THE DIVERSION OF THE EXPORT GRAIN TRADE FROM THE EASTERN TO
THE SOUTHERN PORTS

by

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THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

Wade Hampton Rottegel

ENTITLED

The Division of the Export Grain Trade from the Eastern to the Southern Ports

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE DEGREE

OF Bachelor of Arts

Munroe H. Roberson

Professor of Classics

HEAD OF DEPARTMENT

May 26, 1905

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INTRODUCTION.

The subject of this work is the "Diversion of the Export Grain Trade from the Eastern to the Southern Ports." Its purpose is to consider the growing importance of the Gulf ports in the export traffic. A comparison is made of the total grain receipts and shipments at the Gulf and Atlantic Seabord export points and, an effort made to show the tendency of different grains to go East or South as the case may be. As the Gulf ports were of no great importance in the export traffic before 1890, especial attention is given to the changes which have taken place since that date. An effort is made to discover if any business is being gained by the Southern cities at the expense of those on the Atlantic Seabord. It is a well known fact that the Eastern points had, until about the year 1890, an almost complete monopoly of the export grain trade of the United States. Thus the question naturally arises, are not the Southern ports entitled to a share of this traffic and how large should this share be?

The importance of the Western cities in the export traffic is considered and I endeavor to give a short account of receipts and shipments of grain at San Francisco and Portland during the past ten or twelve years. This necessitates
a short review of the wheat movement in the Canadian South­west with a view toward discovering the natural outlet for grain products of that region.

The Lake traffic is next taken into consideration from the standpoint of its increase or decrease in amount of grain shipped by that route. It is desirable to know something about the states of the Lake trade as concerns the export traffic, as the natural advantage of this route in diverting export grain eastward via the Atlantic Seabord are of no small concern.

Special attention is paid to the growth of the Gulf export points, Galveston and New Orleans. The actual growth of these cities in the export traffic is outlined and an attempt made to show the advantages enjoyed by these ports over the Eastern cities.

Altogether, the first part of the work is devoted to showing the numerous changes that have taken place in the export grain trade of the United States during the past fifteen years.

II.

The second part of the work is devoted to an ex­planation of the changes that have occurred, and the various reasons and arguments advanced are considered from different standpoints. Of course the chief reason for the change de­pends upon the charges made by railroads and steamship com­panies for transportation. This involves careful study, as
it is almost impossible at times to determine the actual rates in force on the railroads. Distances from the primary points to the seabord are given with a view toward finding out the proper differential the Gulf is entitled under the Atlantic Seabord in order to place all points considered on a fairly equal basis. Of course the actual cost of transporting grain to the Gulf or to the Atlantic Seabord cannot be found but the different charges can be approximated. The question of grades, weather conditions, port, steamship, and railroad facilities is studied and an effort made to show the importance of those conditions as regards the export traffic.

The change in the area of surplus grain production is a matter of no small concern and may account for the increase in exports at the Gulf ports to a great degree.

In considering the railway situation the increase in mileage in the Southwestern states means much in the export trade of the Gulf ports.

Discrimination in freight rates has a great deal to do with diversion southward and this phase of the matter is treated specially. Rate wars, "midnight tariffs", and secret agreements account for a great many changes in the situation, and their importance, tendencies, and results are discussed.

Rivers, canals and natural advantages determine to a great degree the flow of the export traffic, and the locations of St. Louis and New York are used to illustrate this point. The Missouri and The Mississippi rivers deter-
mine freight rates southward, and the Lakes together with the Erie Canal and Hudson river determine those eastward via New York.

In the question of ocean freight rates and steamship facilities we have to deal with the "tramp" steamer and it is not known how much is paid to it for its services. Nevertheless a comparison of rates from New Orleans, Baltimore, New York and Galveston to Liverpool is made and thus the relative advantages in ocean freight rates is shown.

As a whole the second part of the work deals with the reasons and conditions in our export grain traffic.
PART I.

The first point to be considered in this work is a comparison of the total grain receipts at the Atlantic and Gulf Seabords. This is brought out by chart No. 1 in which an effort is made to trace receipts of grain at all export points, the receipts at the Atlantic Seabord, and those at the Gulf ports. Starting from the year 1880, the lines representing total receipts and receipts at Atlantic Seabord are very close together, showing that the Eastern cities had an almost complete monopoly of the export traffic. No great change is noted until the year 1896 when receipts via Gulf ports reached 40,000,000 bushels out of a total of some 250,000,000 bushels or about 16 percent. In 1897 receipts amounted to over 50,000,000 bushels at Southern ports, but aggregate receipts at all export points were 485,000,000 bushels. In the year 1898 total receipts reached the high mark being about 522,000,000 bushels of which the Atlantic Seabord received 465,000,000 bushels. Since that year the aggregate receipts have steadily declined with the exception of a slight break in 1903 until the present time. The Gulf ports seem to have had their own and reached the highest point in 1900, being over 61,000,000 bushels, which was slightly over 13 percent of the totals. During the year just closed (1904), aggregate receipts at all points were 225,000,000 bushels, of which the Atlantic Seabord had 170,000,000 bushels, and the Gulf ports 33,000,000 bushels. Figured out on
a percentage basis, the Atlantic Seaboard had 75.4 percent and the Gulf ports 14.6 percent. Altogether this comparison does not indicate that the Eastern cities are losing any great amount of their export traffic, while the Gulf ports seem to be receiving a comparatively small share of the grain.

It is impossible to make a comparison of shipments for a series of years as the data is not at hand but the situation as it existed in 1904 is shown. The export of grain for that year amounted to 68,978,555 bushels as compared with 178,134,337 bushels in 1903.

Although heavy losses occurred in the outbound movement of all grains, the wheat exports show by far the heaviest shrinkage, being approximately 60,000,000 bushels below what they were in 1903. At the Atlantic ports total grain shipments for the year amounted to 33,237,291 bushels as against 86,121,494 bushels in 1903, and at the Gulf ports the foreign withdrawals for the two years were 15,910,600 and 50,469,625 bushels respectively. The figures show the total decrease in foreign withdrawals to be 109,155,820 bushels or about 61.3 percent decrease from the year 1903. The decrease at the Atlantic ports is 52,884,203 bushels or about 61.4 percent less than 1903. The Southern ports show a shrinkage of 34,559,025 bushels which is 68.4 percent less than the exports in 1903. On the Pacific Coast exports amounted to 12,853,752 bushels in 1904 as compared with 24,480,229 bushels in the preceding year. This is a loss of 11,626,477 bushels or about 51.5 percent.
Exports of grain and flour for January 1905 as compared with January 1904 were as follows: 17,560,463 bushels in January 1904 and 20,651,969 for January 1905. The total withdrawals at the Atlantic ports, including flour for January 1904 amounted to 9,451,059 bushels and at the Gulf ports to 4,756,737 bushels. In January 1905 the exports at Atlantic ports including flour reduced to bushels aggregated 10,576,659 bushels and at Gulf ports for January 1905, 7,157,345 bushels. This is an increase of 1,035,510 bushels for the Atlantic seaboard or about 9.8 percent. The Gulf ports show an increase for the same period of 2,400,608 bushels or 33.5 percent over 1904. Thus a comparison for the months of January 1904 and 1905 of the foreign withdrawals shows that the Southern ports had an increase of 3 times as much as Atlantic ports in percentages. This is hardly fair, however, as local conditions for short periods of time may account for such changes.

We next take up the export withdrawals of three important export points and a comparison of receipts and shipments of flour, wheat, corn and oats for 1903 and 1904 at Philadelphia, Baltimore and New Orleans seems to favor the latter port. At Philadelphia receipts of flour reduced to bushels of wheat are 17,470,953 bushels and 11,988,700 bushels respectively for the two years, while shipments are 11,988,789 and 5,618,074 bushels. Relatively for the two years receipts show a decrease of 53.1 percent. This is a decrease of 5,482,253 bushels in receipts and 6,370,715 bushels in shipments, and seems to indicate that exports are growing smaller at
Philadelphia.

As concerns wheat proper, receipts for the same time are 4,727,587 bushels and 1,812,469 bushels, and shipments 3,453,793 bushels and 184,000 bushels. Thus receipts decreased 2,915,120 bushels, and shipments decreased 3,269,793 bushels. Corn receipts aggregate 11,135,638 bushels and 8,346,387 bushels and shipments 9,991,700 and 6,164,525 bushels. This is a decrease of 2,789,251 bushels in receipts and 3,826,175 bushels in shipments. Receipts of oats for the two years are 4,463,900 bushels and 4,652,875 bushels while there are no exports in 1903 and 52,574 bushels exported in 1904. Aggregate receipts of the four commodities for 1903 and 1904 show 37,798,078 bushels and 26,630,131 bushels respectively. Aggregate shipments for the same time are 25,434,290 bushels and 12,019,173 bushels. The decrease in receipts is 10,967,947 bushels and in shipments 13,415,117 bushels.

Baltimore.

The receipts of flour reduced to bushels at Baltimore for the years 1903 and 1904 are 19,781,811 bushels and 9,435,191 bushels respectively. Shipments are 15,703,281 bushels and 5,531,687 bushels. This is a shrinkage in receipts of 10,346,620 bushels and in shipments of 10,171,394 bushels, practically the same. Of wheat, receipts are 5,658,593 bushels and 3,861,807 bushels. Shipments are 3,373,689 bushels and 251,242 bushels. Thus receipts decreased 1,796,786 bushels and shipments 3,122,247 bushels. Receipts of corn for the two years are 21,512,861 bushels and 10,035,307 bushels.
Shipments for same time are 19,113,566 bushels and 7,092,488 bushels. The loss in receipts is 11,477,544 bushels and in shipments 12,021,078 bushels. As regards oats the receipts for the two years are 3,795,737 bushels and 2,825,016 bushels. Aggregate receipts of the four grains are 50,749,002 bushels in 1903 and 26,157,321 bushels in 1904. This shows a decrease of 24,591,681 bushels in receipts. Shipments for the period are 38,247,487 bushels and 12,960,480 bushels, a loss of 25,287,007 bushels.

New Orleans.

At New Orleans receipts of flour reduced to bushels are 2,355,620 bushels in 1903 and 2,529,644 bushels in 1904. Shipments for the same period are 5,232,240 bushels and 3,091,586 bushels. Thus there seems to be a slight increase in receipts in 1904 over 1903, namely, 174,024 bushels. Figures concerning shipments show the uncommon phenomena of exceeding receipts by 2,876,620 bushels in 1903, which is over 100 percent, while in 1904 shipments exceed receipts by 561,942 bushels or over 20 percent. Receipts of wheat proper are respectively for the two years 11,218,975 bushels and 1,732,415 bushels. Shipments are 11,987,484 bushels and 2,129,814 bushels. Thus in 1903 shipments of wheat exceed receipts by 678,509 and in 1904 by 397,399 bushels. But we notice that receipts decreased from 11,218,975 bushels in 1903 to 1,732,415 bushels in 1904 which is a much greater loss than that sustained by either Philadelphia or Baltimore.

