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NATIONAL COTTON COUNCIL
RELATION OF ART TO THE TEXTILE DESIGNER
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The Bobbin and Beaker

Organized in November 1939 by Iota Chapter of Phi Psi Fraternity, and published and distributed without charge three times during the school year by students of the Clemson College School of Textiles.
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Policy—
The views and opinions expressed in all guest articles are those of the writers themselves, and must not be construed to represent the views and opinions of the Editors of this magazine or of the Faculty of the Clemson College School of Textiles.

Finale—
With this issue, the senior members of the staff bid farewell to THE BOBBIN AND BEAKER.

During the current school year, we have succeeded in publishing three issues of the magazine. As amateur journalists we have worked hard to revive, after more than three years of inactivity, one of Clemson’s three student magazines. Last fall we set out to do our part by bringing back on the scene another of the campus activities which were struck by the war. In doing this, we endeavored to put out a magazine worthy of the effort and worthy of the school. We hope that we have succeeded.

No, it has not been an enviable task. Trying to rally the necessary student support was not easy. Holdover war-time conditions hampered us often. We have been criticized, though not too unjustly. These and other problems caused us no small measure of consternation. Yet despite them we felt justified in resuming publication of the suspended journal, and we feel that the continuation of the magazine will be worth whatever difficulties are encountered and the amount of work involved.

Throughout the year, we have been accorded the splendid support of all—of textile and other organizations, of textile manufacturers and suppliers, and of the textile school faculty, students, alumni and friends. We are ever grateful for their cooperation and frequent words of encouragement. We regret only that we leave the new staff so deeply indebted to so many people for their generous help and guidance.

In this issue, we are especially grateful to Mr. Ernest Stewart, Public Relations Manager of the National Cotton Council of America; Lt. Col. Harold S. Tate; Mr. Charles K. Everett, Director of Merchandising, The Cotton-Textile Institute, Inc.; Dr. S. J. Kennedy of the Military Planning Division, Office of the Quartermaster General; Mr. Robert H. Chapman, President of the J. E. Sirrine Textile Foundation; Professor L. R. Booker; Mr. L. O. Hammett; and Mr. James W. Bradbury, A. M. Pullen and Co.

For past assistance, we thank Dr. Claudius T. Murchison, President, and Mr. John W. Murray, Editorial Director, The Cotton-Textile Institute, Inc.; Dr. James E. Ward; Dr. Robert F. Poole, President of Clemson College; Dr. Donald G. C. Hare of the Deering Milliken Research Trust; Mr. J. M. Cook of the USDA Government Spinning Laboratory; Mr. H. E. Glenn of the Research, Planning and Development Board, State of South Carolina; and Professor Joseph Lindsay, Jr.

We appreciate the ever-willing assistance of Dean Hugh M. Brown, Mr. John T. Wigington, Director of the Cotton Textile Institute’s Division of Technical Service, Professors R. K. Eaton and D. P. Thomson, Miss Pauline Cannon and Mrs. Elsie B. Breazale. Special thanks are due our advertisers for their generous support. Also we thank the many textile students who gave willingly of their time and energy to make publication possible.

We leave the magazine in good hands, and we are fully confident that through the combined efforts and abilities of the new staff a better magazine will emerge during the next school year. If they receive the same wholehearted support and spirit of cooperation extended to us, their tasks, too, will be pleasant ones.

Reluctantly we give up the reins of THE BOBBIN AND BEAKER. We have learned much, worried a little, and enjoyed doing it. May the new staff do as much, and may success be theirs.

New Staff—
Harold R. Valerius, Jr., Textile Engineering junior from St. Louis, Missouri, was recently named Editor of THE BOBBIN AND BEAKER for the year 1947-48. During the past year, he served as Associate Editor and now succeeds William E. Broadwell.

Other members of the recently chosen staff are A. M. Hand, Textile Chemistry junior from Hardeeville, succeeding James K. Waits as Managing Editor; and Richard C. Hendrix, Textile Engineering junior from Greenville, succeeding Ernest T. McIlwain as Business Manager.

Announcement of appointments to other positions will be made by Editor Valerius at the beginning of the fall semester. All textile students who desire to work on the magazine are requested to contact a member of the new staff.

Record Enrollment—
Enrollment in the Clemson College School of Textiles reached an all-time peak when 537 regular students registered for textile courses in February. This is an increase of 45 students over the previous record number enrolled in September.

By courses, there are 277 students enrolled in Textile Manufacturing, 219 in Textile Engineering, and 43 in Textile Chemistry. By classes, there are 173 freshmen, 174 sophomores, 107 juniors and 83 seniors. Several post graduate students are not included in the count.

Slightly more than 17 per cent of Clemson’s 3123 students are enrolled in the School of Textiles.

Cost Meetings Held—
A series of meetings, sponsored by the Cotton-Textile Institute, was recently held for the purpose of discussing adequate cost methods and the application of scientific cost finding principles to current mill operations. The meetings, which were under the direction of Lewis F. Sawyer, Institute industrial accountant, were held May 5 in the Clemson Textile School, May 6 at the Oregon Hotel, Greenwood, and May 7 at the Cleveland Hotel, Spartanburg.

John T. Wigington, Institute Director of Technical Research, reviewed the technical services offered by the Institute.

The discussions also included income tax procedure, last-in first-out inventory, and Section 722 of the Internal Revenue Act.
To every person there comes some day a clear conception of ultimate aims. To a fortunate few it comes in college, when objectives no longer appear in terms of a job by which to exist, but as a way of life around which to shape one's world.

Those who aspire to managerial responsibilities in the textile industry need early to conceive objectives over and above the operation of machines and the sale of goods. This industry which has been characterized for over a century by tradition in production and merchandizing is undergoing changes that are real. In the turmoil and reshuffling that is ahead for the period in which today's students will come into maturity and responsibility, men will be needed who hold ultimate life aims with a strong controlling sense of validity, that will stand up under the ruthless criticism of reflective thinking.

Nowhere is the need greater for clear vision than in the appraisal of one's qualifications for creative work as compared with less exacting routine tasks or work based largely on human contacts. Many people with aptitude for engineering possess traits, whether by inheritance or development, that will not be satisfied unless provided an outlet in creative work or thinking.

To such, research offers high awards. These men are the successors to yesterday's pioneers, pressing today against the frontiers of what is known and probing beyond. For any individual to reach that point where he can look over the edge, there must be long periods of assembling the mental and laboratory tools with which to work.

Research, however, is not magic. Occasionally a discovery is the result of sheer luck, but mostly new discoveries are the result of keen perception, clear thinking and bringing to bear a very considerable fund of knowledge that is well organized and deftly handled. In the greater specialization that must occur as our fields of knowledge spread ever wider, great achievement will increasingly come only from teamwork in a well-led research group.

It has been often said that there is a great need in the textile industry for research. Unfortunately, wide evidence is lacking that the real significance of that statement is fully appreciated. Let it be hoped that the managers of tomorrow will have a clear understanding that research, like our system of free enterprise, can have only one valid purpose; to provide the people with the best possible goods at the lowest possible price, and thereby to create the highest possible standard of living for all.

Such an ultimate aim creates the kind of confidence and sense of significance which alone can bring enduring satisfaction to living.
The Japanese Textile Industry Moves Toward Recovery

By
Lt. Col. Harold S. Tate,
Textile Division, Economic and Scientific Section, General Headquarters, Supreme Commander for the Allied Powers

Colonel Tate, a native of Abbeville, South Carolina, is a 1925 Textile Industrial Education graduate of Clemson College. He received his M. A. degree from Columbia University in 1929.

