States before 1860*, Chs. VII, VIII, IX.

<sup>22</sup> For an account of the extension of railroads into the West before the Civil War, see Meyer's *History of Transportation in the United States before 1860*, Ch. XVI; *Statistical Abstract of the United States*, 1885, pp. 195, 196.

the western surplus grain trade. But this fact should not be interpreted to mean that there was a decrease in the grain and flour traffic on that highway of commerce, for this traffic was maintained at a generally high level until the opening of the Civil War decade. This is shown in Tables II and III by the receipts of grain and flour at St. Louis and New Orleans for the eleven-year period (1850 to 1860 inclusive).

TABLE II

RECEIPTS OF FLOUR AND GRAIN AT ST. LOUIS <sup>23</sup>			
(Compiled from statistics of St. Louis Chamber of Commerce)			
YEARS	FLOUR (BARRELS)	WHEAT (BUSHELS)	CORN (BUSHELS)
1850	306,463	1,794,721	
1852	132,050	1,645,387	755,258
1854	192,945	2,126,272	1,784,189
1856	323,446	3,747,224	938,546
1858	387,451	3,835,759	892,104
1860	443,196	3,555,878	4,209,794

  

YEARS	OATS (BUSHELS)	RYE (BUSHELS)	BARLEY (BUSHELS)
1850			
1852	848,850		91,662
1854	1,777,873		114,160
1856	1,132,932	44,210	127,210
1858	1,690,010	45,900	290,350
1860	1,789,234	158,974	291,130

Table II shows that the grain and flour receipts of St. Louis maintained a high level throughout this period; while Table III shows that the receipts of New Orleans likewise remained steady until 1858, after which there was a sharp decline in the wheat and flour receipts, though this

<sup>23</sup> The statistics given here are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. clvi.



decrease was in part offset by an increase in the corn and oats receipts.

TABLE III

RECEIPTS OF FLOUR AND GRAIN AT NEW ORLEANS <sup>24</sup> (Compiled from statistics of New Orleans price current)			
YEARS	WHEAT (BARRELS AND SACKS)		FLOUR (BARRELS)
	1850	57,508	
1852	64,918		927,212
1854	184,943		874,256
1856	869,524		1,120,974
1858	401,275		1,538,742
1860	13,116		965,860

  

YEARS	CORN		OATS (BARRELS AND SACKS)
	SHELLED (SACKS)	IN EAR (BARRELS)	
1850	1,114,897	42,719	325,795
1852	1,397,132	163,008	463,273
1854	1,740,267	48,404	586,451
1856	1,990,995	41,924	587,180
1858	1,289,665	62,405	568,649
1860	1,722,039	36,092	659,550

TABLE IV

EXPORTS OF FLOUR AND GRAIN FROM NEW ORLEANS TO FOREIGN PORTS <sup>25</sup> (Compiled from official documents)				
YEAR ENDING JUNE 30TH	FLOUR (BARRELS)	WHEAT (BUSHELS)	CORN (BUSHELS)	RYE, OATS, ETC. (VALUE)
1856	251,501	1,096,733	2,941,711	\$67,892
1857	428,436	1,353,480	1,034,402	2,172
1858	474,906	596,442	1,134,147	885
1859	133,193	107,031	111,522	1,029
1860	80,541	2,189	224,382	1,943

<sup>24</sup> The statistics given here are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. clvi.

<sup>25</sup> The statistics given here are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. clvii.

But, while the grain and flour traffic of the Mississippi River continued to be in a flourishing condition from 1856 to 1860, the same period witnessed the total collapse of New Orleans as an export grain and flour center, as shown by Table IV.

The foregoing tables show: first, that in 1860 New Orleans was no longer of any importance as an exporting center for the grain and flour of the West destined for the Eastern States and for Europe; and second, that the Mississippi River continued, in the absence of north and south railroads, which were not constructed until after the Civil War, to be the great highway of commerce for grain and flour, not to mention the other surplus products which the South, as already pointed out, was purchasing in increasing amounts from the grain and live stock kingdom which was being founded in the North Central region. That is to say, while the rapidly growing export trade was being shifted from the western rivers to the eastern canals and railroads, the interior trade of the Mississippi Valley continued to remain steady, showing no marked signs of being disturbed by the changing routes for the export trade. Steamboats conducted a huge traffic on the Ohio and Mississippi rivers, carrying large consignments of wheat, corn, flour, pork, bacon, poultry, hogs, horses, and mules down the river and returning up-stream with cargoes of sugar, molasses, cotton, and tobacco.<sup>26</sup>