Receipts of corn in 1903 are 11,218,975 and in 1904
8,200,297 bushels. Shipments are 12,998,439 bushels in 1903 and 5,306,423 bushels in 1904. Thus receipts decreased 3,018,678 bushels in 1904 and shipments decreased 7,692,016 bushels for the same period. This apparently seems to be against New Orleans being considered as a growing export point. Receipts and shipments of oats are, receipts 4,067,252 bushels in 1903 and 2,363,775 bushels in 1904; shipments are 35,561 bushels in 1903 and 53,165 bushels in 1904. Thus the shipment of oats is of practically no importance in the export grain trade of New Orleans. Altogether receipts and shipments of the four commodities, flour, wheat, corn and oats for 1903 are about the same being 30,398,589 bushels and 30,163,744 bushels respectively. The same conditions for 1904 show receipts to be 14,825,731 bushels and shipments 10,580,988 bushels.

A comparison of the aggregate receipts and shipments for the year 1903 and 1904 at the ports of Philadelphia, Baltimore and New Orleans can be seen from the following figures.

<table>
<thead>
<tr>
<th>CITIES</th>
<th>RECEIPTS</th>
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<th>RECEIPTS</th>
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<tr>
<td>Philadelphia</td>
<td>37,798,078</td>
<td>25,434,290</td>
<td>26,830,131</td>
<td>12,019,173</td>
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<tr>
<td>Baltimore</td>
<td>50,749,002</td>
<td>33,247,487</td>
<td>26,157,321</td>
<td>12,960,480</td>
</tr>
<tr>
<td>New Orleans</td>
<td>30,398,589</td>
<td>30,163,744</td>
<td>14,825,731</td>
<td>10,580,988</td>
</tr>
</tbody>
</table>

A table of percentages shows the following results. In 1903 shipments at Philadelphia were slightly over 66 percent of receipts. In 1904 shipments were less than 45 percent of receipts. Receipts in 1904 as compared with the
preceding year decreased 10,967,947 bushels or about 29 percent. Shipments during the same period decreased 13,415,117 bushels or about 52 percent.

At Baltimore shipments were 75 percent of receipts in 1903, and 49 percent in 1904. Receipts decreased in 1904 as compared with 1903, 24,591,681 bushels or 48 percent. Shipments decreased 15,287,007 bushels or slightly less than 40 percent.

New Orleans. Shipments in 1903 were approximately the same as receipts while in 1904 they were 71 percent of receipts. Receipts in 1904 as compared with 1903 decreased 15,572,958 bushels or 49 percent and shipments decreased 19,582,756 bushels or 65 percent.

Summarizing shipments at Philadelphia, Baltimore and New Orleans in 1903 were 66,75 and 99 per cents of receipts respectively. In 1904 the figures are 45, 49 and 71 percent of receipts. This seems to be favorable to New Orleans.

The loss in receipts at Philadelphia, Baltimore and New Orleans in 1904 as compared with 1903 were 29, 48 and 49 percent respectively. Thus Baltimore and New Orleans seem to be holding their own comparatively and Philadelphia better than either.

Shipments at the three ports respectively show losses of 52, 40 and 65 percent which is certainly not favorable to New Orleans.

Charts numbered 2 and 3 should give some idea of the receipts of grain at New York, Baltimore, Philadelphia,
Portland, Boston, Norfolk, Newport News, Galveston, Montreal and New Orleans since the year 1880.

New York, which is the most important export point in the United States, will be considered first. From the year 1880 to 1888 receipts declined reaching the 100,000,000 bushel mark. Then there is a steady rise until 1892 when the amount is about the same figure as in 1880, namely 163,000,000 bushels. Another decline until the bottom is reached for the second time in 1895 at 112,000,000 bushels and another gain to 1898 when the maximum is reached at 190,000,000 bushels. This is remarkable being over 35 percent of the total receipts received at all export points for that year. Receipts have steadily declined since that year and the curve shows no break in its downward tendency except in 1903 when a slight increase of 10,000,000 bushels is noted. In 1904 the receipts were 92 million bushels, the smallest recorded during the last twenty years. James A. Parker, Chairman Produce Exchange Committee on Trade and Transportation, said, "The grain situation so far as the Gulf competition is concerned is this: from December 15, 1904 to January 30, 1905, the New Orleans receipts have been over 7 million bushels of corn, while the New York receipts for the same time have been under 6 million bushels. The percentage of shipments to New York has been 23 3/4 percent against 29 1/2 percent to New Orleans."

At Baltimore the same tendency toward smaller receipts is noticed. There is a steady decline since 1898, when the maximum of 98 million was reached, with only the same
slight break in 1903 as was noted at New York. During the past eight years (1898-1904) there is a change from 98 to 27 millions in 1904, the latter figures being the smallest recorded in twenty-five years.

The receipts at Boston since 1890 do not show any great changes. In 1890 they were 29 millions, and a steady increase is noted until 1899, that year being the maximum with receipts amounting to 54 millions. Since 1899 there has been a steady decline with a slight exception in 1903, and in 1904 about 25 millions were received.

Receipts at Philadelphia vary greatly in amounts and it is difficult to decide how much that port is entitled to. In 1880 they amounted to almost 50,000,000 bushels and declined to 20,000,000 bushels in 1882. No appreciable change is noticed until 1890, where the 35,000,000 bushels mark is reached and two years later they almost reach 60,000,000 bushels. The low point, 27,000,000 bushels, is again reached in 1895 and a steady increase then sets in which reaches a maximum in 1900 where 67,000,000 bushels were received. Since then the decline is steady and receipts in 1904 were approximately 25,000,000 bushels, being the smallest since 1889.

New Orleans is usually regarded as a port of recent importance in the export grain trade but in 1880 it had receipts amounting to 20,000,000 bushels. The lowest receipts were in 1895 when 11,000,000 bushels were reported and the highest receipts were in 1897 when 44,000,000 bushels reached that port. In 1901 the totals were almost as great and in 1902 25,000,000 bushels were received, 30,000,000 in 1903 and
During January 1905 arrivals were 7,666,200 bushels, in contrast with 2,336,787 bushels for a similar month in 1904, and 5,103,638 bushel in 1903. Corn receipts during the current month were extremely heavy, aggregating 7,558,800 bushels as compared with 892,866 bushels in 1904, and 3,856,831 bushels in 1903. Shipments were heavy, aggregating 5,193,561 bushels, and with the exception of 4,775 bushels of oats, were composed of corn. During January 1904, the withdrawals were 1,378,341 bushels and in January 1903, 5,041,900 bushels.

Shipments of flour range as follows: 92,649 barrels in January 1903, 118,451 barrels in January 1904 and 19,182 barrels in January 1905.

Grain receipts at New York City for the month of January 1905 aggregated 8,602,927 bushels.

Receipts of grain and flour at Galveston have not been large enough to make a fair comparison with the receipts at Eastern points. Beginning with year 1896 we find receipts amounting to 9 millions. There is a steady increase until 1899 when 22 millions are recorded. There is a decline to 13 millions in 1900, and an increase to 17 millions in 1901, 11 millions in 1902, 22 millions again in 1903 and shipments in 1904 were 8 millions. (No figures on receipts obtainable.)

Shipments of wheat and corn at this port during past four years are as follows. 1900-01 (September 1, 1900 to August 31, 1901) wheat 16,117,474 bushels; corn none; 1901-1902 (Sept. 1 to Aug. 31) wheat 8,985,564 bushels and corn

Since the year 1896 Galveston has been regarded as one of the leading grain markets in the world's trade. Letter from S. E. Young, Secretary of the Board of Trade in that city, states that "Galveston has superb facilities for handling grain. The docks are finest and best equipped in the United States. There are four large elevators capable of handling all the grain that can be brought here and yet since September 1st, 1904 the exports have fallen off to almost nothing because the railways diverted business to other ports, mainly New Orleans."

However, Galveston and New Orleans combined have never received the quantity of grain which was received at Philadelphia or Baltimore. In 1904 receipts at Philadelphia aggregated about 25 million bushels and New Orleans and Galveston combined show 23 million bushels. In recent years they have exceeded the amounts received at Boston.

Portland, Maine. The highest annual receipts of grain and flour at Portland occurred in 1903, when 23,638,662 bushels were reported, nearly all of which entered into the export trade, possibly two-thirds of which was of Canadian origin and one-third of American origin. Not until after 1890 does the grain trade of the port seem to have taken a decided turn. From that year forward the record of this gateway to the world's market has been one of almost continual increase in volume, owing primarily to the increase of grain
growing along the lines of the Grand Trunk Railway of Canada. Portland is the nearest winter outlet for Canadian grain, which during the open season goes by the way of Montreal and the St. Lawrence to Europe. About two-thirds of the grain exported consists of wheat. Receipts during the last four

21.6
eyears have averaged 21.6 million bushels compared with 18.8 million bushels during the preceding four years.

Montreal. Receipts of grain at Montreal during the twenty-four years under consideration have never fallen below 13 millions in round numbers or risen above 46 millions. The maximum receipts occurred in 1898 since which time the average of receipts has been somewhat in excess of 30 millions per annum. During the season of 1903 this port ranked fourth on the continent as a grain shipping center, its exports of grain being exceeded only by New York, Baltimore and Philadelphia. There has been some difficulty in developing facilities for handling business of the port of Montreal. Urgent efforts are now being made to put the port in a position to take care of the increased exports, not only in the Canadian northwest but also in the western portion of the United States, for which the St. Lawrence route, via Montreal, considers itself fully capable of competing provided their charges do not exceed those of the United States routes. At present time one-third of the import and export trade of Canada passes through the port of Montreal. The abolition of harbor dues is advocated for imports and exports via the St. Lawrence route, thus making Montreal a free port. The abrogation of tolls on
inland waterways is regarded as having materially assisted the movement of large amounts of United States products over Canadian routes, products which previously reached Europe via Boston and New York.

The exports of grain in 1903 from the port are separated into home and foreign produce. Out of 24,378,680 bushels of grain exported in this season through Montreal, 11,614,225 bushels were produced in Canada and 12,764,455 bushels foreign produce, essentially all in the United States. This included 5,139,247 bushels of wheat of foreign origin, 7,102,906 bushels of corn, and 522,302 bushels of rye. Presumably all of this came from the western portion of the United States and reached Canada by way of the Lakes or Canadian rail routes.

