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THE ARMY INDUSTRIAL COLLEGE
Washington, D. C

Course 1935-1936

PROBLEMS AND TRENDS IN THE COTTON TEXTILE INDUSTRY

by

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AIC 82 (12/10/35)24

October 28, 1935.

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In dealing with problems and trends in the cotton textile industry before this meeting, I am assuring that the major emphasis should be laid upon the position of this industry with respect to industry generally, its size, its scope, the nature of its products and their uses, whether it is a self-contained industry from the standpoint of dependence, or absence of it, upon other countries, and its methods of marketing; in short to aid you in understanding how the resources of this industry can be utilized by the Government in times of war.

Let me say at the outset that I like to count myself as one of you. I was schooled by the Regular Army in one of the Reserve Officers Camps in 1916 - again at the First Officers Training Camp at Fort Oglethorpe, Georgia in 1917, and again with a Regular Army outfit with which I went overseas during the late war. In inviting me to meet with you today, Colonel Jordan, your Director, very graciously referred to one or two positions that I have previously held in the Cotton Textile Industry and for which I shall always be grateful to the members of that industry. But I can say to you in all sincerity that nothing has or will come my way in this life that I shall treasure more than my friendship in the Army and the Infantry Reserve commissions I held in my country's service.

In this statement I shall deal with the output of cotton spindles and cotton looms, in other words, what is known as the cotton manufacturing industry. This starts with the opening of a bale of raw cotton and its manufacture into yarn as it comes from the spindle and into cloth as it comes from the loom.

May I remind you that this is a basic industry which in turn supplies the raw material for many other industries closely associated with it that carry its products, by further advancement in manufacture, toward the ultimate consumer stage. For example, what I have to say does not embrace the garment manufacturing industry although that industry probably utilizes $2\frac{1}{2}$ to 3 billion yards annually of cotton fabrics, nor do I include the knitting industry which in 1929 used approximately 250,000,000 lbs. of cotton yarn, or the equivalent of about 600,000 bales of cotton, as well as large quantities of silk, wool and rayon yarn from which it manufactures hosiery, underwear and outerwear. The manufacture of garments, whether from woven materials or knitted are distinct phases and should receive separate treatment.

The cotton fields of the south supply the raw material for the cotton manufacturing industry. Foreign fibres are of negligible importance in American consumption despite the fact, unhappily, that American cotton farmers are now experiencing increased competition in foreign consumption.

Note:

Exports of Raw Cotton Excluding Linters
Years Ending July 31st

1926	-	8,051,491	Running Bales
1927	-	10,926,614	" "
1928	-	7,539,945	" "
1929	-	8,043,588	" "
1930	-	6,690,709	" "
1931	-	6,759,927	" "
1932	-	8,707,548	" "
1933	-	8,419,399	" "
1934	-	7,534,415	" "
1935	-	4,795,339	" "

The above figures for the 1934-1935 season indicate clearly to many of us close to the situation the effect of the Agricultural program of the present administration. It is hoped that the recent change in loan policy will tend to restore American cotton to a competitive position in world markets. The first sign of encouragement in this direction is to be found in the fact that for the first time since December 1933 the export of cotton this week has exceeded the export for the same week in the previous year. In 1934, only about 2% of the raw cotton processed in this country was imported. In fact, about half of the raw cotton raised here is exported to cotton mills all over the world. It is, therefore, a self-contained industry, so far independent of the rest of the world in obtaining raw materials.

From the standpoint of the number of persons employed, it is the largest manufacturing industry in the country, giving work in normal times to between 400,000 and 450,000 persons. The peak of employment was reached in 1927 when an average of 467,000 people were employed. During periods of subnormal demand, following the year of 1929, employment fell below 300,000 but when the Cotton Textile Code was made effective it reduced the labor shift to 40 hours as against an average of 54 hours. Immediately employment jumped to 445,000 and in later months in the Code period, reached 456,000. Present employment is about 380,000. This industry therefore, employs more people than the great iron and steel industry or the automobile industry and is larger than the paper and rubber industries combined.

It is predominantly a small establishment industry. Of the 1200 mills in the industry only about 50 can be characterized as very large, and the largest of these in any single establishment would not employ more than seven or eight thousand workers. On the other hand, there are 700 small mills whose average employment barely exceeds 200 persons. Moreover, the industry is in the main located in small communities. More than half of the workers employed in communities have a population of less than 10,000. Only 15% of the workers are employed in communities having more than 100,000 population.

As to the location of these cotton manufacturing centers, they are mainly in New England and in cotton growing states. The principal cotton manufacturing States, in order of importance, are the Carolinas, Massachusetts and Georgia. These States have two-thirds of the spindles. In recent years there has been a steady increase in the importance of cotton manufacturing in the cotton-growing States and a decrease in the New England States. About twenty years ago the New England States predominated but at present the cotton-growing States have nearly two spindles to one spindle in New England. Of the total spindle activity of the industry, the cotton-growing States contribute about 70%. Broadly speaking, cotton mills in New England specialize on finer or combed yarn fabrics. Such fabrics as lawns, voiles, fine broadcloths, organdies are predominately made in New England. At the same time there are important mills in the South that make these fabrics. Medium and coarse yarn goods, such as print cloths, sheetings, drills, tire fabrics for automobiles, cotton duck are, with some notable exceptions in New England, confined largely to the Southern States. In the case of bed sheetings, one-third continues to be produced in the North and the remainder in the South. With a few important exceptions fabrics for work clothing are also confined to Southern mills. As to cotton blankets and flannels they are made both in Northern and Southern mills.