For fifteen years Colonel Tate was Head of the Textile Industrial Education Department of the School of Vocational Education at Clemson. He was placed on military leave from this position when he went on active duty with the Army in 1941. He served first as Battalion Executive Officer with the 24th Infantry at Fort Benning and overseas in New Hebrides, and later as Provost Marshal on the Staff of III Island Command in New Hebrides.

Colonel Tate received training in Military Government and Civil Affairs at the University of Virginia and University of Chicago. Since October 1945, he has been in charge of Textiles on the Staff of the Supreme Commander for the Allied Powers in Japan.

The extent to which the Japanese textile industry has recovered from the virtual paralysis from which it suffered immediately after the end of the war has been one of the brightest spots in this country’s industrial picture during the first year and a half of the Occupation. While production is still far below pre-war levels and far below the minimum levels which SCAP (Supreme Commander for the Allied Powers) deems necessary to support the “normal” domestic economy, still the gains made in 18 months have been most significant.

The textile mills comprise Japan’s largest single industry in all of its ramifications, involving imports, exports, financing, machinery manufacture, and other related phases. It provides employment for a large segment of the country’s population and contributes in other respects to the economic life of the nation.

Recognizing this, General Headquarters here ordered the Japanese government to take all necessary steps to rehabilitate this vital industry in one of the first directives issued immediately after the beginning of the Occupation.

During the war, the textile industry was neglected in Japan. 9,000,000 spindles and complementary equipment, as well as tens of thousands of looms were scrapped for their metal content so that the Japanese war machine could be supplied with metals. Parallel developments took place in the other textile industries.

What was allowed to remain was devoted primarily to the service of the Japanese military forces. At the end of the war, the textile industry had a considerable stock pile of wool, a
small quantity of cotton, and other materials which were earmarked for military use. These were by order of SCAP, turned over by the Japanese government to the mills for the manufacture of civilian goods. SCAP saw an immediate need to supply the minimum quantity of consumer textiles necessary to prevent disease and unrest in the country, as well as important industrial materials for the production of other consumer articles.

As is well known, the first concrete development in the raw material situation was the importation of 890,000 bales of surplus American raw cotton into Japan for the dual purpose of providing exports for the war ravaged areas of the Pacific and to augment the dwindling supply in Japan. As a result, production increased rapidly after the middle of 1946. In the last quarter of 1946, output was maintained at an annual equivalent rate of 259,000,000 pounds of yarn, compared with a rate barely one-twelfth of that in the first quarter of the year. There is still much to be accomplished. SCAP's goal is an industry of four million spindles producing up to eight hundred million pounds of yarn a year.

The raw silk industry has quintupled its production as compared with the first few months of the Occupation. The last quarter of 1946 the production rate was approximately 50 per cent of SCAP's ultimate goal.

The picture is less bright in the woolen industries and in rayon, which were operating during the last quarter of 1946 at about 25 per cent and 10 per cent, respectively, of the annual rates of output which SCAP deems desirable for the maintenance of a normal economy in this country.

Our problems in these two cases are primarily raw materials. Japan depends on imported raw wool, and the stock pile is approaching exhaustion now. The rayon industry must have imported salt.

While these two industries are lagging, I am safe in saying that prospects are bright for considerable increase in production during the latter part of this year. It is difficult for one outside of Japan to appreciate the problems which beset us in our efforts to guide Japan's textile industry along lines which are considered desirable by the Supreme Commander. Even such routine administrative matters as communications form an obstacle rather than an aid to efficient operation of the industry, from the Japanese point of view. It has been a year's work to convince Japanese government officials thoroughly that the textile industry will be a mainstay of their economy, and should be encouraged. During the war, the textile industry had been looked down on as strictly a peace-time enterprise and they could not at first get this feeling out of their minds. The very agencies of the Japanese government have shown a commendable desire to stimulate the activity of the textile industry. This development serves to strengthen my feeling of optimism for the future.
Textile Production in the Land of Arabian Nights

By H. R. Valerius, Jr.

William G. Blair

The two extremes of textile manufacturing are well known to Professor William G. Blair, Clemson Textile School. Professor Blair, who is an authority on the modern production of textiles in this country, had an opportunity to observe primitive textile manufacturing while on a recent trip to the Kingdom of Yemen with the United States diplomatic expedition, headed by Colonel William A. Eddy. This expedition was made at the request of Imam Yahya, 76 year old ruler of that country. This diplomatic mission consisted of twelve men which included three medical men, two radio experts, and several members of the State Department, in addition to Professor Blair.

After a diplomatic treaty was negotiated and signed, the Minister of Public Health had a discussion with the American doctors regarding the medical needs of the Yemen. The radio technicians consulted with the Minister of Communications concerning the installation of wireless equipment. Professor Blair, the textile member, laid out a plan for a proposed cotton manufacturing industry while having discussions with Prince Huessein and Yemen’s Prime Minister.

A delegation from Yemen is expected to visit Washington sometime this spring or summer to complete the above discussions and to purchase machinery and supplies for the Kingdom of Yemen.

Yemen is one of the few absolute monarchies existing in the world today. It is situated next to Saudi Arabia, which has the much publicized oil lands, on the southwestern part of the Arabian Peninsula in the same locale as the colorful Arabian Nights stories. Yemen has a population of about 3,500,000 and encompasses an area of 75 thousand square miles. In the November 18, 1946, issue LIFE MAGAZINE reported that Yemen had signed treaties with Great Britain and Russia. This is unique in that nation’s history, because of their centuries of isolation.

This policy of isolation is comparatively easy to maintain. Because of the great expanse of desert, it is possible to restrict travel. Undesirable people are not subject to brutal treatment but are deported. They are very hospitable to their friends, and extend every kindness to their welcomed visitor. The Imam had his chief chef do the cooking for the expedition while they were in the capital; he also assigned soldiers for protection and an official government representative to the party while they were traveling. Approximately a hundred white people had been in Yemen previously, and Professor Blair was about the 35th white man to enter the capital city of Sana’a (pronounced Sanar).

The textile industry, which has not made much progress since the middle ages, because of the long period of isolation, is indicative of the industrial progress of that country. The textile industry is principally carried on to provide employment for the people. Weaving and dyeing are the only phases of the textile industry being carried on at the present time.

In one small town weaving was being done in a shack, by a man sitting on the ground with his feet in a hole, and working treads to change the harness with his feet. The warp runs over what would correspond to a whip roll and rocks are tied to the ends of the warp so that the force of gravity on certain sized rocks gives the proper tension.

See Page 22
The National Cotton Council

By Ernest Stewart
Public Relations Manager
National Cotton Council

The American cotton industry today stands united as it enters the greatest battle for markets in its history. Cotton farmers, ginner, warehousemen, merchants, crushers and spinners have joined hands in a united program to reach the common goal of all—increased cotton consumption.

The first great step toward unity was achieved in May, 1938, when at a meeting of the Delta Council at Cleveland, Mississippi, a group of industry leaders laid the groundwork for the organization of a National Cotton Council of America. This initial group was made up of producers, ginner, warehousemen, merchants and crushers.

The second great step came with the admission into membership of the Southern cotton spinners at the Council's annual meeting at Augusta, Georgia, in January, 1941.