The following table shows the surplus production of corn and wheat in the states of Missouri, Illinois, Iowa, Nebraska, Kansas, Indiana, Ohio, Minnesota, South Dakota, North Dakota and Wisconsin for the past four years, and the export of this grain by the Gulf and Atlantic Seaboard.
## CORN

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<td>PERCENTAGES</td>
<td>MILLIONS OF BUSHELS</td>
<td>PERCENTAGES</td>
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<tr>
<td>Via Gulf Ports</td>
<td>25</td>
<td>19</td>
<td>14</td>
<td>107</td>
</tr>
<tr>
<td>Via Atlantic Ports</td>
<td>144</td>
<td>75</td>
<td>90</td>
<td>79.5</td>
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<tr>
<td>Via Other Ports</td>
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<tr>
<td>Totals</td>
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<td>100</td>
<td>102</td>
<td>100</td>
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## WHEAT

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<th>1902</th>
<th>1903</th>
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<tr>
<td></td>
<td>MILLIONS OF BUSHELS</td>
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<tr>
<td>Via Gulf Ports</td>
<td>19</td>
<td>19.1</td>
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<td>22.3</td>
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<tr>
<td>Via Atlantic Ports</td>
<td>40</td>
<td>40.5</td>
<td>8.1</td>
<td>43.2</td>
</tr>
<tr>
<td>Via Other Ports</td>
<td>10</td>
<td>10.4</td>
<td>18</td>
<td>34.5</td>
</tr>
<tr>
<td>Totals</td>
<td>49</td>
<td>100</td>
<td>179</td>
<td>100</td>
</tr>
</tbody>
</table>
The percent of corn exported for the four years 1900, 1901, 1902 and 1903 via the Atlantic Seaboard is as follows: 75, 78.5, 66.7 and 69.2 percents. The figures on wheat for the same period are, 40.5, 45.2, 39.2 and 24.6 percents. This goes to show that the Atlantic Seaboard ports are not holding their own in the export of wheat of the United States but as regards the export of corn they have not lost much.

For the Gulf ports the figures on corn for the years 1900, 1901, 1902 and 1903 are respectively 19, 13.7, 20.5 and 20.1 percents. On wheat they are, 19.1, 22.3, 20.1 and 43.7 percents respectively. This seems to indicate that the Gulf ports are gaining in the export of wheat from the states mentioned. The figures for "Other Ports" are interesting as they tend to prove that export grain is subject to no one established line or route. Figures on corn are, 6, 7.8, 2.8 and 10.7 percents. Wheat figures are, 40.4, 34.5, 40.7 and 31.7 percents.

Aggregate shipments of wheat via the Gulf and Atlantic Seaboards show most disadvantageously to the Atlantic cities in 1902 and 1903. Shipments in 1902 at Gulf are 26 million bushels and 32 millions in 1903. At the Atlantic Seaboard they are 51 and 19 millions respectively.

Figures in millions of bushels for the four years are,

<table>
<thead>
<tr>
<th></th>
<th>Atlantic Seaboard</th>
<th>Gulf Ports</th>
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</thead>
<tbody>
<tr>
<td>CORN</td>
<td>144, 80, 12 and 63</td>
<td>28, 14, 3.7 and 18.3</td>
</tr>
<tr>
<td>WHEAT</td>
<td>40, 81, 51, and 19</td>
<td>19, 40, 26, and 32</td>
</tr>
</tbody>
</table>

It is impossible to draw any further conclusions
from the above figures except that mentioned concerning export of wheat.

We will next take up Chart No. 4 which shows the shipments of grain from St. Louis to Europe via rail to seaboard and via river to New Orleans from the years 1890 to 1903 inclusive. The green line which represents exports via rail to seaboard is subject to violent changes. During the years from 1890 to 1896 no great amount of grain was shipped by this route, being less than five million bushels. In 1897 it rose to over twelve million bushels, reached the climax in 1898 at seventeen million bushels and has steadily declined to two million bushels in 1903. The red line representing shipments via river to New Orleans seems to have been subjected to almost the same fluctuations as the green line. In 1890 shipments by this route amounted to over ten million bushels, that figure being reached only once since, in 1896. Since that year there has been a steady decline and shipments in 1903 amounted to less than three million bushels or only a trifle more than was shipped by rail to seaboard.

In my opinion this goes to show that the railroads can transport grain as cheaply as it can be shipped by river routes. It also gives us an idea of how much importance the Mississippi river is in transporting grain to the coast for export. Shipments by the water route have not exceeded those by rail since 1896, except a slight amount in 1903 when shipments via either route were exceedingly small.

Chart No. 3 is a diagram showing course of total values of exports from 1890 to 1903 at two eastern export points, Baltimore and Philadelphia, and two Gulf ports, Galveston and New Orleans. Of course total exports can in no way be taken as
an indicator of the export grain movement, but this will serve to show the relative importance of the ports as compared with each other.

New Orleans. The port of New Orleans is the most important of the four and shows phenomenal growth in the past eight or nine years. Exports at this point in 1880 amounted to ninety million dollars, reached one hundred and thirty millions in 1892, and fell to sixty-eight millions in 1895. Since that year they have been increasing in value, and in 1903 amounted to almost one hundred and fifty million dollars. This is an increase of almost sixty million dollars in twenty-three years, or sixty-six percent.

Baltimore. This port was second in rank in this group in 1880. Exports amounted to 76 millions of dollars. By 1886 they had shrunk to 35 millions, but by 1892 they increased to 97 millions of dollars. The low point in 1895 was about 60 millions and the high point in 1900 was 114 millions of dollars. By 1903 they had decreased to 81 millions, which for the twenty-three years is a gain of 5 millions or about six and one-half percent.

Philadelphia. This port was third in importance of the four named in 1880. At present it is fourth, or in other words its exports amount to less than any one of three points mentioned. Exports amounted to 50 millions of dollars in 1880. The first high point was reached in 1892, when they amounted to 58 million dollars. In the year 1895, when the low point was reached for most of the ports, the exports amounted to 36 million dollars, which was 4 million dollars less than those of Galveston, something unknown up to that time. Since 1895 there has been a
steady increase and exports in 1903 aggregated 73 million dollars. In the twenty-three years under discussion exports have increased from 48 million dollars in 1880 to 73 millions in 1903, or about 52 percent.

Galveston. This port has experienced phenomenal growth in its exports in the past twenty years. Beginning with the year 1880 it had exports amounting to only 16 million dollars, and five years later they amounted to 12 million dollars. Since 1885, however, there has been a steady increase which was only hampered in the bad years from 1892 to 1896. After the latter year the increase has been unprecedented in the export traffic, the total amount exported in 1896 being 36 million dollars, and in 1903, one hundred and four million dollars. Since 1880 there is an increase of 88 million dollars or 550 percent and from 1896 to 1903, 7 years, an increase of 68 millions or almost 190 percent, which places Galveston at present above both Philadelphia and Baltimore in total values exported.

In 1880 the above ports named stood as follows on a percentage basis:

- New Orleans: 39 percent
- Baltimore: 33 percent
- Philadelphia: 21 percent
- Galveston: 7 percent

In 1903 the same ports ranked as follows:

- New Orleans: 36 percent
- Galveston: 26 percent
- Baltimore: 20 percent
- Philadelphia: 18 percent
On a percentage basis the changes are most favorable to Galveston and New Orleans and especially to the former port.

<table>
<thead>
<tr>
<th></th>
<th>percent in 1880</th>
<th>percent in 1903</th>
<th>Loss</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Orleans</td>
<td>39</td>
<td>36</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Galveston</td>
<td>7</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baltimore</td>
<td>33</td>
<td>20</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Philadelphia</td>
<td>21</td>
<td>18</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Thus we see New Orleans and Philadelphia lost 3 percent, Baltimore lost 13 percent and Galveston gained 19 percent.

The aggregate exports at these ports in 1880 amounted to 232 million dollars, and in 1903, 407 million dollars.

The outward movement from the interior of the United States to foreign countries is indicated by the proportions of flour and grain moved by the way of the respective coasts. The statement below is made out for the three succeeding years ending in December 1902, 1903 and 1904.

<table>
<thead>
<tr>
<th>TOTAL EXPORTS --- BUSHELS --- Approximately</th>
</tr>
</thead>
<tbody>
<tr>
<td>1902</td>
</tr>
<tr>
<td>Atlantic Ports</td>
</tr>
<tr>
<td>73,000,000</td>
</tr>
<tr>
<td>Gulf Ports</td>
</tr>
<tr>
<td>32,000,000</td>
</tr>
<tr>
<td>Pacific Ports</td>
</tr>
<tr>
<td>48,000,000</td>
</tr>
<tr>
<td>Other Ports such as Lake and Northern Border</td>
</tr>
<tr>
<td>13,000,000</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
<tr>
<td>166,000,000</td>
</tr>
</tbody>
</table>

| 1903                                        |
| Atlantic Ports                              |
| 86,000,000                                  |
| Gulf Ports                                  |
| 50,000,000                                  |
| Pacific Ports                               |
| 25,000,000                                  |
| Other Ports such as Lake and Northern Border|
| 17,000,000                                  |
| TOTAL                                       |
| 178,000,000                                 |

| 1904                                        |
| Atlantic Ports                              |
| 33,000,000                                  |
| Gulf Ports                                  |
| 16,000,000                                  |
| Pacific Ports                               |
| 13,000,000                                  |
| Other Ports such as Lake and Northern Border|
| 6,000,000                                   |
| TOTAL                                       |
| 68,000,000                                  |
FLOUR — BARRELS

<table>
<thead>
<tr>
<th></th>
<th>1902</th>
<th>1903</th>
<th>1904</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Ports</td>
<td>12,903,759</td>
<td>12,574,389</td>
<td>6,654,496</td>
</tr>
<tr>
<td>Gulf Ports</td>
<td>1,019,178</td>
<td>2,231,555</td>
<td>1,248,754</td>
</tr>
<tr>
<td>Pacific Ports</td>
<td>3,412,902</td>
<td>3,776,396</td>
<td>3,078,596</td>
</tr>
<tr>
<td>Other Ports</td>
<td>662,692</td>
<td>692,075</td>
<td>486,657</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17,998,531</td>
<td>19,274,415</td>
<td>11,468,503</td>
</tr>
</tbody>
</table>

The following conclusions are drawn from this table, showing amount of exports from the different coasts as recorded on a percentage basis.

<table>
<thead>
<tr>
<th></th>
<th>1902</th>
<th>1903</th>
<th>1904</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Ports,</td>
<td>44%</td>
<td>48%</td>
<td>49%</td>
</tr>
<tr>
<td>Pacific Ports,</td>
<td>29%</td>
<td>28%</td>
<td>24%</td>
</tr>
<tr>
<td>Gulf Ports,</td>
<td>19%</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>Other Ports,</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Thus we see that the Atlantic ports are more than holding their own, that the Pacific ports are losing slightly and the Gulf ports are fairly stationary. I am unable to understand how the eastern cities can contend that the Gulf Ports are detracting the export grain traffic from the Atlantic seaboard. In my opinion the southern cities are barely holding their own in the fight, and, as will be shown in the second part of this paper, are entitled to a larger share in the traffic.

As regards the shipments of flour during these three years we find the greatest decrease at the Atlantic seaboard, although the decrease at the Gulf ports was almost as great proportionately. By the former route there is a loss of almost
6,000,000 barrels during 1904 as compared with 1903, and in the latter year exports were practically the same as in 1902. By the Gulf ports, the year 1903 shows a great gain over 1902, and the exports in 1904 are greater than in 1902, although less than in 1903. This is quite favorable to the southern route for the export withdrawals of flour. On the Pacific Coast, exports of this commodity have suffered very little being approximately the same during the three years.

