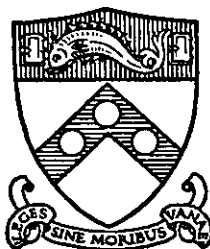


# VERTICAL INTEGRATION IN THE TEXTILE INDUSTRIES

*By*

HIRAM S. DAVIS · GEORGE W. TAYLOR  
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INDUSTRIAL RESEARCH DEPARTMENT  
WHARTON SCHOOL OF FINANCE AND COMMERCE  
~~UNIVERSITY OF PENNSYLVANIA~~  
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## PREFACE

"VERTICAL INTEGRATION IN THE TEXTILE INDUSTRIES" is the result of a study started at the request of the Committee on Economic Research of the United States Institute for Textile Research and carried on for nearly two years by the Industrial Research Department under a grant from the Textile Foundation. It is primarily an appraisal of how the combining of successive steps in the production and distribution of textiles has worked in the case of selected present-day textile companies. From the experiences of these companies is distilled the principles of vertical business organization as they apply to the management of individual enterprises. In other words, the present study is a guide to management and not a study of the long-time trends of business organization or of the present extent of vertical integration within the textile industries. Neither does it offer a detailed quantitative analysis of the economic effects of vertical integration within the textile industries or of the implications in these effects to our economy as a whole. Important as are these aspects of the problem of vertical integration they could not all be combined within one study.

Rather than make an historical study or a study of the economic implications to our economy as a whole, it seemed best to appraise present-day experience with a view to understanding what advantages companies derived from vertical integration, what limitations they met, and what techniques they employed. The Industrial Research Department hopes that this interpretation may serve as both the inspiration and the background for further study of the problems, history, and economic consequences of business organization within the textile industries.

The first stages of the research were given over to ascertaining the recent trends in the organization of production and distribution in varied textile lines. These included the causes which led to particular reorganizations, the processes integrated, the obstacles met, and the results attained. In many interviews, executives of integrated textile enterprises freely discussed intimate details of the business of their own companies. Other producers, operating on a specialized basis, contributed both by citing their own reasons for retaining their form of organization and by their estimate of the likely

results of integration upon their industry. Thus the search for findings started with the actual experiences of present-day executives.

If textile products were less varied, it might have been possible to arrange and summarize these experiences in general terms, or as cases illustrating general principles. For the textile industries, however, with their series of markets and their varied products, such a treatment would have oversimplified the problems and left some doubt about the way in which the findings could be applied.

The breaks in the flow of textile merchandise, with their attendant changes in ownership, made it necessary to undertake intensive study at each of the major markets. Data in official publications and trade reports and those accumulated by members of the research group in their past work in certain of the textile industries gave a background against which to contrast some of the more recent experiences.

Even at a single market, the chances of effective integration of processes differ between products. The ever-present question of why has integration of processes been attempted more frequently by one group of producers than by another kept the research staff contrasting at each market the manufacturing and selling problems first in one product and then in another. It was these inquiries which accounted for repeat-calls upon companies for elaboration of experiences and for verification of competitive conditions. The factors which made the combination of processes usual for some products and rare or lacking for others kept the research group continuously debating and contrasting the significance of case material.

Some barriers to vertical integration are peculiar to particular markets. Some, common to a number of markets, have been overcome in each case by different procedures. Often an obstacle encountered at one market appeared in a somewhat different guise at other markets or was so minor a problem as to deserve only incidental attention.

The analysis at the major markets furnished the keynote of the investigation and conditioned the form of this report. Thus the discussion in Chapter II, based upon intensive studies of men's wear, women's wear, knit underwear, and other specialized textile apparel products, stresses the conditions likely to encourage and those likely to retard integration in the making of cloth and clothing. To be sure, each situation in this market has its own

peculiar variants. Yet broad lines of distinction are clearly evident between products in which variety of fabric, or variety of garment, or both is an essential or a secondary requirement. Whether styles change frequently or slowly gives a key to the explanation of the difficulties of integrating. Whether a mill must make garments and continue to sell surplus cloth or whether a garment plant can be expected to absorb the volume of fabrics which a mill normally produces colors the prospects for successful integration and affects the products in which it should be undertaken. Products which involve a wide distribution problem contrast sharply with those which offer a chance for volume in relatively few outlets. Thus the varying practices and the forms of vertical integration found at a particular stage of manufacture not only help to explain the persistence of division of processes or specialization, but give a clue to policies which have been effective in offsetting some disadvantages.

As far as possible, each of the major markets had first to be considered in isolation, with special attention to household textiles, industrial goods, gray goods, and yarn, as well as finished apparel fabrics. Only after the experiences at each market had been summarized and the advantages of integrating at any stage, as well as the actual practices used in meeting obstacles, had been studied did certain general policies common to all markets emerge.

The general reader may miss a description of the present structure of the textile industries which seemed too familiar to those in the trade to be included in this report. Thus in the writing, a knowledge of textile processes and markets has been assumed.

No effort is made in the study to present the mass of data upon which its conclusions rest. Only in isolated cases is there any lengthy description of particular experiences. In fact, the study is an interpretation, not a description of cases. The practice in writing it has been to refer to companies only when their activities illustrate some principle of wide application at one or more market steps. Since any change in the sub-division of processes in an industry solves some problems and creates others, the reference to a particular company can serve to make clear the obstacles which have been overcome or, under favorable circumstances, the benefits which may be gained. Thus throughout the text the use of company names

is incidental to the main object of pointing out situations which have been found to be favorable and those which have been found to be unfavorable to vertical integration.

In such a study, it occasionally happens that a principle may be more clearly elucidated by an extreme case than by one more typical. A firm which has deviated from current practices may give a hint of what might be done by others better than one which has followed the usual pattern of the industry. When at any stage in the textile processes a number of companies possess an integrated form of organization, the citation of one or two sufficiently illustrates the experiences of many. In the same way, companies that have tried to combine steps in production or distribution and later abandoned the effort may furnish clues to the obstacles met by others. Actually, in the course of compressing the report, many illustrations have had to be omitted and descriptions of attempts to integrate have had to be shortened. It thus happens that many companies that contributed to the conduct of the study are not named in this final report, though their experiences aided its findings.

It would be difficult to acknowledge adequately the extent to which this study was made possible by the coöperation of the executives in the textile industries. Throughout all stages, the research group leaned heavily upon the suggestions of members of the Advisory Committee for this study, including the Committee on Economic Research of the United States Institute for Textile Research, of which Mr. F. S. Blanchard is chairman. Through their suggestions and the interest of the presidents or managing directors of the coöperating textile trade associations, our work has been shortened and members of the industry prepared for the type of inquiries and the calls for information which our various interviews involved. Despite the richness of textile experience, it would have been easy to miss many of the factors which influence the organizations of a complex industry without the coöperation which its executives at all times gave. To name the many to whom the textile industry as well as the Industrial Research Department became indebted during the conduct of this study would involve listing some five to six hundred individuals. Those whose companies are cited in the report have had the further task of reading the parts of the text that refer to their experiences. Others in the industry have aided by their



criticisms of sections of the final report. Thus we are indebted to those who contributed by their willingness to pool experiences and to those who contributed by reading the separate chapters. During the two years, Mr. F. S. Blanchard, as chairman of the Advisory Committee, has shown unfailing and helpful interest in the conduct of the research.

At the University of Pennsylvania, the entire study has also profited from the criticisms of Professor A. H. Williams, and certain sections from those of Professors Reavis Cox and Waldo E. Fisher.

With due appreciation of the help of those in the industry, on the Advisory Committee, and at the University, the Industrial Research Department, of course, acknowledges that the responsibility for the interpretation of data and for the conclusions rests upon its members alone.

Among the staff of the Industrial Research Department, there was some division of labor. All participated in the first stages of collecting information, making contacts, and interviewing executives. All shared in defining the problems to be included in the study and in eliminating phases of inquiry which would have spread the research unduly.

At a later stage in the study more specialization was possible. The group tended to depend upon C. Canby Balderston when a problem concerned the cotton industry, George W. Taylor when it concerned silk or rayon, and Hiram S. Davis when it concerned woolen and worsted. Special studies, some of which cut across these fiber lines, fell to others. Anne Bezanson analyzed the problems of distributing yard goods. Robert D. Gray undertook a study of the underwear industry. G. Allan Dash, Jr., became responsible for hosiery and an extensive survey of the women's dress industry, and Robert B. Armstrong for knitted outerwear and carpets.

Both in these intensive studies and in the more general one of actual practices and trends in organization, a working summary of each interview was written and made available to all members of the research group. These materials thus became the basis for group discussion.

Once the changes in ownership at particular markets emerged as the clearest way to use the materials, a new series of interviews had to be made, assumptions checked, and cases at each market added or elaborated. Too much credit cannot be given to G. Allan Dash, Jr., and Robert B. Armstrong for making and following up contacts with companies in all stages

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of textile manufacture from yarn to finished goods.

That this report, written by several persons, has a unified style is evidence of the care of Miriam Hussey who also took responsibility for the verification of the citations about particular companies as well as for the editing. Lillian P. Goodman rendered exceptional service in keeping records of the interviews and assisting in proof-reading.

At each stage of the study, the staff was guided by the sound economic judgment of Anne Bezanson whose high standards of research were a constant stimulus.

Despite the bringing together of findings in preliminary writing, much comparison and culling had to be done before the writing of the report. The actual writing, the working out of the form of the report, and the major part of the interpretation fell to Hiram S. Davis and George W. Taylor.

JOSEPH H. WILLITS

*May 1938*

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## CHAPTER I

# THE PROS AND CONS OF VERTICAL INTEGRATION— A SUMMARY

"VERTICAL Integration in the Textile Industries" is a study of management experiences. It brings together and interprets the actual policies followed by textile companies. The idea has frequently been advanced that textile operations would have greater stability if successive steps in production and distribution were more generally brought under a single management. There has been, however, no comprehensive study of the advantages and disadvantages that have accompanied vertical integration in the textile industries generally or of the policies and techniques that have been used to overcome the obstacles to vertical integration. These phases of the problem are analyzed in this report.