Today the policy and operations of this only organization representing all of the component parts of the cotton industry are determined equally by the elected representatives of each branch. From the outset, the National Cotton Council has concerned itself only with those projects and programs designed to increase cotton and cottonseed markets.

Cotton's battle for markets, the Council recognizes, is the same as that for any other industry. The first essential has been that of unifying and organizing the vast manpower and financial resources of the far-flung cotton industry.

Cotton means fifteen million people, two and a half billion dollars of annual income, and seven and a half billion dollars in capital investment. None of cotton's competitors can boast these staggering totals.

Actually it is the tremendous expanse of the cotton industry which has made organization necessary. Two million cotton farm families, each fighting individually, have no chance against a few giant corporations which control the synthetics industry. No more so have the individual spinners, ginner, or warehousemen.

Throughout its entire framework, the cotton industry is made up of individuals and relatively small firms who are not in a position, separately, to fight for the great markets on which their future depends. Only through organization of effort and pooling of funds can they achieve the irresistible power which the aggregate of their resources makes possible and which today's battle of fibers makes imperative.

Having united and having begun a continuing campaign for ever greater unity, cotton vigorously is pushing ahead toward the attainment of three major goals.

The first of cotton's goals is the improvement of the quality of the fiber itself and of end products through research.

Secondly, cotton is seeking to reduce costs through increased efficiency.

And third, cotton is endeavoring to increase its volume of sales promotion and merchandising.

The cotton industry realizes that the degree of its attainments in these three basic fields will govern its future success and prosperity.

In each of the three basic fields the industry is making definite progress, tackling some aspects of the problems as individuals and others through its central organization, the National Cotton Council.

Although cotton has lagged behind many of its competitors in the field of research, it still stands out above all competitors in its tremendous versatility and adaptability. Certainly no other fiber, and no other competitor, with the single exception of foreign cotton, can substitute for American cotton in all its markets or in all its uses.

Cotton stands far out in front as the world's most adaptable, comfortable, washable fiber. Cotton isn't clammy. It doesn't crawl and it doesn't creep. Its seams don't slip; it doesn't stretch out of shape; and it doesn't require a set of ten instructions for washing. No other fiber can be woven so tightly to assure wind resistance in winter, and none absorbs and evaporates perspiration so effectively in summer. No other fiber is used in some form by every citizen of this nation, every hour of every day and every night, from cradle to grave.

To maintain the supremacy in the fiber field which these qualities have given it, cotton today is on the verge of great expansions in its research program. The Agricultural Research and Marketing Act of 1946, recognized by many as the most important piece of farm legislation ever enacted, authorizes the appropriation by Congress of up to $61 million annually, after five years, for farm research. Cotton's share of this fund probably would be about $20 million, or an adequate amount to give cotton parity in research with its competitors.

That cotton can expect rapid advances from an enlarged research program is proved by some of the results which have been achieved through research effort already in progress.

A new cotton insulation material, which is fully flameproof, is superior in insulating efficiency to any of the other ten most widely used types of commercial insulation. Unspun and unwoven cotton fabrics suitable for disposal napkins, towels, and diapers; fire-retardant fabrics; durable, boardlike cotton plastic laminates—all demonstrate what can be expected if cotton research is broadened.

(See Page 20)
Decoration and color have been the principal requisites of practically all fabrics through the ages. This is shown by the beautiful historic fabrics now reposing in museums throughout the world, and which mark various stages of art development. In the early history of woven fabrics, designers and weavers were for the most part one and the same person. However, the growth of civilizations, the machine age, and modern developments have altered the requirements of the textile designer.

Richard Glazier in his book, "Historic Textile Fabrics," comments on the evolution of pattern as follows:

Pattern undoubtedly arose from a desire, or necessity, for some symbol or emblem, significant of power, life or association.

Evidences of art have been discovered as far back as the Stone Age, thus showing that design is an integral part of human existence. The inhabitants of the earth in his prehistoric period expressed their ideas on mats, baskets, nets, and rude fabrics made by interlacing various wild grasses and skins of animals. Geometrical figures and conventionalized animal forms were perfect in proportion and well-designed in regard to color and detail arrangement.

The birth of Egyptian art marked the beginning of great racial expression in design. From this period, there were continuous developments in art; each new civilization contributing its own symbols and decorations. Thus we have the historic art of Greece, Persia, China, Japan, Italy, Spain, France, England, and other countries. Great revivals of art endeavor; such as, the Italian Renaissance and the French Renaissance, produced new textile motifs and decorative features. In these periods of great racial expression, famous artists designed fabrics which were subsequently woven by highly skilled weavers. Garnet Warren in his book, "The Romance of Design," comments as follows:

In these renaissance times, indeed, the textile art and particularly textile design were coming to a glowing and high estate. Artists whose genius breathed into immortal canvases themselves made designs for rich damasks and silks and tapestries.

The introduction of machines into the textile industry in the beginning of the sixteenth century practically stopped the development of racial art. Designers were unable to keep up with quantity production and as a result produced new patterns by adapting and modifying designs in historic fabrics. The development of machinery was considerably retarded by the antagonism of the hand loom weavers. In France, a great deal of disturbance was caused by the invention of the jacquard machine which has made it possible to weave intricate patterns in volume with ease and accuracy. It is interesting to note that this machine is being used today without having been materially changed in construction. However, France did not succumb as completely to the machine age as other nations and did not subordinate the designer to the technical expert and production manager. While the craze for quantity production of mediocre fabrics was sweeping the world, French designers and weavers continued to produce goods of beautiful texture and design. France established art schools and museums to aid in this work and insure a continuance of the artistic quality of the nation.

The first mills in America produced only yarn and coarse plain fabrics. However, as the textile business advanced in the United States, fine-goods mills were erected in New England which produced colored and decorated fabrics. But, in the main,
The Textile Industry and Time Study

by

James W. Bradbury
Manager, Engineering Department
A. M. Pullen & Company

The textile industry offers a wide field of opportunity for the time study engineer.

Every textile plant in the country should have time study engineers to set methods and standards for the purpose of keeping their labor cost in line with competition.

Wages in the textile industry today are higher than they have been since World War I. Ahead, lies the greatest era of competition and, along with the rest of the industrial world, the textile manufacturers must be prepared to meet it.

Wages are high, the cost of cotton and materials has risen considerably and now, as never before, huge sums of money must be spent to replace old and worn out machinery, for the purchase of new machinery, and for expansion. All these factors result in a tremendous cost for operating a plant:

In order to meet competition, the textile plants will have to operate at the highest efficiency, obtaining maximum production, to keep the cost at a minimum.

Wages should not be lowered to reduce cost. The problem before the textile manufacturer is, therefore, how to operate at a lower cost without lowering wages. The answer to this problem is, first of all, scientific time study and modern high productive labor-saving machinery.

Time study is a method for determining, scientifically, what constitutes fair labor standards, and is the only accurate method for setting piece rates. No plant can hope to achieve the maximum efficiency and minimum cost without having all the employees on normal job assignments and paid on a piece-rate basis.

Through the aid of time and motion study, the way is opened toward the elimination of wasteful time and energy which means high cost to the employer and discontentment and loss of wages to the employee.