Cincinnati, Louisville, St. Louis, Nashville, Memphis, and New Orleans were prosperous trade centers in this north and south traffic. So extensive was this intra-valley trade that it gave the two sections a consciousness of economic

<sup>26</sup> The fact that the Mississippi River trade, though greatly increased, represented a far smaller proportion of the total traffic of the Valley, which had grown enormously but had been largely diverted by the railroads, is discussed in the *Annual Report on the Internal Commerce of the United States*, 1887, p. 215.

interdependence, of solidarity and contentment, which had a potent bearing on the relation of the West to the South and East respectively during the first two years of the war period.

Thus, while the intra-valley trade had by 1860 developed to such proportions as to create between the West and the South a consciousness of economic solidarity, a rapidly growing volume of western grain and flour destined for the Atlantic seaboard and for exportation was being diverted from the southern to the eastern routes. This traffic consisted largely of the surplus grain grown in the ever-widening area of cereal production in the new western prairie country skirting the Great Lakes frontier. That there was a remarkable growth in the volume of this trade is shown by a study of the receipts of the primary grain and flour markets situated along the highways of commerce.

TABLE V

SHIPMENTS SOUTH AND EAST FROM CINCINNATI <sup>27</sup>				
ARTICLES	1857-1858		1858-1859	
	SHIPPED SOUTH	SHIPPED EAST	SHIPPED SOUTH	SHIPPED EAST
Flour (bbls.)	162,565	445,650	17,569	544,570
Wheat (bu.)	30,446	601,214	1,182	270,531
Corn (sacks)	1,927	17,225	3,707	24,796
ARTICLES	1859-1860			
	SHIPPED SOUTH	SHIPPED EAST		
Flour (bbls.)	92,919	385,389		
Wheat (bu.)	11,341	310,154		
Corn (sacks)	23,640	25,227		

Among these primary markets Cincinnati may be mentioned as illustrating to a marked degree the change that

<sup>27</sup> The statistics given here are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. clviii.

was taking place in the general direction of the internal grain trade. As the chief distributing point on the Ohio River, it occupied a strategic position with reference to the intra-valley trade. By 1857, however, it had already become of greater significance as a distributing point for eastward shipments. This is shown by Table V which gives the comparative amounts of wheat, wheat-flour, and corn shipped south and east respectively for the three-year period ending with 1860.

The importance of Cincinnati as a primary grain market was due chiefly to the flour trade. Thus while the wheat shipments in 1859-1860 amounted to 321,000 bushels, the flour shipments totalled 478,000 barrels. The great bulk of both the wheat and flour was diverted eastward over the

TABLE VI

RECEIPTS OF FLOUR AND GRAIN AT BUFFALO <sup>28</sup>				
YEARS	FLOUR (BARRELS)	WHEAT (BUSHELS)	CORN (BUSHELS)	OATS (BUSHELS)
1850	1,103,039	3,681,347	2,593,378	357,580
1852	1,299,513	5,549,778	5,136,746	2,596,231
1854	739,756	3,510,782	10,108,983	4,401,739
1856	1,126,048	8,465,671	9,633,277	1,733,382
1858	1,536,109	10,671,550	6,621,668	2,275,241
1860	1,122,335	18,502,649	11,386,217	1,209,594
YEARS	BARLEY (BUSHELS)	RYE (BUSHELS)	TOTAL FLOUR AND GRAIN (BUSHELS)	
1850	3,600		12,059,559	
1852	497,913	112,251	20,390,504	
1854	313,885	177,066	22,252,235	
1856	46,327	245,810	25,753,907	
1858	308,371	125,214	27,812,980	
1860	262,158	80,822	37,053,115	

<sup>28</sup> The statistics given here are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. cxlviii.

canals and railroads, while only a relatively small remaining portion entered the intra-valley trade. The corn shipments were negligible but growing.

Buffalo, however, had for a number of years been the most important transit trade center for western grain. As early as 1840 the total grain receipts of this trade center amounted to 4,062,000 bushels. Five years later the total receipts were 5,582,000, but in 1846 they suddenly mounted to 13,366,000 bushels. The receipts continued to rise with slight fluctuations until 1856 when the figure of 25,754,000 bushels was reached. The next five years witnessed an increase of over 11,000,000 bushels as shown by Table VI which gives the receipts of flour and the different kinds of grain for the decennial period ending with 1860.