It is a notable fact that the textiles required for such products as women's dresses or novelty curtains generally change ownership several times as they flow from raw material to finished goods. But textile products like hosiery and sheets usually remain under one ownership throughout manufacture. Other important contrasts stand out. The relative frequency with which the manufacture of fabrics is combined with the cutting of men's wear products may be compared to the scarcity of similar integration in women's wear. Such experiences indicate that there are underlying factors favorable to vertical organization and others that are unfavorable. They show that some policies and techniques are better adapted than others to facilitating integrated operations. The task of this report is to discern the principles underlying vertical integration and bring them to the attention of textile executives.

The way vertical integration has worked and the devices that have been helpful in overcoming obstacles depend largely upon the form of integration that is under consideration. Fundamental importance attaches to the question of whether or not the form employed changes the markets in which goods are purchased or sold. The significance of this distinction can be illustrated by reference to the expansion program of a converting company.

This company formerly specialized in converting rayon fabrics, having its finishing done on commission. The acquisition of a finishing plant by this firm was a form of vertical integration; it permitted the unified control of finishing and converting. No change was required, however, in the major markets used by the company. Gray goods were still purchased and finished goods were still sold. Quite a different problem was involved when the same company determined to weave a part of the gray fabrics used by it for converting. This type of vertical integration required a bridging of the gray-goods market. To the extent that the company weaves its own fabrics, the gray-goods market is eliminated as a source of supply. Materials must be purchased in the yarn market. That form of vertical integration which bridges a major market, by eliminating some or all dealings in it, has been termed inter-market integration—in contrast to the intra-market form, which does not change the markets in which textiles are purchased or sold. This study is limited to inter-market integration.

One other distinction between the different forms of vertical integration must be made

clear at the outset. This relates to the direction in which integration is developed. The tire companies, for example, in "going back" to make their own cord moved in an opposite direction from that taken by some rayon producers in "going forward" to make fabrics from their yarn. Starting from any process, backward integration is undertaken for the purpose of manufacturing textiles instead of purchasing them; forward integration has the objective of creating new sales outlets for the company, and may also require the assumption of additional manufacturing responsibilities. Because forward integration primarily involves merchandising and selling problems, textile concerns have faced unusual obstacles in undertaking it as compared with backward integration. There are important exceptions to this rule, to be noted later, and there are situations where obstacles to either form of integration are virtually insurmountable. Attention has been given in this study to both forward and backward integration, but only when the bridging of major markets is involved.

With this limitation in mind, separate chapters have been prepared to consider the problems of vertical integration at each of the principal textile markets. By analyzing specific cases at major markets like finished goods, gray goods, and yarn, it has been possible to see how integration has worked in terms of both markets and particular products. Some basic and far-reaching questions come to mind. How has the Goodall Worsted Company been able to sell Palm Beach suits instead of fabrics and thereby bridge the finished-goods market? What policies have assisted Johnson and Johnson and the Kendall Company in manufacturing most of the fabric used by them in making surgical supplies? In what way has the Manville Jenckes Corporation been able to produce a part of the rayon yarn

used in its weaving department? Is there general significance in the factors that permit manufacturers of rayon fabric such as the Duplan Silk Corporation, Stehli and Company, and the Stünzi Sons Silk Company to sell both gray and finished goods? The answers to such questions can be detailed only in the body of the report, but certain "common denominators" do stand out as general principles that are important at each market.

#### THE ADVANTAGES OF VERTICAL INTEGRATION

The setting up of a separate business for each step in the flow of textiles may often be unavoidable. The operation of such unrelated enterprises, however, is frequently neither smooth nor particularly profitable. Competition is encountered not only by the final product but by products at different stages of completion in a series of markets. The markets for gray and finished cotton print cloth are examples. Production policies of individual businesses are often attuned to speculative factors in intermediate markets and not related to the demand for finished textiles. As a consequence, the markets for fibers, yarn, gray goods, and finished goods often represent "a series of speculative mechanisms." The fundamental importance of integration is that it offers a possibility of coördinating the different processes to avoid misdirected production at the intermediate stages. It is one problem to weave fabrics for sale in the market and something quite different to weave them for an integrated cutting department in the manner of the Goodimate Company.

Because a better planning of production has often been a principal advantage of vertical integration, it cannot be assumed that here is the one and only way to stabilize the textile industries. Throughout this study, reference is made to certain products that are not adapted to integration and to management



limitations which preclude integrated operations. Furthermore, one must not overlook the fact that in some industries, such as woolen manufacture, most companies are integrated concerns. The virtual absence of intermediate markets in these industries means that it is difficult to operate on a specialized basis. Without making any broad, sweeping statements, it should be pointed out that some companies have found that vertical integration limits the speculative aspects of textile manufacturing besides providing other important advantages.

Circumstances have often forced vertical integration. Although this is particularly true of forward integration, there are also numerous instances of the initiation of backward integration from urgent necessity. During the course of this study, executives have frequently described the integration of their companies as a desperate step taken to avoid difficulties which threatened to engulf them. Since even some of these ventures have uncovered advantages in vertical integration, a more carefully planned program might have greater possibilities. Of course, integration has often been prompted by factors other than stark necessity. Some concerns have gone forward to demonstrate the uses of their products; others have gone backward to secure lower costs or a control of quality. The principal advantages that have resulted from integrated operations are:

1. Decreased operating costs
2. Additional profit margins
3. Stability of operations
4. Quality control
5. Certainty of supplies or markets
6. Diversification of outlets
7. Demonstration of uses
8. Minimized style risks

#### *Decreased Operating Costs*

In general, it appears that certain items of

cost can be readily reduced through integrated operations. Important cost savings may arise from the elimination of some handling operations and the simplification of processes as well as from the avoidance of various intermediate sales expenses. In the producing of rayon by Manville Jenckes and the converting of gray goods by a number of large shirt manufacturers this advantage has been of prime importance.

#### *Additional Profit Margins*

Integration may permit a company to take over a process that provides attractive profit margins. While the availability of good profits in a preceding or subsequent process is always a strong inducement to integrate, the urge is even more pronounced when a specialized business works on relatively small margins. The bag manufacturers started to make their own fabrics when weaving gray cloth was a profitable business in its own right. In other lines, whenever the gray-goods profit margin continues to be relatively small as compared with that of finished goods, weavers may be expected to integrate forward wherever it is possible to do so.

#### *Stability of Operations*

Significant advantages have sometimes been secured by an integrated concern that is able to coordinate the production schedules of various departments so that they are operated more nearly to capacity than in specialized plants. The latter depend upon orders received to keep their equipment busy; the integrated concern has an assured outlet for its production at the intermediate stages. This permits the stabilization of operations. The importance of the savings from this activity depends principally upon the amount of overhead costs. When they are large, the ability to synchronize the operations of integrated

departments may be the major factor in determining whether or not the vertical integration is successful.

### *Quality Control*

The adequate maintenance of quality standards may require that a company manufacture instead of buy textiles used as raw material. Moreover, a concern providing textiles for further fabrication may feel that forward integration is necessary in order to establish and maintain quality standards in the use of its product. Forward integration by Tubize Chatillon and Industrial Rayon resulted to a large extent from the necessity of improving the quality of knit rayon fabrics. Consumer dissatisfaction with certain of these fabrics was a threat to their yarn markets. By knitting and selling a part of their yarn production as fabric made according to careful standards, these companies were able to improve substantially the quality of the fabrics made from their sales yarn. A different kind of quality control was effected by those rayon weavers who originally undertook finishing operations and the sale of some finished goods as a means of weaving better cloth. By combining finishing with weaving, and properly coordinating the two departments, they were able to rectify promptly such weaving defects as become apparent only in finishing.

### *Certainty of Supplies or Markets*

The sale of a textile product has, in certain cases, been unsatisfactory because its potentialities have been inadequately developed in subsequent fabrication or distribution. In several instances, this uncertainty of markets has been an even greater problem when the usual market has "dried up." On the other hand, entire dependence upon the purchase of textiles can mean an uncertainty of supplies at a reasonable price. To provide a greater

certainty of supplies or of outlets, vertical integration has sometimes been developed. The Goodall Worsted Company, for example, set up its own garment factories and merchandising plan to assure a more dependable outlet for its Palm Beach fabrics. Backward integration into weaving by a mattress manufacturer is said to have been occasioned by the necessity of providing for an assured supply of damask coverings.

### *Diversification of Outlets*

A desire to avoid dependence upon a single market has, in several cases, motivated forward integration. Such dependence involves the risk that changes in the demand for one product may seriously reduce a company's total volume of sales. Although the diversification of products sold at one market level may minimize this risk, a still greater protection can be secured by the integrated company that diversifies its outlets by selling products at different market levels. One concern reports that it not only sells both gray and finished woven goods but varies the percentage of sales in each market according to the margins that prevail.

### *Demonstration of Uses*

Some companies have integrated forward in order to demonstrate the uses to which their products are adapted. Thus one cotton mill makes a small part of its fabric into men's summer suits and sells some of them through a retail store owned and operated by the company. The primary object is to demonstrate the adaptability of the fabric for cutting purposes and the acceptability of the product to the consumer. In several cases forward integration for demonstration purposes has led to operations on a commercial basis, and the extension of the program in this manner is always a possibility.

*Minimized Style Risks*

Although a combination of two or more processes ordinarily increases style risks, there are rare cases where they have been minimized by integration. The production of styled merchandise requires a direct knowledge of changes in consumer demand. As a way of limiting its style risks, the Gotham Silk Hosiery Company operates a number of retail stores to secure first-hand information regarding consumer preference.

The vertical integration of textile companies has provided them with the advantages that have just been summarized. The state of the textile markets at any time often determines whether the interest in vertical integration is centered in the forward or the backward form. When it is difficult to sell at a profit, interest is aroused in forward integration as the way to develop a better means of distributing goods. At other times, when the supply of textiles available for purchase is high-priced and uncertain, backward integration receives increased attention.

