ECONOMIC SURVEY OF WILMINGTON, NORTH CAROLINA

VOLUME VI, No. 14 JUNE 1, 1927

UNIVERSITY EXTENSION DIVISION

UNIVERSITY OF NORTH CAROLINA EXTENSION BULLETIN

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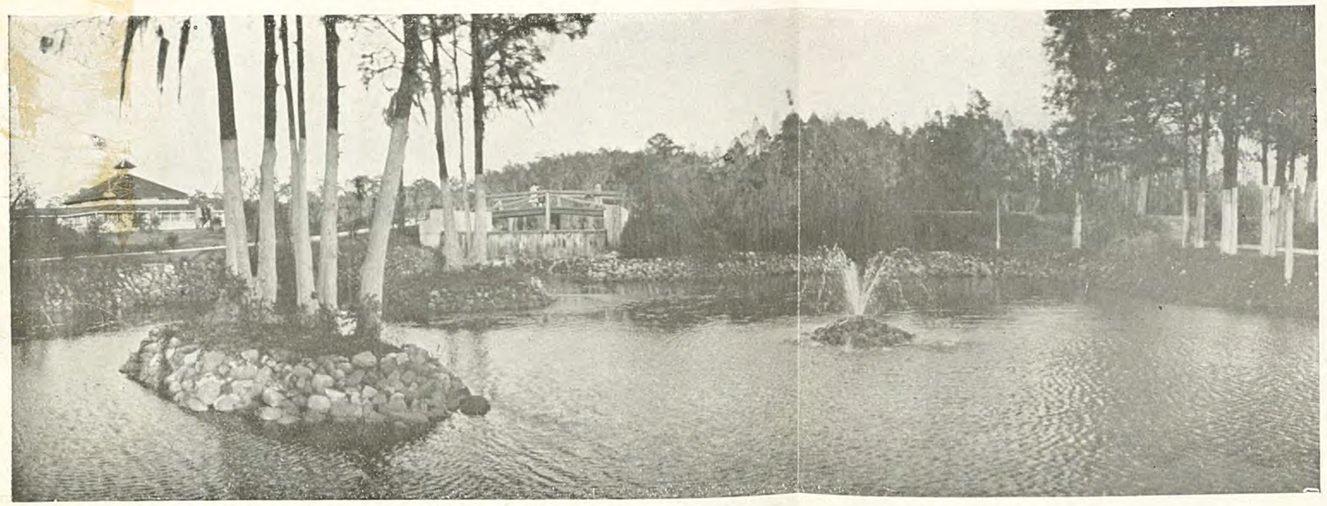

Probably no more beautiful Municipal Park is to be found in the South than Greenfield Lake and Recreational Center at Wilmington, North Carolina. Typical scenes in this delightful haven.

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EXTENSION BULLETIN

ECONOMIC SURVEY OF WILMINGTON, NORTH CAROLINA

By

Members of the School of Commerce and the Bureau
of Municipal Research, at the request of the
City Government of Wilmington

THE UNIVERSITY OF NORTH CAROLINA PRESS
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PREFACE

A bare statement of the principles and requirements of economic and social research mentioned in the following discussions renders clearly apparent the unavoidable limitations of a regional survey based on anything less than extended and detailed investigation of all factors involved. This tentative study of the economic conditions of Wilmington and its surrounding territory has had to be done by the investigators on trips from Chapel Hill made in such spare time as they could find while carrying full work as members of the University staff. It is only fair to them to say that funds were available only for travel and maintenance expenses and publication and that their work was done, therefore, entirely without monetary compensation for their time and efforts. Nevertheless, they feel amply repaid by the cordial reception and coöperation they have received and by the opportunity to visit and study an interesting community. Obviously, they can make no claim to having effected an exhaustive survey of the economic situation of Wilmington and its environs, but they have striven to secure an adequate understanding of the general economic and social conditions and to collect and study as much as possible, with the limitations of time and distance, of the detailed economic data. Hearty thanks are hereby extended to Mayor Blair and Commissioners Thompson and Wade for their courteous welcome; to Mr. Louis T. Moore, Secretary of the Wilmington Chamber of Commerce, for his constant, untiring and effective assistance; and to other citizens of Wilmington and its surrounding country for the friendly spirit in which they have received their inquisitive visitors.

INTRODUCTION

By Edward J. Woodhouse
Professor of Government and Chief of Bureau of Municipal Research,
Formerly Mayor of Northampton, Mass.

THE NATURE, KINDS, OBJECTIVES, REQUIREMENTS, CRITERIA AND TECHNIQUE OF CITY SURVEYS

There are as many different kinds of surveys of a city or of any other community as there are different characteristics or phases of the community life in which various people might be interested. It happens that the survey method has been most used in modern times by those interested in social service and public welfare, but the technique thereby developed has been extended to other fields as the rapidly increasing interest in all parts of human social life has created a demand for investigating methods. The most interesting study of man continues to be man, and the recent extensive and intensive developments in the study of history, political science, economics, sociology and the other social sciences have made a real beginning in the understanding of the most important factor in human life, namely, the relations that connect human beings in their many and varied social groupings. Slowly, gropingly, painfully, a few men and women are learning a little about themselves and their kind and about the complex social system in which they live; and, in that learning process, are trying to share with their fellow-men what little definite knowledge they think they have acquired of human social relationships. Any community survey is a study—brief, general, and preliminary, or more extended and detailed, according to the circumstances—of the human social relationship in the area and social group or groups under consideration. An economic survey is devoted to consideration of people in their activities concerned with making a living or with the acquiring of the primary necessities of food, clothing, and shelter and of things that can be exchanged therefor. An exhaustive survey of any group would involve somewhat detailed knowledge of the relationships and conditions of life of every man, woman, and child in the group. Few, if any, such surveys have ever yet been made. Probably no one has made a card catalogue

of all the inhabitants of a city or of any group of similar size with information on all their economic and other social relationships and conditions.

In view of the very general misconceptions, even among students and teachers of the social sciences, of the nature and extent of surveys, it seems worth while to pause at the beginning of this report and to glance at the recent developments in surveys of various kinds. William I (the Conqueror) of England set a very early and a most remarkable example of economic surveys in his astonishingly detailed tax list or list of feudal duties known as the Doomsday Book. Of course, there have been tax lists, more or less detailed, from that day to the present, but probably few have equalled and none have surpassed the achievement of this medieval Anglo-Norman ruler in listing the economic conditions of all free men in a community as large as his kingdom. The making of more inclusive and more analytical social surveys seems to have awaited the development of the science of society or sociology in the very recent years of modern history.

Professor Steiner has said, as to the beginning of the survey movement, "It is by no means easy to locate with any precision the exact origin of the social survey. Very probably the emphasis during the latter part of the nineteenth century upon the application of the scientific method to humanitarian work, which found its first outstanding expression in family case work, led also to the use of the diagnostic method in dealing with communities." (Jesse F. Steiner, *Community Organization,* 188.)

Charles Booth's great investigation of social conditions in London, begun in 1886, was one of the first pieces of research on a whole city, but it was preceded by considerable periodical literature on crime, poverty, disease, and other community problems. Doubtless the work of Romilly and the other English reformers in the early part of the nineteenth century had prepared the ground for this interest in the delinquents, dependents, and defectives and the social significance of their existence and conditions. In 1889, Rowntree made a much more extensive personal investigation of poverty and its consequences in the manufacturing city of York, but the conditions observed by the Salvation Army workers and described in William Booth's *Darkest England and the Way Out,*

published in 1890, attracted much more attention. In the United States, the publication of *How the Other Half Lives* by Jacob A. Riis, himself a naturalized Dutch-American, gave wide publicity to the conditions in the slums of New York. But all of these studies and publications were much more impressionistic and subjective than statistical and objective. *(Ibid.)*

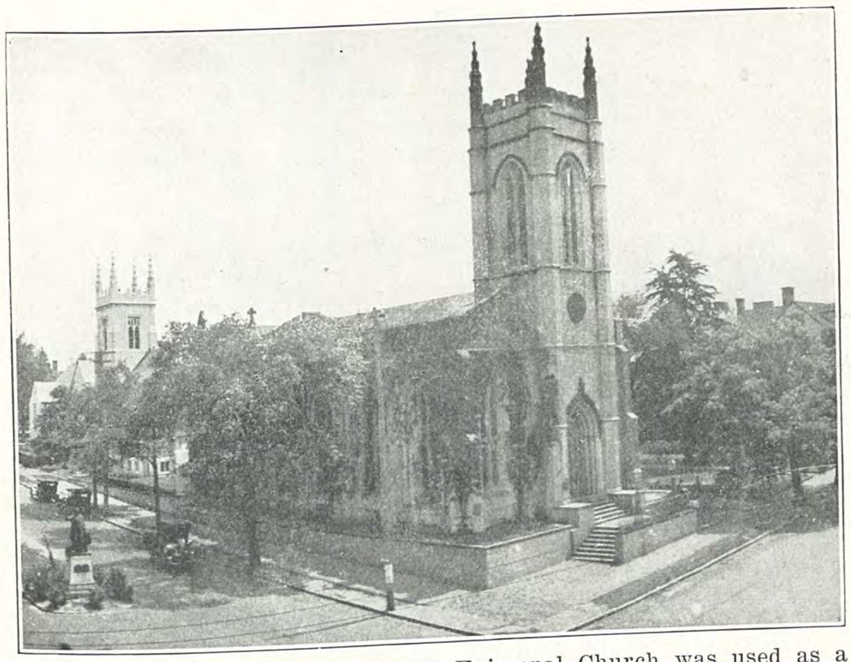
The so-called "muck-raking" exposures of the last part of the nineteenth century and the early part of the twentieth century, while partly sensational journalism, were based in many cases on honest investigation and just judgments of deplorable conditions and did great service in arousing public sentiment in favor of reform. They were largely directed toward political corruption, but the political conditions set forth had wide economic and social relations and consequences. Ida M. Tarbell's *History of the Standard Oil Company,* Lincoln Steffens' *The Shame of the Cities,* both published in *McClure's Magazine* in 1903 and later in book form; Steffens' *Struggle for Self-Government* (1906), John Wanamaker's *Speeches on Quayism and Boss Domination in Philadelphia Politics* (1898), Judge B. B. Lindsey's *The Beast* (1910), and others written since, have greatly stimulated the study of political, economic and social conditions in urban communities.

Comparing these writings with those of another group, Professor Steiner has said, "The danger of libel, if nothing else, made it necessary for the publishers of such articles to make sufficient investigation to be sure of their facts. Their emphasis, however, was upon the discovery and presentation of matters that would attract popular attention rather than upon the writing of an objective account of the subjects under discussion. Of a far different nature were the descriptions and discussions of social conditions by such people as Jane Addams, Josiah Strong, Washington Gladden, and Charles R. Henderson, whose books made their appeal to the intellect rather than to the emotions and pointed the way to a more constructive approach to a study of social problems. Writings of this kind revealed the necessity of a more comprehensive as well as accurate knowledge of social data as a first step in formulating new policies and programs." *(Ibid.,* 189.)

One magazine, *The Charities and Commons,* in 1905 had a study made of Washington, D. C., and published the results in a special

issue of about one hundred pages. Next they made the more ambitious Pittsburgh Survey in 1907-1908, publishing it in abbreviated form in the journal and later in four large volumes. This was the first real survey and is a landmark in the survey movement. *The Survey* succeeded *The Charities and Commons* by a rechristening in 1909 and continued the social studies of cities by an investigation and report of Birmingham, Alabama, in 1912. The Russell Sage Foundation established in 1912 a Department of Surveys and Exhibits, and this Department, under the direction of Mr. Shelby M. Harrison, made in 1914 what has been regarded as a model survey of Springfield, Illinois.

The American Association for Organizing Family Social Work and the National Child Labor Committee adopted the survey method as regular parts of their programs, and the Interchurch World Movement and other church organizations have shown their realization of the possibilities of surveys for their purposes by having many local church surveys. The Cleveland Foundation, established in 1914, has conducted surveys of education, recreation, relief and administration of criminal justice in Cleveland, which are probably the most thorough ever made in those fields for any city. Professor Steiner writes of the Cleveland surveys: "In all these studies the Cleveland Foundation adhered to its original policy of turning over to other agencies the responsibility for putting into effect the recommendations embodied in the survey reports. The outstanding contributions of the Foundation to the methodology of surveys consists most, perhaps, in its careful attention to publicity designed to win the hearty coöperation of the public. In striking contrast to some of the earlier surveys which relied upon sensational disclosures as a means of attracting public attention, the Cleveland surveys sought in every way possible to inform the people of the methods of investigation, and the purposes in view. Employed specialists carried out the surveys, but the staff of the Foundation assumed responsibility for the publicity campaign which was continued long after the outside specialists had completed their part of the task. Through the consistent use of this policy over a period of years the Cleveland surveys stand out prominently as an important means of securing community action." (*Ibid.*, 193-4.)



Venerable and historic St. James Episcopal Church was used as a stable by Lord Cornwallis during the American Revolution. The church was used as a hospital for wounded Federal soldiers at the end of the Civil War. There hangs on the walls of this church a painting of the head of Christ which was taken from a pirate ship when the Town of Brunswick was attacked in 1731.

Since the early promotors of surveys were social workers and practical men and women with the intention of improving social conditions, the arousing of community public opinion to the point of securing action along the lines of the report came to be regarded as a necessary part of a successful survey. Quite naturally the survey movement developed a technique of community study which was adopted by the later-appearing community organization movement. Mr. Steiner goes so far as to say: "The survey from one point of view may be regarded as an experiment in community organization in which the emphasis is upon diagnosis. In theory, at least, it has insisted that plans for community action should develop out of a comprehensive knowledge of the whole situation . . . . . The survey, by attempting to collect and present in an orderly manner the essential facts about a community, built up public confidence and consequently increased the number of those interested in bringing about community improvement. It soon came to be recognized, therefore, that this method of approach to community organization was not merely scientific, but had the added advantage of attracting public attention to the reforms that needed to be instituted." (*Ibid.*, 194-5.) Both the actual gathering of facts, especially if many local people are used, and the disclosures made as a result of the investigation help create a state of mind in the community favorable to united action. The greater the number of local individuals actually taking part in the investigations, the greater the number of local groups and interests enlisted behind the survey and its resulting recommendations, and the greater the preparation for a permanent local organization to carry out those proposals.

Superficial surveys for propaganda purposes, intended to prove that the community under investigation needs the one program under consideration in connection with this so-called survey and often assuming that community ills can be treated with standardized remedies that have proven useful in other communities with similar conditions, have much discredited the more comprehensive, more thorough and more scientific surveys and the survey method. Those organizations using the survey primarily for financial profit to themselves generally have not added to the public esteem for surveys in general and for non-profit survey and social welfare organizations.

As Mr. Steiner points out, a survey in the nature of a mere cross-section of the community or of any specific social conditions or characteristics is only a partial diagnosis and should be supplemented by a case history of the community as to the phases of its life under investigation. This means the historical study of the development of the aspects of the individual community rather than mere classification by such characteristics as size, location, prevailing industries, outstanding interests, types of population. "When the general situation has been studied and the fundamental problems discovered, there still remains the task of looking beneath the surface for the more subtle forces that have determined the course and the nature of the development of the community. The natural history of the community, the number and quality of its leaders, the attitudes, sentiments, and beliefs of the people, the undercurrents of factional strife, the unity gained through cooperative efforts—these and similar factors must be studied and evaluated, for they lie at the basis of community action. If the survey is to be used as a means of securing community action, it is important that it should strike deep into the mainsprings of community life. The popular tendency to utilize a more superficial analysis as a means of launching a program is a dangerous use of the survey movement, and will make it increasingly difficult to convince the public of the value of social investigation." (*Ibid.*, 200.)

Just as the purposes in surveys extended from "muck-racking" and destructive criticism to program-making, so more recently social science departments in universities have begun to use community studies as research projects for their value in the field of scientific social investigation. The Institute for Social Research of the University of Chicago is fostering studies in the social characteristics of a large city such as The Slum as an Area of Disintegration and Reorganization, The National History of Vice Areas, The Hotel as an Index of Change in City Life, The Ecology of the City in Relation to Politics, A Study of Isolated Religious Sects, A Study of Boys' Gangs, A Study of Public Opinion in the Field of Race Relations, and A Statistical Study of Social Attitudes. (*Ibid.*, 201.) The Institute for Research in Social Science of the University of North Carolina has undertaken a number of special

or separate studies of the characteristics of small city, town, and county communities; has already made surveys of economic, governmental, and welfare conditions, distribution and other features of crime; and plans to direct more complete surveys of all important conditions of cities, towns, and counties of North Carolina. Other universities are carrying on research surveys of rural and urban conditions. While the primary purpose of such studies is research, nevertheless they are accumulating the information needed for programs of community improvement.

Mr. Shelby M. Harrison, Director of the Department of Surveys and Exhibits of the Russell Sage Foundation, has compared the social or community survey to the aggregate influence of certain higher type newspapers as producing investigation and publicity for the purpose of community betterment. He quoted with approval these paragraphs from the *New York Evening Post* on the death of the Editor of the *Kansas City Star:*

> The civic advance made by Kansas City in the last thirty years has been brought to general attention by the death of William R. Nelson, but it is worth holding up to other municipalities in any connection. In 1880, we learn from the Missouri press, Kansas City lay among the hills and hollows of the Missouri River, "content with its strategic importance, its mud, its filth, and its packing houses." The little group of public-spirited men whom Col. Nelson represented accomplished what they did by holding an unmerciful mirror before the town. They described the defects of the streets, the untidiness of the business and residence sections, the wretched service of the street-car system, the excessiveness of the gas and water charges, the need for parks and boulevards. The Union Station swarming with vermin, and the unsightly thickets of telephone and telegraph wires that ran above the ground were especial objects of attack.
>
> This candor had its effect in making aesthetic progress a consistent part of commercial and physical growth. Kansas City has today a chain of public parks that would be creditable to a city four times its size, its boulevards are models in construction and design, and it has utilized to the full the scenic possibilities of its location upon the bluffs. And the Union Station is among the four best architectural works of the kind in America. (Harrison, *Community Action through Surveys*, p. 3.)

Mr. Harrison made his comparison as follows:

> Colonel Nelson's type of newspaper represents a social force illustrative of, and akin to, the social or community survey. Both are con-

cerned with the practical every-day issues of community life; both inquire into them, analyze what they find, formulate proposed courses of action, and seek wide currency for their data and proposals. In other words, both this type of newspaper and the survey gather facts, digest and interpret them, and seek to reach the whole public with their information, conclusions, and recommendations.

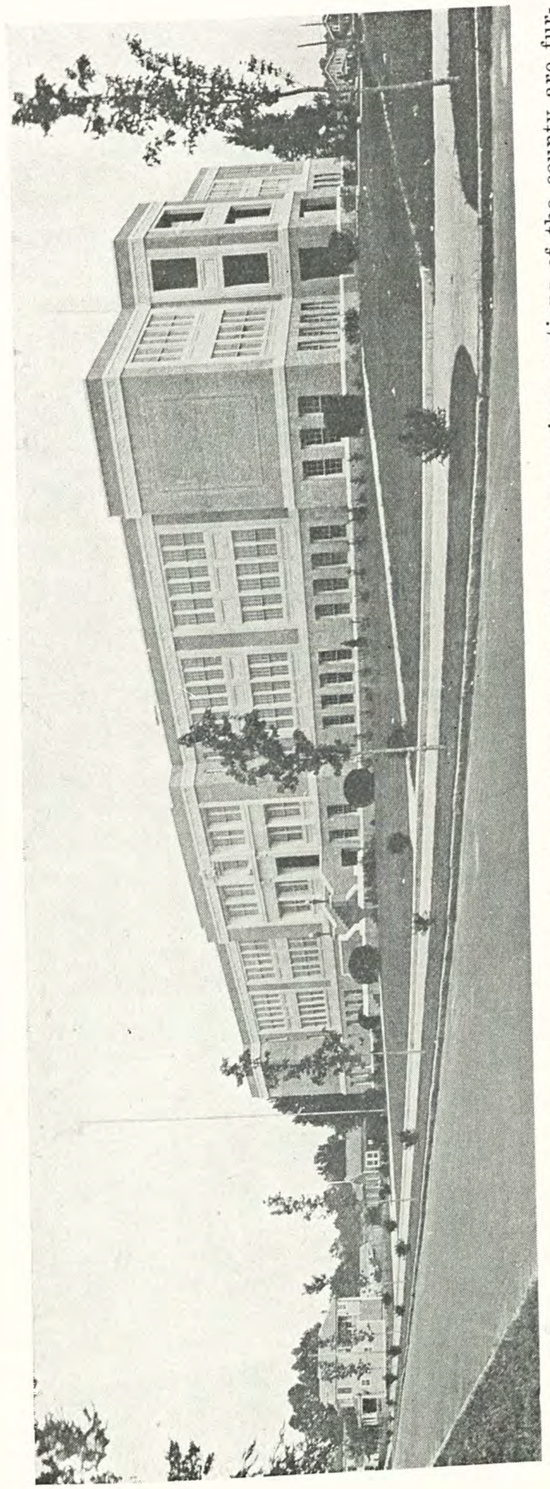
At the same time, there are differences between the two—some of them at the very points of similarity—which are also illustrative and suggestive. The survey, for example, collects its data through the agency of the investigator who, in addition to having a "nose for news" and an eye for facts, as the reporter has, is a specialist on social and community problems, trained in the handling of material on these subjects. He knows better than the reporter what data to look for, better how to collect and collate them.

An essential characteristic of the survey, moreover, is the careful and thorough study and evaluation of the many important elements of a situation before reaching a conclusion, whereas the newspaper often finds it necessary, partly because of the exigencies of daily publication, to handle questions piecemeal and in haste. Further, the reporter, when his story is ready, has but one avenue to the ear of the public, his newspaper columns; while the surveyor, besides having the same newspaper columns open to him, may use many other means of spreading his information—among them the summarizing leaflet, the public address, the graphic exhibit, the educational play, the magazine and periodical press, and finally the full report in pamphlet or book.

But whatever their relative advantages, the comparison helps to describe the survey idea and to resolve it into some of its more important parts. Among these, as already suggested, are the investigation, the analysis and interpretation of facts gathered, the formulating of constructive recommendations, and the educational use of the facts and proposals with a view to providing a solid basis for intelligent community action. Let us look further at these. (*Ibid.*, 3-4.)

Mr. Harrison took as his text what he called "the golden text of our political Holy Writ," that is, Lincoln's appeal in his Gettysburg Address, "that we here highly resolve that the nation shall, under God, have *a new birth of freedom;* and that the government of the people by the people and for the people, shall not perish from the earth." He pointed out the necessity for frequent reconsecrations to democratic purposes, in fact, he thinks such rededication essential in each generation, calls the survey a part of the process of "peaceful civic renewal" and of careful, safe, and sure community adaptation to new human needs.