The growth of the grain trade on the Great Lakes was very rapid. West of Buffalo were Cleveland and Toledo, the two leading lake cities of Ohio. The Ohio Canal between Portsmouth and Cleveland, (completed in 1832), diverted the surplus grain of Pennsylvania, Kentucky, and Southern Ohio, which had formerly gone down the Mississippi River, to the eastern routes. In 1842 the shipments of farm products from Cleveland were valued at \$4,431,000, which was equal to the value of shipments from New Orleans. By 1846 the wheat and flour receipts of Buffalo were equal to the receipts of New Orleans.<sup>29</sup> Toledo for many years shipped more grain by way of the Great Lakes than any other city except Chicago, the receipts coming in from Ohio, Indiana, and Kentucky, and later from Illinois and Missouri. By 1859 Toledo's grain receipts amounted to 6,467,000 bushels, which in 1860 were increased to 14,505,000 bushels.<sup>30</sup> Detroit was another important grain market on

<sup>29</sup> *Annual Report on the Internal Commerce of the United States*, 1887, pp. 210, 211.

<sup>30</sup> *Eighth Census of the United States*, 1860, Agriculture, p. cxlix.

the Great Lakes. It was the market for the grain and flour of Michigan and the forwarding point for the large shipments that came from Chicago.

As the frontier became settled and grain raising developed in the interior, other primary markets were established on the highways of commerce. Among these was Chicago whose receipts far exceeded those of her competitors. The first consignment of grain, amounting to 78 bushels of wheat, was shipped from Chicago in 1838. This was rapidly increased until 1846 when the shipments amounted to 1,600,000 bushels. Corn, oats, and rye shipments were then added to supplement wheat and flour. The decade of the fifties witnessed a marvellous expansion of the grain and flour trade as shown by Table VII.

TABLE VII

SHIPMENTS OF FLOUR AND GRAIN FROM CHICAGO <sup>31</sup>			
(Compiled from statistics of the Board of Trade)			
YEARS	FLOUR AND WHEAT (BUSHEL)	CORN (BUSHEL)	OATS (BUSHEL)
1850	1,387,989	262,013	186,054
1852	941,470	2,757,011	2,030,317
1854	2,644,860	6,837,899	3,239,987
1856	9,419,365	11,129,668	1,014,547
1858	10,909,243	7,493,212	1,498,134
1860	15,892,857	13,700,113	1,091,698
YEARS	RYE (BUSHEL)	BARLEY (BUSHEL)	TOTAL FLOUR AND GRAIN (BUSHEL)
1850		22,872	1,858,928
1852	17,315	127,028	5,873,141
1854	41,153	148,421	12,902,320
1856	590	19,051	21,583,221
1858	7,569	132,020	20,040,178
1860	156,642	267,749	31,109,059

<sup>31</sup> *Eighth Census of the United States, 1860, Agriculture, p. cxlix.*

By 1860 Chicago had achieved significance as the foremost primary grain market, the total shipments in that year amounting to 31,000,000 bushels, more than half of which consisted of wheat and flour.

TABLE VIII

SHIPMENTS OF FLOUR AND GRAIN FROM MILWAUKEE <sup>32</sup> (Compiled from statistics of Chamber of Commerce)				
YEARS	FLOUR (BARRELS)	(WHEAT (BUSHELS))	CORN (BUSHELS)	
1850	100,017	297,578	5,000	
1852	92,995	564,404	2,220	
1854	145,032	1,809,452	164,908	
1856	188,455	2,761,979	218	
1858	298,688	3,994,213	43,958	
1860	457,343	7,568,608	37,204	
YEARS	OATS (BUSHELS)	RYE (BUSHELS)	BARLEY (BUSHELS)	TOTAL FLOUR AND GRAIN (BUSHELS)
1850	2,100		15,270	820,033
1852	363,841	54,692	322,621	1,772,753
1854	404,999	113,443	331,339	3,549,301
1856	5,443		10,398	3,720,313
1858	562,067	5,378	63,178	6,162,234
1860	64,682	9,735	28,056	9,995,000