We will now take up the export traffic on the Pacific Coast, giving a brief account of the shipments through San Francisco and Portland.

San Francisco. Receipts of grain at San Francisco in 1903 were 26,368,506 bushels, and 21,492,943 bushels in 1904. The Cincinnati Price Current in an article taken from the San Francisco Chronicle claims that wheat production in California is declining. Cereal grains produced in 1899 amounted to 41,071,800 bushels, and there has been a tremendous decline during the past three years. According to San Francisco trade estimates our production for 1902 was 18,756,490 bushels, for 1903, 16,000,000 bushels, and the estimated crop for 1904 is less than 11,000,000 bushels. The receipts of all grain at San Francisco in 1903 were 26,368,506 bushels and in 1904, 21,492,943 bushels. California is the largest barley producing state in the United States, and the surplus production of the cereal, which is largely exported, naturally finds an outlet through the port of San Francisco. Flour and wheat receipts at this port are also heavy, but the corn and rye movement is comparatively insignificant.

Portland. Portland is now the Pacific Coast terminus of three trans-continental railroads, the Northern Pacific, the
Southern Pacific (Northern Line) and the Union Pacific. No other coast city has so many important railway systems making it a center. Wheat growing was the first great industry to be developed, and its export to Europe soon gave employment to many vessels. The manufacture of flour then followed, naturally, and the largest flour mill on the Pacific coast is located at this point. The proportion of wheat raised for export as wheat and flour is large, much larger than in the middle West, where it goes mainly into domestic consumption. The total shipments from Portland in 1904 when the crop was smaller than the average, reached 12,000,000 bushels, the entire yield of the state being 13,000,000. The average annual shipments for the past five years have exceeded 14,500,000 bushels and of the 1900 crop in Oregon and Washington, 18,000,000 bushels. It must be understood the Northwest states, and parts of Canadian southwest find through Portland a market for their grain, loading more vessels here than at any other point.

Traffic on the Great Lakes.

Large quantities of freight, especially grain and flour, are brought through the Great Lakes to various points upon the southern shores of Lake Erie and Lake Ontario, from whence they are transported by rail to the Atlantic seaboard. From one-half to two-thirds of the grain shipped eastward goes by the Great Lakes. A comparison of the two years 1903 and 1904 shows that the shipments of flour by this route decreased from 1,515,000 tons in the former year to 1,041,000 tons in the latter. Total shipments of grain were 135,000,000 bushels in 1904 in contrast with 165,000,000 bushels in 1903. In 1904 the div-
isition was as follows: wheat 28, corn 39, oats 32, barley 19 and rye 3 million bushels. In contrast to this, and notwithstanding the fact that the total commercial movements of grain were lighter than in 1903, the eastbound trunk line shipments were much heavier, increasing from 79,729,000 bushels in the latter year to 90,500,000 bushels in the former. The abnormal decline in lake shipments was far in excess of any decrease warranted by the short wheat crop, and this is accounted for by the strike of the steamship employees which occurred in May and June 1904. Thus a loss of 30,000,000 bushels in lake shipments is offset to some extent by an increase of almost 11,000,000 bushels in rail shipments. However the large decrease in grain and flour movements, although affected by the smallness of the current year's wheat crop, cannot be wholly attributed to this course, and in view of the eastbound trunk line movements, show a decided increase over those of the previous year, it can be readily perceived that other important factors besides the smallness of the crop, must have a direct bearing upon the size of the cereal shipments by the way of the great lakes. Freight rates, necessarily of vital importance in connection with a free traffic movement were apparently as generally favorable to lake transportation during the year as they have been in the past.

When we take into consideration the fact that 135,000,000 bushels of grain were shipped by the Great Lakes in 1904, and that only 225,000,000 bushels were received at export points on the Atlantic seaboard, we can form some idea of the importance that the Great Lakes have in transporting grain to the seaboard.

Freight rates are governed by cost of service via this route,
and the amounts shipped by rail and water show that the Great Lakes control the situation, especially through the season of navigation, and exert a tremendous influence on winter rates. To some extent the Great Lakes as an eastern water route might be compared with the Mississippi River as a southern waterway, but the former route is of ten times more importance than the latter as regards the amounts shipped over the two routes. Movements of grain to the seaboard within the "sphere of influence of the Great Lakes "will always be influenced by lake freight rates.

Summary.

To sum up, the conclusions to be drawn from the first part of the paper are as follows: the Atlantic seaboard cities receive about three-fourths of the grain exported and so far as I am able to discern have no reason to complain about the diversion of the traffic. Up until the year 1890, Galveston as an export point was almost unheard of, and since that year has only obtained a small share of the traffic to which she is fully entitled. In 1903 the different export points ranked in the order named, New York, Baltimore, Philadelphia, Montreal, Boston, New Orleans, Portland(Me.), San Francisco, Galveston, Portland(Ore.), Newport News and Norfolk. There seems to be no natural outlet for export grain and grain products but there is a tendency for it to flow out in all directions, the reasons for which will be discussed in the second part of this work. Canadian grain is being pulled in two directions, namely toward the Pacific Coast through Portland, Oregon, and toward the Atlantic seaboard throu-
gh Montreal and St. Lawrence and the city of Portland, Me. The Gulf cities are situated at too great distances from the Canadian region to influence exports in that direction.

The amount of grain shipped via the Great Lakes is of utmost importance to the interests of the exporters on the Atlantic seaboard and probably accounts for much of the grain exported by that route. So long as one-half of the grain exported is shipped by the Great Lakes we can expect no great amount to find its way through the Gulf ports. These cities have made phenomenal growth in the past fifteen years, especially Galveston in the total values of merchandise exported, and yet of the export grain traffic in 1904 they controlled only about 16 percent. Thus to me it seems that the Atlantic seaboard points have always received the lion's share of our export traffic because there were no other cities enjoying the same advantages, and now that the Southern ports are beginning to receive only a very small part of the business the Eastern cities feel as if they are losing something which righteously belongs to them. At the present writing it is not possible to decide whether the Eastern cities are being discriminated against but it seems reasonably certain the increased business of the Gulf ports is due to a great extent to the shifting area in grain production.
PART II.

Now that an effort has been made to show the actual changes that have taken place in the export traffic the reasons for these changes will be discussed from various standpoints with a view toward finding out why they have occurred. We are first concerned with the

Cereal Movement to Primary Markets.

The primary grain markets are those railway centers into which the grain of the surplus states is concentrated in the first stage of its movement after leaving the producer. The ten most important ones are Chicago, Minneapolis, Duluth-Superior, St. Louis, Milwaukee, Toledo, Kansas City, Peoria, Cincinnati and Detroit. Each of these receives from 10,000,000 to 300,000,000 bushels of grain on the average each year.

The geographical locations of these cities is of significance in the distribution of their crops. These primary markets with one exception lie on the western heads of the Lakes or on the great interior waterways. Taken together the primary markets are located on the circumference of an irregular circle inside of which are scattered thousands of shipping points from which the yield of grain has to be gathered into these centers of accumulation.

The next factor in the distribution outline of the grain movement to primary markets is the relation of the systems of railroads to the areas of surplus production. From each of these centers into which the crop is first collected there
radiates a fan-shaped network of railroad lines with the primary market at the apex or hinge of the fan. From Chicago these lines reach southward, westward and northward. From Duluth, Milwaukee, Minneapolis and St. Paul they branch out in the same general directions. Likewise from St. Louis, Kansas City, Detroit, Toledo and Cincinnati. The whole movement from farm to primary market takes these three general directions and until within ten or twelve years, toward eastern points from the North, the South and the West within the area of the twelve surplus grain states. Now the situation is changed by the completion of railroads running South or East which endeavor to divert the traffic from primary markets in their respective directions.

This fact results in many competing railway lines reaching out in all directions for grain traffic. From Chicago there are twenty-one roads which radiate outward over the same general territory within which roads centering in other primary markets compete. Twenty-seven systems concentrate at Kansas City. Ten roads reach out from Minneapolis. Twenty-five from St. Louis spread out the territory from which grain traffic reaches that city. The situation throughout the producing area with relation to the primary grain market is such, therefore, that the intensity of competition among grain carriers increases with the distance from the circle of primary markets toward the center of productive area.

This is a factor of immense economic significance in distribution. Nor is its importance simply limited to the stage of the grain movement. Inside of the circle of primary markets the struggle for control of the crop to be moved goes on all the
more actively because of the fact that control of the grain by
one or the other road determines the direction by which grain
gets to the seaboard and thence to foreign markets. The primary
markets are simply strategetic points through which the distribu­
tive interests on the Atlantic Coast, on the Gulf, on the Lakes
and on the St. Lawrence vie with each other in the partition of
a traffic that amounts to hundreds of millions of bushels a year.

The movement from farm to primary market is almost
wholly a rail movement. Probably no other portion of the country
of an equal area is more fully equipped with railway mileage per
square mile of land than this cereal section of the United States.
The grain movement from farm to primary market comprises one of
the main features of the traffic year.

The concentrating movement is practically a rail move­
ment from circumference to center, that is, from the productive
areas toward competitive centers for subsequent distribution.
Water transportation enters only slightly into the shipping of
grain to the primary markets. The producer gets no direct ad­
vantage from the location of St. Louis on the Mississippi, or of
Duluth or Milwaukee on the Lakes in the primary movement of sur­
plus grain. It is a significant fact that in 1899 the total
receipts of wheat, corn and oats at St. Louis by wagon were al­
most equal to the receipts by way of the six rivers that have
communication with that market. Out of a total movement of 50,
000,000 bushels of grain little more than a million arrived by
water transportation; the rest came by the twenty-five lines of
railways centering there, almost wholly from the South, North
and West.
The Trunk Line Problem.

After the grain is concentrated in the primary markets it becomes a question of vital importance which line of railway can transport the products to the seaboard the cheapest. The trunk line railroads between the North Atlantic seaboard and the surplus grain states of the Central West have for fully a half century been the chief agency in the distribution of the nation's surplus supply of breadstuffs. However during the last ten years numerous and important changes have occurred which threaten to wrest the supremacy from the Eastern trunk lines and divide the traffic with the southern roads.

The problem of these highways has been rarely duly appreciated. The trunk line is not a local problem, but preeminently a national problem. If considered from the standpoint of the domestic producer and the foreign consumer, it may be stated as follows: Between the price of grain in western America and the world market price in western Europe, there is a variable difference to be divided between the distributive agencies, including traders, bankers and transporters. The trader does his part of the work for a fixed rate of commission plus a speculative profit; the banker obtains a regular rate of discount, from which risk is practically eliminated by insurance; and the transporter tries to get the residual share, but is subject to the foresight of the trader and the banker, who are really the custodians of the commodity in store or on its way between producer and consumer. If the transporter holds his services too high for a trader or a banker to profit, the commodities await a higher price or a lower freight charge, and production is ultimately re-
stricted. If the trader holds his services too high, the banker himself may find it is to his advantage to utilize surplus credit in financing the movement of commodities. If the banker in turn exceeds the limit of reasonable charge, credit from elsewhere comes in to do the work. Such is the mobility of both capital and of business management with national limits that no representative of commercial service can for any considerable time make his own terms for his part in the annual distribution of any agricultural surplus.