The general elements of a survey are:



New Hanover County High School, located in the City of Wilmington. Pupils from various sections of the county are furnished free transportation.

(1) Investigation, the gathering of facts on community problems as civil engineers get their special data before beginning any construction project, as public health experts gather theirs before undertaking a health campaign, as physicians observe the symptoms and get the case history before even diagnosing a case, as lawyers study the evidence before advising a client or planning a lawsuit or their parts in legal actions; this is an attempt to substitute tested information for unverified belief, conjecture, or *a priori* theory. Facts form the foundation of all scientific work in any field.

(2) Analysis and interpretation of these facts in order to draw from them the basic principles and general truths. This stage corresponds to the physician's diagnosis.

(3) Recommendations for improvement of existing conditions, or at least statement of what choice of change might be made and of how each might be effected. This is the prescription toward which the diagnosis looks. It corresponds to the engineer's or the architect's plan of construction, to the sanitarian's plan of campaign or the lawyer's proposed course to protect his client's rights or to secure redress. Often public opinion will force those responsible for unwholesome conditions to improve them, and, in such cases, merely the publicity after investigation may be sufficient. In some cases, local attitudes may be such that recommendations would do more harm than good. But generally those who have gathered the facts and analyzed them are best able, after full consultation with all who know the community and who are interested in advance, to suggest lines of change for the better. Ultimately, of course, the measures suggested will not, and should not, be undertaken unless the majority in the community favor them after full publicity.

(4) Presentation of the survey findings, conclusions, and recommendations, or publicity. Mr. Harrison has said (*Op. cit.,* 8) "First and last the survey is an educational measure, spreading its information in the untechnical phrases of the street. It is a means to better democracy by informing the community upon community matters, and thereby providing a basis for intelligent public opinion. It is a school whose teaching is not confined to children and youth, but which aims to get its facts and message,

expressed in the simple terms of household experience, before the whole people. It utilizes as many channels of education as possible."

(5) The promotion of community coöperation, immediately in making and using the survey and ultimately for future action. The general survey is peculiarly adapted to such a purpose since it attempts to explore the whole complexity and all the wide ramifications of the social characteristics and problems of the community. It is a grouping, a coördination, an integration of intensive studies in the many individual fields or problems such as the Education, the Recreation, the Criminal Administration, the Finances, the whole Municipal Administration, the Economic Resources and Conditions, the Administration of Public Welfare, the Milk Supply, the Vital Statistics, the Public Health of a City. The special survey is very valuable, but it deals with only one phase while a general survey deals, or should deal, as far as possible and practicable, with all phases of the city's life.

(6) There should be instituted by, or immediately after, the survey machinery for stimulating the carrying out of the recommendations, for regularly and systematically bringing the information in the survey up to date, and for using this new information as the survey information was used. That is, periodical investigations and reforms are like yearly, monthly or weekly housecleanings. They should be made unnecessary by enough daily housecleaning. Homes are the smallest communities and communities are merely homes of larger sizes, more numerous members, and of greater problems.

Another legitimate purpose of city surveys that might very well be added to those already listed from the writers chiefly interested in community service and public welfare is one that will appeal to Chambers of Commerce, Kiwanis, Rotary and other service clubs, and all others concerned with the business prosperity of a community. Though they are approaching public welfare from a different angle, they are just as much interested in the general well-being of the community as are those dealing more directly with social service or the care of the delinquent, defective, and dependent. The findings of economic and of similar or more inclusive surveys of other phases of the social life of their community may

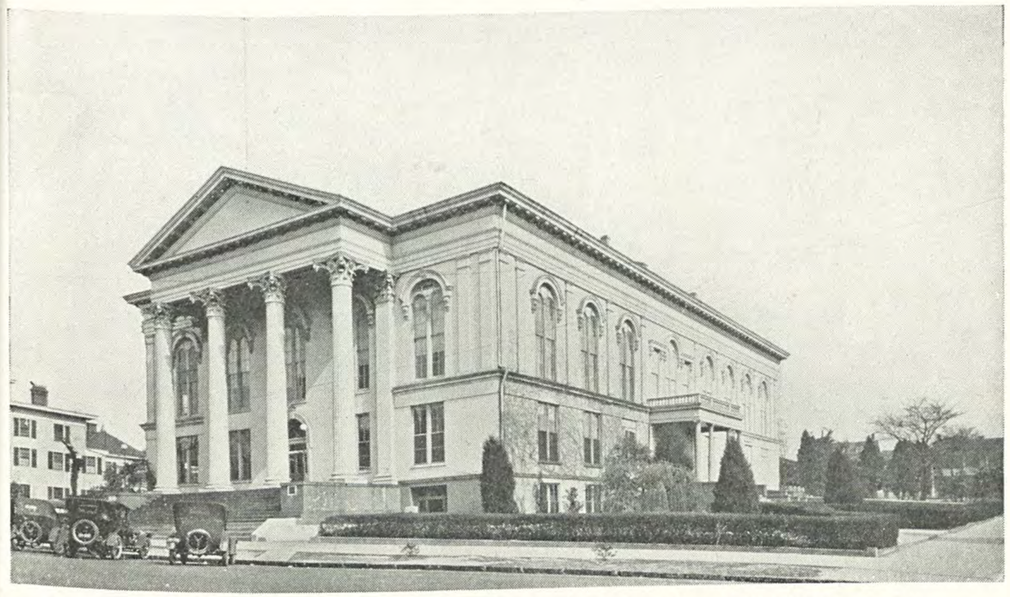
very well be used, not merely for the information and guidance of the citizens in improving and strengthening that social life, but also for the acquainting of those from the outside who are inquiring or interested, with the characteristics of the region surveyed. Regional surveys form one step in the development of a science of human social life, and the possible variety of such investigations is as great as the variety in equally general studies in the natural sciences. We have already exploited the discoveries of physics, chemistry, biology, geology, mineralogy and the other so-called natural sciences in developing our physical environment. Now we are beginning to try to apply what the social sciences teach us to the adaptation of ourselves and our human environment to each other. The highest possible human life involves the utmost possible adaptation among human beings living together, as well as their adaptation of their physical environment to themselves and of themselves to it. And so, an economic regional survey means a study of the human social relationships of the region in relation to what we call the wealth of the region, that is, to the natural resources other than human.

Ideally, the city survey should include all information that could have any considerable use in the social diagnosis undertaken. It should enable the city to see itself and others to see it as it really is, and to understand its strengths and its weaknesses. Understanding and tolerance, knowledge and intelligent action, unity and coöperation, may well be adopted as a general formulation of the aims of a regional survey. They should be the watchwords of all our study of the complex and supremely important subject of human relations. Bound together, as are all members of the human race, all over the world, by the multifarious and innumerable ties of family, religion, education, business, government, and all other social relations, mankind has never had greater or more numerous problems than those which arise in cities. Naturally and inevitably, the more closely together a certain number of people live, the oftener their lives touch each other; and likewise, the greater the number so living, the much greater the number of contacts. And so, as the populations of cities and towns increase, the numbers of social relations increase in geometrical progression,

and the regulation of those relationships gives rise to problems greater in their aggregate than any others faced by man.

The difficulties of settling these problems are tremendously increased by the fact that, as the cities and the problems grow in number and size, the growing numbers of people make it increasingly difficult for individuals and groups to understand each other. Shops, factories, hotels, apartment houses, churches, social clubs, political party organizations, and all other groups become less and less personal and more and more machine-like as they grow in size. Thus large cities are doing more and more to break down that importance and inviolability, that almost sacredness, of the individual slowly and painfully built up by Judaism, Christianity and other influences in our civilization. Truly, human life has risen to its highest and fallen to its lowest in cities. The city is the greatest hope and the greatest danger of the modern world. One person counts for so little in a great city that human health, happiness, and life become accounted cheap, and are recklessly wasted.

Professor Odum has called the city "a complex of opportunities and obligations" and has said in this connection, "Social relationships and the obligation of government and social service are most clearly defined in the modern city which represents at once the most advanced and most complex form of civilization the world over. Because of the concentration of population; of the predominance of secondary occupations and the massing of industry; of the interdependence of the population with its ever-increasing relationships; and of the other various outgrowths of city life, the social responsibility has increased a hundredfold. From these conditions have arisen new and larger problems of administration; of health, safety, convenience and education; together with the manifold problems of general social welfare. From these, again have arisen increased opportunities for expert service and increased demands for business, government and organization."



Wilmington has a stately and handsome municipal building in its City Hall. The columns are said to be representative of the best type of such work to be found in the south.

CHAPTER I

INDUSTRY IN WILMINGTON

By Thomas W. Holland
Assistant Professor of Economics, Formerly Labor Manager of Hart, Schaffner & Marx

I. SUMMARY OF INDUSTRY IN WILMINGTON

The following brief survey of industry in Wilmington is by no means complete. Attention has been confined to the principal industrial enterprises and consequently allowance must be made for the omission of smaller concerns.

The industries in Wilmington fall into three groups: the distribution of raw materials and finished products, public utilities, and manufacturing.

Because of Wilmington's location as a seaport it is natural that a considerable amount of importing and exporting of raw materials and finished products should be carried on. In fact, measured in terms of value of product, the receiving and shipping of goods through the port is the principal industry of Wilmington. Five companies are engaged in this industry. Three companies distribute petroleum products to the interior, one company exports cotton, and one company imports and distributes molasses. These companies in 1926 handled materials valued at $26,000,000. The distribution of petroleum products led with $16,500,000 of this total, cotton exported was valued at $8,000,000, and molasses distributed was valued at more than $1,000,000.

The public utilities, excluding the railroads, did a business in 1926 valued at approximately $2,000,000.

The 35 leading manufacturing concerns produced goods valued at $16,500,000 in 1926, and had an investment in plant and equipment of $10,000,000.

One industry, the manufacture of fertilizer, produced almost $12,000,000 worth of fertilizer, practically three-fourths of the total value of all goods produced in 1926 by the 35 concerns.

Excluding railroads, the 46 businesses covered by this survey in 1926 produced or distributed goods having a total value of approximately $45,000,000.

Fifty-seven per cent of this total is represented by goods distributed and 36 per cent by goods manufactured.

From the standpoint of value of products handled or produced the distribution of petroleum products, the exportation of cotton, and the manufacture of fertilizers are the leading industries in Wilmington.

TABLE I

SUMMARY OF THE VALUE OF PLANT AND ANNUAL VALUE OF PRODUCTION OF THE PRINCIPAL INDUSTRIES IN WILMINGTON IN 1926

Industry	Number of plants	Value of plants	Annual value of product
Fertilizer Plants	13	$ 4,000,000	$ 11,850,000
Cotton Mills	2	1,400,000	1,125,000
Shirt Factory	1	----------	250,000
Lumber	9	230,000 (for 3 plants)	630,000 (for 3 plants)
Menhaden Industry	5	2,525,000	900,000
Navel Stores	1	50,000	200,000
Corn Milling	1	100,000	200,000
Cement Products	1	200,000	250,000
Iron Works	2	900,000	600,000
Oil Distributing	3	600,000	16,700,000
Molasses Distributing	1	----------	1,115,250
Cotton Exporting	1	----------	8,163,000
Marine Contracting	1	----------	----------
Power, Light and Electric Transportation	1	6,000,000	1,115,000
Railroads	2	----------	----------
Water Works	1	----------	----------
Telephone	1	----------	235,153

II. SUMMARY OF LABOR IN WILMINGTON

The 1920 census of the United States gives a total of 15,311 persons ten years of age and over gainfully employed in Wilmington.

The number of workers in each principal occupation is shown below in the table which is an adaptation of the census report.

TABLE II

SHOWING THE NUMBER OF PERSONS 10 YEARS OF AGE AND OVER ENGAGED IN THE PRINCIPAL OCCUPATIONS IN WILMINGTON IN 1920

Occupation	Number Engaged	
	Male	Female
Total population 10 years of age and over	12,820	13,705
Total of persons 10 years of age and over engaged in all occupations	10,861	4,450
Total engaged in manufacturing and mechanical industries	5,331	491
Brick and Stone Masons	58	----------
Carpenters	533	----------
Electricians	71	----------
Engineers (Stationary)	97	----------
Firemen (except locomotive and fire department)	101	----------
Foremen and Overseers (manufacturing)	133	2
Labor	1,938	61
Machinists	250	----------
Painters	138	----------
Plumbers	127	----------
Semi-skilled	1,099	272
Transportation	1,481	70
Trade	1,601	207
Public Service	246	----------
Professional Service	413	366
Domestic and Personal Service	588	2,725
Clerical Occupations	1,112	582

Allowing for the economic readjustment since the 1920 census it is estimated that Wilmington at present has 9,000 persons either employed in industrial and similar labor, or available for such work. This number does not include the labor supply in the surrounding territory which consists largely of Negro tenant farmers.

There is a large supply of these colored laborers upon which Wilmington business men draw when in need of extra labor. The fertilizer plants secure much of their labor from this source. Such an elastic labor supply is particularly desirable for seasonal industry because the tenant farmer does not depend solely upon the industry for his support. When the working season is over in Wilmington he returns to his farm.

Compilation of the figures secured by this survey shows that normally the principal industries of Wilmington give employment

to about 7,500 persons. This figure includes the workers in the fertilizer factories, many of whom come from the territory surrounding Wilmington.

Fertilizer manufacturing, the railroads, cotton mills, the light and power company, and cotton compressing and exporting draw most heavily upon the industrial labor supply.

Employment in the fertilizer industry, the naval stores industry, and cotton compressing is highly seasonal, and at times the marine contracting firm makes a large demand for extra workers. Despite the irregular nature of these employments no trouble is ordinarily experienced by the companies in securing an adequate supply of labor. During the fertilizer manufacturing season wages for common labor in the city go up .05 an hour due to the scarcity of workers at that time. Wages for common labor during the remainder of the year vary from .25 to .30 an hour.

Wages for skilled labor vary according to the nature of the work.

Plumbers receive .87½ an hour, carpenters .82½ an hour, and brick masons $1.00 an hour.

Computation of the figures given in the 1925-1926 report of the Bureau of Labor and Printing relating to wages paid in Wilmington gives an average high wage for men of $6.50 per day and an average low wage of $2.15 per day. The average high wage reported for women is $3.00 per day and the average low wage $1.75 per day.

The ordinary working week in Wilmington is 55 hours. Ten hours a day for five and one-half days is the rule.

A large majority of the common labor is colored. Stevedoring, cotton compressing, the menhaden industry, and the fertilizer factories employ Negroes almost exclusively. The cotton mill workers are white, as with some exceptions are the skilled workers in the various crafts.

Approximately 1,000 women, both white and colored, are available for industrial work. Many women whose husbands are engaged in various occupations in Wilmington are available for textile manufacturing and other work of a similar nature.

The number of Negro men in the city engaged in or available for industrial work is approximately 5,500, and the number of white men approximately 2,500.

Port Series Number 9 of the U. S. Government published in 1925 on the Port of Wilmington reports that

> There is sufficient Negro labor at this port for handling all cargoes coming into the harbor. This labor is not controlled by unions. The customary number of hours worked daily aboard ship and on shore is 10, extending from 7 a.m. to 12 m. and from 1 p.m. to 6 p.m.
>
> The present labor wage scale is .40 per hour for handling general cargo, nitrates, potash materials, phosphate rock, and similar fertilizer materials. Winch men, hatch foremen and the better class of labor receive .50 per hour. These rates are subject to an increase of from .05 to .10 per hour during the fertilizer shipping season.

TABLE III

SUMMARY OF THE NUMBER OF WORKERS EMPLOYED, HOURS WORKED, AND WAGES PAID LABOR IN THE PRINCIPAL INDUSTRIES OF WILMINGTON IN 1925.

Industry	Number employed	Hours worked weekly	Wages paid labor
Fertilizer	4,000	55	$0.30 per hour
Cotton Mills	472	55	Average $3.47 per day, men 2.68 per day, women
Shirt Factory	150	50	$6.00 to $30.00 weekly
Lumber	350	55	$0.25 to $0.32 per hour
Menhaden Industry			
Naval Stores	7	55	
Corn Milling	12	60	
Cement Products	65	55	$0.25 per hour
Iron Works	75	48	$0.35 to $0.40 per hour
Oil Distributing	40	55	$25.00 per week
Molasses Distributing			
Cotton Exporting			
Marine Contracting	50	55	$0.40 to $0.50 per hour
Electric Light and Power	300	55	Average $4.21, men 3.25, women
Railroads	1,700		

THE STATE AND FEDERAL EMPLOYMENT SERVICE

The federal, state, and local governments coöperate in maintaining an employment office in the Customs Building. This office is open to all persons seeking employment and the service rendered is without charge. Applicants for work register at the office

and employers in any part of the state seeking help make their wants known to the director. Qualified applicants are given directions how to reach the vacant job.

From the beginning of the office in 1921 to May 19, 1927, the office had received 42,888 applications for work and had placed 39,464 persons.

From January 1, 1925, to November 1, 1926, 11,360 unskilled men workers, 1,468 skilled men workers, 290 men in clerical and professional lines, and 1,196 women in domestic occupations were reported placed by the Wilmington office.

ORGANIZED LABOR

During the war Wilmington was strongly organized with a total of about 6,000 trade unionists. After the war with the closing of the Government Shipyards, union membership was reduced.

The various unions having members in Wilmington at present are united in a central organization, and a weekly newspaper is published in the interest of labor.

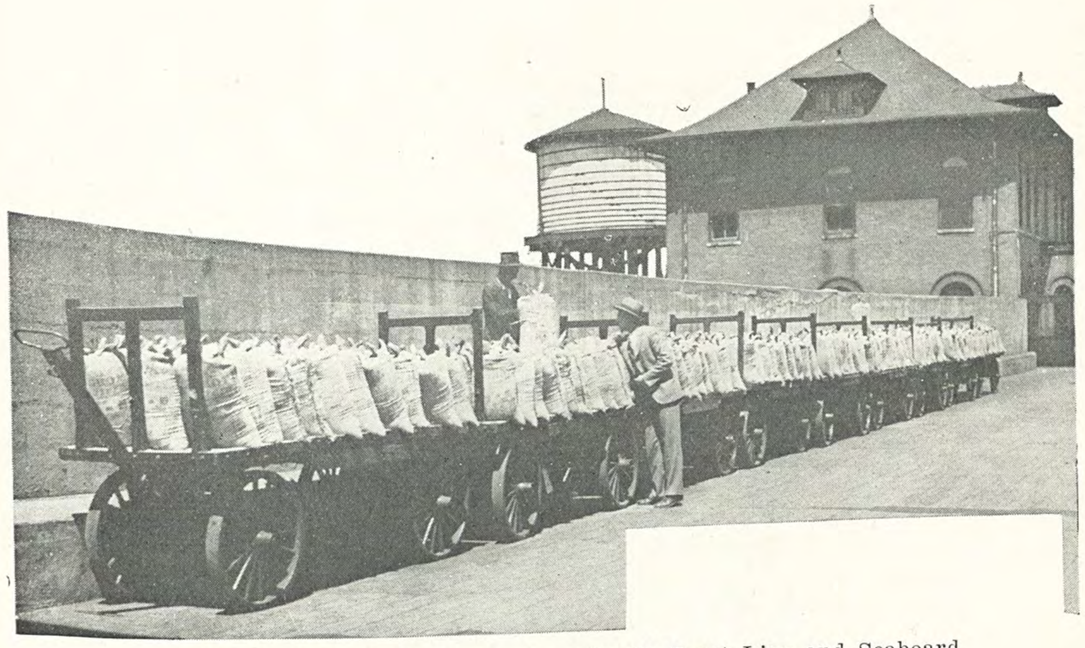
The following workers are organized to a greater or less degree.

1. Boiler makers.
2. Carpenters.
3. Railroad brotherhoods.
4. Railroad shopmen.
5. Street car employees.
6. Printers.
7. Pressmen.
8. Post office clerks.
9. Machinists.
10. Moving picture operators.
11. Merchant tailors.
12. Musicians.

III. PRINCIPAL INDUSTRIES IN WILMINGTON

FERTILIZER MANUFACTURING

This is the principal industry in Wilmington. It was begun here over 60 years ago by local people who bought Navassa Island in South America, and shipped the fertilizer secured there to Wilmington for distribution in North Carolina.



Besides freight shipments via the Atlantic Coast Line and Seaboard Air Line of approximately $20,000,000 of fertilizer annually, the facilities of the American Railway Express Company are used, as will be noted from the above substantial shipment.

At present there are thirteen companies manufacturing fertilizers in Wilmington. These companies vary widely in capacity. The largest has a normal production of 60,000 tons a year, and the smallest 15,000 tons. The total investment of the 13 companies in plant and equipment amounts to $4,000,000.

The factories are located along the Cape Fear River on the outskirts of the city. Boats bringing in fertilizer and fertilizer materials unload directly at the pier of the company to which the cargo is consigned.

Fertilizer and fertilizer materials are both imported and secured in the United States. Nitrates are imported from Chile and potash from Germany and France. Sulphur comes by water from Texas and phosphate rock from Florida by rail. The only raw fertilizer material produced in the vicinity of Wilmington is fish scrap which comes from the menhaden factories down the Cape Fear River.

All but a small percentage of the materials are brought to Wilmington by water, and an appreciable part of the commerce of the port is contributed by this traffic.

In 1926 of the total imports of the port, amounting to 191,458 tons valued at $9,450,343, fertilizers and fertilizer materials were 181,458 tons valued at $8,290,448. Of the total 1926 coastwise receipts, amounting to 451,283 tons valued at $33,245,775, fertilizers and fertilizer materials were 117,627 tons valued at $2,737,561.

A considerable proportion of the fertilizer material brought into Wilmington, about 40 per cent, is not manufactured but is shipped directly into the interior. Five of the 13 factories are completely equipped, including facilities for manufacturing their own sulphuric acid.

The industry is highly seasonal. Production lasts only three and a half months, beginning in January and ending by May. During the remainder of the year the plants close down or operate on a small scale. The preparation of sulphuric acid continues throughout the year.

The amount of fertilizer produced varies from year to year depending on agricultural conditions. In 1927 a total of 350,000 tons was produced by the 13 companies. The value of this product is estimated at $11,850,000.

As a result of the present adverse agricultural situation not over 87 per cent of the total plant capacity was utilized during the 1927 season.

Practically the entire output is shipped from Wilmington by rail. It is distributed throughout North and South Carolina. Forty per cent of the fertilizers used in North Carolina are manufactured in Wilmington.

In the height of the producing season 4,000 laborers are normally employed by the 13 companies. Three-quarters of this force are laid off when the season is over.

With the exception of the foremen, only colored laborers are employed. The labor supply is drawn from Wilmington and from the farms in the surrounding counties. Many of the workers are tenant farmers who return to farming when the fertilizer manufacturing season is over. The companies maintain bunk houses at their factories.

Fifty-five hours constitute a week's work. The colored labor is paid .30 an hour. The total weekly payroll of the factories averages over $50,000 a week during the producing season.