Milwaukee meanwhile had forged ahead to third place among the primary grain markets of the western lake region with good prospects in 1860 of superseding Toledo, which held second place. The grain shipments from this trade center amounted to 133,000 bushels in 1845 and to 1,076,000 bushels in 1848. After 1850 the Milwaukee grain and flour

<sup>32</sup> The statistics given here are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. cl. Racine was the grain center next in importance on Lake Michigan. For a time it tried to secure the bulk of the grain and flour trade which centered in Milwaukee, but was forced to yield to its competitor. Other Lake Michigan ports were Kenosha, Waukegan, Sheboygan, Port Washington, Green Bay, Manitowoc, St. Joseph, and Michigan City.

shipments increased rapidly, as shown by Table VIII, rising from 3,720,000 bushels in 1856 to 9,995,000 bushels in 1860.

Thus, by 1860 the internal grain trade of the United States had become centered in five great primary markets: St. Louis, Chicago, Milwaukee, Toledo, and Cincinnati. These cities had become the centers where the vast surplus quantities of grain and flour were concentrated for shipment to the East and South for home consumption and to the Atlantic seaboard for exportation to Europe. Toledo had become the primary market for Ohio and Indiana, Chicago for Illinois, and Milwaukee for Wisconsin; while St. Louis continued to be the primary market for a vast portion of the Upper Mississippi River region, and Cincinnati the principal distributing center on the Ohio River, though the

TABLE IX

NEW YORK RECEIPTS OF FLOUR AND GRAIN AT TIDE-WATER BY THE ERIE AND CHAMPLAIN CANALS <sup>33</sup>			
YEARS	FLOUR (BARRELS)	WHEAT (BUSHELS)	CORN (BUSHELS)
1850	3,256,077	3,670,754	3,228,056
1852	3,464,108	6,754,946	5,411,643
1854	1,249,453	3,523,800	12,839,572
1856	1,130,509	11,776,332	9,587,714
1858	1,898,908	8,324,966	6,660,893
1860	1,149,100	11,176,000	14,155,500
YEARS	OATS (BUSHELS)	BARLEY (BUSHELS)	RYE (BUSHELS)
1850	2,469,637	1,744,867	472,305
1852	3,857,487	2,280,485	279,314
1854	5,353,125	1,895,208	184,332
1856	6,960,412	2,082,832	1,285,535
1858	5,180,312	3,058,417	461,786
1860	6,490,900	2,967,600	332,100

<sup>33</sup> The statistics given here are taken from the *Annual Report of the New York Produce Exchange, 1872-1873*, p. 391.



territories surrounding the two last named cities were already being invaded by the railroads.

New York City had achieved the distinction of being the foremost grain market in the whole country; while Buffalo, by virtue of its strategic position between Lake Erie and Lake Ontario and at the western terminus of the Erie Canal, had become the great transit trade center for the western grain and flour, the bulk of which was destined for that great eastern commercial metropolis.

Table IX shows that the total grain and flour receipts of New York City via the Erie and Champlain canals and the Hudson River — already considerable in 1850 — had increased from 27,866,000 bushels in that year to 41,122,000 bushels in 1860, the receipts of the latter year consisting of 11,176,000 bushels of wheat, 1,149,000 barrels of flour, 14,156,000 bushels of corn, 6,491,000 bushels of oats, 2,968,000 bushels of barley, and 332,000 bushels of rye. The total receipts of New Orleans in the same year amounted to only 5,199,000 bushels.<sup>34</sup> It will be seen, therefore, that the total grain and flour receipts of New York City in 1860 via the water routes were equal to eight times the receipts of New Orleans in the same year. Thus had New York City left New Orleans far behind in the competitive race for western grain and flour, though what New Orleans lost in the products of the Upper Mississippi Valley she more than made up in the growth of her cotton trade in which she gained the ascendancy.<sup>35</sup>

Philadelphia and Baltimore, which had been the leading trade centers of the East before the Erie Canal gave the ascendancy to New York, had again become active competitors for the western trade. Threatened with the further

<sup>34</sup> *Eighth Census of the United States*, 1860, Agriculture, pp. clvii, clviii.