The student of commercial charges in their relation to prices of food-stuffs finds that there is one governing tendency pervading the whole history of trunk-line operations, viz; that the difference between producers' price and consumers' cost tends in the long run to become a diminishing proportion per unit of the value of food-stuffs generally. In other words, the residual share made up of the difference between what the producer gets and what the consumer pays, goes to commerce in its various functions, but that the portion to be divided up among the traders, bankers and carriers has been gradually pared down to a margin which probably ten years ago would have been regarded as immensely unremunerative.

Western Changes Affecting Trunk Line Traffic.

The trunk lines with their termini, both East and West, lie between expanding areas of surplus production in the West and the maritime bases for the world market on the East. The western areas of wheat and corn production have for some years been shifting southwestward beyond the Missouri, and the
areas of spring wheat production have been tending northwestward on both sides of the intersectional boundary. As a result of this expansion new trade alignments have been laid down. On the north the Canadian lines reach the sea by lake, canal and river, or by rail; while to the south new trunk lines have been forming on both sides of the Mississippi.

These bases are the north and south lines of transportation between Chicago and New Orleans, Mobile and Pensacola, east of the Mississippi; and between Minneapolis and Galveston, west of the Mississippi. Between these two lines the river directly or indirectly contributes to the lowering of freight on these commodities southward toward the Gulf ports. The river rate on grain, St. Louis to New Orleans averaged 5 cents per bushel in 1903. A study of the map of the growth of the railroad facilities along the main lines will show how rapidly the north and south trunk lines are making themselves masters of the grain territory in the states bordering directly on the Mississippi, and especially throughout the Missouri River territory. The recent competition of railroads west of Chicago to find outlets to the Gulf, including the efforts of the Rock Island system, the Missouri Pacific and the A. T. & S. F. has resulted in a condition by which each of these lines can carry grain with equal advantage into Chicago on the one hand and to the Gulf ports on the other. The area of competitive territory has been widening rapidly in recent years. The effect of this improvement in position is to give these roads a strategic advantage. They have the option of carrying grain for export by a lower rate through Gulf ports than through Chicago thence by lake, over trunk lines to the North Atlantic, can direct the surplus grain yield into
Gulf ports and thus cut off the trunk lines from this important share of their annual business. The connection also between the Missouri River territory and Minneapolis has become much closer commercially in recent years on account of the necessity of vast milling interests in Minnesota depending upon Nebraska, Kansas, and sometimes Oklahoma for a wheat supply for grinding purposes. This has especially been the case during 1903 and 1904.

There appears to be something like a three-cornered contest for grain in the surplus sections of the Mississippi Valley, which applies as well to corn as to wheat. The growth of stock-feeding interests throughout the Mississippi Valley, especially in localities which are commercially convenient to Missouri River markets, has increased the local demand for corn to such an extent as to reduce greatly the available surplus. These great advantages in the Trans-Mississippi section of the country have a direct bearing upon the question under consideration, both because of the reduction of the quantity available for export and by reason of a different direction which is given to the quantity actually distributed to the East, to the South, and to the North.

As affecting the western relations of the North Atlantic trunk lines, the enlargement of Canadian grain production is part of the same general trend of the surplus producing areas away from the western termini of these lines and nearer the upper lakes, to the river markets, and to the Gulf seaports, all of which conspires to reduce the cost of carriage to the seaboard.

Changes in Area of Wheat Production.

A study of the map showing production of wheat in the
different states seems to indicate that the territory is shifting toward the southwest and the northwest. Seventeen states, namely Missouri, Ohio, Illinois, Nebraska, Indiana, Kansas, Texas, California, Pennsylvania, Oklahoma, Minnesota, Washington, Iowa, Oregon, North Dakota, South Dakota and Wisconsin were considered as regards production from 1898 to 1904 inclusive. Of these, Ohio, Indiana, California, Wisconsin, Iowa and Oregon are actually on the decrease. Illinois, Kansas, Pennsylvania, Minnesota and the Dakotas were fairly steady, not much change being noted. Missouri, Nebraska, Texas, Oklahoma and Washington are on the increase. An examination of this statement will evidently show that those states nearest the Atlantic seaboard are losing in the production of this cereal while those nearest the Gulf are gaining.

The important wheat producing states are next placed into three groups according to their distances from the Atlantic and Gulf seaboards. In the Eastern group, I have placed Ohio, Indiana and Pennsylvania which based upon the figures of 1904 produced 51,800,000 bushels of wheat. In the middle group, from which the grain is shipped either East or South, we have the states of Iowa, Illinois, Minnesota, Wisconsin and the Dakotas which produced in 1904 192,000,000 bushels of wheat. In the Southern group, (although grain from this group does not always go toward the Gulf) I have put the states of Missouri, Kansas, Texas, Nebraska and Oklahoma which produced 150,000,000 bushels of the same cereal.

Another grouping of the states based upon the increase and decrease in production since 1898 shows the following results:
Those states on the decrease are Ohio, Indiana, Wisconsin, Iowa, California and Oregon. Those in which production is fairly steady are Illinois, Kansas, Pennsylvania, Minnesota, Idaho and the Dakotas. Those states showing an increase are Missouri, Nebraska, Oklahoma, Texas and Washington. Now when we compare distances from primary markets to the seaboard we may be able to say that the area of wheat production is shifting so as to be favorable to the Gulf ports. For example, Kansas City is 884 miles from Galveston, 1000 miles (approximately) to New Orleans, and 1376 miles to New York. Omaha is 1134 miles from New Orleans and 1440 miles to New York. Thus when we consider that the Gulf lines in 1904 successfully competed in Missouri River territory for both flour and grain, and at times even extended their control of flour traffic as far north as Minneapolis, we realize that the wheat area of the United States is no longer dependent upon the Eastern trunk lines to transport its product.

Changes in Corn Production.

Since the year 1898 up to the present time it is impossible to find many states whose production of corn is not increasing. However those states which show the greatest increase in the production of this cereal are located favorable to the Gulf ports. Based upon the amount of corn produced in 1904 we find that eight states, namely, Texas, Illinois, Iowa, Nebraska, Kansas, Missouri, Arkansas and Indian Territory produced 1531 million bushels out of a total of 2467 millions or about 62 percent. Eliminating Iowa and Illinois, which together produced
647 million bushels, we have the above remaining states producing about 900 million bushels of corn which at least are favorably situated for shipment via the Gulf ports. That the Southern cities are entitled to a share of the export traffic seems to be a fair conclusion to draw from the foregoing statements. The states showing no loss or increase in the production of corn since 1898 are, New York, Pennsylvania, Arkansas, Ohio, Indiana, Missouri, Kansas, Michigan, Virginia, Mississippi and Louisiana. The states which show an increase, Georgia, Texas, Tennessee, Kentucky, Illinois, Iowa, Nebraska, Oklahoma and Indian Territory. The most notable increase is to be noted in the states of Iowa, Illinois, Texas, and Indian Territory. Thus the Gulf ports again seem to have the advantage arising out of the shifting area in corn production.

- Distances from the Seaboard.

We will now endeavor to make a comparison of distances of primary markets to the seaboard in order to find if any natural advantages favoring either seaboard may exist. Distance from Chicago to New York is 912 miles; to Philadelphia, 822 miles; to Baltimore, 802 miles and to New Orleans, 923 miles. Thus the eastern cities are all nearer than New Orleans and we can expect to see no grain shipped south from Chicago because of any advantage in distance. Distance from St. Louis to New York is 1119 miles; to Galveston, 872 miles; to Philadelphia, 1028 miles and to New Orleans, 720 miles. Thus from St. Louis the Southern cities have a slight advantage as regards distances.
From Kansas City to New York is 1376 miles; to Philadelphia, 1300 miles; to Galveston, 884 miles; to Port Arthur, 786 miles and to New Orleans, 1000 miles (approximately via St. Louis). Again the Southern ports have a decided advantage over the cities on the Atlantic seaboard as concerns the locality of Kansas City.

Omaha is situated 1440 miles from New York; 1340 miles from Philadelphia; 1134 miles from New Orleans and 1018 miles from Galveston. Thus again we find the primary market Omaha nearer to Gulf than to Atlantic seaboard.

Altogether the four primary markets, Chicago, St. Louis, Kansas City and Omaha are favorably located to the Gulf ports, and with the exception of Chicago we may expect to see grain shipped in that direction from the other three points if cost of service depends to any extent upon distances to the seaboard.

Railway Mileage of United States by Groups.

The next point considered is the increase in railway mileage of the country during the years from 1893 to 1903 inclusive. We find the country divided into ten groups, but we are concerned mostly with groups II, III, V, VIII and IX. Up until very recently there has been trouble in exporting grain via the Gulf ports because of inadequate railroad facilities, but if the increase of mileage in the southern and southwestern states means anything this difficulty should no longer exist.

Group VIII includes the states, Kansas, Oklahoma,
Indian Territory, Arkansas and parts of Missouri and Colorado. Group IV includes Louisiana, almost all of Texas and part of New Mexico, group II New York, New Jersey, Delaware, Maryland and almost all of Pennsylvania. Group III includes Ohio, Indiana, Lower Peninsula of Michigan and a small part of Pennsylvania. Group V takes in the southern states, Kentucky, Tennessee, Mississippi, Alabama, Georgia and Florida. (See Chart No. 7.)

The railway mileage of the southwestern states shows that railroad facilities for transporting grain to the seaboard are becoming more favorable to the Gulf ports. Illinois leads all the states (at the close of the fiscal year June 30, 1903) with a mileage of 11,426 miles while Texas is second with 11,344 miles. Missouri has 7,333 and Kansas has 8,798, Louisiana, 3,429 and Oklahoma and Indian Territory together 4,161 miles. Of the Eastern states Ohio has 9,040, New York 8,242 and Pennsylvania 10,705 miles.

Groups VIII and IX in ten years show an increase in railroad mileage from 32,166 miles in 1893 to 41,891 in 1903. This is an increase of 9,725 miles in the southwestern states or about 30 percent. In groups II and III there is an increase from 42,338 miles in 1893 to 46,309 in 1903, 3,971 miles or 9.3 percent.

By Chart No. 6 we can see the increase by groups showing plainly that the southwestern states, and especially Texas, have had the greatest gain in railway mileage during the period noted. Thus we can expect that the southern roads will hereafter be in a position to take care of all traffic that may come into their hands, which means that they will make strenuous efforts to divert export business from the congested eastern trunk.
Freight Rates.