The most important volume fabrics that are produced by cotton looms are sheetings and print cloths. Together these comprise 40% of the total yardage produced. They constitute largely staple fabrics for apparel and household use. In addition to these, there is an almost endless variety of other fabrics, from heavy cotton duck made of coarse yarns to sheer fabrics, of spider-web fineness. Cotton goods are usually visualized as being used for apparel and household purposes and their importance in industry is not realized. Roughly, 40% of the cotton goods manufactured are used in industry or agriculture. The bag trade uses many millions of yards of cotton goods as containers for flour, sugar and other commodities. Cotton fabrics are used as filter cloths in many industries, such as in oil, chemicals and paints. Also, cotton is used for tarpaulins, bookbinding, harvesting machines, awnings,

- automobile tires and upholstery, belting, plant coverings, especially tobacco, and an important use for cotton yarn is in insulation of wires, cables, the manufacture of fire hose and for twine and rope. Cotton fabrics are being introduced in road building as a membrane, when combined with a coating of tar to prolong the life of the road.

Since about 40% also of the cotton fabrics are used in apparel, they are to some degree affected by style influences. The fluctuations in industrial activity combined with the effect of style influence has caused a considerable variation in the aggregate amount of goods produced. The high point in recent years was in 1927 when per capita production, exclusive^{of} yardage exported, amounted to 72 yards. In 1929 it was 66 yards. In 1932, 49 yards (the low point) and in 1933 and 1934, 62 and 55 yards respectively.

Mention has been made that the chief raw material for the cotton manufacturing industry is supplied by the cotton fields of the South. Since the supply of cotton is to a large extent influenced by factors beyond the farmer's control, such as the weather and insects, there have been extremely wide fluctuations in the price. In 1923 when the small domestic crop amounted to only 10 million bales, the price rose from 25¢ to 36¢ a pound in a period of five months. In 1926 when there was a record-breaking crop of 17,750,000 bales, the price dropped from 18½¢ to 12½¢ in five months. In the middle of 1932, a low point of 5¢ a pound was reached compared with 9¢ a pound at the corresponding period in the previous year. Depressed conditions in business generally throughout the world was the major influence in effecting the latter fluctuation. The natural effect of such wide fluctuations as these is to contribute a high degree of speculation to the business of cotton manufacturing. It is true that the mills have the opportunity to counter-balance the effect of these wide fluctuations by hedging operations on the Cotton Exchange, but this is an inadequate protection against inventories of finished yarns and fabrics. The periods of profit and loss in an industry have in the past corresponded fairly closely with periods of rising and falling prices for raw cotton. Such meager prosperity as has been enjoyed by the industry at certain periods in the past seven or eight years can be ascribed largely to the improvement in the value of inventory on account of advance in the price of raw cotton. The persistently declining market for raw cotton has spelled loss for the industry, as a mill cannot continue in business without inventory of finished and partly finished goods.

The tending of many types of cotton manufacturing machines is a process peculiarly suited to women labor. About 40% of the

employees in cotton mills are women. Significant from military standpoint - in time of war 60% and balance old men if need be For this reason it frequently happens that more than one member of a family works in a cotton mill. Today the labor shift is short - 40 hours per week. The close proximity of the mill village to the cotton mill permits a worker to lose a minimum amount of time in going to and from his job. Workers starting at 7 a.m. are through in the middle of the afternoon and do not work Saturdays. For mills operating a second shift the workers on that shift are through before midnight. I believe I am safe in saying that the number of workers available is entirely adequate for the demand for them. The seasonal influence is a strong factor in providing employment. In some years the difference between peak demand during the spring and fall and the low point in midsummer means employment or loss of it for as many as 50,000 workers. Furthermore, those that are employed during periods of slack demand can be given work only part time.

You have probably read that the Cotton Textile Code, during its effective period, fixed the minimum wages of cotton mills operatives at \$12.00 per week for 40 hours in the Southern section of the industry and \$13.00 in the Northern section. It may have escaped the attention of the public that these were minimum wages. As a matter of fact, the earnings of workers in various occupational groups in the industry ranged from 20 to 40% and more above these figures. Also, hundreds of mills maintain mill villages where rent, water and lights are provided at a nominal cost that amounts to from 10 to 15% additional if translated into real wages. Aside from the textile strike attempted in September, 1934, the cotton mills have been remarkably free from labor disturbances. This^{is} probably due in large degree to the prevalence of owner management and a consequent close relationship between the employer and the employee. I could tell you much of the textile strike and of the flying squadrons introduced to intimidate the rank and file of workers who wanted to work. An ill advised attempt pure and simple to amend a Federal Code by force. Before leaving the subject, however, let me say that it might have had more than passing interest to the U. S. Army. If there is any doubt in your minds listen to the words of General Hugh S. Johnson in his book on the N.R.A. You will find -

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"It was not a strike vs. employers. It was a strike against the Code which is a strike against the government."

The industry has not followed the stabilizing efforts of other large industries in drawing closer together by means of consolidation; it has tenaciously preserved its characteristics of a highly individualistic industry composed of many small units.