<sup>35</sup> *Annual Report on the Internal Commerce of the United States*, 1887, pp. 209-215.

loss of trade by the competition of the New York canals and railroads, the Pennsylvania and the Baltimore and Ohio railroads were built, the former being completed to Pittsburgh in 1852 and the latter to Wheeling in 1853. Philadelphia and Baltimore now had the advantage of shorter distances and more direct routes into the trans-Allegheny West, which enabled them to win back a portion of the trade hitherto lost to New York; though the latter city was destined to remain far in the lead. Boston had also entered the field upon the completion of the Western Railroad to Albany in 1841. In the meantime, New York had strengthened its hold on western trade by the building of the New York Central and the Erie railroads, the former making through connections with the lakes in 1850 and the latter reaching Dunkirk in 1851. New York was connected with Chicago by a direct rail route in 1853, and with St. Louis in 1855.<sup>36</sup>

Thus the decade of the fifties witnessed the beginning of the competition between the railroads and the water routes for the western grain and flour traffic which, however, was not finally decided in favor of the railroads until the seventies. The extent to which the water routes controlled this traffic at the opening of the Civil War period is shown by a comparison of the grain and flour receipts by all routes for the year 1860, which was a normal year in the development of the water and rail traffic. It will be seen by reference to Table X that Buffalo had become the great transit trade center for the shipment of grain and flour, which were sent eastward via the Erie Canal and Hudson River to New York City. Rochester, Oswego, and Cape Vincent on Lake Ontario, and Ogdensburg and Montreal on the St. Lawrence River were other shipping points east of Buffalo

<sup>36</sup> Johnson's *History of Domestic and Foreign Commerce of the United States*, Vol. I, pp. 228, 237.

which received considerable quantities of grain and flour from the Northwest and Canada via the Lakes for the seaboard, the shipments being sent either southward from Rochester and Oswego via the Erie Canal and the Hudson

TABLE X

MOVEMENT OF GRAIN AND FLOUR FROM THE WEST TO THE EAST BY ALL THE ROUTES FOR THE YEAR 1860 <sup>37</sup>				
RECEIVED AT	FLOUR (BARRELS)	WHEAT (BUSHELS)	CORN (BUSHELS)	OTHER GRAIN (BUSHELS)
WESTERN TERMINUS B. & O. RAILROAD	352,413			126,393
WESTERN TERMINUS PENN. RAILROAD	426,660			864,160
DUNKIRK	542,765	500,888	644,081	8,843
BUFFALO	1,122,335	18,502,649	11,386,217	1,552,574
SUSPENSION BRIDGE	650,000			1,875,000
OSWEGO	121,185	9,651,564	5,019,400	1,959,642
OGDENSBURG	248,200	565,022	867,014	48,211
CAPE VINCENT	28,940	203,878	73,300	186,597
MONTREAL	608,309	2,686,728	138,214	915,648
ROCHESTER	5,250	425,765		10,725
TOTAL	4,106,057	32,536,494	18,128,226	7,547,793

River to New York, or eastward to Montreal and thence via the St. Lawrence River to the coast for exportation to Europe or shipment down the Atlantic seaboard. The volume of western grain carried eastward, via the railroads, was small, indeed negligible, as shown by the receipts at the western termini of the Baltimore and Ohio, the Pennsylvania, the Erie, and the New York Central railroads.

Thus, while Boston, Philadelphia, and Baltimore diverted a considerable amount of western produce via the railroad

<sup>37</sup> The statistics given here are taken from a table in the *Eighth Census of the United States*, 1860, Agriculture, p. cli.

from New York, the latter city was destined to retain the unquestioned leadership. This is shown by a comparison of the total receipts of western products at tide water by the various routes for the year 1860. The total receipts for that year amounted to 21,348,000 tons, of which 16,769,000 tons were shipped via the Erie Canal, 1,496,000 via the New York Central Railroad, 1,367,000 tons via the Erie Railroad, 804,000 tons via the Pennsylvania Railroad, and 913,000 via the Baltimore and Ohio Railroad.<sup>38</sup>

The preëminence of New York is also shown by the relative magnitude of the wheat and corn exports — including wheat and corn flour reduced to bushels — from these cities to foreign countries in 1860. New York exported 9,148,000 bushels, Boston 839,000 bushels, Philadelphia 1,390,000 bushels, and Baltimore 2,081,000 bushels, while New Orleans in the same year exported but 590,00 bushels.<sup>39</sup>

It will therefore be seen that by 1860 a revolution had begun in the internal grain trade of the United States. The old theory that "trade will follow the rivers" had in some respects been disproved. The artificial channels of trade — the canals and the railroads — had tapped the West, diverting its products in rapidly increasing quantities eastward across the continent to the Atlantic seaboard. The comparative ease with which the growing surplus grain and flour of the Upper Mississippi Valley was diverted from the southern to the eastern routes is readily understood when the relative advantages of the latter over the former are considered.