Grain exporters are complaining that Gulf ports are enjoying the advantage of discriminating freight rates on the railroads. In a letter from Mr. E. B. Boyd, Manager of the Transportation Department of the Chicago Board of Trade, this point is illustrated with reference to the diversion of corn southward during the winter of 1904-5. In part he says, "The primary cause of the diversion of an abnormal tonnage of export corn to the Gulf this season (1904-5) was the action of the Gulf lines in contracting a large amount on low inland rates or proportions, the exact inland earnings being concealed by the publication of through tariffs to foreign ports of destination without announcing the division of such rates. Though a great deal of business so contracted was for smaller European ports not served by regular steamship lines and was carried by 'tramps', it was at once apparent to the interests adversely affected that the inland rates from Missouri River (the storm center) to the Gulf had been reduced far below the established differential accorded Gulf ports under Atlantic seaboard. This fact being substantiated constituted just grounds for the Atlantic seaboard routes making corresponding reductions, resulting in reduction of from 24 to 13 cents per hundred weight, Omaha, Nebraska to New York, and from 18 to 11 1/2 cents per hundred weight, Omaha to New Orleans and Galveston. This, in effect, wiped out the differential basis entirely, as the differential in favor of the Gulf for several years had been 4 1/2 cents per hundred weight, (higher to Baltimore than to New Orleans). The rate to New York
is 1 1/2 cents per hundred weight higher than to Baltimore from Missouri River." Mr Boyd goes on to say that there is one tangible base on which to base calculations as to what an equitable differential New Orleans under Baltimore should be, and that is the actual average difference in ocean rates paid from Gulf over Atlantic ports.

The relative basis of freight rates from Omaha to Liverpool via New Orleans and Omaha to Liverpool via Atlantic seaboard, New York, before the rate war sprung up was as follows:

<table>
<thead>
<tr>
<th>Route</th>
<th>Per 100 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Via New York</strong></td>
<td></td>
</tr>
<tr>
<td>Omaha to Mississippi</td>
<td>8 cents</td>
</tr>
<tr>
<td>Mississippi to New York</td>
<td>17 1/2 &quot;</td>
</tr>
<tr>
<td>New York f.o.b. charge</td>
<td>1 1/2 &quot;</td>
</tr>
<tr>
<td>Ocean Rate New York to Liverpool</td>
<td>6 1/4 &quot;</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>33 1/4 cents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Route</th>
<th>Per 100 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Via New Orleans</strong></td>
<td></td>
</tr>
<tr>
<td>Omaha to Mississippi</td>
<td>8 cents</td>
</tr>
<tr>
<td>Mississippi to New Orleans</td>
<td>10 &quot;</td>
</tr>
<tr>
<td>F. O. B. Charge</td>
<td>nominal</td>
</tr>
<tr>
<td>Ocean Rate New Orleans to Liverpool</td>
<td>11 1/4 &quot;</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>29 1/2 cents</td>
</tr>
</tbody>
</table>

Thus we see that New York has a better ocean rate by 5 cents than New Orleans and unless the Southern roads can overcome this differential, the eastern trunk lines will always have a decided advantage.

A letter from St. Louis correspondent to the New York
Journal of Commerce, January 16, 1905, writing of freight rates says that, "At present rates from Omaha to New Orleans is 16 cents per hundred pounds on corn, from Mississippi River points, 10 cents per hundred, out of this rate the parties to whom the railroads have turned over the elevators at New Orleans are allowed a terminal charge of 1 1/2 to 2 cents per hundred, that is for the operation of the elevators. It cost them less than 1/2 cent per hundred to operate these houses where there is a fair business, so that these people have practically a cut rate of 1 to 1 1/2 cents out of the rate mentioned." As against this the rate to New York was 17 1/2 cents; to Philadelphia 16 1/2 and to Baltimore 16 cents. The eastern lines may claim that there is no profit at these rates, but if the Illinois Central can continue to pay dividends of 6 percent and earn a surplus on their low rates, as the distances from St. Louis to New Orleans is about the same as to the Atlantic seaboard, their roadbed is in no better shape, and their northbound traffic is not so valuable as the westbound business over the eastern roads, there must be something wrong with the operation of the eastern roads.

The Missouri Pacific's Policy of Midnight Tariffs.

Of late it seems to be the policy of the Missouri Pacific to use a discriminating freight rate in order to get an increased share of the traffic. This is known in railroad circles as the policy of "midnight tariffs." That is a secret agreement would be made with large exporting firms to carry from one to one and one-half million bushels at about 5 cents cheaper than the regular rate. Railroads are required to file new schedules
of rates when they make changes and to adhere to them after they are filed. The "midnight tariff" schedule is a means of conforming to the letter of this rule but not to its spirit. A railroad system like the Missouri Pacific for instance, enters into an agreement with a combination of grain shippers for a low rate from Kansas City and Omaha to New Orleans or Galveston, provided the shipments reach a certain volume. Upon this assurance, these intending shippers buy up the available corn over a wide area, being able to pay a better price for it than those who have to calculate upon the existing railroad rate. When the combination has swept the market and drawn a sufficient volume into their control at various points to meet their agreement, the "midnight schedule" is duly filed and is open to all alike, but few there are to avail of it.

To show the trouble caused by such an action and its results I have taken the following account from the New York Journal of Commerce of January 19, 1905. "The Missouri Pacific filed a tariff with the Interstate Commerce Commission to cover 1,750,000 bushels of corn from Omaha to Kansas City at 13 cents. The Chicago, Burlington and Quincy, Illinois Central and Rock Island also put in the same rate and from Kansas City to New Orleans at 12 cents. In all these roads have contracted to carry 4,000,000 bushels, and with the 1,000,000 bushels previously taken by the Missouri Pacific makes 5,000,000 bushels to be shipped from Chicago territory."

That New Orleans received the bulk of grain shipped south during the past winter there is no doubt. The Steamship Companies at New York and other Atlantic seaboard cities were
disappointed at the eastern lines not taking up the fight with the Western and Southwestern lines. The Eastern people appealed to the Interstate Commerce Commission claiming that a discrimination in rates was made by the Southern roads, and cited the Illinois Central and Missouri Pacific. For my part I cannot see how there is anything that can be called unlawful discrimination in separate systems of railroads, which run in entirely different directions to destinations far apart, charging their own rates for transportation, determined by their traffic conditions. Railroads running south to New Orleans and Galveston cannot be said to discriminate against Atlantic ports because they secure traffic by making low rates, and those running from the same region to Atlantic ports cannot be said to discriminate in favor of the Gulf because they do not make rates low enough to secure the same traffic. Each has to be judged by its own circumstances and conditions as to reasonableness of its rates, and it has not been the policy of the law or of the commission to require any railroad to increase its rates or not to reduce them.

Although the course of the Southern roads is condemned as being in favor of the large shippers at Omaha and Kansas City, and corresponding concerns which receive the grain at New Orleans for export, this tendency must be produced by conditions of traffic. As has been shown our area for surplus production of grain for export has been receding West and Southwest until it may be that the route to sea and oversea by way of the Gulf is cheaper for most of the grain than by the way of the Atlantic Coast. If so, it will tend more and more to go that way. This export grain
traffic is also a more important factor with the roads going South than with those running East, which have a larger and higher developed area of domestic traffic to serve. The latter may find it impracticable to hold their old proportion of the grain business with rates that would be unremunerative while their lines are burdened with a more profitable kind. They may be expected to make all reasonable efforts and some sacrifice to maintain the interests of seaports upon whose general trade they largely depend, but they can hardly be compelled to do this to their own loss, so long as their own charges are reasonable for the service performed. They will not for long do at a loss what other lines can do at a profit, for the sake of keeping export traffic upon its old course after conditions affecting it have changed.

Our exports of grain in bulk seem destined to diminish, at least relatively, and to reach their foreign destination along the line of least resistance which are those of lowest cost of transportation by land and sea. So far as this carries them to the Gulf instead of the Atlantic seaboard it cannot be helped by railroads and Chambers of Commerce, but the Eastern roads and Atlantic ports will have to engage more largely in traffic in other commodities for both domestic and foreign trade. It will be to their advantage to have wheat converted more largely into flour, and corn into provisions for export, and to have manufacturing industries figure more in production for foreign markets. So far as the course of transportation is determined by the normal influence of circumstances and conditions it is not practicable to change it by artificial means.
It must be remembered that the Southern and Southwestern lines have many advantages over the Eastern trunk lines which tend to divert traffic by the way of the Gulf ports. In the first place most of the Southern and Southwestern lines have direct connections with export points on the Gulf Coast, while the Eastern lines must work in connection with the Western lines. During the rate war of the past winter, the ratemaking power on Western grain for export was passed over to the Western lines by the trunk lines eastward. The Eastern railways had only to accept the rates made by their Western connections, and haul the freight turned over to them.

Another point is that the Southern lines are not so liable to congestion as the Eastern roads. Roads leading to the Atlantic seaboard have always been overburdened with traffic and naturally shippers looked for other routes over which to ship their products. Thus we find the Southern lines increasing their traffic, and when the Eastern lines awoke to the situation, they were unable to regain what they had formerly regarded as only of minor importance. That is, they were careless in allowing the grain to be shipped southward, and made no strenuous efforts to take care of traffic eastward, thus permitting shippers to experience the advantages of exporting grain via the Gulf.

This process of drawing export trade from the Atlantic seaboard to the Gulf ports has been going on for some years, and the Eastern trunk lines have been helping it on. There have been combinations among railroads concerning rates and differentials. Elevator combinations in the East and their extortionate charges have helped it. Everything that has obstructed and hindered
commerce has helped it, and heavy pier rentals and charges for storing and transferring cargoes at the Atlantic seaboard ports have helped it. To recover the trade all railroads, canals, shippers and elevator interests must work together.

One advantage which the Southern lines enjoy is that it is much cheaper to haul freight in a warmer climate than in a cold one. The bulk of the corn crop is moved during the winter months and thus the Southern roads can make good use of this factor.

Now comes in the question of grades. Another advantage which the Gulf ports possess is the fact that the Appalachian Mountain ranges stretching between the Mississippi Valley and the Atlantic do not affect roads bringing grain into New Orleans and Galveston from the Mississippi Valley. There is an easy grade between Iowa, Kansas, Missouri and Illinois and other grain producing states to the Gulf of Mexico, and it stands to reason that the carrying of grain southward costs the Southern railroads less than it would to Baltimore, Philadelphia or to any other of the Eastern ports. The physical conditions of the whole situation are on the side of the Gulf ports.

The fixed charges of lines running to the Gulf must necessarily be less than those of the Eastern trunk lines if capitalization per mile of line counts for anything.

For example let us compare capitalization:

**Eastern Lines**

Baltimore and Ohio Railroad, $145,000
Pennsylvania System, 350,000
New York Central & Hudson River Railroad, 400,000
Erie Railroad, $177,000
Grand Trunk, 75,000

Southern Lines.
Southern Railroad, $61,000
Illinois Central Railroad, 120,000
Missouri Pacific, 38,000
Missouri, Kansas and Texas Railroad, 59,000
Santa Fe, 60,000
Frisco System, 40,000.

Thus we can see that the Eastern lines are capitalized at much higher figures than the Southern roads, and it seems to indicate that the latter can carry traffic at a lower rate than the former if it is simply a question of paying interest on investment.