Only four cotton mills organizations are listed on the New York Stock Exchange and the aggregate amounts of the firms so listed is negligible compared with the entire industry. Even the largest organization in the industry is only one-thirtieth of the total. For an industry engaged in the production of a staple commodity susceptible to mass production and large scale marketing, its persistence as an industry of small or medium sized units is noteworthy. This condition of multiplicity of independent managements, combined with an excessive over-capacity for production, furnish two of the basic problems of the industry. They are responsible, in part, for the failure of the industry, over long periods, to market its goods at prices that cover the cost of production. Competition is intense and often hopeless in its destructive nature. Balancing the years in which there was a profit with those in which there was a loss the industry during the period 1926-1932 lost \$131,140,000. During 1933 and the first half of 1934 when there was a sharp enhancement in the value of inventory on account of increasing values for raw cotton, the industry made a small profit but in the latter half of 1934 and in 1935 it again went on a losing basis. It is, therefore, in the coordination of manufacturing and merchandising that progress must be made. As matters stand, about 700 or 800 independent managements are attempting to market the product of machinery which can produce twice as much goods as the public will buy, and under self-imposed limitations, can still produce far in excess of requirements. Consequently there is a constant pressure on the price level and a struggle for survival. As a step toward correcting the great over-capacity, the mills several years ago voluntarily reduced labor shifts to 55 hours during the day and 50 hours at night in place of longer shifts previously in force. This had the effect of encouraging single day shift operations but succeeded only to a small extent in narrowing the wide gap between capacity for production and the requirements of the public. Later, when the Code went into effect, the labor shift was shortened to 40 hours and the operation of productive machinery was limited to 80 hours per week. The result of this drastic shortening of shifts was the widespread introduction of a second shift in mills that had hitherto operated but one shift and can hardly be said, in view of the present diminished demand for cotton goods as compared with 1929 and previous years, to have materially improved the situation. Although the Code is no longer in effect, 98% of the mills are voluntarily adhering to the 80-hour limitation on machinery but notwithstanding such a limitation they still have facilities for producing 50% more cotton goods than required. One might naturally inquire whether the operation of natural economic forces would not in time correct this situation by removing the weaker units from the competitive field. The difficulty is that although management of mills and liquid assets of mills frequently pass out of the picture the machinery remains and goes

through receivership or is bought by other companies. It does not disappear but instead becomes a more dangerous competitor than ever on account of the low capital charges under its new status. The problem, I am sorry to say has been aggravated by the Government's policy of making loans to industry.

It is true that a considerable part of the machinery in the industry has disappeared during the last ten years due principally to obsolescence and has not been replaced. There are approximately 30 million spindles now as against 38 million in 1925, 10 million scrapped, 2 million new ones added. At the same time there have been many replacements with newer and more efficient spindles. The effect of the newer machinery plus the wider practice of night running has not improved the relationship between demand and capacity to produce, especially in the light of the smaller demand for cotton goods that now prevails as compared with five or six years ago. There is no social or economic need for the night shift as formerly operated by many mills prior to the Code.

The Cotton Textile Code has a far-reaching and almost revolutionary effect upon the cotton manufacturing industry. It added 100,000 workers to the payroll; it reduced the work week from 48, 55 and 60 hours in various textile centers to an industry-wide level of 40 hours, it raised hourly earnings more than 75% compared with the pre-Code levels and it caused an increase of 80% in the labor cost of processing a bale of cotton. These significant developments alone necessitated adjustments in manufacturing costs that seriously increased prices, but they were accompanied by a simultaneous tax on the processing of cotton amounting to over 4¢ a pound. Consequently the use of cotton goods is held back. It is a fact that less cotton was manufactured during the year ended last July than in any similar period, with the single exception of the 1931-1932 season, as far back as 1921. In other words, the industry is back to where it was 13 years ago in the amount of cotton it is able to market in this country and abroad. On numerous occasions we have argued before departments of the Government that if farm benefits could be obtained from other sources than the taxing of cotton products, i.e. the processing tax which in effect means a heavy sales tax on necessities of life, the American public would be more able to buy their normal quantities. So far, our pleas in this respect have gone unheeded. In addition to the diminished demand from domestic markets, American cotton mills are losing out in World markets. As previously pointed out, our export trade has amounted to but 7% of the total yardage produced but even 7% represents a substantial yardage, i.e. about 500,000,000 yards annually, which gave employment to nearly 30,000 people.

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Exports for the first seven months of this year were only half as much as in the same period in 1933, before the Code became effective. Accompanying the decline in our export trade has been an increase in imports. In the aggregate the imports appeared negligible but the difficulty is that they have been concentrated in certain ranges of fabrics and produced intensive competitive conditions among certain types of mills. American mills have found it especially difficult to cope with imports from Japan at excessively low prices. For example, imports for consumption of Japanese fabrics in the classification of bleached cotton cloth amounted in the first eight months of this year to 20,591,000 square yards or nine times more than the same period of 1934 and fifty-five times as much as in any previous year back to 1925.

It is a discouraging fact that during almost the entire year of 1935 the cotton manufacturing business has not shared in the improvement that has been registered in business generally. Although mills feel that if manufacturing costs should be lowered to a level approximating those prevailing in 1929 and previous years which, of course, would mean the avoidance of the processing tax, more cotton goods could be sold than they have been able to sell this year, they are continuing to observe voluntarily the Code schedule of wages and hours. I believe this is in line with the desires of the President. The record of the industry is truly remarkable in this respect as only about 5% of the industry has departed from the Code standards. During the last two months there has been a seasonable upturn in business which has brought a little improvement. The volume is, nevertheless, still substantially below normal. We are obliged to depend on an increasing purchasing power on the part of the American public, a restoration of our export trade and relief from continuing imports, in order to consume our customary share of the product of the cotton farmer of the South and give adequate employment to mill workers.

There is a good deal of agitation among labor leaders of this country for a 30-hour week. I firmly believe this would spell disaster for the cotton manufacturing industry. Our cotton goods would disappear from World markets and no tariff wall would be high enough to keep out foreign goods manufactured on long-hour and low wage schedules. Moreover, it would give a still further boost to the price of cotton goods in domestic markets and leave the way open for the successful competition of other fibres and commodities such as paper, jute and rayon to make further inroads on the markets hitherto enjoyed by cotton.