COTTON MILLS

There are two cotton mills located in Wilmington. One began manufacturing in 1874, the other in 1899. The smaller mill has 7,616 spindles and 348 looms, the larger 24,032 spindles and 900 looms.

A total of $1,400,000 is invested in the plant and equipment of both factories, and the total capitalization is $350,000. Both are locally owned.

The larger factory is located on the edge of Wilmington, and the smaller one is not far from the business center.

Cotton is purchased from local dealers or is brought in by rail from states farther south.

A total of approximately 1,400,000 pounds is used annually. Ginghams, handkerchief cloth, and shirtings are produced.

The combined value of the annual production is $1,125,000. The goods are sold through an agent in New York, and are shipped from Wilmington by rail and water.

Normally work is carried on throughout the year.

Two hundred and fifty-six men, 195 women, and 21 children, a total of 472 persons, are employed. Over 1,600 people are dependent on the cotton mills in Wilmington. All but three of the workers are white.

Both mills own villages in which the mill population is quartered. Houses are rented to employees at the rate of $.25 per room per week.

The average wages paid by the two mills computed from the 1925-1926 report of the Department of Labor and Printing are for men $3.47 per day and for women $2.68.

Fifty-five hours a week are worked. At present there is no overtime or night work although the mills are working at capacity.

Beyond furnishing houses one mill does no welfare work. The other mill, in addition to maintaining the mill village, sells groceries and other supplies to its workers at wholesale prices.

SHIRT FACTORY

In 1922 a shirt factory moved from Baltimore to Wilmington. This company has a paid-in capital of $50,000 owned by the family of the manufacturer.

The factory is located near the center of town adjacent to the railroad terminals.

Cloth for manufacturing purposes is secured principally in Greenville, S. C. Some of it is bought locally and some comes from New York. The cloth is brought to Wilmington entirely by rail.

Men's and boys' dress shirts are produced. Normal production is one thousand dozen shirts a week, the annual value of which is $250,000. The factory is now working at the limit of its productive capacity. Shirts are shipped from Wilmington entirely by rail. They are sold throughout the south.

Eight men and 142 women are employed. Thirty-two of this number are colored women. The labor supply is local and there is an abundant reserve. Turnover is low and a waiting list is maintained. The workers are trained in the factory as they are unskilled at shirt making when hired. During the learning period

$1.00 a day is paid. After the workers acquire some facility on the machines they earn from $6.00 to $30.00 a week.

Ten hours a day, 50 hours a week are worked. The factory does not operate on Saturday.

There is no shirt makers' union in Wilmington and wages are one-third below the union scale paid for the same work in the north.

LUMBER

At present there are ten concerns engaged in the lumber industry in Wilmington, including both shipping and manufacturing companies.

Three of the largest of these companies have an aggregate investment of $230,000 in plant and equipment.

Lumber is secured from the small mills within a radius of fifty miles of Wilmington. It is brought in to the factories by rail, truck, and water. The market is local and statewide. Both wholesale and retail business are done. The three companies annually have a production valued at $630,000.

One hundred and seventy workers are employed by the three companies, mostly Negroes. Common labor is paid from $.25 to $.32 an hour. Foremen are paid from $30.00 to $40.00 a week.

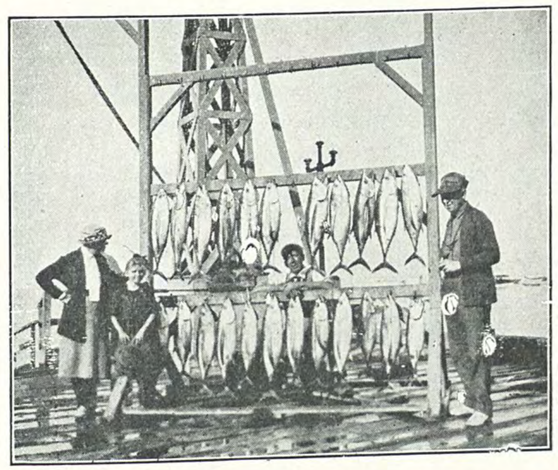
Fifty-five hours a week are worked. The labor supply comes from Wilmington and there is at present a large reserve to draw from.

THE MENHADEN INDUSTRY

On the Cape Fear river between Southport and Wilmington are 5 companies engaged in the menhaden industry.

The menhaden fish are caught off the North Carolina coast and are brought into the factories where they are cooked and squeezed to give the products of the industry oil and fish scrap. There are $1,225,000 invested in the factories and $1,300,000 in boats. In all 26 boats operate in this industry. The factories are owned by outside interests some of whom have other factories along the Atlantic coast.

Sixteen thousand tons of fish scrap are produced annually with a value of approximately $400,000. One hundred and fifteen cars of oil are annually produced with a value of $500,000. The fish



Fishing is good around Wilmington, as one may well believe from the pictures shown above.

scrap is shipped up the Cape Fear River by boat to Wilmington where it is forwarded to market by rail, or is used locally by the manufacturers of fertilizer. Six thousand tons are used annually as a fertilizer raw material by Wilmington concerns.

The oil is loaded on cars and is shipped directly north by rail.

The fishermen are colored and come from Wilmington and the neighboring country. The workers in the factories are colored and live nearby. The work is highly seasonal, starting in June and ending in the fall. During the season irregular hours are worked in the factories, depending on the arrival of a catch of fish. The workers are paid on a weekly basis.

NAVAL STORES

The pine forests in the region about Wilmington were the foundation for an extensive naval stores industry in the days before the Civil War. A decline set in during the 90's as the result of the disappearance of the forests, and until recently the industry has been carried on only in a small way. Recently, with the growth of new forests, steps have been taken that will revive the industry in the Wilmington region.

At present one company is engaged in the production of tar, pitch, and turpentine, which constitute the naval stores industry. This concern operates two stills on Eagle's Island in the vicinity of Wilmington. Investment in plant and equipment amounts to $50,000.

The raw material, crude turpentine, is secured from timber owners within a radius of one hundred miles of Wilmington. This turpentine is brought to Eagle's Island by rail, truck, and river steamers and is there distilled. The plant produces annually 25,000 gallons of turpentine, 150,000 gallons of pine tar, and 200,000 pounds of resin, with a total value of $200,000. Three times as much as the present production could be handled by the company.

The market for the product is both foreign and nation wide. Shipments are made by rail and water.

Preparation of the product is carried on from May 1 to September 1. Throughout the year 5 colored and 2 white men

are employed. During the busy season extra help is secured in Wilmington without difficulty. Nine hours a day are worked.

A new development is under way which promises to extend greatly the naval stores industry in Wilmington.

A company has leased 12,000 acres of land twenty miles from Wilmington on which there are 350,000 trees. A small town is to be built and 75 men employed. Two modern stills are to be constructed for distilling the turpentine.

This development is connected with Wilmington by railroad, river, and hard surfaced road. The turpentine, pitch and resin produced will be transported to the city and shipped north.

At present there are 50,000 acres of land within a few miles of Wilmington on which timber stands capable of producing raw turpentine. With the growth of new forests in the next ten or fifteen years 100,000 acres will be available for the naval stores industry.

CORN MILLING

The only mill producing grits in the southeast is located in Wilmington. It was established in 1887. The company is locally owned and has a paid-in capital of $32,000. Plant and eqiupment represent an investment of $100,000.

The mill is located in the center of the city accessible to transportation facilities. Corn is secured from North Carolina farmers and from middle western elevators. It is shipped to the mill by rail under milling-in-transit rates.

The present yearly production of the milling company is 130,000 bushels of grits and other corn products valued at $200,000. The plant has a total producing capacity of one million bushels a year.

Selling is done through brokers who dispose of the product in North and South Carolina, Georgia and Florida.

Shipments are made entirely by rail.

The mill employs twelve men and sixty hours a week are worked.

CEMENT PRODUCTS

A company manufacturing cement products was established in 1912 by Wilmington people. It has a capital of $200,000, 70 per cent of which is owned locally. The company has an investment of $200,000 in the Wilmington plant and in addition has a manufacturing branch located in Chicago.

Concrete culvert pipe, concrete piling, and septic tank systems are the principal products. A total of 25,000 tons is produced annually with a value of $250,000.

Raw materials used are sand and gravel, cement, and steel, all of which are brought in by rail.

Culvert pipe and piling are marketed in Virginia and North Carolina. The septic tanks are sold throughout the eastern part of the United States.

This company employes 65 men. With exception of foremen all are Negro laborers. Ten hours a day are worked. Twenty-five cents an hour is paid for labor. All labor is secured in Wilmington, except during the fertilizer manufacturing season when it is sometimes necessary to import Negroes. Labor turnover is high.

IRON WORKS

Wilmington has two iron works doing marine repairing and general manufacturing and repairing.

The total investment in the two plants amounts to $900,000 and the annual value of the work done is $600,000.

Both plants are locally owned. Seventy-five men are employed. Machinists and boilermakers are skilled white men. Their wages vary from .65 to .75 an hour. Semi-skilled workers receive .50 and common labor .35 to .40 an hour.

The plants operate eight hours a day and work nights and overtime. The labor supply is steady and is secured in Wilmington. There are no unions.

OIL DISTRIBUTING

For twenty-five years Wilmington has been an important distributing point for petroleum products. In recent years the importance of the oil industry has greatly increased and until two years ago Wilmington was the largest distributing point between Baltimore and Charleston. At that time a large refinery was built at Charleston, and as Wilmington has no refinery more business now goes through Charleston.

Three companies make Wilmington a distributing point for petroleum products. They have a total of $600,000 invested in plant and equipment.

Tankers unload gasoline and kerosene directly into storage tanks which are located along the Cape Fear river front within the city limits. Lubricating oil is shipped in by rail from New Jersey.

During 1926 the port received 451,283 tons of coast-wise business, valued at $33,245,775. Of these, petroleum products amounted to 288,497 tons, valued at $16,706,350.

The three companies have a combined storage capacity of 16,000,000 gallons. The largest distributor has a capacity of 10,000,000 gallons. At present the plants are being used at capacity and they are being constantly expanded.

In 1926 the three companies distributed through Wilmington 93,000,000 gallons of kerosene and gasoline. These shipments were made entirely by rail. The industry is the largest source of freight revenue for the railroads. Wilmington is the only distributing point in North Carolina and the products are shipped throughout the state.

Forty men are employed by the three companies. About half of them are colored. The labor is semi-skilled and $25.00 a week and up is paid. The labor turnover is low, the Standard Oil Company not having employed new help for five years.

MOLASSES DISTRIBUTING

Wilmington is a center for the distribution of molasses. One importing company with headquarters elsewhere maintains a plant on the Cape Fear River for storing molasses and shipping it into the interior. The molasses comes in by water and is unloaded directly at the company's plant into storage tanks.

In 1926 this company imported 7,435 tons of molasses valued at $1,115,250.

A small working force of laborers is employed.

COTTON EXPORTING

The largest individual cotton exporting business on the Atlantic coast is located in Wilmington. Starting after the Civil War, it has been built up from a small beginning.

This concern draws on North Carolina and the other cotton states for its exports.

In 1926 the sole export of the port was cotton. A total of 29,157 tons valued at $8,163,960 were exported.

MARINE CONTRACTING

This work, which consists of wrecking, barging, dredging, pile driving, submarine work, and stevedoring, is done entirely by one firm. Most of the unloading and loading of ships in the port is done by this firm. Equipment consists of pile drivers, tow boats, barges, and stevedoring machinery. In equipment this firm rates as one of the best on the South Atlantic coast. This firm is able to unload 2,500 tons of fertilizer in ten hours.

The stevedoring work requires experienced men. The stevedores are all colored. At present 50 men are employed. They live in Wilmington. The stevedoring work varies and at times as many as 600 men are needed.

To handle this extra work the firm is able to secure experienced help from the farms within a radius of ten miles of Wilmington. When the rush is over the extra help returns to the farms.

Only during the fertilizer manufacturing season does the firm experience any difficulty in securing help.

The wage scale for stevedores is higher than for common labor. It varies from .40 to .50 per hour with time and a half for overtime. Ten hours a day are worked.

POWER, LIGHT, AND ELECTRICAL TRANSPORTATION

The Tidewater Power Company was established in 1907 through a merger of four independent companies. It furnishes Wilmington with electric light and power, the street railway and interurban to Wrightsville Beach, the city bus service through a subsidiary, gas, and in addition furnishes light and power to 53 communities within a radius of 100 miles. The company is capitalized at $3,000,000 and is controlled by the National Public Service interests.

Investment in plant and equipment amounts to $6,000,000.

The main source of electric power is a turbo-generating plant of 12,000 kilowatt capacity. In addition there are small stand-

by plants in the communities served. The company also has two points of interconnection with waterpower systems in other parts of the state in order to protect the community against emergencies. Service has never been curtailed because of a shortage of power. In 1926 19,000,000 kilowatt hours were generated by the power plant. During this year 7,329 general consumers of electricity were metered.

The street railway has a total mileage of 33.43 miles and 55 cars are operated.

Approximately two and one-half million revenue passengers are carried annually. The present fare is eight cents, with tickets at seven and one-half cents.

The electric railway has interchange connections with the steam railroad between Wilmington and Wrightsville Beach. The electric line also will connect with the new inland waterway.

Gas is manufactured by coal and water apparatus. The total generating capacity of the plant is 1,500 M. C. F. per day. The company owns 152.2 miles of gas mains. It supplies 3,025 customers with gas.

Total operating revenue in 1926 from the gas, street railway, and electric departments amounted to $1,115,000. Operating expenses during 1926 amounted to $685,000 and total profit from the three departments to $430,000.

Three hundred people are employed by the company. Labor turnover is low, the average length of service being ten years.

The 1925-26 report of the Department of Labor and Printing reports the highest wage paid men to be $7.00 per day and the lowest to be $1.43 per day. The highest wage paid women is reported as $4.50 per day and the lowest as $2.00 per day. The yearly pay roll is estimated at $245,000.

Nine hours a day are worked.

The company maintains an employee safety and advisory committee, and also a group insurance plan. The car men are 98 per cent unionized.

TRANSPORTATION FACILITIES

Rail: Wilmington is served by two railroads. The Atlantic Coast Line and the Seaboard Air Line. Both roads have their principal terminals elsewhere and make connections between Wilmington and their main lines at points farther inland. The headquarters of the Atlantic Coast Line are maintained in Wilmington because the road was originally founded here.

Together the roads have a storage capacity of 2,500 cars. They combine in the operation of the belt line railroad which connects the river front with the main track of the two roads.

Each road has its own warehouses on the river front but at present these are under lease to manufacturing concerns.

The principal shipments over the railroads originating in Wilmington are fertilizers and petroleum products. In an average season 18,000 carloads of fertilizers and 11,000 cars of oil are shipped over the two roads.

An effort is being made to secure through rail-and-water rates via the Clyde Line in order to be put in a position to compete with Norfolk.

The Atlantic Coast Line employs a total of 1,500 persons. The Seaboard employs 200. The train crews of both roads are unionized, as are the shopmen on the Seaboard. The Atlantic Coast Line has established a company union for its shop employees.

Water: The Clyde Line makes regular calls at Wilmington. There is no regular service to foreign ports. The Carolina Line enters when sufficient cargo is offered for foreign shipment.

WATER WORKS

For several years the Wilmington water works have been municipally owned. The source of the water supply is two and a half miles from the city. The water is soft and is procurable in sufficient quantities to meet any emergency in Wilmington. During times of drought in other parts of North Carolina Wilmington authorities have offered to supply the needed water.

Both electric and steam driven pumps are installed. Only the electric pumps are being used at present.

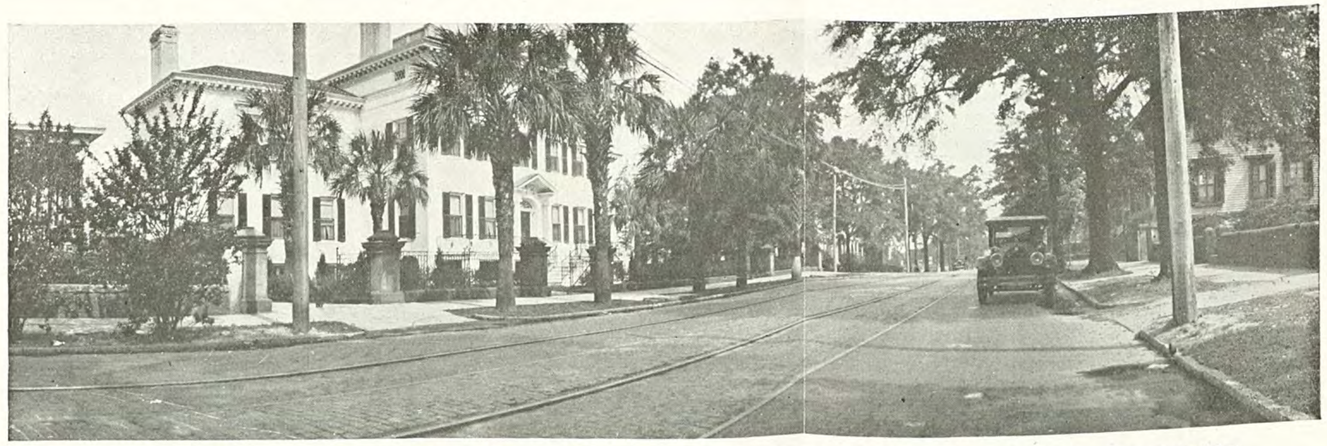
During 1926 the average daily consumption of water in Wilmington was 3,576,000 gallons. The water works have a maximum daily pumping capacity of 8,000,000 gallons.

TELEPHONE COMPANY

The Wilmington Telephone Exchange is owned by the Southern Bell Telephone and Telegraph Company, of Atlanta, Georgia.

It has 679 miles of wire and 4,451 telephones.

During the year 1925 operating revenues amounted to $235,152.95 and operating expenses to $180,792.27.



In the mansion shown above lived Hon. Edward B. Dudley, of Wilmington, the first governor of North Carolina elected by the people. The Wilmington and Weldon Railroad Company, one of the parent units of the present Atlantic Coast Line Railroad Company, was organized in this home. President William Howard Taft, Daniel Webster, Cardinal Gibbons and other celebrities have been honored guests in past years.

Tree at right is known as the Washington Oak. President Washington rested beneath it when he visited Wilmington on official trip in 1791. House at left is a residence still occupied, which was used by Lord Cornwallis in 1781 as headquarters when the British forces captured Wilmington.

profitable results. Largely through the efforts of the district agricultural agent and the county extension agents, livestock production has greatly increased in this section. Farmers who formerly eked out a bare living in cotton and tobacco farming are now raising poultry, hogs, and cattle with profit to themselves. It is estimated that the sales of hogs, poultry, eggs, and dairy products from this section amounted to $600,000 in 1926.[1] This is indeed a favorable showing in view of the fact that none of these products were produced for outside consumption in 1922.

The program suggested to farmers by the district agricultural agent for the betterment of farm conditions in the Wilmington section is as follows:

Produce sufficient food, feeds, and forage on the farm to feed both the family and livestock. Dispose of the surplus through the feeding and sale of well-bred, thrifty, and well cared for livestock. Keep at least one good cow on every farm, and where it is possible sell some sour cream, sweet cream, or whole milk. Keep at least one brood sow for every work animal on the farm. Keep at least fifty standard bred hens and see that they are properly housed and properly fed. Cull out all non-producers. After these things are done, plant as much of any cash crop as your farm labor can produce, raising at least two cash crops.

The relative importance of the principal crops grown in the Wilmington District can be judged from the figures printed in Table IV showing both the acreage and total value of crops in 1926.

TOBACCO

In 1926 tobacco was the most important crop grown in the Wilmington area from the standpoint of the total value of the product. As shown in Table IV, the total value of the tobacco crop was $8,790,541 as compared with $4,137,806 which represents the value of cotton, the crop second in importance. The North Carolina tobacco crop for 1926 was the second largest ever produced, the largest crop being in 1920.

Comparisons based on total value, or value per acre of farm crops, however, must be used with caution since production costs vary so widely. It costs much more per acre, for example, to

[1] Estimate made by Mr. E. W. Gaither, District Agent, North Carolina Agricultural Extension Service of State College.

TABLE IV

*ACREAGE AND TOTAL VALUE OF LEADING FARM CROPS IN WILMINGTON AREA, 1926

Counties	Tobacco		Cotton		Corn		Wheat		Oats	
	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)
Bladen	2,722	$ 529,701	1,504	$ 718,406	30,036	$ 564,677	194	$ 4,111	1,390	$ 21,017
Brunswick	944	199,061	160	38,886	9,262	175,052	29	662	447	6,982
Columbus	9,744	2,016,618	317	223,748	31,988	661,719	53	1,391	2,129	33,979
Duplin	17,263	3,152,569	1,024	790,586	45,799	861,021	27	616	2,066	29,366
New Hanover					1,664	38,272			93	1,321
Onslow	7,055	1,381,016	5,175	175,898	20,231	291,326	6	137	602	7,585
Pender	1,960	324,576	4,120	151,616	18,179	290,137			450	5,387
Sampson	7,284	1,187,000	61,879	2,038,666	50,089	932,657			2,465	35,250
Total for the Wilmington Area	46,972	$ 8,790,541	121,179	$ 4,137,806	207,248	$ 3,814,861	418	$ 9,760	9,642	$ 140,887

Counties	Peanuts		Irish Potatoes		Sweet Potatoes		Soybeans		Cowpeas	
	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)	Acreage	Total Value (Dollars)
Bladen	256	$ 8,797	135	$ 23,855	1,230	$ 96,334	1,848	$ 51,744	1,123	$ 33,330
Brunswick	3,614	162,630	102	16,993	2,383	202,555	1,001	27,027	567	15,921
Columbus	2,110	86,215	485	88,285	3,782	346,696	1,997	59,411	983	27,730
Duplin	1,270	51,293	4,263	724,710	2,549	242,308	3,908	111,925	434	11,267
New Hanover	566	25,470	1,387	277,123	295	30,562	124	3,264	85	2,689
Onslow	7,052	242,448	95	18,953	1,029	101,459	3,342	103,468	956	30,114
Pender	3,612	135,089	339	55,128	1,759	167,914	1,499	40,698	438	14,191
Sampson	163	6,830	749	120,799	2,477	202,866	1,316	37,901	1,313	39,889
Total for the Wilmington Area	18,643	$ 718,772	7,555	$ 1,325,846	15,504	$ 1,390,694	15,035	$ 435,438	5,899	$ 175,131

*These figures were compiled from the annual farm census reports published by the State Department of Agriculture.

raise tobacco than to raise cotton. The North Carolina Department of Agriculture estimates that in 1926 the cost of producing five important farm crops was as follows:

COST PER ACRE 1926

Cotton	$62.91
Corn	37.73
Wheat	27.47
Oats	31.17
Irish Potatoes	93.42

No reliable figures regarding the cost of raising tobacco could be secured.