It has already been shown that the Atlantic seaboard States were becoming almost entirely dependent on the West for an adequate supply of breadstuffs needed for

<sup>38</sup> A discussion of the tonnage of breadstuffs reaching New York City by the various routes in 1860 is found in Callender's *Selections from the Economic History of the United States*, pp. 342, 343.

<sup>39</sup> *Annual Report on the Internal Commerce of the United States*, 1882, p. 39.

home consumption, not to mention the fact that Great Britain after the repeal of the Corn Laws in 1846 afforded a promising and indeed growing market for American wheat. Before the direct routes between the East and the West were established, western grain destined for the East was sent down the Mississippi River to New Orleans and thence re-shipped around the Atlantic Coast to the various ports which served as distributing points for the seaboard States as well as export centers for trans-shipments of grain and flour to Europe. The risks thus incurred were heavy. The river traffic was none too safe, and coastwise traffic was hazardous to say the least. For this reason the merchants were never certain that a given consignment would be received. The time required to make this journey was another serious disadvantage, the uncertainty of river navigation often causing vexatious and ruinous delays. Consequently, it was natural that as soon as canals and railroads were projected from the East into the cereal kingdom of the West, that portion of the western surplus which was destined for the East would pass over the shorter, quicker, and safer routes. Moreover, it had already been demonstrated that New York City possessed superior advantages and facilities as the great importing as well as exporting center of the country. And, finally, the westward movement of the plantation type of agriculture made New Orleans the great export trade center for cotton, sugar, and tobacco to the virtual exclusion of the products of the North Central States.<sup>40</sup>

But while the competition between the eastern and the southern routes had already resulted in a victory for the former it must be remembered that the South had become

<sup>40</sup> The comparative advantages of the eastern over the southern routes are summarized by the Superintendent of the United States Census of 1860 in his report on the grain trade, printed in the *Eighth Census of the United States*, 1860, Agriculture, p. clvii.

a market for vast quantities of western grain and flour, as well as meat and dairy products, which found their way into the Cotton Kingdom, thus accentuating the economic dependence of this section on the West. The significance of this fact must be kept in mind in a study of the internal grain trade during the decade of the Civil War which for several years virtually closed the long-established intra-valley routes of trade, thus suddenly leaving the West with a rapidly accumulating surplus of farm products which for a time depressed the market. The West charged the East with using its influence at Washington to continue the blockade of the Mississippi River, which had given the eastern routes a monopoly of the western grain trade and afforded them an opportunity to charge exorbitant rates, of which they quickly took advantage.<sup>41</sup>

Meanwhile, the extension of railroads into the Middle West gave rise to keen commercial rivalry between the cities located on the highways of commerce. St. Louis and Chicago in the West were just beginning to develop an active competition as primary market centers which continued to the close of the century; while New York, Philadelphia, and Baltimore in the East developed a rivalry which began with the completion of the Erie Canal, and included Boston after the building of the Western Railroad. The commercial rivalry between these and a host of minor cities was expressed in the competition between transportation routes for the western traffic destined for eastern and European markets. This competition between canals and railroads, and in turn among the railroads themselves, became keen in the sixties and seventies resulting in the rapid extension of railway facilities, the establishment of uniform gauges and consolidation of roads into through

<sup>41</sup> The effect of the blockade of the Mississippi River on the trade and agriculture of the West during the Civil War period will be considered in a subsequent paper.

lines, and the improvements of terminal facilities, including elevators and warehouses.<sup>42</sup> Thus did the decade of the fifties inaugurate those changes and tendencies which were to dominate the internal grain trade of the United States to the close of the century.

LOUIS BERNARD SCHMIDT

THE IOWA STATE COLLEGE OF  
AGRICULTURE AND MECHANIC ARTS  
AMES IOWA

<sup>42</sup> The methods of handling grain for export and for interior transportation are discussed in the *Annual Report of the New York Produce Exchange, 1873-1874*, p. 508.