It is not far wrong to say that the number of fabrics which can be manufactured in cotton mills is infinite. Among the factors

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in the production of unfinished fabrics which may be varied to alter the character of the goods are the size or number of the yarns employed lengthwise (i.e. the warp yarn) and widthwise (i.e. the filling yarn), the number of lengthwise threads per inch (known as "warp ends"), the number of widthwise threads per inch (known as "picks"), the width of the fabric, and the particular nature of the weave or method of interlacing employed.

All these varying factors change the costs of manufacturing such fabrics. To demonstrate this we may note some of the reasons why, entirely apart from raw material costs, it costs more to spin a fine yarn than a coarser one. In the processes preparatory to spinning, the material for the fine yarn must be processed much more thoroughly, treated more delicately, perhaps subjected to more processes, and therefore passed through the mill much more slowly. At the spinning process, while the speed of the spindle is greater, the yarn must be fed to the spindle more slowly in order to introduce the increased twist necessary to give the finer yarn adequate strength. Hence a given length of fine yarn is spun much more slowly than the same length of coarse yarn and there is the further consideration that of these same two lengths the finer yarn represents less weight. These factors then affectuate wide differences in the manufacturing costs of different yarns, especially when it is observed that there are not only single yarns but yarns which may be two-ply, three-ply or even ninety-ply.

At the loom weaving the fabric, similar circumstances altering the manufacturing costs are encountered. A given loom at a given speed will obviously produce a higher poundage of cloth during a certain period if the fabric, otherwise identical, consists of heavier yarns. All other things being equal, if the width of cloth in a certain loom is increased or if the warp threads per inch are increased the weaving cost will be reduced because a greater poundage is being fed to the loom with its speed unchanged. On the other hand, if additional picks or filling threads per inch are introduced the weaving cost is increased because the loom inserts only one pick at each revolution and the rate of output is therefore reduced.

I believe the foregoing simple references will be sufficient to indicate the intricacies involved in accurately determining the costs of individual textile products and the almost infinite variety of results when dealing with so many different products. One has only to review quotations in the trade press to get some idea of cost differences due to variety of product, where we see 10s single yarn quoted at 28¢ per pound and 80s two-ply yarn at 79¢ per pound, print cloths at 6-3/8¢ per yard or about 34¢ per pound and high grade broadcloth at 26¢ per yard or \$1.15 per pound. Unfortunately, market price differentials, however, seldom reflect accurately true

cost differentials owing to the state of supply and demand with respect to each item. The only thing regarding market price quotations of which we in the cotton textile business have been reasonably sure for a long time is that they quite generally fail to equal our full cost including replacement or material, much less afford a profit!

With so wide a field of costs which might be covered it would be merely tedious if I should attempt to refer to the cost of more than a single cotton fabric - for example, a staple unfinished print cloth. This class of goods is the one most widely produced, it is of medium weight and of simple construction. It should be of especial interest to you because in this general category of manufacture fall the fabrics used for bandages, surgical tape and surgical dressings.

Figures submitted by the Cotton Textile Code Authority some time ago, at a hearing before the N.R.A., indicated the average manufacturing cost of a staple unfinished print cloth to be 17- $\frac{1}{2}$ ¢ per pound. This figure consisted of 10.1¢ for labor, 2.1¢ for supplies and repairs, 1.8¢ for power and fuel, 1 3¢ for insurance, village maintenance, welfare work, office expenses, administrative salaries, etc., 0.6¢ for depreciation. Nothing was included for interest charges, the figures were averaged from returns from many mills and set up on the assumption of full operation on a basis of two shifts of 40 hours each - a rate not always attained. There is no reason to believe that manufacturing costs would be much different today, as the former Cotton Textile Code is being generally observed on a voluntary basis at this time.

The foregoing manufacturing cost of 17- $\frac{1}{2}$ ¢ per pound, however, is by no means the whole story. To it must be added the cotton cost which today would be perhaps 13¢ per pound for the cotton commonly used in goods of this type. In manufacturing cotton goods there is a considerable wastage of cotton, ranging from perhaps 12% to as much as 35% on the finest fabrics. Some salvage value, however, attaches to such waste. Allowing for waste credits, the waste loss on this type of goods would figure about 10% or, at the above price of cotton, a net waste cost of 1.44¢ per pound. A further addition of cost consists of the processing tax with its added waste loss totalling 4.54¢ per pound. There is then to be added a cost for selling commissions and discounts amounting today to 1.05¢ per pound. The sum of all these cost items becomes 37.53¢ per pound.

It will be seen that of this total cost the various increments form the following percentages:-

Cotton	34.6%
Waste	3.8
Processing Tax	12.1
Labor	26.9
Taxes	1.6
Supplies and repairs	5.6
Power and fuel	4.8
Village, office, salaries, insurance, etc.....	3.5
Depreciation	4.3
Selling expense	2.8
	<u>100.0%</u>

I should stress, however, that these ratios are not at all constant for different cotton fabrics and yarns owing to peculiarities of processing, to different character of raw materials used, etc. For example, a labor cost might represent 15% of the total for a coarse yarn and 40% for a very fine or a fine combed fabric. Cotton cost (including waste) might be close to 50% of the cost of a coarse heavy fabric and only 30% of the cost of a woile. The processing tax, always bearing heaviest on the coarser, cheaper goods such as denims for overalls, might be between 15% and 20% of the cost of coarse goods and only 8% of the cost of a fine lawn. If you will forgive the reference, that is one reason gentlemen why I insist that the process tax soaks the poor.

There are also to be considered the wide variations in costs of identical fabrics when manufactured in different plants. Difference in local wage standards, in tax rates, in condition of machinery, in nature of power supply, in labor regulations, in freight rates, and, above all, in managerial ability, are among the factors resulting in variation.