#### THE LIMITATIONS OF VERTICAL INTEGRATION AND HOW THEY MAY BE OVERCOME

Although the advantages of vertical integration may often make this form of organization appear very attractive, they can seldom be won without overcoming formidable obstacles. This is especially true when a concern elects to integrate in an industry in which its competitors are not integrated. Among the limitations that have been most difficult for vertically organized concerns to overcome are:

1. Breaking into a new field
2. Increased inventory and style risks
3. Spreading management
4. Restrictions upon variety

5. Disparity between scales of operation

6. Inflexibility

These are now discussed with some mention of the various techniques that have been most frequently employed to overcome them.

*Breaking into a New Field*

It takes time for the management of a company to learn how to make and sell a new line of products, or how to buy and process materials with which it is not familiar. While this learning period can be expensive in the case of backward integration, it can jeopardize the very existence of the company in the case of forward integration. New markets are usually developed with more difficulty than new sources of supply.

A company seldom can discontinue selling in one market and begin selling in another without experiencing a serious, although possibly temporary, curtailment of volume. Usually the seriousness of the curtailment will depend upon how long it takes to develop new outlets. A spinning mill can become a producer of gray goods without assuming responsibility for distribution if it sells through brokers or an agent. Its problem is nothing compared to the marketing problems faced by those producers of finished goods who try to become clothing manufacturers. Seldom are wholesale and retail outlets developed overnight and, consequently, any mill which tried to shift completely from the fabric to the garment market might incur a fatal reduction in volume.

In most instances of forward integration, it is ordinarily not possible to discontinue operations in the usual market. This means that sales must be made in two successive markets and may result in competition with one's customers. When this competition is on a price basis it invariably causes increased sales re-

sistance for the vertically organized concern. In some cases this has been partially avoided by selling goods in different style, quality, or price ranges than those of customers. Sometimes, however, it has proved essential to sell a product that is strictly non-competing with that of customers. Whichever course is taken, the problems of maintaining satisfactory relations with two classes of customers impose a trying task.

Among the other policies which have been used to reduce the initial hazards of vertical integration, that of having manufacturing done on commission has been rather widely employed. This permits a company expanding in a forward direction to concentrate upon selling activities, and one expanding in a backward direction to center upon purchasing activities. Other programs that have been found effective include taking over a going concern and starting with a minor or side-line item that does not involve the major business of the company.

#### *Increased Inventory and Style Risks*

Inventory risks are usually increased when a firm takes on a new function because that almost always requires the integrating firm to hold goods longer. This can be a decided advantage in a rising market, but such markets have not been frequent or of long duration for most textile products during the last decade. Where organized trading permits, some integrated companies have been able to shift a part of their inventory risks by hedging operations. Relief has also been obtained by continuing to buy or sell in each market bridged. For example, a mill which sells both gray and finished fabrics tends to have a higher rate of inventory turnover than one which sells only finished goods. Similarly a converting house which weaves only a part of its gray needs assumes less inventory risk than a house

which would elect to weave all of its fabric needs.

In addition to assuming greater inventory risks, a firm which is integrating may also have to assume greater style risks, according to the product involved and the operations originally performed by the firm. A converter, for example, would not increase his style risks by acquiring a mill to weave print cloth, although such a step would vastly increase his inventory and fixed capital risks. At the same time, a gray-goods mill could not attempt to convert print cloth without thereby assuming major style risks.

Where new or additional styling risks are assumed by reason of integration, there appears to be little that a company can do to shift them to others. Since they have to be accepted, the only recourse of the integrating company is to minimize them as much as possible through trying to anticipate or at least keep abreast of current style trends. For this purpose, several companies have made use of what may be termed the periscope technique—the essential idea of which is to establish contact both with style centers and consuming markets. Some have gone so far as to establish stores for testing consumer reaction, while others have set up style bureaus charged with the responsibility of keeping the company's designing staff aware of style developments both here and abroad.

#### *Spreading Management*

One of the limitations of vertical integration most frequently mentioned is that it tends to spread a company management to the point where certain individual problems may not get the attention that they warrant. This issue is closely associated with that of minimizing the inventory and style risks of a vertical company, since the development of a program which correlates purchasing, production, and

marketing is really the key to minimizing risks. It is the creation of just such a program that baffles many companies when they attempt vertical integration. As one mill executive said, "It is beyond the ability of any one man to direct the purchasing of the great variety of materials used in textile manufacture, oversee their conversion into fabrics and that of the fabrics in turn into garments, and assume responsibility for marketing the garments."

The view just quoted assumes a one-man form of management that is quite unsuited to the operation of a vertically organized company, especially if that company bridges more than one important market. If management is not to be spread so thin by vertical organization that it is no longer effective, some steps must be taken to adapt the administration of a company to the requirements of vertical operation. Obviously this means that authority must be delegated and that those in whom it is vested must be made to feel a responsibility for the success of the company as a whole. Here is one of the many difficult managerial problems of the integrated concern. How can department heads be given some of the same incentive and feeling of responsibility which they would have if they were running their own business? This problem grows rapidly as a company expands in a vertical direction.

#### *Restrictions upon Variety*

Even though a textile company were able to overcome the disadvantages recounted thus far, it might still face failure unless it found some way of working within the limitation which integration places upon variety. This is a serious handicap in styled goods. A mill which both spins and weaves cannot offer as wide a variety of fabrics in terms of different yarn constructions as the weaving mill which buys all its yarn requirements. The same is

true at other stages. At the garment stage this is one of the principal reasons why fabric manufacture and garment manufacture are seldom combined. Garment manufacture in most lines of apparel ordinarily requires more variety of fabric than one mill could economically produce.

The most effective means available to an integrated company for overcoming the variety handicap is to concentrate its own production on the more staple numbers of yarn or fabric which it requires in relatively large quantities and to buy whatever is necessary to provide variety in the final product. By following this procedure, a company not only lessens the restriction which integration places upon variety but is also more likely to benefit from lower costs, since having a capacity less than its own needs tends to make for more continuous use of equipment. This practice has been followed by weavers and knitters when acquiring yarn-producing units, by converters when acquiring weaving facilities, and by cutters when acquiring fabric-producing departments. These illustrations in themselves suggest that it is a method more applicable to backward than to forward integration. Seldom does a mill integrating forward welcome the idea of setting up a new department which would require it to buy the very product that it is trying to sell.

Some companies, however, have demonstrated that it is possible to organize vertically and sell a less varied line than specialized competitors. Where this has been done, the company has usually aimed at developing mass distribution by means of brand promotion. This has enabled it to offer a more restricted line than might otherwise be demanded by retailers. Where forward integration stops short of finished consumers' goods, as would the combining of gray-goods weaving and converting, this method is far less applicable. In

such circumstances, smaller companies lacking the facilities to offer a varied line sometimes find it most desirable to turn their marketing over to some selling house which has accounts that will complement their own line.

### *Disparity between Scales of Operations*

Frequently, economical operations at one stage may require the production of greater or less volume than economical operations would warrant at the next stage. Several instances of this disparity between scales of operations can be cited, of which the most marked exist (1) in the rayon fabric industries between yarn- and fabric-producing operations and (2) at the finished-goods stage in most industries between fabric and garment manufacture.

While disparity between operations is a formidable barrier, it need not prevent vertical organization, as Manville Jenckes has shown in rayon woven goods and as several companies have shown in garment manufacture. In none of these cases, however, did the integrating companies seek a self-contained status. Rather they followed a policy of either integrating backward to make only a part of their requirements and buying the remainder, or of integrating forward to use only a part of their output and continuing to sell the remainder. In neither form was there an attempt to balance operations within the organization.

### *Inflexibility*

Of all the disadvantages of vertical integration, that of being unable to adjust quickly to new conditions is probably the most fundamental. It matters little whether the new conditions involve style, prices, processes, raw materials, or markets; the self-contained vertical organization does not easily adjust itself to a new state of affairs.

Many companies, organized vertically

either through foresight or necessity, have recognized the need for maintaining flexible organizations so that they can adjust readily to changing conditions. In short, these companies had to find a way of lessening the dependence of one department upon another. Those which have integrated backward have accomplished this purpose by tapering the capacity of the new operation so that it supplied only a part of their needs; those which have integrated forward have followed a policy of continuing to sell in the market bridged. These methods are aptly described as partial integration.

Many companies, because of the competitive conditions within their industries or the nature of their product, cannot integrate on a partial basis but must become completely integrated. In such instances, some degree of flexibility has been obtained by diversifying the line of products made so that a slump in one line can be compensated for in part by the business obtained in another. Another attack which is sometimes made upon the problem of inflexibility is to restrict integration to the ownership of goods and to have manufacturing done on commission. Such a form of organization is highly flexible, since it can be discontinued at any time without great loss.

From this review of the major obstacles which face the company organized vertically, it is evident that in most circumstances forward integration is likely to be more difficult than backward integration. The initial hazards of the former are greater because it requires a firm to develop a new market—generally more difficult than finding new sources of supply. Whenever a firm moves backward it runs no risk of competing with its customers.

The restriction placed upon variety, the disparity between scales of operation, and inflexibility are probably the most serious obstacles which confront the vertical company.

These barriers are usually most effectively surmounted by a firm which can follow the policy of making only a part of its requirements and buying the remainder—a practice peculiarly adapted to backward integration. The policy of tapered capacity, together with the others used in overcoming the obstacles to vertical integration which are of most general interest, are now described in some detail.

#### METHODS THAT FACILITATE VERTICAL INTEGRATION

Among all the methods which have been used to overcome the obstacles to vertical integration that of partial instead of complete integration has generally been the most effective. It aids in overcoming more obstacles than any other method and may be used with variations in either forward or backward integration. Moreover, it is especially helpful to a company which is trying to deviate from the pattern of organization within its industry.

Partial integration requires the use of non-competing markets when integrating forward and of tapered capacity when integrating backward. Both of these methods have been used at virtually every market stage. These, together with other methods that have had wide use in facilitating vertical integration, are now considered.