The textile student should make certain that his educational background includes a complete knowledge and understanding of time and motion study, then devote an apprenticeship to this type of work, for its broad scope embraces many phases of manufacturing problems. It trains him to be keenly observant, quick thinking and gives him a clear picture of the tasks before him and the best method for accomplishing these tasks whether they pertain to quality production, labor problems, property and machine maintenance, accident hazard, cost, lost motion or planning and efficiency. There isn't any better way for a textile student to obtain experience.

A textile operator is one of the most difficult types of operators to time study as his duties require many different kinds of motions to perform each job, and the element timings are small compared to jobs in other industries. There are many different ways in which the operator can perform most of the elements and there are wide variations in the time recorded for each kind of element.

Most of the job frequencies performed by a textile operator vary from hour to hour so that it is extremely difficult for any person, without textile engineering education or textile experience, to set up a job assignment without the help of the overseers and superintendent in the plant.

The essential duty of a person making a time study is to rate the performance of the operator as all performances must later be converted to normal before they become a standard. A standard performance indicates a normal rate of speed at which an operator can perform specific duties. It is possible for one operator to do a certain performance faster than another operator but, by rating the performance, both operators are placed on a relatively equal basis.

A time study that is not rated is of no value for determining a normal job assignment for an employee or group of employees. Therefore, it is very important that the plant owner or manager employ someone thoroughly trained in time and motion study to set his job standards and figure his piece rates.

In the general run of textile plants, very little has been done up to the present time in the way of promoting better labor relations. The time study engineer, in his line of duty, does much toward improving relations between labor and management. His honesty, tact, and diplomacy with a sense of fairness give the employees confidence in him and in their employer. The proper instructions to new help, beginners, and old employees with regard to new job standards, piece rates and mill policies do much to promote a better personnel on the job.

Every manager and supervisor of a plant should have some knowledge of time and motion study. It would aid him to know the most advantageous layout for his machinery, the kind of servicing equipment best suited for the worker, the many labor-saving devices, the elimination of unnecessary steps, lost motion and how to improve working conditions in his plant, making it a cleaner and better place for his employees to work in. He would also be in a better position to handle his labor problems which arise from day to day.

There is a great future for both the textile industry and time study. The textile student can indeed look forward to a wonderful future.
National Cotton Week

By Charles K. Everett
Director of Merchandising
The Cotton-Textile Institute, Inc.

National Cotton Week's observance this year—May 19-24—is aimed at the original and time-honored objective of marshalling America's selling forces behind cotton textiles. The circumstances necessitating through the war years a shift in emphasis away from that merchandising aim have now happily given way to a situation in which shortages are being steadily corrected by an ever-expanding volume of cotton textile production at the mill level. Many items that normally figured in a conspicuous way in Cotton Week store promotions in the past will again be available in quantities to obviate the need for allocations and allotments to individual customers.

Actually production of cotton textiles is now running at the highest peacetime rate in the industry's history. Beginning with April, 1946, every subsequent month shows a successive increase in over-all production. At the present time mills are turning out cloth at the rate of 10 1-2 billion yards per annum. This compares with a previous peacetime peak of less than 9 1-2 billion yards in 1937 and even more sharply contrasts with a normal pre-war year of about 6 1-2 billion yards. There is nothing in sight to indicate a recession in this record-breaking rate of mill activity.

Through the war personal wardrobes became badly depleted with the result than many items such as white shirts, underwear, diapers, and various work clothing articles are still being sought with considerable clamor. The complete elimination of those shortages is taking longer than first anticipated because retail sales continue so brisk that stores have found it difficult to build up regular working stocks. A continuing flow of fabrics for those items, however, is constantly narrowing the spread between normal and abnormal inventory replacements.

Consumer demand for the last nine months has demonstrated that cotton is continually gaining ground in the women's fashion field. Special promotions of cotton street and sportswear and of utility garments, too, are again being restored by retailers to their spring and summer merchandising calendars. Now that Government regulations no longer restrict the output of novelty merchandise better assortments of goods heighten the sales appeal of these special events. It is noteworthy, too, that from winter resorts of the South come highly encouraging reports on the consumer acceptance of summer type cottons.

This observation has its application to men's apparel as well as in the case of women's wear. Men's cotton slacks and sports shirts are again coming into their own even though available supplies this spring will probably be too short for fully satisfying consumer demand. On the beaches, at the races, and elsewhere in indulgence of leisure time at the Southern resorts cottons are an important part of every picture that mirror from Southern resorts the popular favor of cotton next summer for men and women.

With the expansion of housing construction which promises to gain notable momentum this spring, the demand for cotton home furnishings will probably become very marked and, moreover, will undoubtedly continue long after retail activity in apparel items returns to a more normal basis. New housing in any community represents for stores increased business in sheets, towels, upholstery fabrics, curtains, draperies, carpets and other decorative items. The prospect of increased availability of new homes for occupancy this year gives added impetus to sustaining consumer interest in cotton home furnishings of all types.

(See Page 21)
Textile Education in South Carolina

By L. R. Booker
State Teacher Trainer
Trade and Industrial Education

A number of years ago, I was in the office of a successful mill superintendent and he showed me an old photograph of a group of fourteen young men, which had been made at Piedmont in the early 1900's. It was a photograph of a class these young men had organized in mathematics. This group had obtained the services of one of the ministers in the community as teacher and had paid the cost of the instruction by digging into their jeans. Twelve of the fourteen men in that photograph had become mill superintendents, one a judge of probate court, and one a minister. Certainly, no class anywhere, could be any more successful than that one.

The man in the textile plant has for many years realized the need for and the value of an education. At one time, it was amazing the number of mill managers, superintendents, and overseers in South Carolina that started working in the textile plants at Piedmont or Pelzer. Those two mills were among the earliest of the large mills in the State and both served as training grounds for other mills erected later. The point, however, is that there were men in those plants ready and capable of taking positions of more responsibility. These men were capable because they came from the intelligent rural labor market available around Piedmont and Pelzer, as well as around other mills, and some guiding spirit among them stirred enough interest to organize night classes, which the more ambitious attended.

Those early classes of textile night classes consisted almost entirely of mathematics, and the content of the course seldom, if ever, went beyond ratio and proportion or square root. In those days, as is done today, the man in the plant saw the need for a thorough knowledge of mathematics as a stepping stone to a better job and more pay. The practical side of a job was learned on the job, and learned well. The technical aspects of textile processes were learned by observation, some experimentation when no one was looking, by discussing things with one another, and by reading everything pertaining to textiles that came their way.

In the meantime, Clemson College had erected a textile building in 1898, and was offering majors in several phases of the textile industry. The enrollment in the Clemson Textile Department was normal, which meant that relatively few were graduated a year. The graduates were not welcomed with open arms by the mills. Many mills did not particularly care to have them. Graduates were employed at the regular rate of pay of other workers, or at a rate very little above, except in special cases. Once employed, the college-trained men aroused some suspicion of the older workers, who thought of him in terms of a person working him out of a job. The college-trained man in a textile plant prior to World War I had to prove his mettle by working all kinds of mathematical problems given him by the different overseers and the master mechanics, and often enough, had to be handy with his fist, to prove to the younger men in the plant that he could take care of himself physically as well as mentally.

The textile industry began to come out of the depression in 1937, and the demand for trained workers became acute. Many mills became research minded and young trained technicians were sought to make time and motion studies, to operate testing departments, and to study methods of improving machines, the processes, and many other factors important in efficient operation. Science had come to the textile industry. In 1938, Clemson College built a magnificent textile plant for training technicians and other type men for the textile industry. High schools that had discontinued textiles during the depression years, again added it to the high school curriculum. Other schools added it as a course. By the time the United States entered World War II, eleven high schools had well equipped textile departments with all machines that the ordinary mill uses except pickers and slashers.