In the Sixth Annual Report of the Cotton-Textile Institute there is reference to a comprehensive survey of costs in 29 print cloth mills and the following significant statement is to be found therein - "Even in so homogeneous a group it was found that manufacturing costs on identical fabrics, before depreciation or interest, were over 50% greater in some mills than in others, that a similar difference existed in labor cost alone, and that some items of overhead were ten times as great in cost per pound as in other similar mills. **An even greater variation in waste percentages was discovered than in total manufacturing costs." The provisions of the Cotton Textile Code have doubtless operated to reduce such differences, especially with respect to labor cost, but it must be conceded that wide differentials still exist in some groups of manufacture.

There is an aggressive spirit in the industry in the direction of expanding the use of cotton goods. The Cotton-Textile Institute, on behalf of the industry, has spent approximately \$500,000.00 during the last several years in educational work. It maintains a Bureau of Information about the uses for cotton; close contacts have been maintained with style centers and style experts have carried exhibits of cotton goods in all centers of the country. During the last year these efforts represented 40,000 miles of travel and exhibits and demonstrations before audiences in 41 states. The industry has promoted National Cotton Week, observed in May every year, which has become unquestionably the most important merchandising week devoted to a single commodity in the entire retail field. Last spring, the newspaper advertising featuring National Cotton Week and cotton goods aggregated \$2,000,000.00.

Industrial uses for cotton goods are also energetically promoted. Fabric for cotton roads is one of the promising developments in this direction. The Institute has a supply of pamphlets on that particular subject which I believe would be of interest to you as it describes the way in which a reinforcing layer of cotton fabric can improve a road at small expense and lengthen its life.

The industry has been fortunate in its educational and promotional work on behalf of cotton goods in having the cooperation of a Government committee representing the Departments of Agriculture and Commerce.

The Department of Commerce in a pamphlet at one time enumerated approximately one thousand uses for the products of a cotton mill. Naturally, an industry of such wide diversification and one as large, and widely scattered, as the Cotton industry would have highly complex problems in merchandising and distribution in order to place its wares in the hands of the ultimate consumer. There is, therefore, a considerable variety in methods of marketing and in the successive steps that are taken between the manufacture and the ultimate sale. For plain fabrics that come off the loom in the same color as the raw cotton from which they are made, in other words, fabrics in the so-called grey goods classification, the steps in manufacture and distribution are fairly well marked. A cotton mill, for example, in Georgia has a selling agent in New York City, where practically all of the selling agents of cotton mills have their headquarters, who sells the cloth on commission to a so-called converter. The converter undertakes to transform the plain piece of cloth into some dyed or printed form that he thinks the public desires. He has been aptly described as the entrepreneur. This converter has a staff for styling the goods and a staff for selling, selling the finished goods to the wholesaler, retailer or garment manufacturer. The actual finishing operations, i. e. the dyeing or printing of

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fabrics is done on commission by finishing plants located principally in New England and in fairly close proximity to New York City. From the finishing establishments the goods are shipped to the customers of the converters as the latter direct. That all seems fairly clear-cut but the exceptions are important wherein organizations undertake several of these functions and the exceptions are, I believe on the increase. For example, some of the largest companies in the industry perform all of these functions. They carry the manufacture of fabric from the first stages, through the styling and finishing operations, and sell them to the wholesaler, retailer or garment manufacturer. Outstanding examples of these are such well-known companies as the Cannon Mills, Pacific Mills and the Pepperell manufacturing Company. They are in every sense vertical companies and are exceptions to the more or less horizontal organization of the industry.

Then again, there are converters who have gone into the finishing business by purchasing finishing plants. Concerns of this type continue to buy unfinished fabrics but finish them in their own companies and not on commission by independent companies. A still further variation is the entrance of a finisher into the converting field.

As between selling agents and mills, there has developed a very close inter-relation. Numerous selling agents are heavily interested in the mills they represent and in, at least, one outstanding instance a group of mills controls the selling organization. We have still to consider the tremendous yardage of fabrics that come off the loom in more or less finished form, for example, fabrics that are made from fabrics previously dyed, such as denims, chambrays and other work clothing fabrics, flannels, suitings, and other so-called fancy woven materials. In this class the converter is absent from the picture. The mills decide the forms the finished fabric shall take and put them through all the operations necessary to prepare them for delivery to the wholesaler, retailer, garment manufacturer or other user. Then there is another important class of fabric of the type mentioned previously that is used in industry or agriculture. Here again, the converter is not important, the selling agents of the mills in the main dealing direct with the ultimate consumers of such products.

The manufacture and sale of cotton yarn is a division of the industry all by itself. By this I mean the yarn that is not woven in cotton mills but sold for endless other uses. Some of the various operations that are performed on a strand of cotton yarn after it is spun are dyeing, bleaching, singeing, polishing, mercerizing, and I have no doubt there are other operations as well. The final use of the yarn, of course, controls the type of finishing process to which it is subjected.

Similar to cloth manufacture and distribution, there is a horizontal organization in the yarn business but also with the numerous and important exceptions. Some mills perform all of the operations from the raw cotton to the finished yarn ready for knitting, insulating or some other of the many uses. There are also yarn converters who operate similar to cloth converters, sending the yarn to a finishing establishment for finishing on commission from which it is shipped direct to the user. All this, I realize, is confusing to you but in time of a national emergency, when the Government needs cotton goods with the utmost dispatch, it is important to understand the marketing methods of the industry and especially as they apply to various types of products. For a detailed study of this subject, I would suggest that you read the book published by the Harvard Bureau of Business Research entitled, "The Distribution of Textiles".