##### *Non-competing Markets*

Seldom is it possible or desirable to integrate forward by making an immediate change to entirely new outlets and discontinuing all sales in the familiar market. There is, therefore, often no alternative to partial integration if a vertical organization is to be developed at all. In such cases, the sale of non-competing products in different markets permits partial forward integration in such a way as to avoid competition with customers. A producer of finished fabrics for sale to the

dress-cutting trades, for example, has been able to use some of those fabrics to make neckties. A converter selling fabric to a large number of cutting trades may discontinue fabric sales to one of them, without a serious loss of volume, in order to develop a larger outlet through a cutting department of his own.

The sale of non-competing products by a vertically organized company has advantages other than the avoidance of direct competition with customers. It also provides a diversity of products that makes the business less dependent upon any one line. This rests, however, upon the development of "side-line" products at different market stages—far from a simple task. It may be difficult even to decide which products offer a profitable outlet for a significant volume.

##### *Tapered Capacity*

The strongest force that has led to backward integration is the expectation that goods can be manufactured more cheaply than they can be purchased. It is impossible, however, to judge with any certainty how long such a condition may last, since textile processes and textile markets are in a more or less constant state of flux. It becomes, therefore, highly important in backward integration to develop an organization which can quickly adjust itself to new conditions. This flexibility has frequently been attained by the backward taper of capacity.

In making only its minimum requirement of a certain textile, a concern has some assurance that the new producing department will ordinarily operate at capacity and consequently at low overhead costs. Moreover, the purchase of peak requirements, or of materials used in small volume, provides the vertical organization with market contacts as well as with the variety of material that can only be assembled from different sources. The or-

ganization has elbow room to move with shifts in demand because it can readily supplement its own production with outside purchases. Tapered capacity also provides a means of adjusting business policies to meet economic changes, since its material costs are dependent upon both costs of production and market prices.

It should be recognized that there are definite limits to the policy of tapering capacity. In most cases, only the very large buyer of textiles can make a part of his needs and still be able to operate a manufacturing department on a scale that results in low costs. Since this method requires both the manufacture and purchase of materials, superior managerial ability has usually been found to be essential to operating such a business.

Furthermore, the policy of tapered capacity depends upon the existence of a broad market in which to make supplementary purchases. If the market is inadequate to provide for peak needs or occasional purchases, the vertical organization must of necessity be based upon the equal balancing of successive processes. When backward integration does not have the benefit of a tapered capacity, the risks inherent in that form of organization are readily apparent. Such vertical organizations have often been ill-adapted to meet the marked changes in textile conditions that have arisen during the past decade or more.

#### *Acquisition of Existing Facilities*

It has been reiterated that the important "key" to successful forward integration is the development of distributive contacts, while backward integration depends upon the efficiency with which a producing unit is developed. It is but natural for companies embarking upon a program of vertical organization to conclude that integration can be facilitated by the acquisition of an existing

concern, as distinct from setting up and developing new facilities. This method provides a ready-made organization experienced in all aspects of the new business.

In forward integration, such a program has the important advantage of bringing no new or additional competition to the field. The integrating concern is, therefore, in a better position to continue its usual sales. Especially is this true if the acquired plant retains its identity and a part of its original personnel. The acquisition of the Argus Knitting Mills by the Tubize Chatillon Corporation illustrates this technique. This particular instance of forward integration seems actually to have aided the sale of yarn to knitters by bringing about improved quality and market standards without new competition.

Backward integration by acquisition of existing facilities may be the most practical way of developing a vertical organization if technical skills are rare, as in rayon-yarn producing. It may also assist in providing an organization of highly skilled employees which could otherwise be developed only during a lengthy training period. Where these factors are not important, there is but little incentive to use this technique, except as producing plants may be obtained at distress prices. This consideration alone, however, should not be permitted to influence judgment too strongly. Plants available at distress prices are usually those equipped with run-down or even obsolete machinery. The acquiring of such plants may or may not prove to be a desirable step, depending upon the cost of rehabilitating them.

#### *Limiting Investments to Current Assets*

Vertical organization has sometimes been developed by limiting the undertaking to ownership of materials and making no investment in "bricks and mortar." Commission contracts have been used for this purpose in



effecting both forward and backward integration. Producers of finished goods, for example, have taken the first step in the operation of a cutting department by arranging with a cutter to work on a commission basis. A yarn company may institute forward integration by having its yarn woven or knit on commission. This technique permits a program of forward integration to be centered about the problem of distribution and eliminates the necessity of learning at the same time how to manufacture in a new field.

The commission contract is used even more extensively as a form of backward integration. Wholesalers and retailers often have garments made to their own specification on commission and may even secure the necessary fabric under commission weaving contracts. In a number of lines, converters and cutters make extensive use of similar contracts to assure themselves of a fabric supply over which some control of style and price may be exercised.

According as they are related to backward or forward integration, commission contracts have led to varied results. The effectuation of backward integration by these contracts can provide a high degree of flexibility. The integration venture can usually be discontinued at any time without great loss, if large advances of working capital have not been made. The advantage of flexibility has been lost, however, when advances have been made to the point that involuntary integration becomes necessary to protect the investment.

The use of the commission contract to effect forward integration appears to have been limited to the initial stages of the program. In the few cases where this technique has been used, it soon became necessary to absorb the subsequent operation as an integral part of the vertical organization. Quality control and the need for coördinating operations have been the compelling reasons.

### *Close Buyer-Seller Relationships*

Any survey of the disadvantages of vertical integration in the textile industries naturally brings up the question of whether there are any means by which the benefits of integration can be secured without its limitations. Is it essential that a firm actually integrate through ownership either of facilities or of merchandise in order to acquire control over either its markets or its sources of supply?

In a number of cases a measure of control has been obtained by acquiring a financial interest in a concern from which materials are purchased or to which goods are sold. Many forms of such arrangements exist and they are frequently effective in providing some of the advantages of vertical integration. The suspicion that they do exist is difficult to keep from other sources of supply or from customers as the case may be.

Some companies have made use of long-term purchasing contracts to gain some of the benefits of outright integration. They have been able thereby to secure exclusive constructions and greater certainty of supply. Moreover, where large orders are involved, the cost to the company may be no more or even less than if it were integrated. The availability of suppliers willing to make such contracts is a phenomenon of a buyers' market. It cannot be counted upon as a permanent basis of organization.

### *Brand Promotion*

From the standpoint of effecting some control over markets, however, there is a device that far outranks other indirect methods, and that is brand promotion. There are numerous textile companies which have attained many of the benefits of forward integration through branding their particular yarn, fabric, or finished consumers' product and promoting

that brand directly to consumers. One has only to mention a few names like Cannon in towels, Interwoven in men's hosiery, Jantzen in bathing suits, and Forstmann in fabrics to indicate what is meant. Such concerns, by means of brand promotion, have been able to attain a preferred status for their products with consumers and thereby with retailers, and in the case of fabrics with both cutters and retailers.

Successful brand promotion, however, involves the assumption of new responsibilities. A hosiery firm, for example, that actively promotes the sale of hosiery under its own brand has many of the pricing and other merchandising problems that it would encounter if it operated stores of its own. Likewise a mill selling a fabric under a brand name has some retailing responsibilities. A branded fabric no sooner becomes accepted by the public than safeguards must be set up to protect the brand. These may take the form of licensing cutters and of supervising the selection of retailers who are to sell the fabric in garment form.

In brief, then, brand promotion does afford some of the advantages of outright integration into subsequent production and distribution, but at the same time it requires the assumption of some responsibility for those activities.

#### CONCLUSIONS REGARDING GENERAL POLICY

The textile industries present an array of contrasting and changing forms of business organization. This is convincing evidence that specialized operations are better adapted to one set of circumstances and integrated operations to another. Some informed textile executives believe that the choice between specialization and integration depends largely upon available man power.

It is quite clear that successful vertical integration often requires exceptional managerial and administrative ability. Management must be capable of coping with all the problems of entering a new business. These vary from questions of styling and distribution to vexing labor problems, any of which may dissuade a concern from integrating. While managerial ability is an important consideration, it will avail little unless a company's organization is adapted to its products and to economic conditions. Moreover, sound organization policies may enable an average management to do a commendable job or permit the unusual management to achieve outstanding results. Both man power and organization policies are crucial.

The selection of a specialized or an integrated form of organization depends upon the adaptability of each in providing what is demanded in the current market. In some industries, this factor leaves little choice of the form of organization. Specialized operations are often the only practical way to supply the market with its needs. On the other hand, integrated operations may become so generally accepted as the best way of doing business that no unusual significance is attributed to them. The combining of spinning and weaving in cotton and the integrated organization of the woolen industry are cases in point. The ability of any concern to deviate from the pattern of organization prevailing in its industry is limited by the necessity of meeting current market requirements. Vertical integration must be built to the market.

After the selection of the form of business organization adapted to meeting current market needs there comes a second major question of policy. How can the concern be made flexible enough to shift with significant changes in market requirements? One cannot

be unaware of the accelerated changes in product specifications, processes, and merchandising practices that have typified textile operations in the last decade. Such changes have sometimes transformed an organization ideally adapted to one set of circumstances into a liability under new conditions.

The central policies of organization are therefore (1) meeting market requirements and (2) providing flexibility. Since these are basic to a determination of whether vertical organization should be attempted and how it should be developed, each will be considered in some detail.

#### *Meeting Market Requirements*

There is no doubt that a focusing of attention upon current market requirements is basic in developing any form of business organization. The demand for variety in a product, for example, is often the major factor in determining whether specialized or integrated organization is most practical. Intermediate markets enable marketing specialists to assemble a complete line from a number of producers, each of whom makes one part of that line. Integrated concerns may have to sacrifice production economies in order to make a line with sufficient variety or go to the market with an incomplete line. While this matter may be of little or no importance in staple goods, it is often a deciding factor where style considerations are paramount.