Tobacco Belts

The tobacco-growing counties in North Carolina are divided into three sections, "Old Bright Belt," "New Bright Belt," and "New Bright Belt South Carolina" (usually referred to as the South Carolina Belt). Practically all of the tobacco marketed in North Carolina is of the bright leaf flue-cured variety. This division into belts is based on the type of soil, the length of the season, time and method of harvesting and curing, and the character of the tobacco grown. It is stated that the soils of the New Belt in the coastal plain are lighter and more sandy as a class than those of the Old Belt in the piedmont section and that they characteristically produce a brighter and paler type of leaf tobacco than the Old Belt but one with less body and richness. Much of the tobacco in the Old Belt is harvested by cutting the entire plant while in the New Belt the "priming" method is used, that is, the leaves are picked off as they ripen. Where the latter method is used it is necessary to go over the field about once a week until all the ripe leaves are removed, usually four or five times in all. For detailed information regarding methods of curing and handling employed in the different belts the reader is referred to bulletins issued by the North Carolina Agricultural Experiment Station.

The United States Government designates the kind of tobacco produced in different localities by assigning to each locality a type number. Thus tobacco grown in the Old Belt is classified as Type 11, that grown in the New Belt as Type 12, and tobacco in the South Carolina Belt is classified as Type 13.

Types Grown in the Wilmington District

Eight counties in the southern part of the state are classed as the South Carolina Belt although most of the tobacco sold in this belt is grown in North Carolina. All the counties in the Wilmington District except Duplin and Onslow are included in this belt. Duplin and Onslow are in the New Bright Belt.

Marketing of Tobacco

The tobacco markets in Georgia are the first to open each year, the markets of the South Carolina Belt open next, then those of the Eastern or New Belt, and the markets of the Central or Old Belt open last.

The markets in the South Carolina Belt usually open about the first of August and remain open six or eight weeks. The opening and closing dates vary from year to year depending upon the size of the crop and the season. The markets in this belt do not remain open nearly as long as those in the New Belt. They open, however, approximately four weeks earlier.

The tobacco in this section of the state formerly sold without being tied into "hands" or small bundles, that is, the markets were all loose-leaf markets. The warehouses now require growers to tie the lugs and leaves into bundles. All the tobacco in this belt, as well as in the two other Bright Leaf belts, is sold at auction on the warehouse floors.

Location of the Markets

There are two tobacco warehouses at Clarkton in Bladen County and one is being built at Elizabethtown. The tobacco grown in Brunswick and Columbus counties is largely marketed in Whiteville and Chadbourn (Columbus County) and in Fairmont and Lumberton (Robeson County). There are warehouses in Duplin County at Wallace and at Warsaw. There is a warehouse at Richlands and one at Maysville in Onslow County. There are no warehouses in Pender, Sampson, or New Hanover counties.

Much of the tobacco grown in Pender, Sampson, Duplin, and Onslow counties is sold on the Greenville, Kinston, and New Bern markets (located in the New Bright Belt). Some tobacco from every county in the Wilmington District is sold on the Wilson and Goldsboro markets. Two reasons were given for selling tobacco at

markets located in the New Belt. First, these markets stay open for a longer period. Many farmers living in the South Carolina Belt are unable to grade their tobacco and get it on the markets of this belt before the closing date. Second, a large number of farmers who own trucks prefer to drive seventy-five to one hundred miles to one of the large markets in the New Belt because they believe that prices are somewhat better there than on the smaller markets located near their farms.

Methods of Sale

The tobacco is graded by the farmer and hauled to the warehouse where it is placed in small piles on containers built for this purpose. It is then weighed and tagged by warehouse employees. It is sold at auction to the highest bidder by the warehouse auctioneer, the price received being written on the tag. Later the tags are collected and the amount due each farmer after the commission and other charges have been deducted is calculated. The farmer receives cash for his tobacco on the day of the sale.

Warehouse Commission Charges

For the services rendered by the warehouse a commission of two and one-half per cent on gross sales is charged. Further charges are made for weighing and for selling the tobacco. The weighing and auction fees vary. For a pile under one hundred pounds a fee of ten to fifteen cents per pile is charged both for weighing and for selling. The fee is twenty-five cents for each for a pile weighing over one hundred pounds. The total charges including commission charges, weighing fees, and auction fees average approximately four per cent of gross sales.

It may be of interest to note that many farmers would prefer to see tobacco graded by federal authorities much as cotton is now graded. It is claimed by some that under the auction method of selling many different prices are received for the same grades of tobacco, and that favoritism in grading often is shown to men of influence who are large growers.

The number of warehouses located in each of the tobacco marketing centers mentioned in this discussion is given below:

Located in South Carolina Belt	Number of Warehouses
Chadbourn	3
Clarkton	2
Fair Bluffs	3
Fairmont	4
Lumberton	3
Tabor	3
Whiteville	3
Total	21

Located in New Bright Belt	Number of Warehouses
Goldsboro	3
Greenville	8
Kinston	5
Newbern	2
Robersonville	2
Wallace	3
Warsaw	2
Wilson	7
Total	32

The importance of tobacco in the Wilmington District is indicated by Table V which shows the acreage and yield in 1921-1926.

TABLE V

ACREAGE AND YIELD OF TOBACCO, 1921-1926

County	1921		1922		1923		1924		1925		1926	
	Acreage	Yield in pounds per acre	Acreage	Yield in pounds per acre	Acreage	Yield in pounds per acre	Acreage	Yield in pounds per acre	Acreage	Yield in pounds per acre	Acreage	Yield in pounds per acre
Bladen	1,606	900	1,824	782	2,696	680	3,341		3,788	711	2,722	695
Brunswick	292	700	248	540	646	925	918		1,238	744	944	781
Columbus	6,478	800	7,374	528	9,550	1,000	10,393	Figures	11,033	----------	9,744	796
Duplin	9,097	675	14,429	590	21,071	600	15,968	not	12,270	753	17,263	794
New Hanover	----------	----------	----------	----------	20	----------	----------	avail-	----------	----------	----------	----------
Onslow	3,806	733	3,004	657	7,458	866	6,036	able	7,217	720	7,055	783
Pender	853	735	2,586	900	2,730	900	1,319		1,657	700	1,960	690
Sampson	3,333	775	5,656	642	7,220	650	5,042		6,878	714	7,284	676
Total for the Wilmington Area	25,465	----------	35,121	----------	51,391	----------	43,017	----------	44,081	----------	46,972	----------

The above figures were compiled from the North Carolina Farm Census published by the Department of Agriculture. A special yield report consisting of approximately 15,000 inquiries was made to determine the average yield per acre.

COTTON

The importance of the cotton crop is clearly evident to one who has studied the table which was printed at the beginning of this chapter. It ranked second in 1926 both in the number of acres under cultivation and in the total value of the crop grown. Cotton was produced, however, at a considerable loss during the season of 1926.*

Competitive Situation

In a study of this section of the state one is led to conclude that it is at present not favorably situated for cotton raising. In the first place, the cotton boll weevil has been a serious menace since about 1922. The amount of damage which has resulted cannot be accurately estimated. No successful method of combating this insect has been discovered. Secondly, with the increase during the past few years in cotton production in Texas and Oklahoma this section has been placed at a competitive disadvantage. It has been estimated by government experts that ten million acres of new cotton lands have been opened up in the two states named during the past five years. It is stated that cotton can at present be produced at a profit on these lands for ten cents a pound or less due to the "lay" of the land, the introduction of labor-saving machinery, and more favorable weather conditions than prevail elsewhere. In addition to the ten million acres already under cultivation there are possibly fifteen thousand more acres of land available for cotton production. These lands are being developed as rapidly as possible.

Farmers living in the Wilmington District cannot produce cotton at ten cents a pound without suffering a heavy loss. They are therefore at a decided disadvantage in marketing their crop and it is thought that this disadvantage will become more serious as new land in the Southwest is placed under cultivation. Formerly competition between cotton-producing sections in the South depended largely on temporary conditions such as weather and the prevalence of insects and pests. No single section had a permanent advantage.

* This chapter was written in June, 1927. Better prices were received for the 1927 crop, due chiefly to acreage reduction, rainy weather, and red spider and boll weevil infestation which reduced the size of the crop. The acreage in North Carolina was reduced about 14 per cent.

North Carolina farmers may well profit by the experience of farmers living in the wheat belt of the Northwest. The following is quoted from the Monthly Business Letter for January, 1927, issued by the American Exchange National Bank, Greensboro, N. C.

Minnesota, the Dakotas, and Montana, which not so long ago were as devoted to wheat as the South is to cotton, have gone far toward stabilizing farm income and protecting themselves against unfavorable crop conditions by the development of their dairying industries. In the five-year period—1919-1924—milk production grew from 789,789,000 to 1,108,000,000 gallons for the four states and the 1926 output is estimated at 1,250,000,000 gallons.

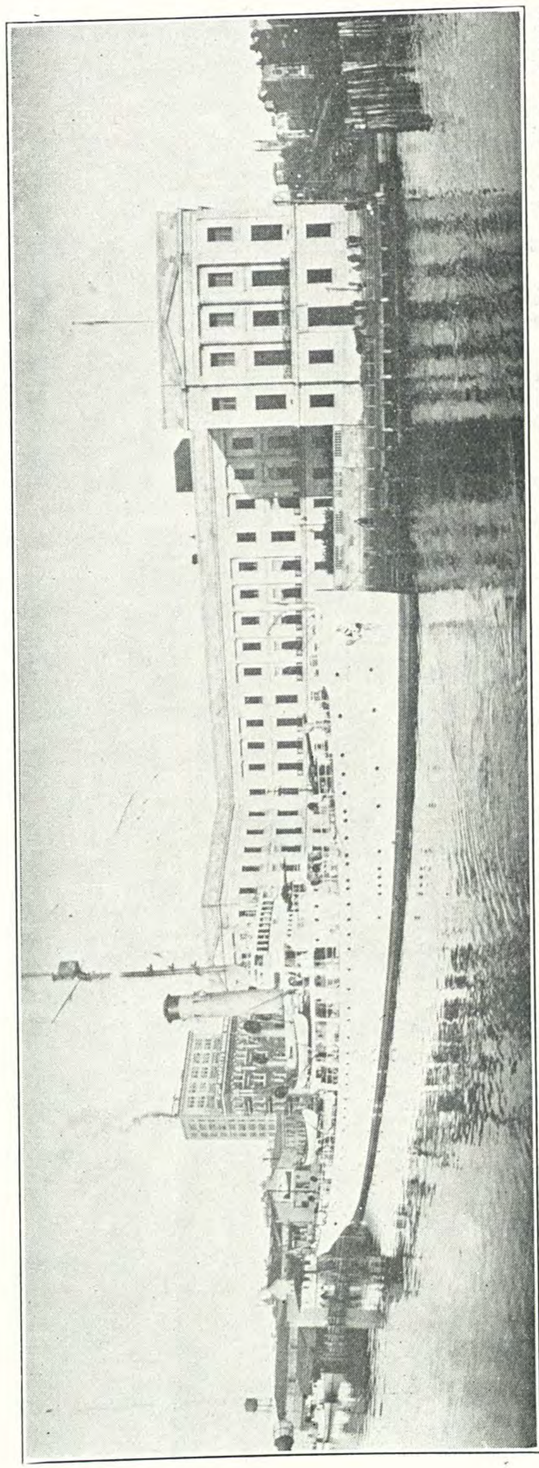
Wisconsin's wealth in dairying has long since stabilized farm prosperity in that state, and the commonwealths to westward seem headed in the same direction.

That the cotton grower's difficulties must be charged to his agricultural policies rather than to conditions beyond his control is best indicated by statistics in ten cotton states recently compiled by the Department of Agriculture, the Bureau of the Census, and Southern bankers.

These figures indicate that 73 per cent of the farmers of the South grow cotton, but that 12 per cent of the total grow no corn, 54 per cent no hay or forage, 86 per cent no oats, 58 per cent no sweet potatoes, and 79 per cent no Irish potatoes. Twenty-three per cent have no gardens, 37 per cent no dairy cows, 56 per cent no pigs, and 95 per cent no pure-bred livestock. A Georgia railroad estimates that that state, although primarily interested in agriculture, is spending each year more than $163,000,000 or $58 apiece, for every man, woman and child within its borders, for butter, eggs, poultry, beef, pork, corn, and hay produced outside its borders.

Throughout the South bankers and business men are joining forces to hold cotton off the market, and the national government is extending its coöperation. Obviously, however, the only permanent cure for the situation lies in material reduction of cotton-acreage, and an enormously increased diversification of crops.

Significant data regarding the cotton situation in the Wilmington area are presented in Table VI which follows:



The handsome million-dollar United States Customs House and Coast Guard cutter Modoc stationed at the port of Wilmington. This port holds the record for the entire United States for making collections of customs duties at the lowest cost per dollar.

TABLE VI

COTTON ACREAGE AND AVERAGE YIELD PER ACRE IN WILMINGTON AREA
1921–1926

Acreage

Counties	1921	1922	1923	1924	1925	1926
Bladen	13,104	12,061	15,356	20,467	22,455	21,504
Brunswick	1,748	101	102	1,488	1,450	1,160
Columbus	10,345	5,073	1,600	3,722	3,823	6,317
Duplin	11,834	14,410	10,663	18,901	19,631	21,024
New Hanover	163	142	----------	----------	21	----------
Onslow	8,780	11,651	6,825	10,068	6,453	5,175
Pender	3,728	4,313	4,271	3,771	4,095	4,120
Sampson	40,327	78,325	58,743	60,630	59,316	61,879
Total for Wilmington District	90,029	126,076	97,560	119,047	117,244	121,179

Average Yield Per Acre
(in pounds)

Counties	*1921	1922	1923	*1924	1925	1926
Bladen	----------	216	187	----------	259	288
Brunswick	----------	72	----------	----------	268	302
Columbus	----------	88	210	----------	255	308
Duplin	----------	190	275	----------	268	316
New Hanover	----------	148	----------	----------	----------	----------
Onslow	----------	175	191	----------	199	309
Pender	----------	165	180	----------	254	320
Sampson	----------	270	252	----------	313	289

*Figures not available.

The total production for any year may be obtained by multiplying the average yield per acre by the total acreage reported in any county, Production in bales for 1925 and 1926 was as follows:

TABLE VII

Counties	1925	1926
Bladen	12,167	12,956
Brunswick	813	733
Columbus	2,039	4,070
Duplin	11,006	13,899
New Hanover	2,686	3,345
Onslow	2,176	2,758
Pender	38,840	37,412
Sampson	----------	----------
Total	69,727	75,173

Marketing of Cotton

The greater part of the cotton produced in the Wilmington area is marketed through Alexander Sprunt & Sons, Inc., located in Wilmington. Cotton exports from the port of Wilmington for 1926 totaled 29,157 tons valued at $8,163,960. Cotton is the only outstanding export from the port. For the period 1914 to 1923 it comprised 88 per cent of the total exports.[2] In 1926 it was the sole export. It originates mainly in the local territory although a portion is brought in from the northern part of South Carolina. The cotton is graded and baled at Wilmington and shipped out in cargo lots. Occasionally a small shipment is sent to New York via The Clyde Line for reshipment to foreign ports. Studies made by the Bureau of Research of the United States Shipping Board in 1921 show that all cotton exported from Wilmington goes to Europe. Italy and Germany receive the largest amount. The remainder is divided among England, France, and Spain.

COTTON EXPORTS FROM WILMINGTON IN SHORT TONS 1914-1923 [3]

1914	23,209 Tons	1919	36,911 Tons
1915	72,274 Tons	1920	23,384 Tons
1916	32,542 Tons	1921	26,675 Tons
1917	11,239 Tons	1922	24,394 Tons
1918	7,125 Tons	1923	24,675 Tons

CORN

Corn is rapidly coming to the front as a leading field crop in this section of the state. As shown in the table at the beginning of the chapter, corn ranked first in the Wilmington area in 1926 from the standpoint of the number of acres under cultivation and third in the total value of the product. A large part of this territory is first-class corn land. The light soils of the Coastal Plain are well adapted to corn farming if supplied with sufficient humus. This is best furnished by planting crimson clover, cow peas, velvet beans, soybeans, rye, or vetch and plowing it under as green manure. The development of the livestock industry in this sec-

[2] War Department, Corps of Engineers, U. S. Army and U. S. Shipping Board Port Series, Number Nine—"The Ports of Charleston, S. C., and Wilmington, N. C."
[3] *Ibid.*

TABLE VIII

*ACREAGE AND YIELD OF CORN, 1921-1926

County	1921		1922		1923		1924		1925		1926	
	Acreage	Yield in bushels per acre	Acreage	Yield in bushels per acre	Acreage	Yield in bushels per acre	Acreage	Yield in bushels per acre	Acreage	Yield in bushels per acre	Acreage	Yield in bushels per acre
Bladen	27,821	17	25,319	22	39,244	20	33,413	20	34,510	16	30,036	20
Brunswick	12,800	19	9,389	20	11,386	23	11,022	23	11,645	23	9,262	21
Columbus	36,838	21	33,487	17	37,242	36	35,021	30	32,790	23	31,988	22
Duplin	36,863	18	39,226	22	52,720	19	47,273	Figures not available	44,364	23	45,799	20
New Hanover	1,378	20	1,295	27	1,448	33	1,133		1,436	30	1,644	23
Onslow	21,803	23	17,812	20	23,769	20	21,282		22,156	16	20,231	18
Pender	14,548	20	13,569	23	36,801	30	15,719		18,292	18	18,179	19
Sampson	53,874	16	53,852	20	61,360	20	53,848		54,399	21	50,089	19
Total Acreage for the Wilmington Area	205,925	----	193,949	----	263,970	----	218,711	----	219,592	----	207,228	----

*Figures were compiled from "North Carolina Farm Census Reports," published annually by the North Carolina Department of Agriculture.

tion has aided in enriching the soil for corn through the use of barnyard manure.

Table VIII shows the importance of corn farming in this region.

The average yield of corn per acre in the Wilmington area in 1926 was 20 bushels. It is stated that many corn farmers in this section have in the past made the mistake of selling their corn as a cash crop rather than converting it into pork. Extensive studies conducted by the Animal Industry Division of the North Carolina State College of Agriculture and Engineering show that the return per acre of corn is much greater when the latter method is followed.[4] For example, during 1925 hogs properly fed and sold at the right time brought an average price of $13.00 and returned $2.15 per bushel for the corn consumed. Corn at that time sold for around $1.00 per bushel (December 1, 1925, price, according to figures published by the Department of Agriculture was $1.10 per bushel.) The average return per bushel of corn consumed, as shown by feeding demonstrations conducted in 17 counties during 1926, was $2.06. A total of 4,694 hogs were fed and marketed under the careful supervision of the county agricultural agents. The average market price of corn during the period was only 96 cents per bushel. Hence a farmer received $1.10 more per bushel for his corn where he fed it to hogs.

The State Department of Agriculture has taken an active part in encouraging the raising of hogs in the Wilmington District. That its efforts have met with success in this part of the state is evidenced by the following quotation from a report of Mr. E. W. Gaither, District Agricultural Agent:

> In 1922 the first hog feeding demonstration in which hogs were fed for the commercial market was conducted in Craven County. One carload of hogs was fed and marketed coöperatively. In 1926 this work had been distributed over the eighteen counties in the Southeastern District and during the year one hundred and five cars of this class of hogs were fed out and marketed in this territory, averaging about $1,600 per car. These hogs paid an average of $2.00 per bushel for corn which cost around 75 cents per bushel to produce. At this time (February, 1927) there are on feed for the March and April market about 150 cars of hogs which are making about the same record as those fed during 1926.

The first table printed below shows the total sales of fat hogs from the Wilmington District in 1926. The second table shows

[4] See Extension Circular No. 159, March, 1926.

the sales for a part of 1927. Shipments were chiefly to the Richmond and Baltimore markets. The White Packing Company of Salisbury N. C., bought several cars of demonstration fed hogs.

TABLE IX

AGENT'S REPORT OF TOTAL SALES OF FAT HOGS, 1926

County	Number Owners	Number Cars	Number Hogs	Total Weight	Total Amount Sold For
Bladen	40	4	261	47,770	$ 6,559.39
Columbus	26		80	14,620	
Duplin	44	9	616	78,600	13,702.45
Onslow	8	2½	161	26,855	3,835.86
Pender	29	9	600	94,480	13,463.30
Sampson	86	10	581	106,465	14,497.06

SALES OF FAT HOGS, FEBRUARY 22 TO JUNE 20, 1927

County	Number Owners	Number Cars	Number Hogs	Total Weight	Total Amount Sold For
Bladen	101	9	563	111,455	$ 12,863.06
Brunswick	6	1	69	13,040	1,570.36
Columbus	29	2	161	29,695	3,439.49
Duplin	124	14	1,257	200,695	22,003.15
New Hanover	66	13	1,050	174,110	19,852.90
Onslow	138	23	1,738	317,530	38,370.15
Pender	70	6	416	74,645	8,613.80
Sampson					

TRUCK AND VEGETABLE PRODUCTS

The trucking industry around Wilmington has been established since 1875. The region from Wilmington to Mount Olive, approximately seventy-five miles north, is one of the most productive trucking areas on the Atlantic Coast. The soil is fertile and especially well adapted to the raising of truck products and fruit. The Norfolk fine sandy loam found here is well suited for cabbages and lettuce and is favorable to the growing of all plants which depend upon their foliage or fleshy substance for their commercial value. The great strawberry producing section was developed chiefly upon Coxville fine sandy loam and the Coxville sandy loam.

The "quickness" of these light soils and the early average date of the last killing frost make this an exceptionally favorable lo-

cality for all kinds of early fruit and vegetables. The growing season is approximately 250 days, that is, 250 days without a frost that kills. The season follows closely on that of Florida and is some weeks in advance of the tidewater regions of Virginia and Maryland. The annual rainfall is approximately fifty inches, well distributed through the year.

Among other products sent to northern markets in carload shipments are cucumbers, onions, lettuce, asparagus, egg-plant, radishes, spinach, squash, sugar corn, tomatoes, sweet potatoes, Irish potatoes, peppers, English peas, beans, beets, cabbages, and cauliflower. Twelve hundred and thirty carloads of strawberries were shipped from this section in 1926. This crop was second in point of the number of carloads shipped, the total shipments of early Irish potatoes amounting to 1,305 carloads.