From the standpoint of war the Cotton Textile Industry assumes an importance quite different from its peace-time status. Obviously, the materials of cotton such as tent duck, tarpaulins, clothing and hospital supplies are just as important in the conduct of war as the products of the metal, munitions and other industries. These cotton fabrics which are used for war purposes necessarily must be designed to withstand more rigid service than fabrics for ordinary commercial use. Consequently, it is necessary for the Government to be more exacting in the matter of specifications than is necessary or desirable in the average run of commercial requirements. Nevertheless, it is a matter of record that a considerable number of cotton fabrics which are regularly produced for American industries readily qualify for governmental use without any changes in construction.

There are two branches of the Government which are to be congratulated on their vision and intelligence in their planning for adequate and proper supplies of cotton textiles in the event of war. The War Department, through periodic surveys has a thorough knowledge of the physical equipment, the flexibility of such equipment, the capacity and many other details of this industry. Needless to say, the cotton manufacturers are always only too glad to cooperate with the War Department, in the collection of such data. Closely related to this picture is the work of the Federal Specification Board. This board has pursued the policy of inviting the cotton manufacturers to participate in the drafting of cloth specifications. Such cooperation between government and industry cannot but help to pay dividends - so to speak - in the form of the most practical and efficient product for the purpose for which it is intended.

This brings to my mind a situation which, I am sorry to say indicates that the same kind cooperation and coordination does

not extend to all branches of the Government. I am told that during the World War the Cotton Fish Netting Manufacturers played a very important part in furnishing the U. S. Government its requirements of camouflage nets, helmet linings, target practice nets, etc., not to speak of the tremendous importance of their products in insuring an adequate supply of fish during the beef shortage. In 1933, largely as a result of the increased costs under N. R. A., the Japanese textile manufacturers, with their 23¢ per day wages, found an opportunity to capture our domestic markets. Astute merchants, as they are, the Japanese quickly capitalized the opportunity and as a consequence the domestic fish net industry is slowly but surely headed toward extinction.

It is a long time since the World War, and I am sure we all hope that it will be many times longer before we have another. But nevertheless if only on the remote chance that we might sometime have another conflict it would seem reasonable and fair that steps should be taken by the present administration to so limit these low wage imports as to insure the continuance of this important branch of the textile industry. Here is a real opportunity for certain divisions of our government to borrow a leaf out of the War Department and Federal Specification Board books. As indicated earlier this is by no means the only branch of the industry which has felt the adverse effects of Japanese imports. Yet this is a situation where the competition is particularly acute and one which I believe will be of special interest to the War Department.

It is highly advantageous for the Government in its relation with industry that it be able to deal with organized groups. The cotton manufacturing industry, to a very high degree, possesses this advantage. The Cotton-Textile Institute, which was formed in 1926, represents all branches and sections of the industry. Its membership embraces three-fourths of the operating machinery. It has from the beginning devoted intensive study to the economic problems of the industry and has developed a splendid technique for determining the resources and facilities for manufacturing the various types of cotton products that the Nation would need in time of war. In addition to the Cotton-Textile Institute, the sales end of the industry has organized in a splendid group called the Association of Cotton Textile Merchants of N. Y. This body would also be able to render great service to the Government. The facilities of the National Association of Cotton Manufacturers, whose members are in the northern section of the industry, as well as those of the American Cotton Manufacturers Association, whose membership is among the southern mills, would be helpful also to the Government. There is, therefore, I am happy to say, the assurance of facilities for rapid mobilization of the industry, with a minimum of lost motion, should a national emergency require the services of the cotton textile industry.

Handwritten notes:
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DEERING MILLEN & CO. INC.
79 Leonard Street,
New York

October 25, 1935.

Mr. George A. Sloan,
34 Thomas Street,
New York, N. Y.

Dear George

I learn with interest that you are to speak before the Army Industrial College in Washington about the cotton textile industry. I assume that you are asked to speak before them because of your association with The Cotton-Textile Institute, and the relation of the Government to the industry through the Institute and the Code Authority.

I think there can be no doubt that the industry has been able to work with the Governmental Departments satisfactorily principally because of The Cotton-Textile Institute.

At the time of the World War when Government Departments were buying large quantities of cotton goods and several Departments were competing with each other for deliveries, prices went to levels which were much higher than either buyers or sellers wished. Because of this unsatisfactory condition a committee which was called the War Service Committee of the Cotton Textile Industry, was formed. This Committee was composed of approximately forty of the leading mill executives in the industry. An Executive Committee of seven, of which the writer had the honor of serving as Chairman, had frequent contacts with the Price Fixing Committee of the War Industries Board of which Committee Mr. Robert Brookings was Chairman. As a result of the work of this Executive Committee the price situation was completely changed to one which was satisfactory to both buyers and sellers, the maximum prices agreed upon for Government purchases being adopted as the maximum prices to be used in selling to private business. At the end of the War the Committee received the thanks of the War Industries Board for its satisfactory work, and dissolved with the feeling of having done a worthwhile piece of work.

Shortly before the formation of The Cotton-Textile Institute the leading members of the industry again decided that a strong industry organization was necessary and acting with the information before it in regard to the War Service Committee, a group made up

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largely from that War Service Committee drew up the plan which the industry adopted in the formation of the Cotton-Textile Institute, which institute has steadily grown and reached its largest membership and most complete support during the past year.

Four of the seven members of the Executive Committee of the War Service Committee of the Cotton Textile Industry have served on the Executive Committee of the Cotton Textile Institute, and five of those members are today actively engaged in the industry, one died and one has retired, having reached an advanced age.