All educational work has not been done by the high schools or the evening programs operated under the Smith-Hughes and supplementary federal acts. A number of mills, namely Graniteville Manufacturing Company, at Graniteville, have conducted their own training programs by setting up a miniature mill within the mill itself. For a number of years, the United States Rubber Company Mill at Winsboro had an apprenticeship program as did the Kendall Mill group in the state. The apprenticeship program took college men and high type non-college men and routed them from department to department through the mill for a year or longer. Upon completion of the apprenticeship program an individual could choose the department in which he wished to remain.

The Southern Textile Association organized about 1924, which is an association of superintendents, overseers and second hands, has done considerable educational work by its quarterly meetings and discussions relating to production and human welfare in the mill. Likewise, the Arkwrights, whose membership is composed of men who have made an original research of a textile problems and presented an acceptable paper on it to the organization, has contributed to the development of a scientific

(See Page 18)
The J. E. Sirrine Textile Foundation

By Robert H. Chapman
President

The J. E. Sirrine Textile Foundation is an eleemosynary organization founded by the textile executives of South Carolina in honor of our great textile engineer and leader, Dr. Joseph E. Sirrine, of Greenville, S. C.

Its purpose is primarily that of fostering textile education, encouraging the development of more sound educational bases for the future supervisory forces of the textile industry in South Carolina.

While its operations are not necessarily so confined, it is expected that at the outset at least most of its efforts will be confined to the building of a bigger and better staff of teachers in the textile school at Clemson College, S. C.

The assumption is that under political limitations Clemson College may be and frequently is prohibited from building a staff of teachers who can compete effectively with the teachers in the textile schools elsewhere.

The J. E. Sirrine Textile Foundation proposes to overcome this difficulty so as to enable Clemson College to attract the most capable men in the field.

The foundation would also be quite naturally concerned with the equipment of the Clemson College Textile School and would probably undertake to assist the College in securing the very best of equipment to enable the faculty to do an outstanding job of education.

Research is not forbidden in the program of the foundation, but it is not anticipated that the foundation will concern itself with research, except in the field of textile education. All other types of research will be left to the many other foundations and agencies which are operating in those fields.

Fundamentally the objective of the foundation is better textile education and its contributions will be directed toward that end with Clemson College Textile School receiving the first attention.

The foundation has an endowment of over eight hundred and thirty thousand (830,000.00) dollars. It is supported by most of the textile interests operating in South Carolina or affiliated with them.

The foundation will spend the income from this endowment and will from time to time use a portion of the corpus of the endowment if found necessary.

The foundation is now about ready to function.

The officers and members of its board are as follows:
J. E. Sirrine, Chairman of the Board
Robert H. Chapman, President
R. W. Arrington, Vice-President
John K. Cauthen, Secretary and Treasurer
W. S. Montgomery
W. A. L. Sibley
B. F. Hagood
R. E. Henry
S. H. Lander
W. H. Beattie
W. P. Jacobs
S. H. Swint
C. B. Hayes
C. B. Nichols
G. M. Wright
L. O. Hammett
NEW MEMBERS

Seventeen outstanding textile students became active members of Iota Chapter on March 27. This was the largest class of initiates in the twenty-year history of the local chapter. Professors William E. Tarrant and Thomas A. Hendricks were also admitted into the chapter. The informal initiation period extended from March 18, when Chapter President E. T. McIlwain administered the first and second degrees to the candidates, until March 27, when Acting President W. D. "Chip" Clark officially declared them members after the third degree ceremony.

One outstanding sophomore, H. M. Miller, was admitted; other initiates were members of the junior and senior classes.


Pictured is the largest group of leading textile students ever admitted to membership in Iota Chapter of Phi Psi Fraternity. Left to right, front row—L. P. Batson, Jr., R. H. King, W. S. Quinn, E. Blakely, Jr., L. W. Thompson. MAY, 1947
Professor William E. Tarrant, recent Phi Psi initiate, quizzes other prospective members during the initiation period. Old members of the Fraternity look on.

OFFICERS 1947-48

R. B. Willey, Textile Engineering senior from Greenville, was elected on April 17 to succeed E. T. McIlwain as President of the chapter.

Other officers elected at that time were J. H. Walker, Textile Engineering junior from Griffin, Georgia, succeeding W. D. Clark as Vice-President; H. M. Miller, Textile Manufacturing sophomore from Chester, succeeding J. R. Clark as Secretary-Treasurer; L. P. Batson, Jr., Textile Engineering junior from Greenville, assuming the new office of Corresponding Secretary; R. H. King, Textile Engineering senior from Lancaster, succeeding L. S. Croxton as Senior Warden; and J. F. Webster, Textile Engineering senior from Greenville, succeeding W. E. Broadwell as Junior Warden.

BANQUET

The twentieth anniversary of the chartering of Iota Chapter was observed with the annual spring banquet held April 18 at the Poinsett Hotel, Greenville. About seventy-five students, alumni and faculty members and wives and dates were present for the occasion. Also present was Professor Dan P. Thomson, who reminded the group that the chapter was chartered on May 18, 1927, in the same room in which the banquet was being held.

Mr. Alan B. Sibley of Judson Mills, Greenville, was the guest speaker. In his address, he painted a picture of the future bright with promise for the approaching textile graduates. He discussed briefly five of the outstanding qualities of a successful man: (1) Thankfulness, (2) Humility, (3) Buoyancy, (4) Faith in others, and (5) A sense of responsibility. Mr. Sibley reiterated the yet timely advice given him upon his college graduation: "You can put this in your pipe and smoke it; there are more good jobs than there are good men to fill them."

Retiring President McIlwain was Master of Ceremonies. During the course of the evening, he introduced the newly elected officers for 1947-48.

Following Mr. Sibley’s address, movies of the 1945 Clemson-Ga. Tech. football game were shown.

CLARK NAMED SALES ENGINEER

Walter D. "Chip" Clark, who will graduate with a B. S. degree in Textile Engineering from Clemson College in June, was recently appointed Sales Engineer for the E. H. Jacobs Manufacturing Company of Charlotte, North Carolina, and Danielson, Connecticut, according to an announcement by W. I. Bullard, President.

Immediately upon his graduation, Mr. Clark will undergo a period of specialized training in the extension and development of Jacobs Plyweld in Southern textile mills. He will serve as representative in Georgia and surrounding areas when he succeeds A. P. Newton on August 1.

Mr. Clark, a native of Lexington, North Carolina, enrolled in Textile Engineering at Clemson College in 1941. On February 27, 1943, he entered the Army Air Corps, where he served as flight instructor at Stuttgart Army Air Field, Arkansas, in the Eastern Flying Training Command. For a short time, he was located at the Memphis branch of the Air Transport Command as a ferry pilot. He was separated from the service at Maxwell Field, Alabama, September 21, 1945. He then returned to Clemson for the completion of his studies.

While at Clemson, he captained the football and golf teams and was a member of the basketball team, Block C and Minor C Clubs. He was Vice-President of Phi Psi Fraternity, and a member of Blue Key, Tiger Brotherhood, Sigma Epsilon and Gamma Kappa Alpha Fraternities. He was chosen for Who's Who Among Students in American Universities and Colleges for 1946-47.