Almost all these commodities are shipped out over the Atlantic Coast Line Railroad. The following tables (tables X and XI show carload and express shipments of fruits and vegetables from

TABLE X

FRUIT AND VEGETABLE SHIPMENTS IN CAR LOTS FROM THE WILMINGTON DISTRICT VIA THE ATLANTIC COAST LINE RAILROAD, SEASONS 1920 TO 1926

Commodity	1926	1925	1924	1923	1922	1921	1920
Strawberries	1,230	1,627	1,965	1,600	1,018	481	421
Cucumbers	835	1,479	1,502	1,138	740	697	489
White Potatoes	1,305	1,165	1,684	914	912	652	1,001
Lettuce	491	542	710	683	549	426	252
Beans	278	363	496	276	277	90	121
Watermelons	309	306	168	334	168	488	137
Cantaloupes	30	94	93	165	91	313	187
Mixed Vegetables	89	216	225	52	44	32	19
Corn	79	103	101	38	68	8	13
Peas	56	43	54	46	14	----	----
Dewberries	22	14	24	3	----	----	----
Huckelberries	----	32	6	----	----	----	----
Peaches	1	5	----	----	1	1	15
Peppers	13	18	6	8	3	----	----
Carrots	28	13	5	----	----	----	----
Turnips	1	2	2	4	7	6	1
Cabbage	----	2	2	3	1	2	1
Squash	8	23	1	----	----	----	----
Spinach	----	----	2	4	----	----	----
Beets	20	16	32	1	----	----	1
Sweet Potatoes	54	18	12	----	----	----	----
Onions	1	2	----	----	----	----	----
Total cars shipped	4,850	6,083	7,090	5,269	3,893	3,196	2,658

the Wilmington District 1920 to 1926. With the exception of lettuce, beans, cucumbers, peas, carrots, and beets, of which New Hanover County furnished a large share, the other vegetables shown were shipped largely from Mount Olive, Calypso, Faison, Warsaw, Turkey, Clinton, Bowden, Castle Hayne, and Chadbourn. The dewberry and huckleberry shipments were made largely from Duplin, Sampson, and Bladen counties.

TABLE XI

*FRUIT AND VEGETABLE SHIPMENTS BY EXPRESS FROM WILMINGTON SECTION, SEASONS 1922 TO 1925, AND FOR TEN MONTHS IN 1926

Commodity	1922 Packages	1923 Packages	1924 Packages	1925 Packages	To Oct. 31, 1926 Packages
Chinese Vegetables	----	1,398	1,862	2,619	1,582
Lettuce	43,555	33,912	30,944	35,852	22,637
Radishes	78	560	183	1,626	2,505
Spinach	115	1,147	279	1,219	111
Onions	380	658	2,313	1,408	1,299
Turnips	1,869	4,551	1,462	6,623	3,322
Cabbage	----	----	----	433	177
Peas	36,007	24,604	14,948	16,363	16,487
Asparagus	----	----	59	150	244
Cantaloupes	----	11,466	3,555	6,384	6,126
Grapes	----	700	160	407	770
Sweet Potatoes	----	----	----	104	124
Eggplant	----	----	85	252	283
Dewberries	4,095	5,622	6,456	12,101	16,345
Strawberries	61,945	100,071	74,603	48,952	43,248
Huckleberries	2,530	13,359	24,959	32,336	5,805
Beans	59,000	91,091	88,522	116,910	132,982
Beets	----	----	219	457	1,245
Okra	2,414	10,003	8,817	6,087	9,160
Squash	----	2,795	1,794	4,439	5,901
Peppers	11,565	43,459	67,116	94,855	91,320
Peaches	537	209	784	934	157
Carrots	----	----	----	194	680
Cucumbers	18,475	13,311	9,450	13,243	12,054
Green Corn	43,866	51,086	60,769	44,636	34,380
Tomatoes	----	----	102	609	148
Plums	----	----	139	----	36
Mustard Greens	----	----	----	----	98
Romaine	----	----	----	----	85
Irish Potatoes	----	----	----	----	117
Apples	----	----	----	----	49
Watermelons	----	----	----	----	3
Kale	----	----	----	----	9
Cauliflower	----	----	----	----	38
Total packages shipped	286,431	410,002	429,580	449,193	409,527

*The writer is indebted to Mr. G. A. Cardwell, Agricultural and Industrial Agent, Atlantic Coast Line Railroad Company, for statistics printed in tables X and XI.

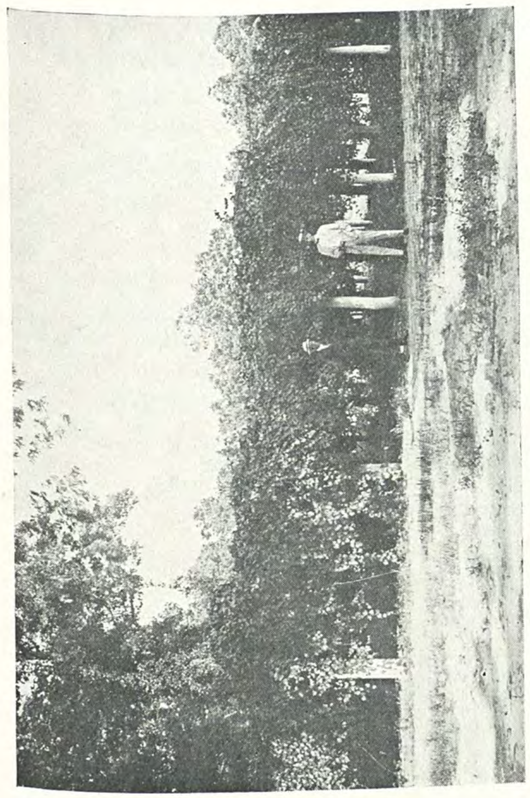
STRAWBERRIES

The strawberry crop is an important one to people living in the Wilmington District. As noted above, 1,230 carloads of berries were shipped out in 1926. The active strawberry season lasts for approximately six weeks. Railroad shipping records show that the first carload usually is shipped out about the middle of April and the last carload around the last of June. Shipping dates 1922 to 1926 were as follows:

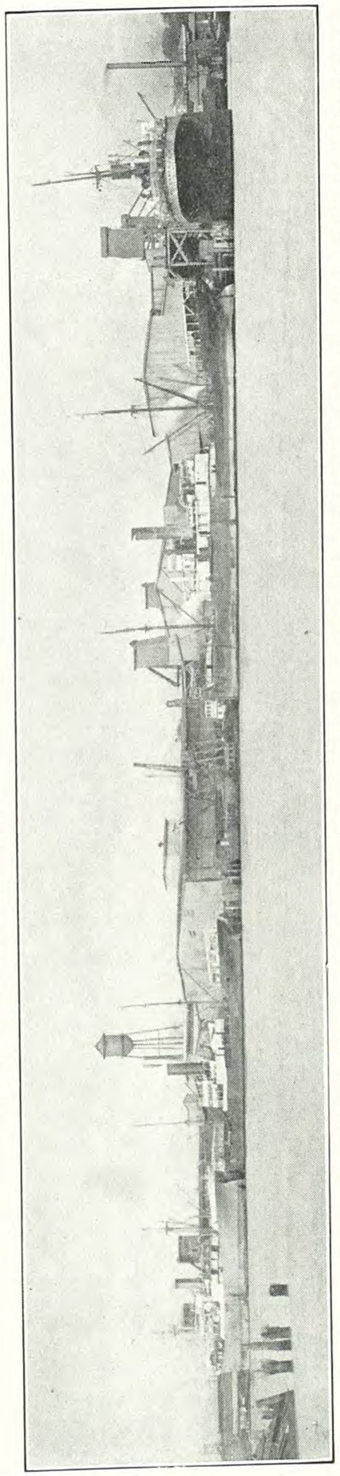
	First Carload	*Last Carload*
1922	April 18	June 27
1923	April 17	June 29
1924	April 16	June 26
1925	April 14	June 28
1926	April 25	June 10
1927	April 8	.....

Columbus, Pender, and Duplin are the largest berry producing counties. Most of the berries grown in New Hanover County are sold to customers living in Wilmington. Seven carloads, however, were shipped out in 1926 from Castle Hayne, near Wilmington. Chadbourn and Wallace are two of the largest berry markets in the section. The largest shipments of berries are to New York. Transportation facilities have been so systematized that berries picked from the fields in the morning are sold, loaded into refrigerator cars, and delivered on the New York market in 48 hours. The largest day's shipment on record from the Chadbourn market was 160 carloads. This was equivalent to 36,000 crates containing 1,152,000 quarts of berries. During the season pickers are brought in from adjoining counties and even from South Carolina to gather the crop. Berries are picked fresh from the fields in the morning, graded at the packing houses on the larger farms, and filled into quart containers. These containers are then packed in crates and taken to the market in the afternoon.

The Chadbourn market opens at 1:30 p.m. and closes at 5 p.m. Buyers from northern firms are on hand to bid on the loads of berries. Bids are based on telegraphic reports from the northern markets. As soon as a load of berries is sold it is delivered to the



Wilmington is the center of a rich fruit and agricultural region, the section having led the entire United States in strawberry production in 1927. Above is shown a typical grade culture scene at the State Test Farm near Willard a few miles north of Wilmington.



Cotton exportation from Wilmington by the firm of Alexander Sprunt and Son is one of the principal items of port volume. The firm during normal periods has exported in excess of 500,000 bales annually.

refrigerator cars. In the Chadbourn and Wallace markets the sellers receive cash for their product.

The table which follows (Table XII shows the carload shipments from the Wilmington District, 1908 to 1916. The average carload of berries contains 226 crates of 32 quarts each. From 1913 to 1921 interest in the growing of strawberries declined. Since 1922 there has been a steady growth in the number of acres under cultivation. The decrease in carload shipments in 1925 and 1926 was due mainly to adverse weather conditions. The principal loading points at present are Mount Tabor, Chadbourn, Rocky Point, Burgaw, Wallace, Teacheys and Rose Hill. Mount Olive formerly was a heavy shipping point but has shipped lightly during recent years.

TABLE XII

*CARLOAD SHIPMENTS OF STRAWBERRIES FROM THE WILMINGTON DISTRICT VIA ATLANTIC COAST LINE RAILROAD, SEASONS 1908 TO 1926.

1908	1,095 cars
1909	1,316 cars
1910	1,570 cars
1911	1,204 cars
1912	1,375 cars
1913	960 cars
1914	785 cars
1915	934 cars
1916	703 cars
1917	705 cars
1918	607 cars
1919	459 cars
1920	421 cars
1921	481 cars
1922	1,018 cars
1923	1,600 cars
1924	1,965 cars
1925	1,627 cars
1926	1,230 cars

*The writer is indebted to Mr. G. A. Cardwell, Agricultural and Industrial Agent, Atlantic Coast Line Railroad Company, for the above figures.

COOPERATIVE MARKETING IN THE WILMINGTON AREA

Wilmington Coöperative Truck Growers Association

The most important marketing association in this section is the Wilmington Coöperative Truck Growers' Association. This organization takes rank with the leading coöperative marketing as-

sociations of the South. It is ably managed and, in the writer's opinion, has been outstandingly successful. The association was organized in 1913. The first year only twelve carloads of produce were shipped to northern markets. From this small beginning the present association has grown. The effort has always been to expand in a conservative manner. The importance of this organization to the farmers living in the vicinity of Wilmington is evidenced by the following statistics of carload shipments and gross sales, 1921 to 1926.

TABLE XIII

Year	Number of Carloads Shipped	Gross Sales
1921	273	$211,426
1922	390	231,416
1923	486	464,102
1924	492	264,165
1925	372	265,793
1926	350 (approximately)	--------

Shipments fell off somewhat in 1925 due to the fact that the Association undertook the grading of products in that year. Grading was discontinued in January, 1927. From 1921 to 1924 practically all of the shipments were to Philadelphia and New York. In 1925 and 1926 shipments were made to approximately seventeen northern markets. The principal markets served during those years were as follows:

New York, N. Y.
Philadelphia, Pa.
Baltimore, Md.
Pittsburgh, Pa.
Boston, Mass.
Buffalo, N. Y.
Oneonta, N. Y.
Hazleton, Pa.
Binghamton, N. Y.
Bridgeport, Conn.
Newark, N. J.
Jersey City, N. J.
Springfield, Mass.
New Haven, Conn.
Rochester, N. Y.
Wilkes-Barre, Pa.
Providence, R. I.

The association in 1926 shipped seventeen different kinds of farm produce. The products shipped were:

Lettuce
Snap beans
Lima beans
Corn (green, sweet)
Cauliflower
Irish potatoes
Sweet potatoes
Slicing cucumbers
Cucumbers for pickles
Carrots
Cabbages
Beets
Squash
Tomatoes
Peas
Peppers
Spinach

Organization

There are at present 212 members in the Wilmington Coöperative Truck Growers' Association. It has branches in four counties: New Hanover, Brunswick, Columbus, and Pender. The parent organization is made up of ten local organizations—five in Brunswick County, three in New Hanover County, one at Chadbourn in Columbus County, and one at Rocky Point in Pender County. Each local organization has its own officers. The authority of the parent organization is vested in a board of directors elected by members of the local organizations. Each local unit is allowed one director for every "twenty members or fraction thereof." Thus, a local having twenty-five members is represented by two directors. The individual members of a "local" deal only through their director or directors.

Only those who are actually engaged in farming are eligible for membership in the local units. When admitted to membership in a local, a farmer takes out one share of common stock in the parent organization for which he pays $5.00. He cannot purchase more than one share. Each member gets one vote and only one vote. Overhead expenses of the parent association are met by fees charged shippers on a per package basis. Dues of $1.00 per year are paid in most of the local units.

The Wilmington Coöperative Truck Growers' Association at present has fifteen directors. A president and secretary-treasurer are elected by them annually. Mr. L. M. Johnson is the president of this association and Mr. W. C. Montgomery is secretary-treasurer.

The directors hold monthly meetings. Once each year a general meeting of all stockholders is held. Policies for the Association and plans for the coming year are discussed.

Selling Methods

At the shipping point of each local unit, the produce is assembled under the direction of a Loading Master who is responsible to the manager of the Coöperative Association, although in most cases he is selected by the members of the local which he represents. Usually each local has its own cars. Invoices are sent to the manager of the Association and all claims for damages are handled through his office.

The Wilmington Coöperative Truck Growers' Association is a member of the Federated Fruit and Vegetable Growers' Association, a sales organization for independent coöperative associations throughout the United States. It is made up of vegetable and fruit growers. It is governed by a board of directors, each independent coöperative association having a director on the board of the federated organization. The federated organization acts in the capacity of a jobber or commission house. The proceeds of each sale, however, are sent direct to the grower of the produce and not to the office of the Manager of the Wilmington Truck Growers' Association.

For several years all of the produce sold by members of the Wilmington Coöperative Truck Growers' Association was shipped through the Federated Association. At present about 60 per cent of the produce is sold through this organization and 40 per cent through independent commission men. The Federated Fruit and Vegetable Growers' Association has representatives in all the larger markets.

At present the individual growers coöperate only in loading the cars. When the car is consigned to a commission man, each grower's produce is sold on its own merits according to the grade, and he receives the proceeds of the sale direct from the commission man.

As mentioned previously, the Wilmington Coöperative Truck Growers' Association for two years performed the grading function. It was not a success. The members in many instances became dissatisfied because their produce did not receive the grade or rating that they thought it deserved. The problem of grading was made

especially difficult because of the fact that the Association did not have a central packing plant. While some consideration was given to the erection of a packing plant, it was not thought to be a feasible undertaking at the time and hence grading was discontinued. In general the grading function can be carried out successfully by a produce association only when all the grading is handled by the same group of men and these employees are carefully trained. A large amount of equipment is needed also.

Buying Functions

The Wilmington Coöperative Truck Growers' Association buys coöperatively for its members baskets and containers, seed, fertilizer, lime, tile, and in general, every kind of farm supplies for which there is demand for carload lots. Purchases of supplies total from $120,000 to $135,000 annually. Hundreds of dollars are saved the growers each year through coöperative buying. Higher quality merchandise is secured. In order to get the best quality obtainable a plan was perfected whereby all seeds are grown under contract by reliable seed companies.

When purchases are made through the Association each member pays the wholesale price plus 10 per cent to cover overhead charges. A questionnaire is sent out to members at the beginning of the year in order to get an estimate of their needs.

Independent Coöperative Association

The truck growers in Bladen County have their own coöperative association, composed of approximately 90 members. The Robeson County growers also have an independent organization with headquarters at Fairmont. This association has about 100 members. Both of these independent associations coöperate with the Wilmington Coöperative Truck Growers' Association and in many respects are the same as subsidiaries. They are not represented on the Board of Directors. Since they are located at some distance from Wilmington it was thought advisable for them to have independent organizations. They ship produce through the Wilmington association and buy supplies and seeds through it.

Castle Hayne Growers' Association

The Castle Hayne Growers' Association was formed two years ago and at present has approximately 50 members, most of whom live in the Castle Hayne settlement.

This association was formed largely by former members of the Wilmington Coöperative Truck Growers' Association who preferred to deal with commission men rather than to sell their produce coöperatively through the Federated Fruit and Vegetable Growers' Association.

They also objected to grading by the Association. It is stated that this association at present does no grading and sells solely through commission men.

BULB INDUSTRY

The growing of bulbs is rapidly assuming an important place in the Wilmington section. The growth of this industry has been due in part to the government embargo placed upon the importation of certain types of foreign bulbs in order to prevent the spread of plant diseases.

It was stated that in the spring of 1926 more than 10,000 narcissus, canna, jonquil, and other blossoms were shipped to Northern markets. The flowers are picked and tied in bunches of 12 to 25 blossoms. The majority of the bulbs are grown by Hollanders living in the vicinity of Castel Hayne, ten miles north of Wilmington. The soil there is especially well adapted to bulb growing and these farmers are experienced in this variety of horticulture. Mr. E. I. Tinga, a Hollander and a specialist in nursery work, is one of the largest growers of bulbs in this section. He has one of the finest small farms that the writer has ever seen.

THE MacRAE FARM SETTLEMENTS

The section on agriculture would be incomplete without mention of the land colonization projects of Mr. Hugh MacRae. These demonstration farm colonies have attracted nation-wide attention. The reader is doubtless already familiar with the work that has been accomplished. Articles describing the colonies in detail have appeared in magazines and newspapers.

Approximately 5,000 acres of land are already under cultivation in the settlements. In addition, Mr. MacRae operates a 500-acre farm known as "Invershiel" as a demonstration and experimental farm. On this big farm he raises beef cattle, experiments in pastures, builds up the soils, operates a commercial dairy, and does tractor farming. He wishes to demonstrate two things: First, that methods of scientific farming pay; and, second, that large tracts of unimproved land can be converted into intensive farming areas.

This farm is unusual in that the soil is kept in practically continuous productive use the year round. Each field grows each year three crops, two of them legumes. Mr. MacRae's crop scheme for year round profitable farming is presented below.

Crop Scheme for Invershiel

1. In September, October, or the first part of November, sow with Abruzzi rye or oats, either bur clover, annual melilotus or black medic.

2. After harvesting this small grain-legume crop in May and June of the following year, immediately plow the fields and plant or sow soybeans and clover or hay.

3. As soon as the soybeans can be harvested during the months of September and October disk the land and again sow small grain with bur clover, annual melilotus or black medic.

4. Maintain the quality of seed oats and rye by growing only seed from Coker's "pedigreed" varieties.

5. Prepare the land carefully for each crop, using sufficient lime and acid phosphate to insure good yields. Also take special care in proper inoculation of fields on which certain legumes are sown for the first time.

6. Increase soil fertility by

   (a) Plowing under one legume crop on one-third of the fields each year.

   (b) Spreading manure from the dairy and feeding lots, during January and February, on one-third of the fields.

(c) Fertilizing with acid phosphate or ground phosphate rock approximately one-third of the area under cultivation each year.

(d) Spreading marl every third year on fields from which legumes are regularly harvested.

7. Maintain a supply of dependable labor by paying good wages and by employing one-half of the number of laborers required on a salary payable semi-monthly. Estimate that every $2.00 paid out in wages should show up later in $5.00 market value of products.

8. Market all hay, stover and ensilage through the dairy or through feeding the beef cattle.

Farm Colonies

The chief demonstration farm colonies are at St. Helena and Castle Hayne. There are other communities at Van Eden, Delco and Artesia. Each community was first settled with highly skilled farmers of a distinct nationality: Italians at St. Helena, Dutch at Castle Hayne, and Hungarians in other settlements. Now colonists are mixed and each settlement contains several different nationalities. In addition to those mentioned are to be found Belgians, Germans, Danes, Poles, Slovaks, Bulgars, French, Austrians, and Russians. The chief value of having so many nationalities represented is that each has some one thing that he can contribute to better farming in the community. The successes and failures of the settlers are the common knowledge of the entire community. Native Americans have come into the settlements and the land adjoining them is being developed by the same system of scientific farming as that used in the settlement itself.

Most of the farms are of ten acres or less. Two and often three crops a year are raised on the same land. The figures below show cash returns per acre for one year on a small farm in one of the settlements.

Lettuce, $600; strawberries, $200; beets, $200; cauliflower, $500; snap beans, $250; cucumbers, $275; cantaloupes, $200; radishes, $75; onions, $120; peppers, $150; egg plant, $750; carrots, $75; cabbage, $150; spinach, $150; turnips, $150; tomatoes, $125; asparagus, $750; English peas, $150; Irish potatoes, $175; sweet potatoes, $125.

Influence of the Colonies

That these demonstration farm communities have been of great importance in the development of scientific method of farming in the Wilmington area is clearly evident to any one who studies the agricultural situation. People living in these communities are happy and prosperous. They have changed economic and social conditions in the section where they are located. Their influence, moreover, has been felt far beyond the boundary of this area. Agricultural leaders in other states have profited by these practical demonstrations of successful scientific farming. Farm colonization of this kind is no longer in the experimental stage. At the time that this article was written it was reported that similar colonization projects were to be undertaken in the near future by the Departments of Agriculture in both South Carolina and Florida.

SUMMARY AND SUGGESTIONS

The rich farming country around Wilmington has not been fully developed. There is much desirable land that is not even under cultivation. The soil in this section of the Coastal Plain is fertile and productive. The mild climate, the long growing season, the abundance of rainfall fairly evenly distributed throughout the year, make this region a favorable one for farmers who wish to engage either in general farming or in truck farming. Because of the long growing season two and sometimes three crops can be grown on the same land in a single year.

This section, moreover, should be attractive to those interested in the live stock industry. As noted elsewhere, the production of hogs and cattle is increasing rapidly. The supply of dairy products at present, however, is not equal to the demand. The city of Wilmington is supplied by 43 dairies. The average amount of milk sold daily in Wilmington from these dairies is only 1,908 gallons according to records kept over a long period of time by the District Agricultural Agent. This is less than one-half pint of milk per person per day.

The writer is led to conclude that Wilmington merchants have not recognized the agricultural possibilities of this section. If the farmers in the surrounding territory are prosperous they will be in position to purchase larger quantities of merchandise and their success will be reflected in increased sales in all of Wilmington's retail stores. It is to the direct interest, therefore, of business men to aid in every possible way in developing this agricultural district. Farmers should be encouraged, moreover, to trade in Wilmington. The further development of Wilmington as a marketing center for the hinterland would attract the farm trade and increase the business of every retailer.