Attention to building the business organization to the needs of the market is naturally most marked with styled goods. Analysis of numerous cases of vertical organization indicates that the leadership of an integrated company can best be built around that function which is responsible for styling. Integration that requires taking over a style-determining task is difficult to achieve, but the specialized

business that already knows how to meet the style needs of the market is in a relatively better position to integrate either forward or backward. If styling in the production of gray fabrics, for example, is primarily a matter of weave construction, this can be the key operation from which to initiate integration. On the other hand, if styling depends upon printing, the converter holds the "seat of authority" from which to inaugurate vertical integration. The question is: who knows how to provide the market with what is demanded?

Even though a vertical organization can provide a complete and properly styled line of products, attention must be given to coordinating manufacturing and selling. The constant adjustment of production policies to the market is fundamental to the integrated concern. A demand of the sales department for "something different" has often been forestalled by the insistence of the production department that low costs require adherence to a certain schedule. Experience shows that most vertical organizations have found it necessary to place a major executive in close contact with the market with authority to revise production schedules promptly. Unless such decisions are quickly executed, an integrated company may do an outstanding job of producing goods at a low manufacturing cost without being able to sell them.

If vertical integration makes it difficult for a concern to meet current market needs, the effect of this one disadvantage can nullify all the advantages that may appear to be so alluring. On the other hand, a company may have no recourse but to integrate, irrespective of the disadvantages that are incurred, if a vertical organization is essential to meeting market requirements. There is no doubt that the usefulness of either specialized or integrated operations depends upon their adapt-

ability to producing goods that are demanded in the market.

### *The Maintenance of Flexibility*

The most important lesson to be learned from the experience of textile concerns is that any form of organization selected as being best adapted to meet market needs should provide as much flexibility as possible to permit adjustment to changing conditions. Either the specialized or the integrated operations that are ideally adapted to meet today's needs may be a serious handicap tomorrow. The need for attention to this factor was probably of little moment during earlier days when demand could not readily shift from one fiber to another and when productive processes changed slowly. Style was not a day-to-day question, and there were more or less standard practices in the distribution of goods. Whatever may have been true of the past, it is certain that none of these factors are static at present. Nevertheless, in deciding to operate a specialized or integrated business, a firm adopts a policy not only for the present but usually for some years to come. The test of the adequacy of the business judgment is not only how it works during a season or a year, but how well the organization meets both present problems and future contingencies.

There is obviously no factual basis for anticipating the future demands that will be made by consumers upon the textile industries or the extent to which organization problems should be conceived in terms of rising prices or falling prices. It therefore follows that the determination to operate either a specialized or a wholly integrated business embodies risks against which adequate pro-

tection cannot be secured. The dilemma of how to adapt a business organization to unforeseen future needs has most adequately been met by the use of partial integration.

In using partial integration, a concern that determines to manufacture materials instead of buying them is careful either to manufacture but a part of its needs or to diversify by selling products at different market levels. The company that integrates forward does so for a part of its output, and sells its products in non-competing markets. The devices of tapered capacity and non-competing markets are unquestionably the common denominators found in virtually every successful program of vertical integration. Their importance rests upon the fact that partial integration is the way in which flexibility of organization has been most effectively achieved.

### *The Nub of the Organization Problem*

Vertical integration is no panacea for the ills of the textile industries. It has, however, been found to be of value by some concerns and by some industries in minimizing the speculative aspects of textile manufacturing. This advantage has not been easily attained. On the contrary, most concerns that have blindly attempted integration have found that it can be a serious liability. A review of the way vertical integration has worked in the textile industries leads to the conclusion that its success depends upon the attention that is given to two fundamental policies. They are (1) building an organization around the needs of the current market, with the seat of authority close to the market; (2) providing flexibility to meet changing market requirements—most effectively realized through the use of partial integration.

## CHAPTER II

### THE INTEGRATION OF TEXTILE OPERATIONS AND GARMENT MANUFACTURE

"EACH to his own trade" is a common explanation of why efforts to combine fabric and garment manufacture have been infrequent and generally unsuccessful. Whether or not the need for special abilities is a complete explanation, one can readily understand why neither weavers nor converters are anxious to shoulder the pyramided style risks and the problems of country-wide distribution that go with the clothing business. Likewise it is easy to understand why even large cutters conclude that there is no reason for operating a textile plant, which would inevitably limit their choice of fabrics, especially when they can purchase fabrics for not much more than their cost of manufacture. Some companies, however, such as the Goodall Worsted Company and the Goodimate Company, have been unwilling to accept the usual objections to combining textile and cutting operations under one management.

#### THE PALM BEACH EXPERIENCE

The Goodall Worsted Company of Sanford, Maine, has been cutting its Palm Beach cloth into men's summer clothing since 1931 with very satisfactory results. Originally the Goodall Worsted Company was a producer of mohair and other worsted-finished fabrics, of which Palm Beach cloth accounted for the largest volume. This branded fabric was first sold to cutters for use in summer suits in 1912 and was first promoted to consumers through national advertising in 1914. The program was profitable until the late 20's, when sales began to decline. On investigation

the company found that consumers were becoming dissatisfied with paying \$30 for a Palm Beach suit and seeing one advertised the next day for \$12.50, or with paying \$12.50 and getting unsatisfactory tailoring. To correct this situation, the Goodall Worsted Company chose to establish its own clothing factory, the Goodall Company, but only after careful consideration had been given to a program of licensing independent cutters.

It is easy to dismiss the Goodall venture on the ground that its success depends upon a fabric of patented construction and upon a status with the consumer that comes only from years of promotion. Both of these factors undoubtedly play an important part, but they scarcely tell the whole story. The Goodall Company has overcome a major obstacle to combining textile and cutting operations through supplying variety of fabric pattern without prohibitive production costs. Moreover, it has developed a policy that permits the selling of both fabrics and garments. These achievements are of prime interest to any textile concern which may be thinking of taking up clothing manufacture.

#### *Variety without Prohibitive Costs*

Since taking over the cutting of Palm Beach suits, the Goodall Company has increased the variety of patterns and colors in the line so that it now includes one hundred and twenty different numbers. Such an increase in pattern variety is what one would naturally expect when a fabric producer goes into the clothing business. It is usually assumed that this in-

creased variety would result in such high fabric costs as to make it difficult for the integrated concern to compete with the regular clothing company which is free to secure its fabrics in the open market. This result has so far been avoided by the Goodall Company and the reasons appear to lie in the vast market which exists for men's summer suits and in the wide distribution which this company has achieved. About half the company's production is semi-staple numbers, among which whites are important. Fairly long runs are obtained on many fancy patterns because so many different retailers are sold. Moreover, the company makes use of its direct contact with retailers to plan its fabric production, both staple and fancy, in such a way that its mill normally operates about fifty weeks per year.

Undoubtedly the national distribution achieved for Palm Beach suits goes a long way toward explaining why the company can plan its production effectively and get long runs on many patterns. Where the usual clothing manufacturer has one or two accounts in a city, the Goodall Company sells most, if not all, of the better stores which carry men's clothing. Of course, the special features of the cloth out of which the suits are made, together with consumer familiarity, carry considerable weight with retailers. But these conditions existed when Goodall sold only fabrics. Certain new factors help to explain its ability to attain wide distribution. In addition to providing a wide variety and improved styling in fabric patterns, the company offers its line of suits in twenty-five different models. Other inducements are also provided to make it attractive for retailers to carry Palm Beach suits. These have included a suggested uniform retail selling price, adequate mark-up, elimination of clearance sales, stock reconditioning service, selling helps,

and advertising support, both financial and in the form of copy.

### *Non-competing Markets*

One other aspect of the Goodall experience deserves consideration. The company has not tried to make its clothing factories absorb its entire fabric output. Rather, it has spread its risks by developing new markets for Palm Beach fabrics that do not compete with its own summer clothing line. In addition, the company continues to sell a line of drapery and other fabrics that are not used at all in the Goodall cutting department. The Palm Beach fabrics have been sold to selected cutters under license to make and distribute such varied garments as Palm Beach robes, neckties, and suits for women. Under this arrangement the company runs no risk of competing with itself through selling fabrics and at the same time it secures the benefits of an established name in new fields. The licensing feature assures the company that the quality standards of its own garment line will be upheld in the non-competing garments bearing the Palm Beach label. It should also be noted that this policy of selling both fabrics and garments provides a broad base for mill operations, and, when associated with a policy of developing wide distribution for suits, goes a long way toward explaining why the Goodall mills can be operated steadily throughout most of the year.

### THE GOODIMATE EXPERIENCE

Although the policies followed by the Goodall Worsted Company may help to explain its success in combining textile and cutting operations, it is still true that the company had the advantage of a special fabric, an established name, and a market that was expanding. This raises the question of whether textile and cutting operations could be suc-

cessfully combined where the advantages enjoyed by Goodall did not exist. It has remained for a cutter rather than a mill or converter to make this experiment on a substantial scale. About seven years ago the Goodimate Company of Philadelphia, manufacturers of men's clothing, undertook to weave a part of its fabric requirements. The results have been so satisfactory that the company today not only weaves suiting material but finishes its rayon linings, spins a part of its yarn, and knits fleece overcoatings.

Back in 1930 the Goodimate Company ran an ordinary clothing business, buying fabrics, cutting them into men's suits, and distributing the suits without benefit of consumer promotion. At that time, the company found itself in difficulties much the same as other clothing manufacturers; inventory losses were large, and retailers were demanding more variety and lower prices to bolster their declining sales. The Goodimate Company had been making two-pants suits to sell at \$40 retail. It introduced a new line at a lower price, which failed to sell as well as desired. At this point the Goodimate Company decided to see whether it could have woven on commission fabrics that would meet its ideas of quality and still be low enough in price to use in the new line. The venture into cloth manufacture on a commission basis was not wholly satisfactory, but the company was convinced that it ought to make a part of its own fabrics. Accordingly, when the equipment of a small weaving mill became available at a bargain price, the Goodimate Company was quick to buy it and set up a mill department adjacent to its clothing shop.