Since 1869 the E. H. Jacobs Manufacturing Company has maintained a high standard of loom supplies, which now include the new Jacobs Plyweld products.

THE BOBBIN AND BEAKER
South Carolina Cotton Manufactures Association
By L. O. Hammett
President

Like textile associations of all kinds, the South Carolina Cotton Manufactures’ Association has been extremely busy in recent years. The encroachment of Government upon private business has made it more necessary than ever for the textile mills to have an effective clearing house for information and mutual protection.

Our state association now confines itself largely to matters within the state, with an excellent system of coordination on national and sectional matters having been worked out with the American Cotton Manufacturers’ Association and the Cotton Textile Institute.

Unfortunately it is necessary in South Carolina that we carry on an extensive full time effort on state matters. For many years we have been hampered by almost constant threats of unfair and unreasonable legislation within the state. The Legislature as a whole has been fair in dealing with matters hostile to the best interests of the state, but there are always members who are striving to put South Carolina industry out of line with its competitors in neighboring states.

It is an important function of our state association to keep the Legislature informed as to true situations prevailing in the industry. We ask for nothing more than reasonable treatment and to be kept in line on legislation with our competitive states. As long as we are on an even basis the textile industry in this state will continue to compare favorably with that of other states.

I can say from personal knowledge, however, that South Carolina has lost important increases in the textile industry due entirely to the constant threats of improper legislation which have plagued us. During my brief tenure as President of the Cotton Manufacturers’ Association of South Carolina I have found legislators generally to be high type men. A majority of them deplore, as we do, the pressure which comes at times for impossible legislation.

The Association has no specific program of activity, its main responsibilities being to keep its members and the public informed on current developments affecting the state and the industry itself. Individual mills, of course, set their own policies, but I am happy to say that in South Carolina we have a most pleasant relationship within the industry.

THE RELATION OF ART TO THE TEXTILE DESIGNER
(Continued from Page 10)

the patterns woven in these cloths were not impressive and the more expensive and artistic fabrics continued to be imported from Europe. The textile designer in America at this time was usually located in the textile plant and the patterns produced were generally such as to suit the manufacturer’s ideas of design and texture.

The Boston Manufacturing Company, the first mill to produce power-woven cotton goods, experienced considerable difficulty in selling its product. Attempts to dispose of goods through an importing house were unsuccessful and this firm was forced to sell its fabrics through an auctioneer. This marked the rise of the commission houses in the United States, through which a large proportion of the cloth woven in this country today is distributed to the wholesale and retail trade. As the textile business expanded in America, the garment industry developed to the extent that the mills’ idea of design and texture were not acceptable and the commission houses assumed the responsibility of developing new styles and designs. These selling agents bought European designs to enable them to obtain more business and compete with goods imported from France and England. With the exception of a few patterns produced by commercial studios in New York City, practically all designs of the better quality used in America, before the World War I, came from abroad. The American designer, usually a textile school graduate, continued to be located at the mill where his work consisted largely in working out technical details of designs furnished by the mill’s selling agents.

World War I stopped practically all design creation in Europe and textile manufacturers in the United States soon learned that fabrics are purchased more for their decorative qualities than for their physical merits. Those converters who had talented designers and stylists in their organizations were able to obtain the greater portion of the trade in artistic fabrics. Commission houses and costume manufacturers in the United States felt this lack of designers extremely and made efforts to meet this need. They found that all the essentials were at hand. America possessed good art schools and textile schools and the museums were admirably fitted to furnish inspiration to American designers. But talented artists in this field were not to be found. For generations our designers had been discouraged and their creative ability dulled by the technical work in the mills. They had been poorly paid and the more talented artists had not entered this field. Commercial studios located in the larger cities produced textile designs but these patterns were mediocre and lacked originality. Consistent efforts were made to stimulate renewed interest of artists and designers in creating textile patterns. Lectures were held in museums by talented designers and artists on fabric structure and decorative art. Considerable work was done in art and textile schools along lines of research in design and its application to the textile industry.

Research brought out that the creative designer should possess the combined qualities of the “historian of art, draftsman, technicain and style expert.” The first of these is probably the most important as the greater portion of new patterns are created by adapting and modifying designs from historic fabrics. A good knowledge of drawing is essential in order that the designer may be able to easily and accurately transform his ideas into well-balanced patterns on paper. Technical knowledge is important especially in intricate woven designs to enable the designer to adapt his work to the loom, and to foresee the possibilities of color combination and thread intersection. Knowledge of market requirements is indispensable as it enables the designer to gauge the trend of style and his creations to the ever-changing fancy of the public.

Considerable designing talent has developed in the United States as a result of these efforts, thus increasing demands for American designers. Although the nations of Europe, since the end of World War I, resumed the creation of textile designs, a considerable portion of the designs used in America today continue to be originated by American designers and the tendency seems to be towards increased use of American creations. The advent of the second World War and the defeat of France again cut off the flow of original features from Europe to the United States, and at the present writing it seems that America is well on its way towards becoming the fashion center of the world.

MAY, 1947

SEVENTEEN
TEXTILE EDUCATION IN SOUTH CAROLINA

(Continued from Page 13)

attitude on the part of leaders in the textile industry. The educational value of the athletic program carried on by many textile plants should not be overlooked. Participation in basketball and in baseball has taught that success is based on cooperation; that the subordination of individual rights for the benefit of the group is desirable. The athletic program truly is democracy in action and its influence has been felt by the spectators as well as by the players.

Trained men are important in the textile industry today. Science has taken the place of guess work and the processes are controlled to bring out a guaranteed product. Even though the number of college graduates in textiles has grown tremendously in recent years, excepting the years during the war, the demand for such men is not being met. One may expect this trend to increase because the surface of research in textiles has hardly been scratched. Not only are trained technicians in demand but trained workers of all types are necessary.

At one time it was thought that fine yarns could not be spun in the South and the weaving of fancy fabrics was out of the question because our textile labor was unskilled. The eagerness of the textile worker to increase his knowledge and skill by study, and the recognition by overseers and mill management of the value of an intelligent and educated worker has long ago disproved any such theories.

The day when anyone looking for a job could get one in a textile plant has gone and the industry is putting a premium on alert young workers capable of a high degree of efficiency and responsibility. Education in the textile industry has raised the standards of the industry, has helped rid the industry of its former notoriously low wage rate, has raised the morale and efficiency of all workers, and has made it an industry and an employment opportunity in which every South Carolinian may take pride.

Real education for textile workers as a whole did not begin until 1917. That year, Congress passed what is known as the Smith-Hughes Act, a vocational education act which provided among other things, money on a matching basis to the several states for conducting vocational all-day trade and trade and industrial evening extension classes. The first supervisor of trade and industrial education in South Carolina was Professor Charles S. Doggett, Director of the Clemson College Textile Department, who acted in that capacity for several years. The provisions of the Smith-Hughes Act were accepted by the South Carolina Legislature and matching funds were appropriated, which gave a total of Federal and State moneys of approximately $24,000.00 to be spent on trade and industrial classes. World War I, however, was on and little impetus was given to education in textile or any other industry in 1917-1918.

In 1923, the Parker School System, which comprises the textile plants and communities nearly surrounding the city of Greenville, opened a vocational department in which textiles was one of the major courses. This marked the beginning of a remarkable program of textile education in South Carolina. The textile course in the Parker School not only provided instruction to high school students in textiles, but also provided the leadership necessary to organize evening trade extension classes in the mills of Greenville and adjacent communities. In a few years, evening class work became, and still is, an institution in the Parker School District.