Wilmington should logically be a marketing center for produce because of its location in the trucking district. Business men in several of the smaller towns nearby have in the past taken aggressive steps in establishing strawberry markets in their towns and they have been amply repaid for their expense and labor. Serious consideration should be given by business men of the city to the problem of how to make Wilmington a greater marketing center for agricultural products.

It is recommended that active steps be taken by organizations already existing, such as the Chamber of Commerce and the Wilmington Merchants' Association, to bring about closer coöperation between merchants and farmers.

While Wilmington is a busy port and manufacturing and industrial center, sport lovers find, after the day's work is over, many opportunities for recreation and amusement on its sounds, rivers, and lakes.

CHAPTER III

WILMINGTON'S RETAIL AND WHOLESALE MARKETS

By Malcolm D. Taylor
Associate Professor of Sales Relations

THE RETAIL SITUATION

Retail Trading Area

It is obviously impossible to define absolutely the limits of the territory served by Wilmington retailers. In general, based on information obtained from local merchants, the retail shopping or trading area includes the following counties: New Hanover, Bladen, Brunswick, Pender, Columbus, Onslow, and parts of Duplin, Robeson, and Sampson. It is estimated that there are 195,300 people living in this trading area. The number of income tax returns reported from this area in 1922 was approximately 4,600 as compared with 3,415 for the city of Wilmington. The popula-

TABLE XIV

Population and Income Tax Returns—Wilmington's Trading Area

County	Population in 1920	Income Tax Returns 1922	Population Per Income Tax Return
New Hanover	40,620	3,430	12
Bladen	19,761	80	246
Brunswick	14,867	80	185
Pender	14,788	60	245
Columbus	30,124	330	92
Onslow	14,703	70	210
Total	134,863	4,050	33
Duplin	30,223	260	116
Robeson	54,674	640	85
Sampson	36,002	200	180
Total	120,899	1,100	109
One-half of above Total	60,449	550	109
Wilmington's Trading Area	**195,312**	**4,600**	**42**

tion per income tax return for the entire area was 42 and for Wilmington 10. The population per income tax returns for the State of North Carolina was 44.

The population in 1920 and income tax returns in 1922 are shown by counties in table XIV. It was thought that not more than one-half of the people living in Duplin, Robeson, and Sampson counties could properly be included in Wilmington's trading area. The estimated figures given above were arrived at on that basis.

Competition

Wilmington merchants are in direct competition for the trade in the outlying parts of the area indicated with retailers in Goldsboro to the north, Fayetteville to the northwest, and Kinston to the northeast. There is little competition to the south. The manager of one of the department stores stated that in his opinion the competition of Charlotte was felt in the west, especially in the vicinity of Lumberton. Because of the excellent hard-surfaced road leading to the state capital, the competition of Raleigh is felt to some extent throughout the entire district. There are many indications that this competition will become more intense in the future. It is thought that it can be met to best advantage by Wilmington merchants through the service which they render to customers. It is generally recognized that retail competition today is becoming more and more a competition of service.

It is suggested that more attention be paid by Wilmington merchants to advertising as a means of meeting competition. The writer has closely followed the advertising appearing in the Wilmington papers during the past several months. In general, the advertisements have been good both in layout and copy. The writer's chief criticisms are that the selling appeals used by some retailers were too general, many of the advertisements themselves were unattractive, and often no definite reasons were given why a customer should patronize the store doing the advertising.

Most of the window displays of Wilmington merchants were attractive. A few of the windows however appeared to be overcrowded and bargain prices were featured too often. Overcrowding of windows with cheap merchandise tends to cheapen a store. Good window displays should raise the prestige of the store and not lower it. A good window display must be well balanced and properly focused; it must have unity; correct use should be made of colors, and it should have a logical and pleasing arrangement of its parts. A window decorator should attempt to make his display harmonious and distinctive. The display should reflect the character of the store. The store with attractive, well-planned windows is bound to attract customers.

Wilmington is well situated to serve the needs of people in its vicinity. It is the center of a large agricultural area, to which it is readily accessible. It is the terminus of several important state highways: Number 20, leading to Charlotte and Asheville and thence to Knoxville, Tennessee; Number 30 and Number 40, leading into Virginia; and Number 60, leading to Greensboro and Winston-Salem and thence to Tennessee. It is an important point on the Atlantic Coastal Highway, which bears the designation Federal Route 17 from the North via Norfolk to Wilmington and Federal Route 17-1 from Richmond to Wilmington.

Retail Shopping Section

The retail section of Wilmington extends approximately eight blocks on Front street, three blocks on Princess street, two blocks on Dock street, five blocks on Second street, four blocks on Third street, seven blocks on Castle street, ten blocks on North Fourth street, and three blocks on Nixon street. Front street is the most important shopping section. The best department and specialty stores are located there.

Number of Retail Outlets

In classifying stores according to type, the investigator faces many problems. Often no clearly drawn distinction can be made between stores of the same general type. A general store, for example, may call itself a department store, even though it has no distinct departments. On the other hand, a highly departmentalized store may prefer to be known as a specialty store because it sells no piece goods. Where a merchant does both a retail and a wholesale business it is difficult to determine whether his store should be classed with stores of other retailers or with those of wholesalers. There are unfortunately no generally ac-

cepted definitions for even the principal trades, and no official census of retail stores in the United States has ever been undertaken.

The following information taken from the Fourth Edition of *Population and its Distribution,* compiled by J. Walter Thompson Company, shows the number of retail stores in Wilmington in 1925. The count was made especially for this book by the R. L. Polk Company, publishers of city directories. Complete definitions of each of the different types of retail stores were carefully drawn up so that there would be no confusion or duplication in the final statistics. In the absence of official census figures, this listing is thought to be reliable.[5] Some of the definitions are, of course, open to criticism. For example, the definition for "Department Stores" appears to be too broad. It includes:

1. All concerns listed as "department stores" in directories, credit rating books, or other accepted trade sources.

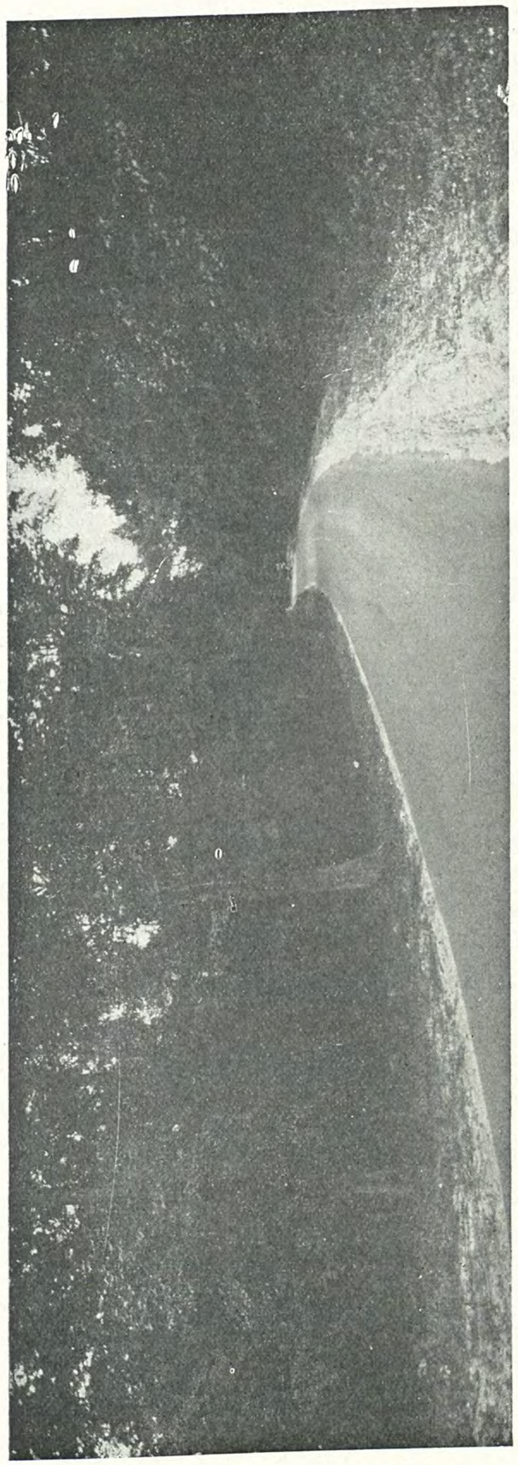
2. A few large general stores in places of considerable size, dealing in dry goods, house furnishing and clothing lines, and organized on a distinct departmental basis.

3. Some of the larger general stores selling within a specified price range (25c to $1.00 and a very few of the largest 5c and 10c stores) so situated as to justify ranking them as department stores in at least the notion and sundry lines.

Retail Outlets in Wilmington in 1925

Automobile Supplies	3
Automobile Garages	2
Automobile Repair Shops	16
Shoe Stores	9
Cigarettes, Cigars & Tobacco	7
Confectionery	28
Department Stores	10
Drug Stores	20
Dry Goods	14
Electrical Supplies	3
Furniture Stores	16
Grocery and Delicatessen	204

[5] Because of the limited amount of time at his disposal the writer did not attempt to verify the count of retail stores. A rough check was made by using the city and telephone directories. In order to make an accurate classification it would be necessary to visit each store.



Wilmington is the terminus of several of North Carolina's splendid highways. The above scene is on N. C. Route 40, or Federal Route 17-1, a few miles northeast of Wilmington.

Hardware	8
Jewelry	5
Men's Furnishing	16
Sporting Goods	3

A more detailed classification of retail establishments is given in the *Editor and Publisher's Market Guide for 1927*, page 195. It is stated in the introduction to this guide that the figures were compiled by the local newspaper men in the cities and towns surveyed on special forms supplied by the *Editor and Publisher*. The definitions of the types of stores included in the different classifications on which this count is based are not given:

Retail Outlets in Wilmington in 1926

Passenger Automobile Agencies	10
Commercial Automobile Agencies	4
Automobile Accessories	12
Automobile Tire Agencies	8
Bakers	4
Cigar Stores (including Hotels)	12
Confectioners (including Hotels)	25
Druggists	22
Dry Goods	6
Department Stores	4
Electrical Supplies	3
Florists	2
Fruit Stores	5
Furniture Stores	6
Grocery Stores	100
Hardware	5
Jewelry	5
Meat Markets	15
Men's Furnishings	10
Men's Clothing	8
Millinery	4
Musical Instruments and Pianos	5
Radio Supplies	3
Shoes	8
Sporting Goods	4
Women's Apparel	4

In the writer's opinion, there are only three stores in Wilmington that can be strictly classed as department stores. All three are branches of large chains. These stores carry an up-to-date line of merchandise, and their layout is modern and attractive. In contrast to the general policy followed by chain stores in many cities, complete lines of nationally advertised merchandise are offered for sale here. These stores are ably managed. The sales people are courteous and appear to have adequate knowledge of the merchandise which they sell.

Coöperation among Retailers

The merchants of Wilmington, according to the best information available, do not coöperate as closely as retailers in many cities. The chief form of coöperation is in the clearing of credit information. An organization known as "The Wilmington Merchants' Association, Inc." exists for this purpose. It has approximately 75 members.

Effort has been made through this organization to improve retail conditions both by means of education in better methods of retailing and through legislation against unfair competition. This organization some two years ago sponsored a Merchants' Better Business Institute. The program for the two-day convention was arranged by the Extension Division of the University of North Carolina. Problems of interest to retailers were discussed.

This organization has aided in securing state legislation favorable to retailers, such as bad-check laws. It also has been influential in securing the passage of local ordinances tending to prevent unfair competition. For example, an ordinance was drafted and passed to place a tax on salesmen who sold merchandise at retail from the hotels. The organization has been instrumental also in preventing peddlers from operating without a city license.

Monthly meetings are held by the association. Effort has been made to work coöperatively in enlarging the trading area of Wilmington. This coöperation has usually taken the form of city "dollar days," at which time merchandise is offered at considerable saving and a definite effort is made to attract country trade. Two such events are ordinarily held each year. Many retailers feel, however, that this plan has not been a success.

Comparative Statistical Reports—A Recommendation

It is believed that it would be to the advantage of Wilmington merchants to compare their operating expense figures with those of merchants in similar lines in other sections of the country. This can be accomplished through the agency of organizations such as the Harvard University Bureau of Business Resarch without revealing any confidential information. Published figures are expressed as "percentages of net sales" and the identity of cooperating firms is not disclosed. Individual retailers are thus provided with reliable standards of expense by which they can measure their own results. In order for a retailer to compare his expense figures with figures of merchants engaged in the same business in other cities, it is desirable for him to follow some standard classification of accounts. Valuable accounting assistance is given dealers by organizations through which figures are exchanged.

It is hoped that the School of Commerce of the University of North Carolina in the near future will undertake similar studies of operating costs which will be confined to merchants operating in North Carolina. State studies of this type would be invaluable. They probably can be made to best advantage through retail organizations already existing, such as the State Merchants' Association.[6]

THE WHOLESALE SITUATION

Number of Wholesalers

One who is familiar with the wholesale situation in cities in the north is surprised to find so many wholesale establishments in a city no larger than Wilmington. According to figures published in *Population and its Distribution* by J. Walter Thompson Company, Wilmington has eight types of wholesale concerns, as follows:

Grocery Wholesalers	19
Dry Goods Wholesalers	6
Hardware Wholesalers	4
Drug Wholesalers	4
Sporting Goods Wholesalers	4

[6] The writer will be glad to furnish further information regarding comparisons of costs of doing business, uniform accounting systems, etc. to merchants who are interested. He can be reached at the School of Commerce, University of North Carolina.

Automobile Supply Wholesalers	1
Confectionery Wholesalers	1
Men's Furnishings Wholesalers	1

Just as in the retail trade, no two investigators would agree on the number of wholesale establishments of a particular type unless before a count was made they formulated careful definitions setting forth clearly just what they intended to include in each classification. The classification given in the *Editor and Publisher's Market Guide for 1927* is as printed below:

Grocery Wholesalers	10
Meat Wholesalers	6
Fruit Wholesalers	3
Hardware Wholesalers	4
Dry Goods Wholesalers	6
Miscellaneous Lines	12

Wholesale Trading Area

The wholesale trading area is more extensive than the retail trading area. Grocery salesmen cover thoroughly a territory the farthest point in which is approximately a hundred and twenty-five miles from Wilmington. The president of one large wholesale firm states that the limits of the territory covered by his salesmen are as follows: Wilson on the north, New Bern to the northeast, Sanford to the northwest, and Mullins, South Carolina, to the southwest. Another wholesaler gives as the limits of his territory: Goldsboro on the north, Jacksonville and Pollocksville on the northeast, Hamlet on the west, and Marion and Conway, South Carolina, on the south.

Wholesale grocery companies in Wilmington employ from 1 to 5 salesmen each. According to the best available information, only 9 concerns employ more than one salesman. Of these nine companies, one employs 5 salesmen, two have 4 salesmen each, two employ 3 salesmen, and four have only 2 salesmen.

An interesting study of wholesale grocery territories in the United States was recently completed by the United States Department of Commerce.[7] The boundaries of trading areas tributary to 183 major ditsributing centers were defined and designated on state maps. The number of retail outlets and the trading population served was shown for each distributing center. The retail outlet count used was taken in 1923,[8] population figures were given for 1920.

[7] *Atlas of Wholesale Grocery Territories* published in 1927. Government Printing Office, Washington, D. C.

In this study wholesale grocers were classed as "A" "B" and "C" wholesalers.[9] Complete definitions for each class were given. In general, class "A" wholesalers were those who operated a strictly wholesale grocery business, while classes "B" and "C" included companies which operated as both wholesale and retail institutions, coöperative retail organizations, chain store buying agencies, cash and carry, and mail order wholesalers. For detailed definitions for each class the reader is referred to the Atlas.

Five wholesale trading areas are shown for North Carolina. Since grocers are predominant in wholesale lines in Wilmington, it may be of interest to note how Wilmington compares with other wholesale centers in the state.

It will be noticed from table XV that Wilmington's trading area contains the second largest trading population and the largest number of retail outlets. Wilmington wholesalers have more competitors than wholesalers located in the other centers. Charlotte wholesalers, however, have 37 class "A" competitors as compared to 26 class "A" competitors for Wilmington wholesalers. Competitors classed as "A" are located in the following cities and towns in the Wilmington territory:

Beaufort	1
Morehead City	1
New Bern	7
Fayetteville	3
Warsaw	1
Kinston	3
Marion, (S. C.)	1
Bennettsville, (S. C.)	2

[8] See the *Woman's World County Handbook on National Distribution*, 1923. The figures used were taken from this publication.

[9] Figures were compiled from the *Thomas Register of Wholesale Grocers* for 1925 and the classification used in this register was followed.

TABLE XV

COMPARISON OF RETAIL AND WHOLESALE OUTLETS IN FIVE WHOLESALE CENTERS

Wholesale Centers	Population		Retail Outlets		Wholesale Outlets by Classes								
	1920		1923		City				Trading Area				
	City	Trading Area	City	Trading Area	Total	"A"	"B"	"C"	Total	"A"	"B"	"C"
Asheville	28,504	251,511	209	1,585	12	4	6	2	33	16	12	5
Charlotte	46,338	624,467	225	2,756	11	6	3	2	79	43	23	13
Raleigh	24,418	366,672	116	1,689	11	4	3	4	45	14	18	13
Wilmington	**33,372**	**622,037**	**234**	**2,931**	**15**	**8**	**5**	**2**	**105**	**34**	**32**	**29**
Winston-Salem	48,395	415,117	281	2,222	14	3	6	5	64	21	25	18

Clio, (S. C.)	1
Goldsboro	4
Wilson	2
Total of Wilmington's class "A" competitors	26

The size of Wilmington's wholesale grocery area as given by the Department of Commerce is slightly larger than the territory indicated by the writer at the beginning of this discussion. Rigid boundary lines, of course, cannot be drawn.

Territory Covered by Hardware Salesmen

The salesmen of the hardware wholesalers cover a somewhat larger area than that noted above for wholesale grocers. One hardware wholesaler stated that his salesmen traveled north as far as Weldon, northwest to Greensboro, and South to Berkeley, S. C. Six salesmen were employed by this company. It was stated by several hardware wholesalers that the area covered by the hardware salesmen is gradually being extended. In contrast to this policy the present tendency of grocery wholesalers appears to be to cover a small territory intensively and in general to decrease the size of the territory covered.

Shipping Facilities

Wilmington is favorably situated for wholesalers covering eastern North Carolina and northern South Carolina. Many of the products are shipped to Wilmington wholesalers at a considerable saving via the Clyde Line, which maintains regular weekly sailings to and from New York. A typical incoming cargo for a Clyde Line steamer was stated by the manager of that line to be as follows: Cotton piece goods, miscellaneous groceries, hardware, rice from Texas (reshipped from New York), sugar, and canned goods. During 1926, 41,632,143 pounds of miscellaneous groceries, 4,012,342 pounds of dry goods, and 6,332,461 pounds of hardware were received by Wilmington wholesalers via the Clyde Line.[10]

Once or twice a year a steamer from the Pacific coast comes to Wilmington with a cargo for wholesale grocers. A typical cargo

[10] Figures were furnished by Mr. M. M. Riley, local manager of the Clyde Line.

for such a steamer was that carried by the Stuart Dollar of the Dollar Steamship Lines. On her last trip to Wilmington in December, 1926, the cargo included dried beans in bags (1800 tons), dried fruits, dried peas in bags, Del Monte canned fruits, and canned salmon from Seattle and Alaska.

The Influence of the Intracoastal Waterway

It is thought that the extension of the Intracoastal Waterway making direct connection between New York Harbor and Wilmington will be of great importance to wholesalers, and that it will reduce rates on all jobbing lines. In the Brief of the Wilmington Chamber of Commerce filed at the Hearing of the Extension of the Intracoastal Waterway from Beaufort, N. C., to the Cape Fear River, held at the Office of the United States Engineer, December 10, 1924, it was stated that:

The dominant rate making influence to the North Atlantic ports is the Erie Canal, which terminates properly at New York harbor. The extension of the waterway from New York to a South Atlantic deep seaport would have the effect of extending the Erie Canal influence as far as the southern terminus, which would be reflected in the entire rate structure between Norfolk and Wilmington, and probably would extend to all South Atlantic ports. The reflection of the New York rate to ports as far south as Norfolk was accomplished before the Intra-coastal Canal was constructed to Beaufort, but this adjustment was due to the rivalry of trunk line carriers serving the North Atlantic ports south of New York, a condition which did not exist among the rail carriers to the South Atlantic ports, in consequence of which the rate differential between the North Atlantic and South Atlantic ports was created and has ever since been maintained.

The present policy of the Interstate Commerce Commission is to ignore potential water competition as a rate making influence, which has resulted in raising rail rates to the South Atlantic ports to a dry land level. . . .

With the extension of the waterway to the Cape Fear River, Wilmington would be in position to avail itself of water rates approximate to, if not on a parity with, those applying at North Atlantic ports. Such a situation would at once be reflected far into the interior of the State, by reason of the fact that low water rates combined with intrastate rates would effect a considerable reduction through Wilmington, as against either the present scale or the proposed mileage basis now being devised by the Interstate Commerce Commission for Southeastern territory. . . .

From the foregoing it is clear that the intracoastal waterway is the key to the freight rate situation of the South Atlantic ports; that to extend the waterway to the Cape Fear River is the initial step in a far-reaching re-adjustment; that a competitive condition created at Wilmington would more than likely be reflected to other South Atlantic ports; that the dry land system now applicable and to be made applicable to rail rates to these ports would be modified by the introduction of actual water competition, and that the whole South Atlantic territory would eventually profit by the injection of this new element of water influence.

Major Oscar O. Kuentz, District Engineer, in his examination report to the Chief of Engineers of the United States Army on the Intracoastal Waterway from Beaufort to the Cape Fear river stated that in his opinion where shipments were made by water an average saving of about $3.00 per ton on transportation charges as compared with present rail rates would result on such products as flour, sugar, groceries, canned goods, hardware, and manufactured products. These commodities would be brought south in the barges that had gone north loaded with products such as lumber. He estimated that 80 per cent of the northbound lumber barges would return loaded either with the products mentioned above or with products such as coal, cement, fertilizer materials, and salt.

In his "Survey Report" issued February 8, 1926[11], Major Kuentz gave a tabulated comparison of barge rates and rail rates on certain commodities shipped from New York, Norfolk, and Philadelphia to Wilmington. The portion of the tables which deals with wholesale products is reproduced below:

TABLE XVI

THROUGH COMMERCE TO WILMINGTON

Commodity	Tons (estimated)	Rate per Ton		Difference	Total Saving
		Rail	Barge		
Fertilizer Materials	151,800	$5.45½	$1.36½	$ 4.09	$ 621,000
Sugar	35,000	5.20	2.33	2.87	100,000
General Merchandise (canned goods, salt, matches and wholesaler's heavy commodities)	182,324	7.00	2.40	4.60	839,000
Total, Southbound	369,124				$1,560,000

[11]See 69th Congress, First Session—House of Representatives Document Number 450, Pages 14 and 26.