Sincerely yours,

(Sgd)
G. H. Milliken

- William D. Anderson
- Arthur J. Draper, Vice-Chairman
- Edwin Farnham Greene
- James E. Osborn
- Andrew J. Pierce
- John S. Roussaniere, Sec'y.
- William E. Winchester, Asst. Sec'y
- Garrison H. Milliken, Chairman

WELLINGTON SEARS COMPANY INC.
65 Worth Street
New York

October 25, 1935.

Mr. George A. Sloan, President,
George A. Sloan & Co , Inc.
34 Thomas Street,
New York, N. Y.

Dear Mr. Sloan

It interests me very much that you are talking to the Army Industrial College within the next few days in regard to the relation of the cotton textile industry to the War Department requirements - particularly because, as you know, I was in the Procurement Division of the War Department throughout 1918 first as Chief of the Cotton Goods Sub-Division in the Quartermaster Corps, and, following the consolidation of Purchase, in charge of Cotton Goods in the Division of Purchase, Storage and Traffic of the General Staff.

Our problem at that time was complicated tremendously by the fact that due to the scarcity of materials created by the war the commercial prices were substantially higher than those which the War Department were paying for their materials, and it was, therefore, necessary, in fairness to the various sources of supply, that the War Department requirements should be allocated equitably, substantially in the same ratio that manufacturers' specialized equipment bore to similar equipment in the industry as a whole.

Heavy Canvas This was particularly true of various grades of heavy canvas required for paulins, pyramidal tents, etc.; and the continuing records of the industry's capacity to supply these various materials, which I understand are maintained by the War Department, will of course simplify this problem tremendously in the event of another war. On the other hand, it is clear that the continued development, following the war, of the largest duck mill in the industry, which is located in the Federal Penitentiary in Atlanta, has resulted in curtailment of private facilities for the production of heavy canvas to an extent which would make necessary the development of additional facilities subsidized by government money to meet Army and Navy needs in the same volume as was required from and furnished by private industry during 1918. From the point of view of Army supplies, it would be very much better if a

substantial part of the duck equipment of the Atlanta Penitentiary were held in reserve for war needs, as was the intention when this unit was authorized by Congress in 1918.

Fine Goods. The development and use of materials for aircraft have, of course, received a tremendous impetus since the last war, and at present fabrics for heavier-than-air equipment are being manufactured in substantial quantities in this country today from our own native-grown Pima Cotton. On the other hand, the fabric specifications for lighter-than-air equipment can only be met with the use of foreign-grown cotton, and it would be necessary to reduce the strength requirements at least 10% to permit the use of our native Pima Cotton for these materials at present.

It is interesting that under the supervision of the Bureau of Standards experiments are being made at present with a cotton fabric for parachutes, and these specifications also can be met only with the use of foreign cotton, although I am advised the recent tests show that the cotton parachute has carried 750 lbs. without failing, as against 500 lbs. which is the silk parachute requirement for a fabric of equal weight.

With highest regards, I am

Yours faithfully,

(signed) H. L. Bailey

President
Wellington Sears Company.

THE COTTON-TEXTILE INSTITUTE, INC.
320 Broadway, New York

Paul. B. Halstead
(Secretary)

October 29, 1935

Mr. George A. Sloan
George A. Sloan & Co., Inc.
34 Thomas Street
New York, N. Y.

Dear Mr. Sloan:

The attached tabulation shows the latest figures we have on the question of spindles in the various countries throughout the world and the processing of raw cotton. The cotton processed per spindle in place is also shown. There is a wide variation, as you will note. Asiatic countries have the highest consumption per spindle in place which probably means coarse fabrics and long hours of operation. Great Britain, on the other hand, has a single shift and spins very fine goods. Switzerland, Germany and France are also examples of countries that spin very fine goods and their ratio of output per spindle is consequently low.

Sincerely yours,

(sgd)
PAUL B. HALSTEAD

Secretary

THE WORLD'S COTTON SPINNING INDUSTRY

	Spindles in place July 31, 1934	Consumption of all Cottons Aug. 1934-Jul. 1935	Cotton Processed per Spindle in Place
Great Britain	45,893,000	2,616,000 bales	.06 bales
France	10,170,000	1,028,000 bales	.10 "
Germany	10,109,000	944,000 "	.09 "
Russia	9,800,000	1,975,000 "	.20 "
Italy	5,493,000	806,000 "	.15 "
Czecho-Slovakia	3,627,000	291,000 "	.08 "
Belgium	2,106,000	338,000 "	.16 "
Spain	2,070,000	432,000 "	.21 "
Poland	1,696,000	283,000 "	.17 "
Switzerland	1,295,000	114,000 "	.09 "
Holland	1,236,000	188,000 "	.15 "
Austria & Hungary	1,057,000	234,000 "	.22 "
Sweden & Norway	650,000	141,000 "	.22 "
Portugal	452,000	79,000 "	.17 "
Finland	271,000	58,000 "	.21 "
Denmark	100,000	34,000 "	.34 "
Other Continent	700,000*	250,000 "	.36 "
Total Continent	<u>96,725,000</u>	<u>9,811,000</u> bales	<u>.10</u> bales
India	9,572,000	2,464,000 bales	.26 bales
Japan	9,115,000	3,622,000 "	.40 "
China	4,680,000	2,495,000 "	.53 "
Other Orient	700,000*	376,000 "	.54 "
Total Orient	<u>24,067,000</u>	<u>8,957,000</u> bales	<u>.37</u> bales
United States	30,938,000	5,362,000 "	.17 bales
Canada	1,187,000	244,000 "	.21 "
Brazil	2,702,000	463,000 "	.17 "
Other Countries	1,259,000*	591,000 "	.47 "
Total World	<u>156,878,000</u>	<u>25,428,000</u> bales	<u>.16</u> bales

*Estimated

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DISCUSSION FOLLOWING THE LECTURE ON
PROBLEMS AND TRENDS IN THE COTTON TEXTILE INDUSTRY
BY
MR. GEORGE A SLOAN

Oct 22, 1955.