The superintendent of Parker District Schools, L. P. Hallis, and the vocational education director of the schools, Loiz Greet, have not confined textile education to classroom work. These men have organized mill superintendents clubs, overseers clubs, section men clubs, and the Greenville County Textile Club. By these organizations, the Parker School has obtained the services of textile leaders in the area in establishing the curriculum of the textile courses offered, and in turn, the mills have obtained the assistance of men at the Parker Schools in organizing evening extension classes.

The influence of Parker was felt in all the textile areas of South Carolina and other Southern states, too. In 1925, textiles as a high school subject was added to the curriculum at Pelzer, Clover, Chester, Central, and Olympia schools. None of these schools provided textile shops for students to work. The theory or technical instruction was given in the classroom and students were taken to the mill for practical instruction. As loosely organized as this work may have been, it served to direct worthy high school students toward the textile industry as a field of employment. At one time, thirteen high schools in South Carolina were offering textiles as a high school subject. The scarcity of teachers because of their obtaining better jobs in industry, and the advent of World War II, forced some of these schools to close their textile programs but plans are being made to reopen a number of them.

In 1925, Clemson College graduated a number of men in Textile Industrial Education. This course trained graduates to teach textiles in high schools and was a major course at Clemson until World War II, when the college, of necessity, curtailed some of its activities. It is of interest to note that graduates in Textile Industrial Education, who taught textiles in high schools, almost without exception are today general managers or superintendents of large textile plants or hold responsible positions on textile school faculties at Clemson and North Carolina State Colleges.

Besides the high school textile work, three mills—the Abbeville Mill, Abbeville, S. C.; Gossett Mill, Williamston, S. C.; The Calhoun Mill, Calhoun Falls, S. C.—conducted part-time continuation classes in classrooms set aside in the mill for that purpose. Spare hands were provided to relieve regular workers for an hour a day in order that they might attend classes in arithmetic, English, health, economics and technical textiles. These classes as well as the high school textile classes did much more than impart knowledge. They developed a wholesome attitude toward mill work and the opportunities it offered those willing to study and apply themselves.

The peak of textile evening trade extension classes was probably reached in the period 1928 to 1938. During those years, approximately 300 evening or leisure time classes were conducted twice a year in South Carolina textile communities. Nearly 5,000 textile workers were enrolled in these classes annually, some mills having as many as sixteen. The growth in evening classes was brought about in part by the adoption of all the cotton manufacturing states in the South of a uniform course of with practically every mill in the State having one class and study called the Standard Cotton Textile Vocational Schools Courses of Study. These uniform courses of study divided the processes, including both the theory and fixing of the different machines, into units of instruction. This system enabled progressive study to be made of the major processes. A unit card was given upon the completion of each unit, and upon completion of required units, one could earn a diploma in carding, spinning, twisting, plain weaving, fancy weaving, jadewarding, or special fancy weaving. The system further provided a transfer of credit toward a diploma if the worker moved from one state to another.

See Page 21
Chicopee Manufacturing Corporation

WALHALLA
OCONEE COUNTY, SOUTH CAROLINA

Cotton Textiles

Chix
Chux
Macclinn
Lumite
Chix Disposies

MAY, 1947
THE NATIONAL COTTON COUNCIL

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The National Cotton Council, with other agricultural organizations, now is actively supporting the research appropriations bill before Congress. Enactment of this legislation will make possible the expansion not only of research to improve the quality of cotton products but also the expansion of research designed to lower cotton production costs.

Increased efficiency is the key to lower production costs for the cotton farmer. This greater efficiency can be attained through higher per acre yields, better farm management, and better farm machinery.

Great progress already has been made in increasing per acre cotton yields. During the past twenty years the amount of cotton harvested per acre of ground has increased by a third. Educational campaigns now being conducted by the Extension Services, the National Cotton Council, and other agencies are proving effective in bringing about still greater increases.

During the past decade the development of new labor-saving farm machinery has been phenomenal. The mechanical harvester, the flame cultivator, and four-row cultivator and other machines have made it possible to reduce, in some sections of the Mississippi Delta, the number of man hours required to produce an acre of cotton from 160 to less than 30.

Through further experimentation it is expected that definite progress soon will be made to adapt the principles of mechanization more fully to the upland plains and hills.

Experiments in plant breeding and genetics are enabling the cotton farmer to provide the spinner with cotton better adapted to his needs. Much remains to be accomplished in this field, but within two decades the number of accepted types of planting seed has decreased in most sections of the Cotton Belt from several hundred to less than half a dozen.

The program adopted by the National Cotton Council for the months ahead calls for an intensification of efforts toward increased efficiency. The cotton industry knows that it cannot solve its cost problems by arbitrary acceptance of lower prices. Sound reduction of price must be accompanied by proportionate reduction of costs.

Most readily apparent are the results obtained in the Council’s sales promotion and merchandising programs.

There are few who are unfamiliar with the sudden and spectacular rise of cotton to the peak of high fashion. Many of the same cottons which a few years ago were regarded by fashion leaders as suitable only for kitchen wear today are made up into glamorous afternoon and evening attire. Cottons which were sold in the bargain basements now are found in the swank upstairs salons.

Back of this climb to fame has been a well-planned and calculated advertising and merchandising campaign. The Maid of Cotton promotion, known from coast to coast, and which became international in its aspects this year, is one phase of the industry’s fashion program.

But cotton’s saleability has zoomed not in the apparel field alone. It has risen to new highs in the important bag market. The sack market, which now ranks as cotton’s largest single outlet, is being nurtured through a sales and merchandising campaign conducted jointly by the Council and the Textile Bag Manufacturers Association.

Based on the thrift appeal of sewing with used food and feed containers, the campaign, during the short period of three years, has attracted more than three million direct inquiries from the housewives of the nation. Bag manufacturers now find themselves hard put to produce cotton bags in quantities demanded.

Cotton insulation, a product of research, began its career as a cotton outlet in 1940 when about 660 bales of lint went into the product. Today cotton is being manufactured into insulation at the rate of 100,000 bales a year.

No small share of the credit for this rapid rise is due to the joint promotion program initiated three years ago by the Cotton Council and the Cotton Insulation Association. The present consumption rate is expected to be stepped up even further as manufacturers are able to obtain necessary machinery for processing the cotton fiber into insulation.

There are still other phases of cotton’s new promotion program which are bringing bonafide results. Several hundred of the nation’s leading laundries last year cooperated in a campaign to carry to their customers the story of “Cotton Freshness.” In a single transit advertising campaign, now in progress, the circulation figure already have reached more than 3 billion—the greatest circulation ever achieved by any cotton campaign.

Cotton has learned the lesson of greater accomplishments through unity of action. This year, more than half of all the farmers who produce cotton, and of the ginners who serve them, are supporting financially the cotton consumption program. Joined with the farmers and ginners are substantial majorities of all cotton compresses, cottonseed crushing plants, cotton buyers and merchants, and textile mills which spin cotton fiber into yarn.

Already, hard, direct, aggressive work: (1) to improve existing cotton products and develop new ones; (2) to lower costs of cotton production; (3) to increase the volume of cotton exports; (4) to put behind cotton products the power of modern selling, is being rapidly accelerated.