Summary of the Wholesale Situation

That Wilmington has too many wholesale houses for the present volume of business must be clearly evident to any one who makes even a cursory study of the situation. In view of the increasing number of chain grocery stores, it would appear that four or five strong wholesale houses could easily handle the present grocery business in this territory. It is believed that two or three hardware wholesalers could cover the present territory thoroughly and the number of wholesalers in other lines probably could be reduced. One hears on all sides complaint regarding the severity of competition. The situation here probably is no worse than that existing in many southern cities. A combination of several small firms would seem to be highly desirable for all concerned. The writer recognizes, however, that such a plan is easy to suggest but very difficult to put into execution.

Just what effect the Intracoastal Waterway will have on the wholesale situation cannot be determined accurately in advance since so many unknown factors are involved in a discussion of the benefits to be derived. It is probable that transportation rates will be considerably decreased both because of low water rates on wholesale products shipped on southbound lumber barges and because of a reduction in rail rates brought about by water competition. If this occurs then Wilmington wholesalers will be at some advantage as compared to competitors in adjoining territories. They may be in a position then to extend the limits of their present territories. One wholesale grocer predicted that the size of the present territory would be doubled. It should be remembered, however, that although possibly not so favorably located, Goldsboro and Raleigh wholesalers may also take advantage of the rate reductions and route incoming merchandise through Wilmington.

Wilmington wholesalers certainly have much to gain from the extension of the Intracoastal Waterway. They will at least be in a position to take advantage of cheap water rates on merchandise from northern points. It is believed that Wilmington, because of its strategic location, should become the leading wholesale center of the state.

Mention should be made here also of the probable effects on wholesale business of deepening and widening the channel of the Cape Fear River, although this topic is discussed in detail elsewhere in this report. If the river channel were made 400 feet wide and 30 feet deep (it is now 300 feet wide and has a depth of 26 feet at mean low water), it is probable that Wilmington would be made a "port of call" for Pacific coast steamers. What is usually termed "the western conference" rate would then be in effect at Wilmington. The rate on products from the west coast then would be approximately 10 cents per hundred pounds lower than the present rate which prevails because of irregular and infrequent sailings. For example the present rate on dried beans is 55 cents per 100 pounds. This rate would be reduced to 45 cents if a regular freight service was maintained between this city and the Pacific coast.[12] Wholesalers of the city could coöperate in the purchase at regular intervals of ship loads of products from the west coast such as salmon and canned fruits.

MOLASSES

Since the American Molasses Company is primarily a "distributor" and, in many respects, performs the functions usually performed by a wholesaler, it was thought advisable to make mention of the activities of this company in connection with the section on wholesaling. The Wilmington plant is one of 5 plants operated by this company. The other plants are located in New York, Montreal, Boston, and New Orleans. Wilmington has been celebrated as a molasses port since before the Civil War. The United States engineer's figures for the Port of Wilmington show a business in excess of $1,000,000 in molasses for 1925. Imports of molasses during 1926 amounted to $1,115,250.

Imports of molasses, in short tons, 1914 to 1923, as reported in Port Series No. 9 issued by the United States War Department were as follows:

1914	2,661 tons
1915	1,081 tons
1916	1,564 tons
1917	940 tons

[12] The writer is indebted to Mr. R. A. Poole, Manager of the Wilmington Traffic Association, for the information on water rates.

1918	540 tons
1919	1,428 tons
1920	15,212 tons
1921	2,200 tons
1922	600 tons
1923	678 tons

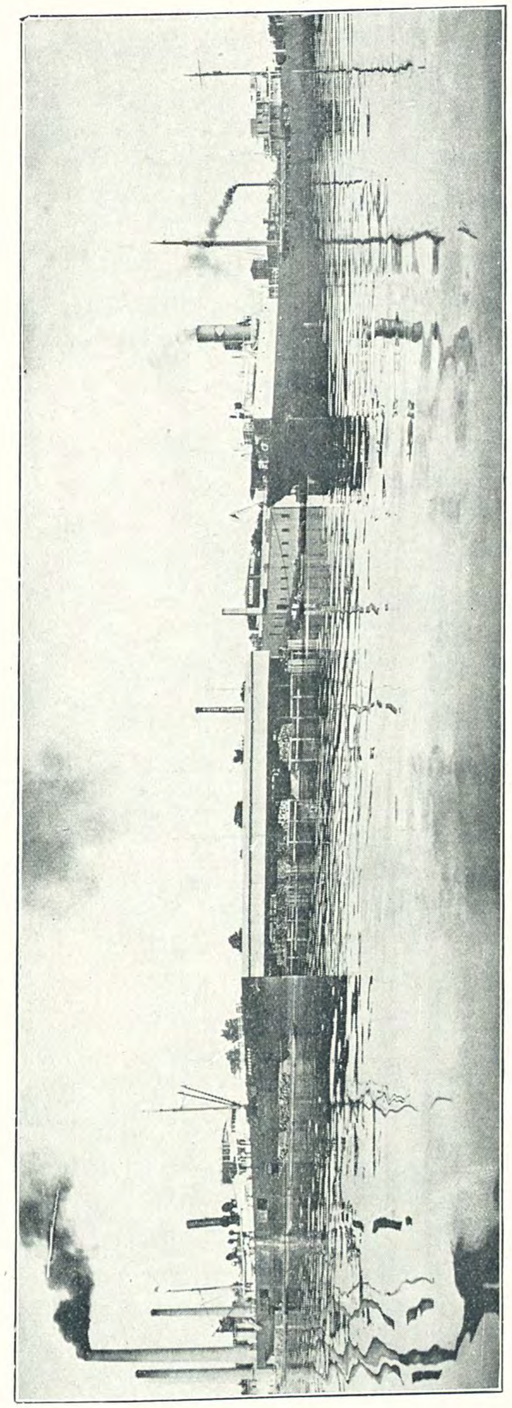
The facilities of the American Molasses Company at Wilmington are said to be unexcelled on the Atlantic Coast for handling this product. The company has extensive warehouses and huge storage tanks. It has a wharf with 140 feet frontage. Steamers drawing up to 28 feet of water can be accommodated here. The molasses comes from the islands of the West Indies, where old-fashioned molasses is still to be found. The crude, old-fashioned method of making sugar in the West Indies is very wasteful from the sugar-making standpoint, although it makes the finest molasses obtainable. This molasses is said to be sweeter than that made in the United States and therefore its use is more economical.

The molasses is imported in puncheons or barrels in the company's own ships or specially chartered schooners. At the plant it is "aged in the wood," usually for a period of about a year in order to enhance the flavor. The puncheons are then emptied into large tanks where the molasses is blended and graded. The molasses is next poured into new barrels and shipped to the company's customers.

The grocery grades of molasses are distributed from Wilmington throughout the southeast. Shipments go to the following states: Virginia, North Carolina, South Carolina, Georgia, Alabama, and parts of Florida. A large part is sold to wholesale grocers, who in turn sell the product under their own private brand names.

The company itself packs one grade of molasses in small cans for the fancy grocery trade under the brand name of "Grandma's Molasses."

A large quantity of crude molasses is shipped out in tank cars to points in the South and Central West. This is sold to feed mills. It is one of the ingredients used in making many prepared stock foods.



Coastwise and foreign shipments at the port of Wilmington are shown in the above view. Steamer at left is a Clyde liner loading lumber for New York; at right an American Molasses Company tanker loaded with a million gallons of molasses. Wilmington is the only port between Baltimore and Mobile through which the trade grades of molasses are imported, approximately twelve states being served through it.

CHAPTER IV

GENERAL SUMMARY AND CONCLUSIONS

By Edward J. Woodhouse

Wilmington and the Lower Cape Fear Region possess at least four great natural assets, namely, climate, fertile soil, easy access to the ocean and ample sheltering harbor, and great length of coast line.

Climate

The mean annual precipitation, computed from the Weather Bureau records for 36 years, is 51.05 inches, evenly distributed among all the twelve months of the year. The mean minimum annual temperature, computed from the same records for 35 years, is 54.5°, and the mean maximum annual temperature is 71.7°. The mean annual temperature is 63.1°. For seven months of the year (October to January, both inclusive) the daily mean temperature during the 35 years (1888-1923) did not run above 73° or below 38°. The range for the various months was: October, 73° to 55.2°. November, 64.5° to 45.8°; December, 57.6° to 39°; January, 55.9° to 38°; February, 57.4° to 39.4°; March, 64° to 45.6°; April, 70.2° to 52.2°. It would be difficult to find anywhere a more delightful range of temperature for such a large part of the year, and the mean maximum temperature has not during those 35 years gone higher in any of the other five, warmer months than 87.1°. California, Florida, and the coast and islands of South Carolina have been widely advertised as fall, winter and spring resorts on the basis of climatic advantages at least no greater than these, perhaps in some characteristics not even equal to them. The figures above are taken from the Port Series No. 9 bulletin, on the ports of Charleston, S. C., and Wilmington, prepared by the Board of Engineers for Rivers and Harbors of the U. S. War Department (pp. 104-5).

Mr. Taylor has dealt in his chapter on the agricultural situation with the climatic factors of that situation, but it seems worth while to quote (from a soil survey of New Hanover County, made by the Bureau of Soils of the United States Department of Agriculture in 1906) two observations on the climate of this region:

The location of New Hanover County on the immediate seacoast renders its climate mild and pleasant throughout most of the year. The Summers are long, but because of the very constant sea breeze the heat is not felt to the extent that it is farther inland. With the exception of brief periods of low temperature the Winters are mild. Winds from the northeast occasionally cause the temperature to fall to 15°, and sometimes as low as 8° F., but such cold spells are not of long duration. Light snows fall occasionally, but soon melt and disappear. The cold is never severe enough to hinder the growth of winter lettuce and a few other crops when cloth covers are used [no longer used as found unnecessary—Ed.] thus enabling the grower to market his product very early in the Spring. (p. 8)

It is worth noting that the absolute minimum temperature recorded during the 35 years of observation already referred to was 5° on February 14, 1899.

The soil survey already quoted makes these general statements on truck growing in this section:

New Hanover County lies about half way between the well-known trucking district about Norfolk, Virginia, to the north, and that about Charleston, South Carolina, to the south, and together with several neighboring counties west and north constitutes a trucking district or zone which possesses an important advantage in marketing its products. The earlier southern products are usually marketed before those of the central zone (evidently considered as including the Wilmington section) begin to move, and the bulk of the central crop is sold before that of the more northern comes in. In this way each section has its regular turn of about ten days in the market, and in an ordinary season there is little conflict with the other sections mentioned. (p. 30)

Further this survey states:

As a whole the conditions in New Hanover County are doubtless as favorable to an extensive development of the truckgrowing industry as in any other part of the seacoast section, which has many advantages by reason of its ideal truck soils and equable climate. (p. 36)

In view of the subsequent development of trucking, this discussion of 1906 may be now regarded as prophecy partly fulfilled, but in the opinion of these present investigators, the trucking possibilities of New Hanover and surrounding counties have much greater promise for the future than has yet been realized.

Wilmington has two splendid golf courses, one privately incorporated and the other municipally owned. Due to the mild climate, it is possible to play golf throughout the entire year, privileges of the two courses being open to all visitors.

The Port of Wilmington

Professor Edwin J. Clapp, a national and international authority on ports, has pointed out that the first and most important problem of nearly all ports is to get business, what he calls "the traffic problem." Of all the North Atlantic ports (and he might have added, probably, of all ports of the United States), New York is the only one having an engineering or operating problem more important than its traffic problem. Other ports need business; New York has more than it can handle to good advantage. Says Mr. Clapp:

> Port development means, first of all, more frequent and diversified steamship services. Steamship lines serve Boston (or any other port) for the purpose of carrying freight and passengers to or from the port and earning money therefor. It is important to see that these lines are supplied with commodious and convenient berths and sheds where they may handle their inbound and outbound freight. It is important to perfect any faulty present methods of getting this freight between the steamers and the freight trains. . . . But the most important thing is to discover and remove hindrances to the free flow of oversea or coastwise traffic through this gateway. A port is not the origin or destination of the bulk of traffic carried by its water lines. It is a concentration point or gateway, in severe competition with other gateways for the business of a common hinterland. . . . A great port is a clearing house for the exchange of freight between inland and ocean carriers. Here the railways and inland waterways, where there are such, exchange with the coastwise and oversea carriers. Here the coastwise and oversea carriers exchange with each other. Here one set of coastwise lines exchanges with another. . . . A great port is a focus of these lines of communication. Port development consists in increasing these lines in number and frequency, and facilitating their interchange. (*The Port of Boston*, 3-5.)

This same authority describes and illustrates in detail in the case of Boston the community value of a port in stimulating the industries of handling and repairing ships and the appliances and supplies that ships use; in adding to the warehousing and banking businesses; in increasing railroad business and earnings and thereby the earnings of the community; in attracting seaport merchants or dealers in imports and exports and seaport manufacturers, who get raw materials or ship their products by water, or both; in increasing the values of near-by farms, factories, mines and all other

producing agencies and of their products; by affording better transportation facilities. The influence of the port on its whole hinterland he characterizes by saying:

> The port is the servant of the interior; it represents the interior in its dealings with lands oversea and all along the domestic coast line. The port provides the smoothest mechanical and commercial apparatus for the movement of the inland freight to and on the water. It calls into life new water lines and betters the service of old lines. Its merchants find new markets for inland products. (*Ibid.*, 9)

Mr. Clapp's idea of the reach of inland cities and seaports is interesting and is thus described in his words:

> Draw a circle of 500 miles radius around a seaport and a circle of the same size around an inland city. Each area so enclosed represents relatively the area tributary to each center [and served by each center, as he has just previously said]. Half of the seaport's zone of influence is barren water [this statement certainly disregards the considerable productiveness of the seafood industry in and around Boston, Baltimore, Norfolk and other seaports, but practically all water area within 500 miles of seaports is relatively barren in production and entirely so in consumption]; the consuming land area which can be reached by 500-mile railroad rates is only half as large as that of the inland competitor. But so cheap is long-distance water transportation that the seaport, expending in water rates the equivalent of the 500-mile railroad rate, reaches a great number of domestic ports along the seaboard and, by transhipment at these ports, a wide strip of territory all up and down the coast. The extension of this tributary (and served) coastwise strip far beyond the 500-mile zone compensates the seaport for its loss in being half surrounded by water. It makes its land area, reached by the 500-mile rail rate or its water rate equivalent, greater than that of the inland competitor. (An instance of the manner in which water lines annihilate distance is the fact that water-and-rail rates to Atlanta are the same from Philadelphia, New York and Boston.) The extent to which these coastwise water services are used to turn a seaboard situation into an advantage, measures the degree to which a seaport realizes its opportunities, so far as domestic trade is concerned. (*Ibid.*, 11-12)

By the application of these principles to the facts of the Lower Cape Fear situation, it is easily seen that the development and increased prosperity of the port of Wilmington depend upon at least four important factors, namely, first, the utmost possible increase of both the producing and the consuming capacity of the territory served by the port and the extension of that territory;

second, and highly important in effecting the first, adequate transportation facilities and favorable rates to and from the port and throughout its hinterland; third, the extension of the coastwise shipping to and from the port in order to compensate for the largely non-producing and entirely non-consuming area of water in the eastern side of Wilmington's circle, whatever the radius of influence be taken to be; fourth, the "engineering and operating problem" of taking adequate care of the business secured by the solving of the three foregoing problems.

The Lower Cape Fear basin seems bound to become at some time in the future the seat of a great port, and Wilmington seems to be the natural center and capital of the region. The State Ship and Water Transportation Commission, authorized in 1923 by an act of the General Assembly of North Carolina, indicated in its Report in May, 1924, a strong conviction on this point, and used the following language:

> Access to markets through cheap transportation channels becomes more vital as specialized and large scale industries develop. North Carolina grew a million bales of cotton last year (1923) and will manufacture over a million, having more textile mills than any (other) state in the Union she grew the second largest amount of tobacco of any state and manufactured more than she raised; she stood fourth among the states in the value of the leading crops of the United States; she had about as many laborers employed in manufactures as Virginia and South Carolina combined, and the value of her manufactures was equal to the combined manufactures of both those states. And with all this and ranking thirteenth in manufactures in the United States, yet she does not export a dollar's worth of finished products through her own ports. . . .
>
> Specialized agriculture, fruit growing, as well as the growing of staples, creating an ever growing surplus, demand ready access to markets at rates which will allow farmers to compete with those of other states. Expanding industries will stagnate unless freight rates will allow their products to flow to the outside world in fair competition with those of other states.
>
> Cheap transportation is usually the deciding factor in commercial development; the location of a new industry is frequently determined by the matter of freight rates and transportation service.

The Solution of the Problem

After considering these questions from every angle, the Commission unhesitatingly declares that we should begin at once the construction of modern terminals so that we may get the benefits of the vast water-

ways of the state. We have a long ocean front, two spacious inland seas, 1300 miles of navigable rivers, and the inland waterway which connects with Hampton Roads, the Chesapeake Bay and the Delaware River.

The proper terminals and port facilities for a great sea port for ocean traffic should be provided in the Cape Fear basin. This port should be modern and so constructed as to appeal not only to the coastwise traffic but to sea going ships.

The ocean lanes swing in nearer the coast just off the mouth of the Cape Fear River than at any other port, and this should be make this port an attractive fuelling station and encourage making it a port of call for the vast amount of shipping which passes that point from the Panama Canal and the Gulf ports to Europe and return. This traffic is very large and is growing every year. The tonnage through the Panama Canal has multiplied ten times in the last four years and Wilmington and Southport are nearer the Canal than any other Atlantic port. Smaller ports and terminal facilities should be constructed at other points in the state for coastwise traffic. (pp.13-14)

Continuing its vigorous summary of conditions and far-reaching recommendations, the Commission said:

Every one admits that water transportation is much cheaper than rail. In fact, experts estimate that the cost is less than one-half.

Water transportation is the one outstanding competitive factor recognized by the rate regulating authorities as justifying an equalization of rail rates, and this competition, together with volume of traffic, is the only combination which will compel a reduction of rates.

Public Terminals Necessary

Some profess to think that terminals should be provided by private interests, The Commission finds that the whole trend of the times is the other way. States and cities are feverishly constructing public ports, and facilities for shipping. One port—that of Portland, Oregon, has been built 113 miles from the sea; and Los Angeles, California, has gone twenty-five or thirty miles to the sea and built a port, and the port of Houston, Texas, is being built fifty miles from the gulf at an expense of more than thirty millions of dollars. If we expect to have our ports and waterways improved by the United States Government we must have public terminals.

For your information we quote the United States Law on this subject:

"Every United States Port should own its own water front, and this should be controlled by a port authority composed of business men who have an excellent grasp of the export and import business and who are willing to devote sufficient time to the subject. These should be appointed without regard to political affiliations, and should take the

broad view that the port is the property of the people at large, and that the provision of the best facilities will promote quicker ship dispatch, attract more ships, and thus enlarge the commerce of the port; that while the port terminal should be self-supporting, the charges should be adjusted to produce this result, without injury to business, and that the growth of the port will mean the growth of the city and increased material prosperity to the individuals of the city and state. THOSE STATES WHICH HAVE ONLY ONE MAN PORTS SHOULD PARTICULARLY EXERT THEMSELVES TO DEVELOP IT ALONG THE MOST MODERN LINES. AND THE FIRST STEP IN THIS DIRECTION IS THE APPOINTMENT OF A COMPETENT PORT AUTHORITY."

And further, in the River and Harbor Act of March 2, 1919, appears the following:

"It is hereby declared the policy of Congress that water terminals are essential to all cities and towns located upon harbors or navigable waterways, and that at least one public terminal should exist, constructed, owned and regulated by the municipality, or other public agency, or other public agency of the State, and open to the use of all upon equal terms, and with the view of carrying out the policy to the fullest possible extent, the Secretary of War is hereby vested with the discretion to withhold, unless public interests would seriously suffer by delay, moneys appropriated in this act for new projects adopted herein, or for the further improvement of existing projects, if, in his opinion, no water terminals exist adequate for the traffic, and open to all on equal terms, or unless satisfactory assurances are received that local or other interests will provide such adequate terminal or terminals."

What is the use of the United States Government spending millions of dollars on our channels and harbors if we allow them to remain unused? If we use them the Government will improve them.

Then, too, it must be a public port because private enterprises cannot be expected to finance so great an undertaking. The initial expense in constructing terminals is so large that few private organizations can afford to undertake it. Small boat owners are certainly not able to do it and their competition is very necessary.

Then, too, it has been learned that when large interests develop a port they frequently make terminal charges and transfer rates so high as to give them a monopoly. Ships usually go, other things being equal, where they have the lowest charges and the best facilities, and public ownership of port facilities is the only guarantee of equal and just treatment to all.

State Terminals

There is no city in the state able to build, equip and maintain proper port facilities. If there were such a city it would scarcely be just to expect her to make such expenditures for the public good. We have

waited over a hundred years for some city or some persons or corporation to build us a port. . . .

The Commission believes, also, that it is better for the State to build, own, equip, and operate its own terminals, . . . Putting our waterways in condition to be used by the citizens of the State would be but a continuation of our highway system. We would link the two together. The highway beginning at an inland town would run to the port and thence to the ends of the earth. . . .

Almost every state and country that has an ocean port, or that can connect in any way with an ocean port is doing so regardless of the cost. These states deem no expense unreasonable if thereby they may gain access to the ocean, and shall not North Carolina, with its wonderful opportunity for building a great port [the Commission was obviously thinking of the Lower Cape Fear as the site of this great port—in fact, had already practically said as much] and subsidiary ports, spend the few millions of dollars necessary to this end, thanking God meanwhile that it does not have to spend ten or twenty times as much, as is the case with other states?

Public ports throughout the United States are uniformly successful and are not only self-supporting but are remunerative.

. . . . . .

In this connection, let us call attention to the fact that we are fortunate in having the Cape Fear River run inland from the port for over one hundred miles, and that when the third lock projected in that river is completed we will have a depth of eight feet as far as Fayetteville all the year round.

The Commission would also call your attention to the great importance of a coaling station in the Cape Fear basin. Not only would this be a great factor in making our port a port of call for ships passing near the Cape Fear basin needing coal but it would cause a great lowering in our coal rates on coal for domestic consumption. It is estimated that rate reductions resulting therefrom on this commodity alone would amount to more than $400,000 a year; enough to pay the interest on the total bond issue recommended to carry out the far-reaching constructive purposes provided for in this report. This lower coal rate would be the very tonic required to maintain and stimulate our industries as our other advantages become equalized with those of other states. It would give us what Virginia and many of the other states, already have.