### *Tapered Capacity*

"What weaver," asks the Goodimate management, "would not be in an advantageous position if he were certain of being able to

operate his mill at capacity and to dispose of his entire production without selling expense?" This is the key to the Goodimate situation. The cloth-producing department is set up to produce only about 75 per cent of the fabrics needed by the clothing shop, the balance being purchased in the market. Thus the weaving department can be run continuously for an assured outlet. It might be supposed that the low costs of continuous operation would be at least partially offset by the short loom runs necessary to provide the variety required by the clothing shop. This has not happened in the Goodimate case. Three lines of men's suits are produced: (1) a staple worsted line, including piece-dyes, (2) a semi-staple worsted line, and (3) a sport or fancy line, mostly of woolen fabrics. The worsted lines are all produced in the company's own mill except for certain fill-in numbers or specialties that would be unprofitable to produce. The woolen fabrics are nearly all purchased. In other words, the company has designed its clothing lines so that variety can be supplied largely through purchase and its own mill can largely be operated on long-run patterns.

### WHAT CAN BE LEARNED FROM THE GOODALL AND GOODIMATE CASES?

Any mill owner, converter, or cutter who contemplates combining textile and cutting operations has much to learn from the experience of the two companies just reviewed. While both cases concern worsted-type fabrics and men's suits, the principles involved are known to have general application, since they have been checked against other integration experiences in lines as different as women's coats and men's overalls. Among the guiding principles which can be drawn from the Goodall and Goodimate experiences the following stand out as of particular importance to any

firm considering the integration of textile and cutting operations.

### *Style Permanency*

Style risks are pyramided but little by integrating textile and cutting operations in those lines where garment styles change slowly and where a substantial market for staple fabrics exists. No better examples have been found than the two cases just analyzed, and it is significant that both are in the men's wear field. Staple fabrics constitute a substantial volume in the output of both Goodall and Goodimate. Moreover, all fabrics, whether staple or fancy, are cut into garment models that change little from one season to the next. Style risks are therefore almost wholly limited to the fancy patterns. Any weaver or converter has style risks on fancy patterns if he produces to stock or accepts cancellations.

### *Forward vs. Backward Integration*

The problems faced in combining fabric and garment manufacture are distinctly different according as the linking is initiated by a fabric producer or a garment cutter. When a mill or converting house elects to integrate forward into cutting, it takes on additional production and styling responsibilities, but these are dwarfed by the new distribution program that must be developed. Instead of selling a few hundred accounts, the textile company may find it necessary to deal directly with thousands of retailers unless it chooses to sell primarily the large chain stores or can develop adequate distribution through wholesalers. Goodall sold about thirty cutters before the company went into the clothing business; today there are thousands of retail accounts on its books. In marked contrast, the garment company which elects to convert or make its own cloth already has a market; it

faces not new distribution but new production and purchasing problems. It is one thing to cut cloth but quite another to weave or print it. Yarns and fibers cannot be bought as close to actual need as finished fabric, since time must be allowed for processing. The cutter who integrates backward cannot escape the inventory and other risks of those whose functions he assumes.

### *Tapered Capacity*

That company which undertakes to combine textile and cutting operations is in an exceptionally strong position if its garment shop normally consumes more fabric than its mill can produce. This situation makes for continuous operation of the mill unit at low cost and yet permits sufficient purchasing on the outside to provide variety and a check on its own costs and styling. Ordinarily, however, this policy of tapering capacities backward is open only to clothing manufacturers at the finished fabric stage. In embarking upon a program of integration it would not be practicable for a mill or converter to establish cutting operations on a scale greater than its own production, although it is possible that such a backward taper of capacities could be developed once the integrated organization was well established.

### *Non-competing Markets*

When a mill or converting house is able to establish a cutting department and to continue selling fabrics, it not only has a much broader base for its operations but is also relieved from dependency upon one market. It can usually do so effectively, however, only when the fabrics are sold in markets that do not compete with the firm's own garments, as the Goodall Company has done in developing markets for Palm Beach fabrics in the robe, neckwear, and other apparel



fields. Thus the use of non-competing dual markets provides a mill with about the same results as those a cutter can obtain by the use of tapered capacity.

### *Timing*

Vertical organization has failed in a number of instances because it was inaugurated at a time of unusually heavy overhead costs or of unusual difficulties in marketing a new product. From this standpoint, integration was undertaken at the proper time in the cases just reviewed, Goodimate having undertaken weaving when mill equipment could be bought at close to scrap value, and Goodall having undertaken summer suit manufacture at the time that this type of garment was beginning to become generally popular.

### *Ability*

One must not overlook the fact that executives of unusual ability may do the difficult thing and make it look easy. The vertical organization under discussion requires a cutter to become "textile-minded" and a textile executive to become adept in meeting the characteristic labor, production, and merchandising problems of the garment trades. While competent persons may be hired to handle these new problems, such salaried executives in a number of instances have proved a poor substitute for managers with a stake in the business. This is well illustrated in the experience of the Goodall Company, which found it necessary to replace a salaried manager of its clothing factory with a top executive of the parent company.

### CAN THE METHODS USED BY GOODALL AND GOODIMATE BE APPLIED GENERALLY?

Although special circumstances did contribute to the success attained in the two cases

just analyzed, the methods employed undoubtedly played a substantial part. This fact leads one to ask whether other firms might combine fabric and garment manufacturing successfully if they followed similar methods. For example, could a rayon weaver make a success of cutting dresses simply by developing fabric markets that did not compete with his dresses? Or could a cutter of men's clothing produce fabric profitably simply by setting out to weave only a part of his requirements? In other words, how far can the natural obstacles to integrating textile and cutting operations be overcome by using the right technique? No general answer can be given to this question, for the obstacles to integration vary widely from one line of apparel to another.

The rock on which integration efforts break may be the pyramiding of style risks in the case of a style line such as popular-priced dresses, and in a staple line such as overalls it may be the vast differences in scale of operation. Hence the possibilities for applying the techniques used by Goodall and Goodimate must be appraised in a number of different and representative apparel lines. For this purpose, there follows a discussion of the obstacles to integration in four representative apparel lines and of the extent to which such methods as "non-competing dual markets" and "tapered capacity" can be successfully employed to combine textile and cutting operations in these lines.

The apparel lines considered in the discussion which follows have been selected to represent the entire range of textile style and variety from "high-style" merchandise like women's ready-to-wear to staple goods like men's overalls. In addition, the history of the vertical mill in the knit-underwear industry is briefly reviewed to show how the vertical organization can be undermined by

changes in consumer demand and marketing methods.

#### WOMEN'S READY-TO-WEAR

It is frequently said that neither mills nor converters can afford to engage in the cutting of women's ready-to-wear because of the pyramided style risks which would result. However, one wonders if the latter is the real barrier to integration in the manufacture of women's ready-to-wear. After all, those mills and converters which lead in fabric styling assume risks on both fabric and garment styles, for they have to design their fabrics with an eye to the probable styles of garment cut. Such fabric producers have to be better informed as to style trends than any cutter. Nevertheless, there is only one fabric producer in recent years who is known to have openly tried his hand at making women's ready-to-wear and that producer gave up the business after a trial of two seasons. A study of his experience throws much light on the real obstacles to combining fabric and garment manufacture in the women's wear field.

#### *The Stroock Experience*

S. Stroock and Company are manufacturers of camel's hair and other specialty fabrics for both the men's and women's wear markets, all of which are sold branded to the consumer. In 1930 this company decided to open its own shop to manufacture women's coats from its own fabrics. This decision was reached after the company had had several years of experience with selling its coatings on both a "confined" and an "open market" basis. Confining the fabrics (*i.e.*, camel's hair to one cutter, llama to another, etc.) had not produced enough volume, and selling on the open market under a brand had resulted in "price wars" among both cutters and retailers that also curtailed sales. Consequently, the

company felt that it should try making up its own fabrics into coats and thereby controlling styling, quality of garment, and wholesale and retail price. It was in a good position to undertake this experiment. The company was not solely dependent upon its business in women's coatings, since it had a substantial business in men's wear fabrics and in dress goods. Moreover, its fabrics were of the specialty type and not widely duplicated. In addition, the styles of garments made of these specialty fabrics were very conservative and many consumers and retailers were accustomed to associate the name "Stroock" with camel's hair and other specialty fabrics because of the company's past brand promotion. In fact, Stroock had nearly all the advantages possessed by the Goodall Worsted Company at the time it went into the business of cutting its Palm Beach fabrics into men's summer suits. Nevertheless, the Stroock company closed its coat shop after two seasons and went back to selling its women's wear coatings to cutters. Sales were resumed, however, on a license basis.

Why did Stroock fail in making women's coats where Goodall has so far succeeded in men's summer suits when the conditions favoring integration were much the same in both cases? Several reasons contributed to the failure, but probably the most fundamental were the difficulties encountered in building sales volume. Group buyers discouraged their affiliated stores from buying Stroock-made coats, and store buyers themselves were often not receptive. The group buyers' attitude arose from the fact that Stroock and Company insisted on selecting the stores to which it sold. Some store buyers were doubtless prejudiced against branded ready-to-wear on the ground that the more successful such lines became the less important became their jobs. Stroock also insisted that stores should not

reduce prices or have closeouts or sales of its products. Retailers, however, resented and objected to this attitude, with the result that in many cases it became essential for Stroock to withdraw its product from the dissenting retail shops, and this resulted in the product being unavailable to consumers in some cities.

The difficulties with group and store buyers, however, were overshadowed by the fact that the stores which took the agency for Stroock coats simply did not sell enough of them. The designing of the garments may have been partially at fault, but the company felt that the cause was deeper and that it lay in the retailer's need for variety in women's ready-to-wear. The stores which carried Stroock coats offered, in addition, several other coat lines in order to match the variety shown by their competitors. Under these circumstances, the Stroock company concluded that it could dispose of more of its women's wear coatings if it sold fabrics to cutters rather than garments to retailers.