The research, production efficiency, cotton utilization, and export programs of federal and state governments; the research and mechanical development programs of private firms and agencies; the research, sales promotion, production efficiency and export programs of cotton’s own industrywide organization, the National Cotton Council, have all contributed to this acceleration.

The added support of the cotton program which will come with heightened unity within the industry is certain to bring still greater victories in the battle for markets—the battle cotton must win.

THE COVER

Visitors to the Clemson College campus on Mother’s Day, Sunday, May 11, didn’t actually operate the looms or other machines which are used for the instruction of students majoring in textiles. However, the visitors, such as Miss Sarah Clement of Asheville, North Carolina, were given an opportunity to see how the students live and learn.

Mother’s Day is an annual celebration when Clemson holds open house for the parents and friends of students. The barracks and buildings of the campus are opened for inspection, and the Corps of Cadets passes in review for the Honorary Cadet Colonel and for the visitors.

Miss Clement is a junior chemist in the testing laboratory of American Enka Corporation, Enka, North Carolina.
NATIONAL COTTON WEEK

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Historically, cotton mill production has very closely paralleled general American industrial activity. This is probably due to the fact that American industry normally consumes about 40 per cent of the production of cotton textiles in the manufacture of innumerable items such as luggage, shoes, plastic laminates, as well as a host of consumer non-durables made from the products of the rubber and coated fabric trades. As long as industry at large continues to operate at current levels, sales of cotton textiles to those outlets will continue at well above pre-war rates—to bring an increasing supply of goods to stores for resale.

It is notable that cotton textiles are used in largest volume by America’s wage earners and their families. Employment at current levels makes for increased sales of cotton apparel and home furnishings. There need be no concern about national purchasing power to support the demand for cotton textiles while about 60 million Americans are employed in well paying jobs and receiving for their services income payments at the rate of well over 150 billion dollars per annum. Moreover, population increases reveal 13 million more cotton consumers than back in 1937.

Taking into account major factors related to both demand and supply of cotton textiles, retailers can anticipate a profitable participation in Cotton Week’s observance this year. In support of individual store promotions, mills, converters and cutters are expediting deliveries of cotton household and apparel items to the wholesale and retail distributors. Likewise the cotton textiles industry collectively will undertake to effect customary nationwide recognition of Cotton Week through publicity channels to give forceful meaning to this year’s theme—

PICK COTTON.

TEXTILE EDUCATION IN SOUTH CAROLINA

(Continued from Page 18)

The depression years also caused an impetus in evening class work. Mills were operating only about half time and the workers had considerable leisure on their hands, a part of which they were glad to spend in classes. More important than that, however, they saw that competition for jobs was keen and that the cost efficient men were those retained in employment. The average textile worker seemed to realize that in the future, efficiency would mean more and more, and most of them appreciated an opportunity to increase their knowledge. Management too, began to realize that efficiency meant the difference the mill making money and losing money. The old days of trial and error were gone forever. Mill management requested educational programs and cooperated in many ways by providing places for the theory classes to meet and give over whole sections of pickers, cards, fly frames, spinning frames and looms for the fixing classes to work. The passage of the Fair Labor Standards Act in 1938 caused classes in the different rooms of the mill to be discontinued, but machines were up in workhouses, band stands, community houses, school houses and even in basements of churches, in order that fixing classes might be continued.
TEXTILE PRODUCTION IN
THE LAND OF ARABIAN NIGHTS
Continued from Page 8

Dyeing is not altogether confined to putting color in cloth. While traveling across the country Professor Blair saw one of the inhabitants who was colored blue. He later found that this man had been dyeing cloth with indigo at a nearby water hole, where the sun was producing a temperature of 120 degrees. After dyeing the cloth it is placed on the ground to dry in the sun.

After cloth is dyed a solid color, and is to have designs printed on it, it is cut up into short lengths. For the printing operation, the men sit on the ground with their feet in a hole in the ground and hold a flat wooden board in their laps. These wooden boards are as valuable tools to these men as wrenches are to our loom fixers. One end of the short length of dyed cloth is placed on the board and the worker takes a stick, which has a part of the design cut in the surface of it, out of the can of dye paste and he makes an imprint on the cloth about ten inches long. The stick is then returned to the dye paste and the cloth is moved along the board, and the printing operation is repeated. Each man prints only a part of the design, which may require as many as four men to complete.

The capital, Sana’a, is still a growing city. It has been expanded several times, and each added part of the city has a wall around it. At night the gates in the walls are locked. It is a fact that it is about 900 miles from the equator, it is at a high altitude, so that there is an ideal climate all year round. In the guest house at Sana’a, the American flag was flown next to the Yemen flag. Officials of the Yemen government stated that this was the first foreign flag ever to be placed next to theirs.

Sana’a is the location of most of the textile industry, which consists of one mill. Cotton yarn for processing is imported from Egypt, India and England. The mill has very high rooms, the rafters of which are crooked timber planes on two sides because wood is at a premium, straight trees rare, and steel costly. There are four mechanically powered dobby looms and a dozen Jacquard hand looms. One man operates each of the dobby looms. One noticeable difference in these looms and modern dobby looms is that the picker stick is fastened at the top and hangs down. A string is attached to the bottom of the picker stick and is connected to the picker which drives the shuttle. It takes one man and a boy to operate a Jacquard loom. The small boy is stationed on top of the loom where the cards of the Jacquard loom are located, and he puts the cards for the plain weave into position when told to do so, and changes the cards when another design is wanted by the weaver.

Textile employees receive approximately $3.75 a month, a work an eight hour day, five day week, about two holidays a year. There is one month of religious holidays when no work is done. This month of religious worship is common to the Mohammedan faith.

Yemen is planning to make herself self-sufficient with respect to textiles. Professor Blair drew up plans to meet the specifications given, which would call for the establishment of a cotton gin, a yarn manufacturing plant, a bleacher, and a dye plant. There would also be an increase in the number of looms that now in use. Probably the greatest handicap to be overcome for the completion of these plans is the lack of knowledge of modern production methods there.

It is interesting to note that the people of other countries look to the United States for help in improving their textile production.
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Job Placement

Mr. T. J. Ryan, representing the American Viscose Corp., discusses with D. A. Watson, Textile Chemistry senior from Greenville, the opportunities for chemists with that organization.

The job placement service offered by the Clemson School of Textiles has for many years maintained the enviable record of securing jobs for all textile graduates desiring assistance. While this has not been a difficult undertaking during the past seven years, the school may rightly be proud of the fact that its successful placement of graduates in industry extends back through the years when employment opportunities were much less plentiful than at the present time.

The School of Textiles has been greatly assisted in this program by the many outstanding firms which continue to send personnel representatives to the school for the purpose of personally interviewing members of the graduating class. In this way, both firm and student become better acquainted; in this way, both firm and student become better acquainted; the opportunities offered by the firm. Thus the mills and suppliers who seek textile graduates are better able to secure men with the necessary qualifications, and graduates are able to obtain the type of job in which they are most interested.

The number of concerns represented in this way continues to grow each year, as more and more of them realize the advantages which this method affords to them and to the students and the school. In addition to the desirable personal relationships acquired, costly trips, other unnecessary expenses and needless losses of time from class are greatly reduced.


THE BOBBIN AND BEAK

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As a member of one of the country's leading industries, CIBA COMPANY, INC. extends to you, as students of textiles, a sincere wish that your achievements in the textile industry will bring you success and happiness.

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Tabulation of above survey sent upon request.

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