A letter from Mr. S. E. Young, Secretary of the Board of Trade at Galveston, states, "That unless the railways leading to the Atlantic ports will haul grain for rates ruinous as a business proposition and much lower than the roads to the Gulf can afford to on account of differences in distance, the Atlantic ports cannot expect any export grain from the grain producing states south of the Missouri and west of the Mississippi Rivers."

During the month of January 1905, St. Louis shippers claimed that it was impossible for them to send any grain east under the rates then in force under competition with the Gulf railways. They claimed that up to that time the Gulf railways had been satisfied to receive as their share, the grain grown
in Oklahoma, portions of Kansas, portions of southern Illinois, and southern Missouri and at times a moderate amount from Nebraska. The freight conditions existing at that time caused corn from Kansas, Nebraska, Missouri and Iowa south of a line from Des Moines to Omaha, also a large portion of Illinois, to move to the Gulf, at freight advantages of from 3 to 8 cents a hundred weight cheaper to foreign ports than by the way of St. Louis or Chicago to Atlantic seaboard.

Besides these advantages the Missouri Pacific had put in their "midnight tariffs" on special lots of grain from Omaha to foreign ports.

To show differences then existing between Gulf roads and Atlantic seaboard roads the following rates are given:

I. C. rate from Centralia to New Orleans, 671 miles, was 9 cents per hundred weight. Out of this 9 cents it paid elevators at the terminal 2 cents, leaving it a net of 7 cents.

St. Louis to New Orleans charge was 10 cents, terminal charge 2 cents taken out, leaving a net of 8 cents. From St. Louis to Baltimore or Newport News roads charged 16 1/2 cents, and 17 1/2 cents to New York, and did not make any allowance at the seaboard for elevator charges. The disparity in rates via Chicago is as great.

Omaha to Belfast.

<table>
<thead>
<tr>
<th>cents per hundred weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.500</td>
</tr>
</tbody>
</table>

By rail, Omaha to Baltimore,

Baltimore F.O.B. charge 3/4¢ per bu. 1.340

Ocean rate, 10.

COST VIA BALTIMORE 33.840.
<table>
<thead>
<tr>
<th>Route</th>
<th>Rail Rates</th>
<th>Ocean Rates</th>
<th>Total Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail, Omaha to New Orleans</td>
<td>18.000</td>
<td>12.500</td>
<td>30.500</td>
</tr>
<tr>
<td>Special &quot;Midnight Tariff&quot;</td>
<td>27.500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ocean Rate,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Louis to Hamburg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail, St. Louis to Baltimore</td>
<td>14.500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baltimore F.O.B. charge</td>
<td>1.340</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ocean Rate,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail, St. Louis to New Orleans</td>
<td>10.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ocean Rate,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost via Baltimore</td>
<td>26.465</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost via New Orleans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost by &quot;Midnight Tariff&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus from Omaha to Belfast it cost 33.84 cents to transport a hundred weight of grain via Baltimore and 30.5 cents to transport the same amount from Omaha to Belfast via New Orleans, an advantage in favor of the latter port of 3.34 cents per hundred weight.

From St. Louis to Hamburg by the two routes the difference was 4.335 cents in favor of New Orleans.

As the through rate is the combined ocean and rail rate, the disabilities, if any, exist in ocean transportation,
and the differential to compensate in ocean disability is made in the rail and not in the ocean rate. The question of ocean rates is therefore of no small importance in this inquiry.

Is there an inherent difference in ocean rates from and to the different ports which justifies an inland differential to equalize the through rate. This cannot mean a difference which is caused solely by the inland freight differential for such difference cannot be caused by and cause the inland difference. Hitherto the inquiry has always been whether a difference in ocean rates exists. The real inquiry should be whether such difference in ocean rates exists independent of the influence of land differentials.

In January 1902, the owners of all the ocean carriers plying between London and Liverpool and the North Atlantic ports made an agreement establishing a minimum rate from these different ports. Then there was an attempt made by the steamship companies running through two years to make equal through rates. This attempt failed because the Johnston Line in Baltimore refused to keep their rates at a level high enough to affect the equalization. This agreement had not lasted two months before the Johnston Line withdrew because they were not permitted certain reductions. Finally agreement broke down altogether and the Leyland Line would not concede the lower ocean rate to Baltimore.

Railroad Rate Wars.

Of the many railroad rate wars that have taken place probably none was of more importance than the one which has just
closed (during winter 1904-5). The export traffic during the period mentioned was confined almost entirely to Indian corn, as the wheat crop was short. The supply of corn comes from the heart of the continent on both sides of the Mississippi River, most largely to the west of it, and the territory is traversed both by railroad lines running east to the Atlantic ports and by those running south to the Gulf of Mexico, chiefly to New Orleans and Galveston.

These ports being very anxious to build up an export trade in order to get increased import trade, used every possible means to assist the railroads then terminating at the Gulf. There is no definite boundary dividing eastern and southern traffic, but during the period in question the Southern and Southwestern roads reached out for all the traffic they could grasp and cut rates to whatever extent necessary to secure grain for export. No attention was paid to actual cost of service. Thus we had a great war between railroads in different territory and running in different directions, with the Missouri Pacific system at the head of the Southern lines. Nevertheless the course of trade cannot be determined by railroad rate wars. If the natural course of the grain is by way of the Gulf ports it will go that way, but the cost must be determined by solid economic consideration and not by arbitrary fixing of rates for inland transportation regardless of actual cost.

The singular fact of the rate cutting war by the Southwestern roads was rates on domestic shipments were rigidly maintained, the reductions applying only to consignments for foreign ports.
New York has always been the greatest grain exporting port in the country, but she seems to have lost her grain trade because of a combination among the Atlantic roads; they charged higher rates than the traffic would stand, and besides New York granted too great a differential in favor of Baltimore and Philadelphia. Thus the Atlantic rates as a whole were kept up.

Besides the traffic on all roads leading to New York was too heavy three or four years ago, being impossible for them to handle it. Nevertheless they seem to have taken the short sighted view of the matter and allowed the course and bulky traffic to go to Philadelphia, Baltimore, Newport News, Canadian and any ports that would accommodate it. New York equipment was confined almost exclusively to the higher classes of traffic which paid the higher rates. In other words, the New York people threw away their regular traffic to take up the transient business, and they expected to come back when needed again. Business first went to Southern Atlantic ports, Philadelphia, Baltimore and Newport News but now the Gulf ports seem to be taking away the trade from these ports. Thus the question arises, Can the Atlantic roads meet the Gulf competition?

In reality the Gulf competition has been going on for many years, but only in the last eighteen months has it become a live issue.

Mr. George E. Marcey of the Armour Grain Company of Chicago in a paper on "Chicag's New Rate Plan" sums up the situation as follows: "We have seen Gulf export traffic grow to the detriment of Atlantic seaboard trade. Up to the present neither the railroads or the grain people have figured out how
this unfair advantage of the Gulf can be overcome. Heretofore lines from Missouri River to Mississippi River could not make rates under 11 cents a hundred weight. The Gulf roads simply cut under this and get the traffic."

Thus the Chicago and Mississippi River roads had to give up and each time the Gulf lines became stronger and stronger. At times the lines from Chicago east would take it upon themselves to start a fight in attempting to protect the suffering Atlantic seaboard against the Gulf. These fights were of short duration as the Eastern roads would soon exhaust all their ammunition, consisting of from 12 to 15 cents per hundred weight, and then give up. Some months ago a new plan was put in force. Joint rate was made from Mississippi River to the Atlantic seaboard, the roads east and west of Chicago and St. Louis to divide the rate according to an agreed percentage. Eastern roads gave Western roads the privilege to name whatever rate they saw fit in order to protect the Atlantic seaboard against the Gulf. A percentage of 60 percent to the Eastern road, and 40 percent to the Western road was agreed upon, and a plan was worked out against which the Gulf roads could not pursue their original tactics. Rates in force at this time were about as follows:

Kansas City to Gulf, inclusive fobbing, 17 cents
Omaha to Gulf, inclusive fobbing, 18 "
Kansas City and Omaha to Baltimore, 22 1/2 "

but did not include fobbing charge at Atlantic seaboard.

"These rates gave the Gulf an advantage over Baltimore of 5 1/2 cents from Kansas City and 4 1/2 cents from Omaha. In
addition to this, the Gulf had an advantage of fobbing being done for the Gulf shipper, with no expense, whereas the Atlantic seaboard exporter paid 1 1/2 to 2 cents per hundred weight for fobbing thus making a real differential of from 6 1/2 to 7 cents per hundred weight. Against these differentials it was absolutely impossible for the Atlantic seaboard to compete.

"While Chicago and Atlantic seaboard were struggling trying to obtain relief against the already impossible conditions the Missouri Pacific put in some "midnight tariffs" from Omaha to foreign ports. These rates on basis of the ocean rates ruling at the time reduced rate between Omaha to the Gulf from 18 cents per hundred weight to about 14 1/2 cents per hundred weight. This reduction caused all corn from Nebraska and Kansas to go south, raised prices of grain at Omaha to such an extent as to cause grain around Des Moines, Iowa, and points 150 miles east of Omaha to go west to that city. This cut on the part of the Missouri Pacific caused the trouble. Roads running from Missouri River to Chicago having no Gulf connections made arrangements with the Eastern trunk lines, C. M. & St. P. and Chicago Great Western with no Gulf connection possible were the leaders. Rock Island soon followed. Officials of Rock Island claimed a differential of 3 1/2 cents in favor of Gulf ports was great enough. Other roads soon put in reduction and today rate (Feb. 4, 1905) east on Chicago-Atlantic lines from Omaha to Baltimore is 11 1/2 cents.

"Rate from Omaha and Gulf is 11 cents. Thus railroads figure 1/2 cent differential as proper. The difference in f.o.b. charge of 2 cents per hundred weight which is paid by Gulf lines
to the operators of elevators at Gulf ports, and the intermediate transfer charge of 1 cent per hundred weight which is said to be paid making a 3 1/2 cent differential. The Western roads are encouraged by Eastern lines and a strong fight is on. Gulf roads are in an undesirable position. The Illinois Central for example; rate 11 cents from Omaha is cut in two parts. The road carrying grain to Centralia receives 5 1/2 cents per hundred weight, leaving the Illinois Central 5 1/2 cents. Out of this Illinois Central pays a terminal charge for unloading their grain of 2 cents per hundred weight leaving 3 1/2 cents. Out of this 3 1/2 cents they must pay a bridge toll of 2 cents, leaving the balance what they get for a haul of nearly 700 miles."

Herbert Bradley, traffic manager of the Miller's National Federation, said, "flour was seeking the Gulf ports because it was delivered on board ship within twenty days. To the Atlantic it frequently took five or six months. Furthermore the Gulf roads make equal rates for the raw and finished product, that is, for wheat and flour. Lake and rail shipments to the East never had that advantage."