Each selling season in women's ready-to-wear is a constant procession of "special events" for which the retailer must buy merchandise special either as to treatment of current styles, or as to price, or both. It is therefore incumbent on the buyer of ready-to-wear to utilize dozens of merchandise resources, and this practice is probably the most formidable barrier to integration in the production of women's ready-to-wear. Any mill owner or converter of women's wear fabrics who goes into garment manufacture runs the very great risk of drastically curtailing his volume, not because he cannot keep in step with style developments but because he cannot create the variety of garments from his fabrics that retailers demand and cutters can provide. It is well known that no one mill has been successful in producing all types of women's wear fabrics. Some are recognized

for so-called "dressy" type materials, and others for sportswear and utility fabrics. While some mills do make both types of fabric, they have not obtained recognition as being leaders in all fields of fabric.

#### *Can Textile Concerns Provide Variety?*

Under the conditions outlined, neither mills nor converters appear to have much chance of succeeding in the manufacture of women's ready-to-wear. Of the several ways of attacking the variety barrier, none holds much promise. It is conceivable that a mill or converting house could provide the varied treatment of garment design demanded by retailers if it operated a number of small cutting shops. Such an arrangement would probably work best in rayon and silk dresses because in this field cutting is usually conducted on a small scale. It has been said that a "two-man" house is the ideal organization in the rayon dress field. However, a program of mill- or converter-owned dress-cutting shops would hardly succeed unless extremely capable managers were secured, and such talent it is almost impossible to hire in the ready-to-wear field. Independent ownership of a dress or coat house offers such alluring rewards and can be undertaken on such a small investment that no successful coat or dress man is apt to work long for some one else.

There are, of course, certain types of ready-to-wear, such as cotton house dresses and aprons, which retailers buy in substantial quantities from one cutting house when the price is right. Such garments are usually made on a scale relatively large for garment manufacture. It would be a difficult task, however, for a converter to manufacture cheap cotton dresses. Despite the scale on which cheap cotton house dresses can be cut, the volume of any one fabric design used would seldom be sufficient to support converting. In other

words, a converting house that went into dress cutting would probably have to continue selling the same fabrics which it cut if it were to secure enough volume for economical finishing. This might be done by developing a non-competing market for the surplus fabric, say in children's dresses and play suits. However, if it were necessary to sell fabrics in direct competition with dresses, the converter would be more likely to acquire a secret "financial interest" in cutting houses. The latter method appears to have been employed in a few instances, but probably more in the rayon than in the cotton dress field.

#### *Mill- or Converter-owned Retail Shops*

If inability to provide the variety demanded by retailers is the real obstacle to integration in the women's ready-to-wear field, why should not mills or converters circumvent retailers and open their own retail shops or acquire an interest in existing apparel chain stores? At the moment this step would not be feasible until it is known whether federal or state legislation will be enacted prohibiting or limiting manufacturer-retailer integration. Assuming that the establishment of a mill or converter chain of ready-to-wear shops will not be prohibited in the future by law, would such a step have any chance for success? That would depend on many factors, among which the securing of adequate managerial talent would rank very high.

Even skilled management could hardly provide the variety in fabric and garment design that retailers obtain by utilizing many garment resources. Obviously a certain degree of variety is essential in the retailing of women's ready-to-wear, for women want exclusiveness and variety in their wardrobes. It may be, however, that competition among both retailers and cutters has carried the em-

phasis on variety to extremes. Women might do with less variety if they were offered merchandise of uniform quality, styled in good taste, and priced attractively. However, it remains to be demonstrated that these results could be secured by mill or converter integration into retailing.

Even if successful in the ways just indicated, it is doubtful that any mill- or converter-owned chain of specialty shops could thrive indefinitely through selling its own products exclusively. The president of a company producing women's wear fabrics said that he had considered seriously experimenting with retail ready-to-wear shops, featuring dresses and coats made of his company's fabrics, until he found out what has to be carried in the way of accessories. This made him realize that the establishment of mill-owned retail shops might cause retailing to become the most important activity of the company with garments made of the company's own fabrics only a part of the merchandise handled. He concluded that he was not justified in recommending to his board of directors a course of action that might transform their company into a retail chain of specialty shops.

#### MEN'S SUITS

In the light of the success achieved by Goodall and Goodimate it might be supposed that textile and cutting operations could be fairly easily combined in the manufacture of men's suits. This conclusion does not follow. From the standpoint of the mill the big problem to solve has been that of providing suits in a sufficiently wide variety of fabrics to meet retailer demands without incurring the high costs of short runs and frequently idle machinery. In this connection the experience of a woolen company is quite illuminating.

*Selling Suits and Fabrics in  
Competing Markets*

For some years a certain woolen mill has operated a department cutting men's suits and overcoats while it has continued to sell suiting and overcoating fabrics. This mill reports that it has had difficulty in selling both garments and fabrics and that it is seldom able to dovetail orders from the garment and fabric departments in such a way as to get the long loom runs one might expect. The difficulty met in selling garments is laid to lack of variety in the line, and in selling fabrics to cutters' reluctance to deal with their competitors. On the matter of dovetailing orders, the company says that the patterns which appeal to retailers often do not appeal to cutters, and the patterns wanted in volume are often not known until the middle of each season.

The mill experience just described probably represents the most difficult combination of fabric and suit manufacture. No cutting department of a mill can hope to compete in variety with the independent cutting shop. It should not, therefore, try to sell its garments in the same way as an independent shop. The Goodall experience is enlightening here. Instead of selling on an exclusive agency basis, as is common among cutters of nationally advertised men's clothing, the Goodall Company has adopted a policy of trying to sell every reputable retailer of men's clothing in every retail trading center of any consequence. If the Goodall Company had restricted its sales to one or two outlets in a community, its sales volume would have been curtailed, and its accounts would doubtless have insisted on other kinds of summer clothing, such as tropical worsteds, cottons, linens, and so on. Surely if a mill cutting department is not to be hampered by the limited variety of its line in selling suits to retailers

it must develop a policy of selling all types of outlets. To be successful, such a policy will probably have to be associated with national advertising and a garment of unusual features.

It is not surprising that the woolen mill in question has also had difficulty in trying to sell both fabrics and garments. Unlike the Goodall Company, it has tried to sell its fabrics in competition with its suits rather than in a non-competing market. The mill makes popular-priced fabrics and it might be supposed that a cutter of such fabrics would care little about the mill's competition in suits if the fabrics were priced right. After all, a cutter who buys from any large mill has to compete with other cutters who are showing suits made out of fabrics identical with those out of which his own suits are made. Nevertheless, when a cutter buys from a large mill selling only fabrics, he does not have the basis for trying to "shade" prices that he has when buying from a mill which sells both fabrics and suits.

Not only is the practice of selling fabrics that compete with garments bad from the standpoint of handicapping fabric sales but it is also bad from the standpoint of selling garments. If the garments achieve a good reputation among retailers, cutters using fabrics sold by the mill will attempt to benefit by this reputation. One mill making sport and hunting shirts has sought to avoid this difficulty by restricting its shirting fabric sales to lighter-weight fabric than that used in its own garments. However, this is no positive protection. Probably the best method is to sell fabric in markets that do not in any way compete with garments.

Although a mill which undertook to sell both suits and fabrics for suits would ordinarily encounter difficulties, it may avoid them if care is taken that the suit line does not directly compete with those of the cutters to whom

fabric is sold. In fact, a mill may be able to create cutter interest in a new fabric by demonstrating that it can be made into garments which appeal to consumers. Some years ago, a company tried to interest cutters in making suits of cotton fabric for the southern market, but met with indifferent success. Then the management decided to show that it could be done. This company opened its own suit-cutting department and later supplemented it with the establishment of a retail store as a means of arousing consumer interest and of checking consumer reaction. The key, however, to the whole program was the pricing of the mill-made suits above those of the cutters to whom the mill was trying to sell fabric. This notified the cutters that the company was not out to compete with them but to show them what could be done with its fabric. As a result, fabric sales to cutters of men's summer clothing were materially expanded.

It may be that this experience has a wider application than to just those cases where a mill is trying to break into a new fabric market and finds cutters lukewarm to the possibilities of the new fabric. A textile company producing a large volume of men's wear fabrics might be able to add prestige to its fabric line and make cutters interested in putting out suits bearing the company's fabric label if it were to cut and market a small volume of high-quality, well-tailored garments featuring the latest styling in both garment and fabric. In effect, such a step would not be so much a venture into suit manufacture as an adjunct to a program of branding fabrics.

#### *Status with Retailers*

The development of a wide market for suits coupled with a non-competing market for fabrics would be a difficult, if not impossible, task for any textile mill that had no experience

in the retail field and was unknown to both retailers and consumers. Many mills could not afford to risk the loss of sales of suiting fabrics to cutters while a substantial market for mill-made suits was being created. This fact suggests that any mill which contemplates entering the business of making men's clothing had better begin with some "side line" rather than place a major fabric market in jeopardy. For example, a mill might achieve a nation-wide reputation among retailers and consumers through selling lounging robes, neckties, or sports wear. Should such a company ever wish to undertake the cutting of men's suits, it would have a following among retailers and consumers upon which to build.

It should be kept in mind that the Goodall Worsted Company's Palm Beach fabric was as well known to consumers as any brand of nationally advertised clothing when that company started to make suits. There is little doubt that a reputation among retailers and consumers facilitates the successful forward integration of fabric and garment manufacture in the men's clothing business. This can be achieved either through the promotion of a side-line product such as robes or through a program of fabric brand promotion.

#### *Prospects for Cutters Producing Their Own Fabrics*

It might appear from the Goodimate experience that backward integration into fabric manufacture is quite feasible for cutters of men's suits. Such integration is probably less difficult than that of mills into suit manufacture, but is by no means easy to achieve. A mill has to acquire status with retailers as well as to find markets for its surplus fabric-producing capacity which do not compete with its own cutting. In contrast, a cutter already has an established market for which he may set up a mill department to supply a part of

his fabric needs and thereby obtain the benefit of continuous operation. This is what Goodimate has done.