Q - To what extent is the textile industry affected by the patents and license control?

A - I don't think that is a serious question with us. Perhaps I can justify what I say by telling you that I don't think the question has ever arisen in my experience in the industry.

Q - What are the principal reasons why the cotton textile manufacturers have not consolidated to a greater extent?

A - That is not an easy question to answer. For one thing the mills are scattered, as I indicated, over about 28 states. I also indicated that they are relatively small as compared with other manufacturing units. The average size is about thirty thousand spindles and in order to bring about an effective merger, if you had all thirty thousand units in it, you would have to consolidate perhaps fifty to a hundred mills. The same reason, however, should not apply to the distribution end of the industry. There your great companies are largely in New York City and there is no occasion for having seventy-five selling agents. In trying to bring about a healthy consolidation of distributing agencies I prefer that they be mill owned or controlled. In that way there would be better opportunity to enlist the highest type of merchants. We have some very able people at the head of our concerns but we have seen what has happened to an organization like General Motors where they are able to maintain an enormous research department, the like of which very few industries have. We need something like that and we need to aim

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toward it. I think it would be easier than bringing about the merger of so many mills all over the country. The human element enters into that; we are dealing with a strong, individualistic frame of mind, inclined to "go on my own and do as I damned please". That is not conducive to consolidation.

Q - In view of the increase in the raising of the raw product in the rest of the world and the increasing competition of Japan and their low manufacturing costs, is it, in your opinion, possible for the United States to regain and thereafter maintain our former position in the world markets for textiles and raw cotton, and what do you recommend to get that back?

A - I think it is possible and I think we are seeing evidences of it at the present time since the change in the Government's loan policy. It is difficult to suggest how it is to be done. It is an enormous problem and I think we should remove these barriers to competition in the world markets. You might say "if that is done what would happen to the farmer?" Do we want 5 cent cotton? No; I don't want 10 cent cotton. I would rather see it stabilized in a normal way and selling around 15 cents than around five or ten. I think the emphasis in education has been on the price rather than on the fundamental difficulty - the law of supply and demand. I came from the South, lived there under very moderate circumstances, and I think the impression I had all my life was that our Government was over zealous about the farmer. This is not aimed at any administration. There is too much talk about ~~the~~ the farmer and what should be done for him and very little emphasis on what he should do. I think there should be more educational effort

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toward improving the quality of cotton. The surface has only been scratched and there is room for improvement in the quality of cotton to make it more acceptable in the world markets. There is more room for education in encouraging the farmer to keep his production in balance with demand than there is in getting him to produce year after year as much as he can, regardless of price.

Q - To what extent has the development of rayon made inroads in the cotton textile industry?

A - Colonel Jordan, this is a hardboiled class! There is a great difference of opinion as to the answer to that question, and I will explain the basis for that statement to you. In the first place, I am willing to confess that the introduction of rayon has been of help to certain branches for by mixing it with cotton we have been in a better position to compete with silk. However, rayon has made inroads, but to what extent I can't say. They have not gone very far, but we have got to watch them. They are doing a magnificent job in research. Take the Du pont people in Wilmington; they are not leaving any stones unturned as to the development of new uses. I hear a great deal about tests for the use of rayon instead of cotton in automobile tires. I suppose you realize that ~~approximately~~ ^{approximately} 60% of the tire is cotton instead of rubber. That would be a heavy loss to us if they went to rayon. So far I should say that rayon has hurt us more than it has helped us - particularly in the last two years. When the cotton processing tax law was passed by Congress the same law carried a provision for a tax where competition ~~of~~ would cause a falling off in the consumption of cotton. We have submitted pages and pages of statistics to show where we have lost business

to rayon because there is no tax on it. The same thing applies to certain paper items; certain compensating taxes have been placed on some of them. As long as we have the processing tax on cotton and do not have a compensating tax on rayon we may run into serious difficulties.

Q - What is the trend toward replacing obsolete and obsolescent material with new machinery?

A - That develops to a marked degree every time there is any hope of profits in this industry. In 1934 I wrote a letter to every cotton mill in the United States asking them what they were planning to do in the way of replacements for 1934. It was done after consulting General Johnson in the Fall of 1933 to see what contribution we would make to this heavy industries problem. The replies indicated they were going to spend, given a fair return on investment, two hundred million dollars for 1934. A check toward the end of the year indicated that only one-half of that had been spent, - one hundred million dollars for repairs and replacements. In the last ten years there has been considerable improvement in machinery. That is a field that would be entitled to discussion almost by itself and I could recommend to you some able machinery manufacturers who could discuss it. I know the man who sells us our looms would tell you there has been a positive trend toward improvement in recent years. In 1934 the improvement in the manufacture of textile machinery in the way of increased employment and increased earning was greater than in any durable goods industry.

Q - What are we doing in the way of shipping machinery to Japan to compete with us?

A - Nothing at the present time. They are using what they call

their Toyodo loom. They have tried to sell them over here but we think our automatic loom is better. Their loom requires more men to handle it than are required for ^{our} looms.

Q - As I understand it, the advantage of the Egyptian cotton is that it is a long staple cotton. How have we approached that?

A - Our nearest approach is the Pima cotton from Arizona. We are experimenting all the time not only with the Department of Agriculture but with Doctor C . We have not reached a cotton equal to theirs.