Thus as a whole we find that rate wars do not in any way determine the natural advantages of one route over another, and only lead to the diversion of traffic out of its ordinary channels for the time being. Of course new routes and their advantages may be discovered, and thus a benefit would be derived, but rate wars in general spoil the public, judged from a railroad man's standpoint. The people are given the idea that railroads are getting too high rates and if the public think the railways can afford to haul grain from Omaha to the Gulf for 9
cents per hundred weight during rate wars and make money doing it, they are liable to make them do it all the time. In spite of this fact, however, the railroad rate war mentioned shows that the Eastern trunk lines will put forth their strongest efforts to prevent grain going south which formerly went East. To them it is a question of vital importance.

Advantages of Export Points.

The ports of greatest importance to us in this discussion are New York, Baltimore, Philadelphia, New Orleans and Galveston, and as New York controls the bulk of the export traffic on the Atlantic seaboard, and New Orleans is in a similar position on the Gulf, these two cities will be treated with special consideration.

New York. The great supremacy of New York is due to a great extent to its canal. The canal has brought in the past a very considerable portion of the export traffic and it is to this water communication between the East and the West that New York has largely owed its predominance in the foreign trade.

Before going further into the advantages of different ports it will be necessary to say a few words concerning the shipment of grain from export points. Grain is exported in two ways; first, by full cargo; second, by berth rate. The ocean carriage is said to be full cargo when the ship is loaded entirely with one kind of merchandise and carries no other freight. Corn especially is exported in this manner and it seems that vessels for full cargo business can be chartered at practically
the same price to load at any of the Eastern ports, New York, Baltimore and Philadelphia but because of distance from Europe at the Southern cities it costs about two cents per hundred weight than at Atlantic seaboard points.

The great bulk of imports land at New York. If a ship is at New York, having come there with a load of merchandise, it naturally prefers to take its return cargo at that point rather than be at the expense of proceeding to some other port. To proceed to any other port on Atlantic seaboard would mean an increase of about 1 cent per hundred weight in the freight rate. Since more vessels seeking return cargoes are consigned to New York than to the other ports this constitutes a slight advantage in favor of that port.

However, of the Southern ports Galveston is the most favorably located as regards the number of vessels arriving at the different ports.

Regular ocean lines shipping between Atlantic and Gulf ports and Europe on July 1, 1903 were as follows:

<table>
<thead>
<tr>
<th>Lines</th>
<th>Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston,</td>
<td>14</td>
</tr>
<tr>
<td>New York,</td>
<td>38</td>
</tr>
<tr>
<td>Philadelphia,</td>
<td>8</td>
</tr>
<tr>
<td>Baltimore,</td>
<td>9</td>
</tr>
<tr>
<td>New Orleans,</td>
<td>20</td>
</tr>
<tr>
<td>Galveston,</td>
<td>17</td>
</tr>
</tbody>
</table>

Thus we see that in the number of vessels employed in the regular lines, Galveston exceeds New York. However we must
concede that ocean transportation is carried on largely by two kinds of service. Regular lines of freighting, sailing according to a prearranged schedule, and the tramp steamer service. At New York the regular line business is the prevailing feature, and because of the numerous lines concentrating there it is recognized as having a distinct advantage over the other eastern ports. At Baltimore, however, the tramp steamer service is mostly employed. This is known as full cargo business and it is and by this method that Philadelphia, Baltimore, Norfolk, Newport News recoup themselves and counterbalance to a considerable extent the advantages which New York has from her innumerable regular steamship lines. The regular steamship lines often go to ports that the full cargoes do not go. The direct steamships as a rule, take cargo to those specific direct ports at a proportionately lower rate than the tramp steamer will take it there, because the direct line takes a certain amount of grain and must sail on the regular sailing day. Thus the Southern ports, Galveston and New Orleans are blessed with these advantages.

It seems that the grain trade between the United States and Europe is tending toward a regular line traffic, and a powerful factor toward this end is the closer affiliation of railway systems reaching the seaboard with ocean transportation lines. Wherever railroads reach the seaboard they must either furnish their own means of carriage or engage with a regular line of steamships to take their freight. The transient steamer is not certain nor regular enough to serve this purpose, and consequently much of the world's "tramp" tonnage is being chartered for the regular line service.
It is claimed that vessels loading at Southern ports have during the winter months a certain advantage, in that they can load more deeply than if they clear from Philadelphia or a port north (Baltimore not included). It seems that the insurance companies require that the vessel shall not load below a certain line, which is fixed by the Board of Trade of England. This line is the same for all ports during the summer months, but during the winter months vessels are permitted to load deeper when they clear from Southern ports, than when they clear from Philadelphia or ports north of it. The value of this privilege of course depends upon the size of the vessel, although to the ordinary tramp steamer which engages in this full cargo business, the difference is from $200.00 to $600.00 a cargo.

Merchandise is said to be carried at berth rate when it does not constitute the entire freight cargo of the vessel, but only a portion of it. As regular lines of steamships ply between all the ports in question and European grain markets, their cargoes are made up of different classes of goods, taking different rates. In each case, however, grain is regarded as one of the lowest classes of freight, and bears a correspondingly low freight rate.

As Galveston, New Orleans and New York have a great many more lines than any of the other cities, it means that these three ports offer much better facilities in the way of ocean transportation than do any of the other ports. As between New York and the Southern cities advantages in this direction are about equally divided, which means that grain will be attracted southward through New Orleans and Galveston with about the same
force as through New York. It seems that the latter port must be depended upon to compete with the Gulf ports if the Atlantic seaboard wishes to retain its large share of the export grain trade. The fact that the Eastern trunk line systems give Baltimore, Philadelphia and Newport News rates which discriminate against the port of New York shows that the latter port has far greater facilities and advantages as a port for foreign trade.

The Southern ports have various advantages due to weather conditions, location as regards production, good harbors, plenty of storage, but they are situated farther from points of consumption than the cities of the Atlantic seaboard. It may be, and no doubt is, cheaper to deliver grain in New Orleans and Galveston, as there is no ignoring the economies of a downhill pull. But, the downhill pull is practically away from and not in the direction of the final points of delivery, which are the Northern European Markets.

The Southern ports have the advantage of being nearer Kansas City, Omaha and St. Louis, and New Orleans may always expect to derive certain advantages from the Missouri and the Mississippi Rivers, but Chicago is nearer to Baltimore and Philadelphia than to either New Orleans or Galveston, and besides there are the Great Lakes favoring the Atlantic seaboard. These vast internal seas have more than a thousand miles of coast line, bordering the richest wheat area on the North American continent.

As regards terminal charges at the ports of Boston, New York, Philadelphia, New Orleans and Galveston we find no period of free storage at Boston; ten days of free storage at New York; and twenty days of free storage at Philadelphia, New
Orleans and Galveston. After the period of free storage there
is a charge of one-fourth of a cent per bushel for each ten days
at the port of Boston, New York and Philadelphia, and one-eighth
of a cent per bushel at New Orleans and Galveston. This shows a
slight advantage in favor of the latter ports. At New York the
charges for elevating, delivery, transfer and weighing, together
with insurance and
amount to seven-eighths of a cent per bushel on grain received from railroad-barges into ocean
vessels, while grain received by rail for export is delivered
alongside vessels free of literage or elevation charges. At
Philadelphia these charges amount to three-fourths of a cent per
bushel, while at New Orleans and Galveston there are no elevator
charges. The charge for insurance at all the ports is practically
the same, 2.5 percent per annum.

To sum up, while the advantages of the various ports
named mean much as to the direction of our export grain traffic,
the cities must have the proper inland rates to get the traffic.
The ocean traffic is now carried in much larger vessels than ex­
isted ten years ago and they must have a foundation cargo of
grain or export traffic in such boats will soon cease. Such a
result would mean a less import traffic, and this is one of the
main reasons why the Eastern cities are striving so hard to re­
tain their large share of the export grain trade. Commerce fol­
lows the line of least resistance and if shipments can be made
to the Gulf at a lower rate than through New York they will go
that way. Steamers finding business at the Gulf will come back
for more, and bring imports as mere incidents, which means the
gradual diversion of both the import and export trade from the Eastern to the Southern ports.

The important point left for discussion is, What will become of the export grain trade in the future? It is an obvious fact that relatively to our whole production and trade and to entire demand of foreign markets, our surplus for grain is diminishing. The domestic consumption increases faster than the area of production, which tends to recede toward the Northwest and the Southwest, making the natural outlets to the sea in the direction of Canada routes and the Gulf. Canada's capacity for supplying the European demand seems to be increasing while ours is tending in the opposite direction. This shrinkage is also toward the Southern lines of communication, while our trade with the far East will go out through the Pacific Coast. As our manufacturing industries continue to develop in the East, it looks as though the grain on the nearer areas of the West might be absorbed for domestic consumption, and might so occupy the railroads for distribution to home markets, that there will be no surplus to export, which can be more economically carried to the sea in other directions. It is quite apparent, however, that the grains for export in the future are likely to flow out, not through a few but through many coast points.

There is another tendency that appears to be working against the bulky traffic in grain being shipped over the Eastern lines. Western wheat seems likely to be more and more converted into flour near the sources of production before it is distributed to either domestic or foreign markets. The employment of capital and labor in the milling industry and the reduction of
the product in bulk makes a general advantage. Especially for exports it is desirable to send this grain abroad as completed product rather than as raw material. The same applies perhaps in a less degree to corn and oats, which are raw materials for live animals and provisions. It is better for the industry and trade of the country to feed these grains to cattle and hogs and export the meat, lard, and dairy products, than to send them abroad in bulk for foreigners to use.

While we are then likely to use up more of our food products and raw materials for our own increasing population and growing industries, Europe is becoming less dependent upon us. The supplies from Canada, Argentina and Australia are expanding and our relative prominence as a grain producing country is subsiding while the competition for the remnant of this particular export trade will press it to the line of least resistance which are those of lowest cost of transportation. All things taken into consideration the Southern ports are likely to be favored with a growing share of the traffic, and the future prosperity of the Eastern seaports must be more largely in the surplus manufactured articles and better access to foreign markets for these. The character of our foreign trade is changing and it will demand a different policy to maintain and increase its volume and value.
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FROM ST LOUIS TO EUROPE SINCE 1890.

VIA RAIL TO SEABOARD
VIA RIVER TO NEW ORLEANS
DIAGRAM SHOWING COURSE OF TOTAL VALUES OF
EXPORTS
IN MILLIONS OF DOLLARS
AT
BALTIMORE, PHILADELPHIA, GALVESTON AND NEW ORLEANS.
CHART 6

DIAGRAM SHOWING THE INCREASE
IN RAILROAD MILEAGE SINCE 1883
BY GROUPS.

GROUPS I, II, AND III
GROUPS VIII AND IX
GROUP VIII
GROUP V
GROUP IV
GROUP III
GROUP II
GROUP XI

THOUSANDS
OF MILES

1883 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50

GROUPS I, II, AND III
GROUPS VIII AND IX
GROUP VIII
GROUP V
GROUP IV
GROUP III
GROUP II
GROUP XI

H.R. 1903
TERRITORIAL GROUPS OF THE UNITED STATES
ADOPTED BY THE
INTERSTATE COMMERCE COMMISSION
DIVISION OF STATISTICS
FOR THE
COMPILATION OF RAILWAY STATISTICS