Magnitude of the Project

The proposition is a large and important one, but not at all an impossible one. The cost is not as large by any means as that of the highways. When in 1919 the Bill for fifty million dollars for highways was introduced many were they that claimed that it could not be done. But in 1921 the Bill was passed, and it is doubtful if one could find

5 per cent of the people of the State who are not happy and enthusiastic over the highway program. The cost of the waterways program would be infinitesimal compared to its benefits direct and indirect.

The cost of the waterways, even if the state is obliged to operate ships, will be very small in comparison with the highways, and yet the waterways program will probably mean more in the long run in economic savings than the highways.

Operation of Ships

The Commission does not believe that it will be necessary to operate ships, but unquestionably it (the State of North Carolina) should do so if others will not. . . .

We believe that when the State provides safe and proper and adequate terminal facilities at our ports, with suitable loading and unloading devices, shipping companies will be glad to make use of our ports.

There is now great congestion in many of the larger ports in the country, and, therefore, there is more room for new ports. The United States has fewer developed ports considering its trade than has western Europe.

If North Carolina is ever to act, now is the accepted time.

Increasing congestion at the great ports makes new ones necessary, and as a nation becomes a greater exporter and importer of raw materials and manufactured products, the need for other ports will be accentuated.

As the volume of our produce in North Carolina increases, so also, should our water borne traffic increase and we should be ready in order that this traffic may flow through our own ports.

We have carefully investigated this phase of the subject and we are satisfied that there will be no lack of ships run by private companies to make our ports successful. But if private companies will not run ships, then the State should do so and could, we believe, do so at a profit. (Report, pp. 14-18)

As a result of this statesmanlike Report, the North Carolina legislature passed an act submitting to the voters of the State the issue of bonds up to $7,000,000 for the construction of terminal facilities and of $1,500,000 for the establishment of a steamship line. The people of the State did not feel ready to undertake such an enterprise and defeated the proposition at the election in November, 1924. This was merely a postponement of what the State will sooner or later have, either by private initiative or public, and the campaign served very good purposes as an educational influence in promoting unity throughout the State and spreading knowledge of what ports and waterways mean to the whole Commonwealth of North Carolina. It is difficult to see how such obvious advantages as would be afforded by the plan recommended or some similar undertaking can long be neg-

lected and lost. The seed planted by the leaders in putting forward this program will inevitably bear fruit, and North Carolina will have a port and waterway system with its center at the natural focal point of the Lower Cape Fear. It always takes a good deal of time for a great number of people to arrive at agreement and reach a decision on such an important question of policy, and the wide territory and varied interests of the population of North Carolina greatly increase the slowness of popular thought and action.

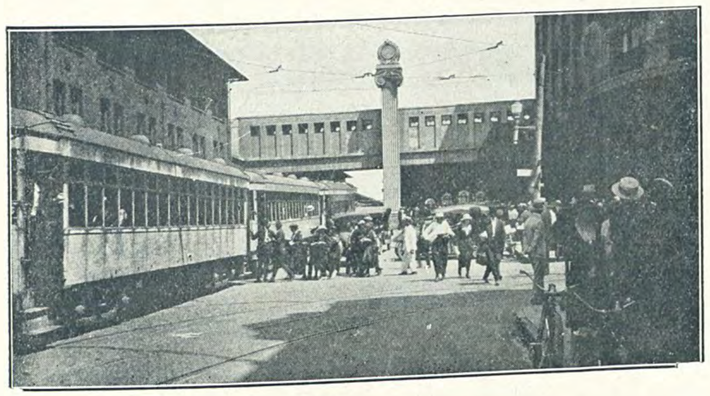
It is interesting to see that New Hanover County voted almost unanimously for the Port Development Bond Issue, only 146 votes being cast against and 7,178 for the measure. Furthermore, the people of Wilmington have not waited for the State to make up its mind and to coöperate in developing what are clearly natural advantages of state-wide character and influence. In addition to its seven wharves at street ends, with a total frontage of 350 feet, open to all free of charge, the City has bought from the United States Shipping Board the Liberty Shipyard and secured from the Legislature authority for the City Council to call an election prior to December 31, 1928, on a bond issue of $150,000 to provide municipal terminals on the site.

The remaining piers and wharves are owned by private companies, individuals and railroads. There is no separate dockage charge against vessels while loading and unloading at railroad wharves, but, if a vessel is moored to one of them for its own protection, the charge varies from $5 per day and up. As already noted above, there is no dockage charge at the municipal piers, but these are at present used only or chiefly for local traffic. At private wharves that are open to the public there are no dockage charges. (U. S. War Department & Shipping Board Bulletin, Port Series No. 9, p. 113)

There are 46 piers and wharves in Wilmington. This includes 2 facilities up the Northwest Branch (of the Cape Fear) and 5 facilities above the Hilton Bridge on the Northeast Branch. Of these piers and wharves, 10 belong to the railroads serving the port and 1 belongs to the United States Government. The remaining are privately owned. Seven of the piers are used for unloading fertilizer materials; 6 are utilized for the receipt of lumber, fertilizer materials and general freight; 3 for the loading of cotton for export; 3 for the receipt of kerosene and gasoline; 2 for unloading molasses, one from tankers and the other in barrels. Of the three piers that are used for handling coal, 1 is equipped for bunkering vessels direct. 3 piers are used for the receipt of logs, lumber and cooperage materials; 6 can accommodate small boats only, and 2 are used for freight and passengers, river traffic only.

All of the facilities within the city limits are served by the belt line which parallels the water front. The larger of the remaining piers and wharves have their own private connections. (*Ibid.*, 119)

Carolina Beach, fourteen miles south of Wilmington, is one of the most delightful mainland resorts on the coast.



Wilmington and Wrightsville Beach entertain scores of conventions every year. The two pictures above are typical convention scenes.

Port Administration

The control of the river and port is vested in the State of North Carolina and the administration authority is exercised through the Board of Commissioners of Navigation and Pilotage. This Board was created by an act of the General Assembly of the State, ratified March 6, 1907, and revised in 1915 and 1921 (See ch. 625, Public Laws of North Carolina, 1907, entitled 'An act to promote and protect the commerce of the port of Wilmington and the State of North Carolina').

The Board of Commissioners of Navigation and Pilotage consists of five members, all of whom are appointed by the Governor for a term of four years. These members serve without compensation. The Board has power to make and establish such rules and regulations to govern pilots as they may deem necessary; to impose fines, forfeitures, and penalties for the purpose of enforcing the execution of such rules and regulations; to examine and commission pilots; to appoint harbor masters; and it also has full and plenary power in all matters pertaining to or affecting pilots and pilotage on the Cape Fear River and Bar not covered in the act of the Legislature establishing the Commission.

There is no municipal board exercising jurisdiction over wharves or piers in this port except the wharves located at the foot of streets owned by the city. These are under the control of the Commissioner of Public Works of the City of Wilmington. (*Ibid.*, 112)

The existing project for the harbor at Wilmington and the channel to it provides for a channel 400 feet wide and 30 feet deep across the ocean bar, and 300 feet wide and 26 feet deep up the river to Wilmington. In April, 1927, the United States Board of Engineers in charge of the district granted a hearing to commercial interests of Wilmington and of other parts of Eastern North Carolina in support of a petition now before the Board to increase the depths of the channel from 26 feet at mean low tide to 30 feet, and a preliminary survey has been authorized for such a change. It is very probable that this deepening of the channel will be undertaken by the Federal Government when the city shall have entered upon the building of the proposed terminal at the Liberty Shipyard site acquired from the United States for the purpose.

The anchorage basin provided by the present harbor improvement project is 2,000 feet long, 1,100 feet wide at the upper end, 800 feet wide at the lower end, and has approaches, 1,500 feet long at each end. It, too, has a depth of 26 feet. The existing project for improvement of the Cape Fear River above Wilmington provides for a navigable depth at low water of 8 feet up to Fayetteville, 115 miles above Wilmington. Locks and dam have been completed but some dredging is still to be done. The channel and banks of the Black River have been cleared and the sharp bends cut off. (*Ibid.*, 107)

The one bridge already crossing the channels near the City limits, 1.5 miles above the mouth of the northeast branch of the Cape Fear is to be supplemented by another bridge, or rather two, one crossing the northeast branch from within the city limits and the other crossing the northwest branch. The two are to be connected by an improved highway and will afford greatly increased facilities for reaching and tapping the less developed but rich country across the two branches to the south and southwest of Wilmington. There are already six other bridges from 26¼ to 56 miles above the mouth of the Northeast branch, all being opened for boats, and six on Black River, from 14 to 53 miles above the mouth, of which 5 are opened for boats. On the northwest branch there is now one bridge 36 miles above the mouth, near Navassa, but one of the new bridges authorized by the Legislature and to be built by the State Highway Commission will cross it just at the mouth and be connected by a road on Point Peter with the other new bridge over the northeast branch above the terminals. This addition of two new bridges will mean much to Wilmington especially in the further development of the west side of the northeast branch and of both sides of the other branch.

Wilmington is most advantageously placed for water transportation, with an excellent harbor about three miles long and running the entire river front of the city and a mile above with low water depth 26 to 28 opposite the city and of 16½ feet on the Northeast branch for 2½ miles above the City, with 6 feet draft to Bannerman's Bridge 48 miles above the City on the Northeast branch and 3 feet for 8 more miles to Croom's Bridge, with the main or Northwest branch affording a low water draft of 18 feet to Navassa, about 4 miles, and of 8 feet to King's Bluff 38 miles away. This is ultimately to be carried out for an 8 foot draft to Fayetteville, and the City of Fayetteville has already authorized an expenditure of $75,000 for a municipal terminal as soon as the Federal Government shall have deepened the channel to 8 feet up to Fayetteville as originally planned in the improvement project. Black River empties into the Cape Fear (Northwest or main branch) about 14 miles above Wilmington and has a depth of 5 feet to Point Caswell, a distance of 24 miles; 2½ feet to Haws Narrows, a distance of 32 miles; and 1½ feet to Clear Run, a distance of 66 miles. Wilmington is, by water, 174 statute miles from Charleston, S. C., 259 from Savannah, Ga., and 412 from Norfolk, Va. (*Ibid.*, 103)

The development of the Wilmington section and of the whole of eastern North Carolina will be greatly advanced and speeded up by the extension, recently authorized by Congress, of the Intracoastal Canal from Beaufort to deep water in the Cape Fear River. An appropriation of $5,800,000 has been made for the extension of approximately 95 miles, with a width of 90 feet and

a depth of 12 feet at mean low tide. This connecting link will make one system of most of the inland waterways of North Carolina, enhance the value of each of them and enrich the communities thus furnished with facilities for cheap barge and small boat transportation in connection with deep water and ocean commerce. Wilmington will have a chance to compete with Norfolk for the waterborne trade of eastern North Carolina. Already third among the fertilizer ports of the Atlantic coast and distributing center for a great trade in molasses and petroleum products, it will reach a wider territory by means of this new connection and cheap protected canal transportation.

During the World War a considerable shipbuilding industry was developed (at Wilmington). Two of the large sites used have now been converted into industrial centers and terminals for the manufacture and storage of various products. . . . [As already indicated, one of the large shipbuilding sites has been acquired by the City and is to be converted into a municipal terminal.] Privately owned terminals [owned and operated by a compress and warehouse company] take care of a great volume of business. . . . Warehouses along the river front furnish nearly 1,000,000 feet of storage space. The merchants, manufacturers or jobbers in the interior of the State are able to route freight by water through this port, thus coördinating water transportation with railway lines radiating in a half-dozen directions to surrounding territory. Wilmington is a recognized wholesale and jobbing center, with an annual volume of approximately $60,000,000. Industrially there are nearly 150 different products manufactured in the city or in the hinterland, for which Wilmington is the natural outlet. (Louise T. Moore in the *Nautical Gazette*, vol. 113 p. 518.)

It is noteworthy that the tonnage and values handled at the port have almost doubled during the last ten years, as shown by U. S. Government reports. In 1916, the tonnage was 521,530, and the value of it was $34,310,564. In 1926, the tonnage rose to 951,337 with a value of $59,479,511.

Wilmington seems a very suitable place for the establishment of many more manufacturing plants. It and the surrounding territory furnish delightful living conditions; there is a plentiful labor supply except at the height of the fertilizer manufacturing season and always more women workers who would welcome steady employment outside their homes; many raw materials are already being produced and others could easily be produced to ad-

vantage. For instance, the shirt factory, already described by Mr. Holland, found no difficulty in securing enough women willing and able to learn shirtmaking and now has a waiting list for openings in the factory. There are two cotton factories already in Wilmington, making ginghams, handkerchief cloth and shirtings. Some of the shirtings are used in the shirt factory here. This is a natural coöperation and can be made increasingly profitable to both sides. This investigator wonders why more cotton factories have not been established in a region so favored for living conditions, nearness to the ocean for recreation purposes and seafood, with abundance of the raw material grown in the cotton fields near by, with the moisture declared by experts to be so necessary in cotton manufacturing that it has to be supplied artificially if not present naturally. And why not one or more handkerchief factories to use the handkerchief cloth made here? Would it not pay both manufacturer of ginghams and the incoming factory or factories if plants were established to make the ginghams into clothing for men, women, and children?

The presence of so much suitable raw material for the manufacture of paper pulp, the increasing scarcity of pulp, and the corresponding rise in the price of paper make one wonder why some one already in pulp manufacture, or some one else, has not already appreciated and seized the opportunity for a paper pulp mill.

The presence of so many fruits and vegetables and the ease with which more can be raised suggest more canning factories. One already operating took care of the surplus strawberries last summer and is now busily canning grapefruit shipped in by the carload. Potatoes, beans, peas, tomatoes, dewberries, huckleberries, corn, carrots, peaches, figs, spinach, beets, asparagus, grapes, okra, plums are all grown in the Wilmington section and shipped out. All of these articles, canned elsewhere, are sold in great quantities. Why are they not canned in and around Wilmington? The cold storage and warehouse company already established can take care of large quantities of such materials while they are awaiting the can preserving processes.

Thousands of beef cattle, hogs, and sheep, and millions of chickens might profitably be raised on the wide acres of rich soil and in the mild climate of the Lower Cape Fear. Carloads of

poultry are being marketed coöperatively by the North Wilkesboro section and other communities of North Carolina. Wilmington already has unusual transportation facilities and is soon to have even more and better. If stock were raised for meat in the surrounding country, small packing plants should be established to take care of the beef, pork and mutton, as Richmond has independent packing facilities to pack the meat raised in Southwest and Piedmont Virginia.

Dairy cattle seem to thrive in the Wilmington district, and yet Wilmington, all the rest of North Carolina and of all the other southern states eat every year thousands, probably millions, of pounds of butter, cheese, and canned milk, produced and manufactured in Wisconsin, Illinois, Minnesota, and other states less favored than North Carolina, and especially less favored in soil and climate than the Lower Cape Fear. Last year the newspapers carried a story of the shipping of refrigerated tank cars of fresh milk from Wisconsin to Florida. Why should it have to come as far as from Wisconsin if the southern states used their resources and opportunities? Even if the difficulties of transportation and of fluctuating markets made it not sufficiently profitable to produce and market fresh milk, that is no reason why butter, cheese, and condensed milk might not be produced at a profit almost anywhere in North Carolina. It seems to the writer that the Wilmington district is peculiarly favored for dairy cattle. Their introduction would mean a creamery or several in or near the city. Why not a large dairy farm and creamery combined? With abundant lumber and good transportation facilities, a furniture factory ought to find Wilmington an excellent location.

These are merely a few of the opportunities that seem apparent to one making even a brief, introductory survey of the city and its surrounding territory. There must be many more awaiting the fortunate persons, native or coming from the outside, who discover and take advantage of them. The natural resources and advantages are most unusual and are bound to bring corresponding expansion and development when they are once adequately appreciated by those able and ready to use them. The realization of the possibilities of any such fortunate region depends largely on the psychology of those acquainted with it. The natives and

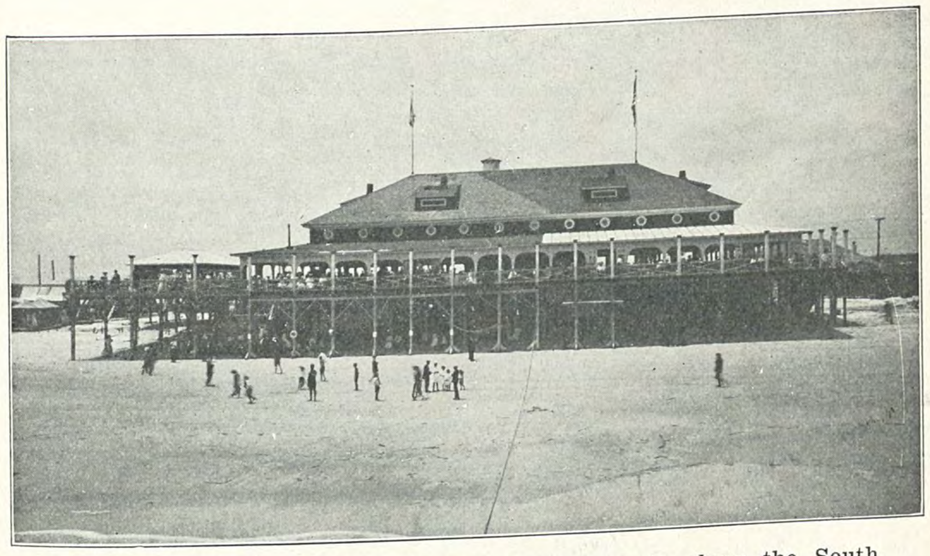
other residents of Wilmington have already done many fine things and are planning others for the upbuilding and prosperity of their section, but others, coming in from elsewhere and armed with knowledge of what other less-favored regions have done with fewer natural endowments, may see opportunities previously unnoticed and unappropriated. As these surveyors see the situation, the agricultural development of the hinterland, the industrial development of the city and its more immediate environs, and the development of the port and its rail and water transportation all go together and advance each other.

Banking and Credit Resources

The credit resources of Wilmington are ample for its present business and for its healthy growth and indeed form part of the basis for the unusual development that seems preparing for this community in the near future. In an examination of the banking resources of the state, county by county, published in the University News Letter of May 12, 1926, (Vol. XII, No. 26), Mr. Samuel H. Hobbs, Jr., puts New Hanover second among all the one hundred counties of the state with banking resources per inhabitant of $589.75. Mecklenburg, the only county ahead of New Hanover, had very little lead with $590.30 per inhabitant. Forsyth came third with $560. Mr. Hobbs gave the aggregate banking resources of New Hanover County then as $25,764,000. The U. S. Government Bulletin, Port Series No. 9, heretofore referred to, gave as one of the chief reasons for expecting Wilmington to be the port and waterway development proposed to be undertaken by the state the fact that Wilmington had the necessary banking facilities for such a port center. Two reasons given, in addition to position, were population and the possession of trunk line railroads. (p. 159.)

The North Carolina Corporation Commission Report for 1926 gave the three state banks of Wilmington aggregate resources of $8,618,963.43 as of December 31, 1926. The one national bank is a very strong one, and the fifteen building and loan associations offer ample aid to builders of homes and of business buildings for their own use or for rent.

New Hanover County and Wilmington are provided with an excellent aviation field, called Bluethenthal Field in honor of a Wilmington youth, Arthur Bluethenthal, who was killed in the French aviation service prior to America's entrance into the war.



Wrightsville Beach, one of the premier resorts along the South Atlantic coast, attracts thousands of visitors to Wilmington every summer. Lumina, the pleasure pavilion at this island resort, is one of the most attractive structures of its kind on the coast.

Wilmington and its surrounding country stand out, not merely for their already very considerable agricultural, industrial, and shipping achievements and for their still greater possibilities in those lines, but also as a playground and restful homeland unexcelled along the Atlantic Coast. There are four beaches and miles of ocean front within easy reach of the city, namely, Wrightsville Beach on an island nine miles east; Carolina, Wilmington and Fort Fisher beaches on the mainland, from 15 to 20 miles south. Some of the fine old estates on the banks of the Cape Fear date back to colonial days, and there are many beautiful home sites still available for those who prefer river-front residence to living directly on the ocean. When one has seen some of the New England beaches, in spite of their short seasons of mild weather, so closely built up and so densely populated that they have many of the problems of urban communities, one realizes that it is chiefly the ignorance and inertia of many of these people inhabiting the narrow and thickly settled limits of these northern beaches that prevent them from moving their business and their residence to a summer land like the North Carolina coast where there are thousands of acres of fertile land, miles and miles of ocean, bay and river front, and a climate never unbearably hot or cold but averaging delightful temperatures for living out-of-doors. Truly, climate, soil, ocean, rivers, good roads, railroad trunk line connections for both passengers and freight, and a city of comfortable size with many historical traditions and a well-established social life make the Lower Cape Fear region a land for homes, business, and seasonal sojourn with few equals and no superiors.

The natural advantages for recreation have been ably and generously supplemented by the city, the clubs and other organizations and private individuals. Wilmington owns a beautiful park with a lake in it of 123 acres full of fish, and with 37 acres of forest and cleared land around the lake, with the nucleus of a municipal "zoo," and with plans for a boat race course on the lake. This large municipal playground within the city limits but chiefly of open land and water and woods with a beautifully parked, planted and paved entrance, is thronged on holidays by people of all ages, occupations and classes.

Two 18-hole golf courses, one of them planned by Donald Ross and municipally owned and conducted, offer every chance for the golfer to keep up his game. Wild ducks, wild geese, quail, deer, raccoons, many kinds of fish, are plentiful. Excellent hotels in Wilmington and at the beaches furnish ample and satisfactory accommodations. The average summer temperature of 78° and the average winter temperature of 58° make this country an all-year-round playground for those objecting to the extremes of heat and cold.

One of the noteworthy features of Wilmington is that the industrial plants have been established there as much on account of the desire of the owners to live there as on account of the industrial advantages. It is seldom that a city and its surrounding country furnish such a combination of unusual trade and manufacturing advantages and at the same time of delightful living conditions. Most cities are cities of factories, of trade or of homes. Wilmington is a city of homes, of factories, and of trade. It has remarkable advantages for all three of these major phases of life. These features have had recent and most definite testimony of their existence in the removal of a truck package manufacturing concern from a small town, where its plant had been recently burned, to Wilmington, where it has taken over an existing package mill and will triple the output of that will. The resident owners selling the package mill will concentrate their operations on their lumber business and on the manufacture of materials for the making of truck packages. The new concern will bring in over a hundred workmen, employ others from the vicinity and manufacture all kinds of fruit and vegetable shipping containers demanded by the territory it serves.

The reports of the State Department of Public Health have shown year by year that Wilmington and New Hanover County form one of the most healthful areas in the whole state. This is a major consideration in the deliberations of any one thinking of coming to the city or the surrounding territory for purposes of agriculture, manufacture, trade, residence (in the case of those retired or not engaged in active business), or for rest and recreation.