Only time will tell whether Goodimate can keep its mill in more or less continuous operation without curtailing the variety of fabrics used in its suit line to the point where sales volume is affected. So far, this result has been avoided largely because there still appears to be a substantial market for suits of staple worsted fabrics at popular prices. Let the demand for staples continue to decline, as some prophesy that it will, or let cotton mills develop satisfactory suiting fabrics wholly or partly of spun rayon, and any cutter of men's suits might find a worsted weaving mill to be a decided handicap.

In one sense a few cutters of men's suits enjoy some of the advantages of mill ownership today without any of its disadvantages. Through buying fabrics on a "confined basis," they are able to secure patterns as exclusive as those made in a mill of their own. In such transactions a mill sells a particular pattern or construction to a cutter with the understanding that it will be sold to no one else, and retains no control whatsoever over the fabric or its use as it would under a license plan.

Although the demand for "confined" fabrics presents problems to mills, especially if it involves basic constructions rather than mere patterns or colors, it is perhaps not as far-reaching in its consequences as the growth of the retail manufacturer in the men's clothing field. So far, the larger retail manufacturers have not tried to make any of their fabrics, saying that they can buy fabrics cheaper than they could make them. No doubt this will continue to be their attitude as long as conditions in the fabric markets favor the buyer who is able to purchase in large quantities. In any event, these organizations seem bound to dominate the market for men's wear fabrics,

especially if their number continues to increase as some observers predict.

As long as fabric prices are weak, the retail manufacturers are in a position to exert pressure upon the market because of their volume purchases. If fabric prices should become firm for any prolonged period, mills would probably find that they could not obtain a substantial margin of profit without thereby encouraging these large purchasers to acquire mill interests. It may turn out, therefore, that some producers of men's wear fabrics will feel compelled to try their hand at both garment cutting and retailing in order to avoid an unprofitable fight each season with competitors for the favor of retail clothing manufacturers. Obviously, the most logical development for a mill company would be to buy an interest in or merge with a retail manufacturer.

#### SHIRTS

For textile firms that wish to undertake the manufacture of garments, the problems of garment distribution are often a serious obstacle. They are particularly evident in the shirt industry, where manufacturing problems are not complicated by the necessity of supplying garments in the wide variety of styles and patterns required in women's ready-to-wear or by the degree of pattern variety required in men's suits. One indication of the part played by distribution problems in hampering textile integration into shirt manufacture is the fact that shirt manufacturers have had far more success with textile operations than mills or converters have had with shirt-cutting operations.

#### *Distribution Problems*

If a mill producing textile fabrics were to undertake the manufacture of shirts, it would face as severe competition in establishing new markets as it would find in any other garment

line. If it elects to sell shirts without the benefit of brand promotion, it can rely little on wholesalers, and the private brand business is already being supplied by efficient producers. Not more than 15 per cent of all shirts are sold through wholesalers. These outlets are served by large manufacturers of shirts who do not promote their brands directly to the consumer, such as S. Liebovitz and Sons, who also sell to the large chains and mail order houses. Such shirt-cutters have generally taken over the converting of the staple goods which they use because of the need for eliminating intermediate handling costs in view of the narrow margins prevailing in this business. Mill or converter integration into this type of shirt manufacture involves going into a business where competition is keen and margins small. On the other hand, if a textile company were to undertake the manufacture of branded shirts, it would come into competition with the cutters of branded shirts who have vast distributive organizations catering to both large and small stores. Concerns in this class like Cluett-Peabody and Company and the Manhattan Shirt Company generally convert their own gray goods to attain both cost and quality control. Successful forward integration into this field would require the establishment of a brand name and of a national system of distribution. Both would require more time and money than most producers of shirting fabric could afford to invest in market development.

It may well be that a textile company selling a variety of fabrics could integrate into shirt manufacture more easily than a company whose principal business was in shirtings. Such a textile concern could go into shirtmaking as a side-line product which did not compete with its fabric sales and gradually build up a reputation for its shirt line without endangering its business as a whole. At least two textile concerns are known to be experimenting with this

policy at the present time. These mill ventures into shirtmaking as a side line are not yet old enough to warrant final judgment on their merits. Both concerns admit that their most difficult problems so far have been encountered in distribution rather than in manufacture.

#### *Converting by Shirtmakers*

Plain and bleached fabrics are used in great quantities in shirt manufacture and readily lend themselves to small-scale converting. Some of the larger shirtmakers have tended to use converting as an alternative to purchasing finished cloth in the open market. They attempt to organize their production so that they can take advantage of low gray cloth prices and at the same time keep their own plants operating fairly steadily on staple items. In the case of fabrics which are styled in the weaving, the shirt manufacturers who do their own converting frequently have fabrics woven on a confined basis. When prints are required, the tendency is to purchase them from converters. The risk of converting prints in minimum quantities of usually around 15,000 yards of a style is greater than most shirt manufacturers care to take, except those doing business with a mail order or chain store organization where past experience indicates that a larger volume can readily be moved.

Relatively speaking, shirt manufacturers can undertake the converting of their cloth requirements with small risk so far as style is concerned. There is, however, a risk of fluctuations in raw material costs, which may result in great losses from converting operations during a declining market. On the other hand, there is a considerable profit to be attained through ownership of goods during a rising market. Because of these alternate shifts in market conditions, it is natural that some shirt



manufacturers should undertake converting on an "in-and-out" basis.

The situation in shirtings shows that cutters can become their own converters as long as the variety needed in gray fabric is limited and as long as the style risks in finishing are not great. Under these conditions, control over merchandise may be extended even further backward without much increase in risk through the use of commission weaving contracts. Beyond that point, however, cutters must proceed with extreme care. Actual integration into weaving would require investment in fixed assets. This step can be taken without creating a major problem only if weaving capacity is considerably lower than average cutting requirements. Even under this arrangement, the weaving investment might tend to make the integrated shirt company inflexible and ill adapted to keeping pace with style trends, for the company would be faced with the necessity of keeping its own looms operating even though more satisfactory fabrics could be purchased.

### OVERALLS

One might assume that textile and cutting operations could readily be combined if there were no style risks, demand for variety, or difficult distribution problems. That other obstacles do exist is indicated by the experience of the overalls industry, in which textile and cutting operations are seldom combined despite the staple character of both the fabric and the garment. In this case, the major obstacle is the fact that denim manufacture requires a larger scale of operations than does overalls cutting.

#### *Mill Problems*

It is reliably reported that low-cost production of denims can best be secured by the operation of a mill with no fewer than 35,000 spin-

dles and 1,200 looms. Many producers have mills that are several times larger. It would be nothing short of a gigantic task for a mill company to establish an overalls plant large enough to consume the fabric that it could produce. Unless a large-scale, efficient plant could be placed in operation within a relatively short space of time, and unless, during the same time, new distributive outlets could be created to take a large volume of overalls, the venture would merely make it more difficult for the company to sell fabric to cutters of overalls. Mill executives who have been consulted on this problem are quite aware of these consequences.

No large manufacturer of denim fabrics has actually engaged in the overalls business, despite the fact that "close affiliations" are occasionally mentioned in the trade. Since the size of weaving plants virtually precludes a policy of turning completely from the sale of denims to the sale of overalls, the only feasible vertical organization would be that which did not interfere with fabric sales. In other words, forward integration would have to be limited to garments other than overalls that could be made of denim. For example, it is likely that mills could produce a line of denim work or sport caps, if they could be made as acceptable a product as others, without creating unusual difficulties in the sale of fabric to manufacturers of overalls. But the problem is to develop a non-competing product that would use a substantial volume of fabric.

#### *Cutter Problems*

The cutters of overalls who have taken on denim manufacture are not numerous, and they have not been eminently successful in this venture. It is significant, however, that in each instance the capacity of the weaving plant was less than that previously mentioned as representing the minimum size for efficient opera-

tion. This limitation may have partially offset the advantages of possible full-time operation of the weaving department. Other factors, however, appear to have been of more compelling importance in hindering the success of these ventures.

Perhaps it is because they are not "textile-minded" that manufacturers of overalls have usually undertaken denim manufacture when conditions were unfavorable. It is evidently quite easy for a cutter to acquire a plant at the wrong time and therefore pay an excessive price or secure run-down equipment. Since denim is a yarn-dyed fabric, the cutter of overalls who tries to integrate backward cannot limit his effort to converting, as he could, for example, in the shirt industry, but must acquire both weaving and spinning facilities. Unlike converting, spinning and weaving require a substantial investment in fixed assets. This must be based upon adequate financing and sufficient managerial ability to spread over a wide field. While these problems have not been satisfactorily solved as yet by any cutter of overalls who has engaged in the weaving of denim, they do not appear to be insurmountable.

If the problems of financing and administration were met, however, it would still be questionable whether a cutter of overalls could make a success of denim manufacture. If the cutter were to secure low-cost fabrics from this move, continuous operation of the mill units would be necessary, but this could be assured only if the fabric-producing capacity of the mill were less than the normal fabric needs of the cutting department. The economical size of a denim mill, however, is such that few manufacturers of overalls could consume the fabric which a mill of this size would produce. In other words, here is a case where the principle of tapering capacities backward

can seldom be applied because fabric production requires a much larger scale of operations than does garment manufacture.

#### KNIT UNDERWEAR

Those concerns which may be thinking of bringing textile and cutting operations under one management should not overlook the experience of the knit-underwear industry. This branch of garment manufacture was composed originally of full-process mills that made all the fabrics used by their cutting departments and cut all of the fabrics produced by their knitting departments. Today knitting and cutting are quite commonly separate, especially in the rayon underwear field. Many full-process mills have been reorganized as either fabric knitters or garment cutters, and most new concerns established in the industry have been organized on a specialized rather than a full-process basis. This shift from integrated to specialized units in the knit-underwear industry provides an unusual opportunity to understand the conditions which are favorable, and those which are unfavorable, to combining textile and cutting operations under one management.

#### *Conditions Originally Favoring Integration*

Where variety is important in both garment and fabric design, as in women's ready-to-wear, or in fabric design, as in men's suits, or where vast differences exist between the scale of textile and cutting operations, as in overalls, vertical organization is achieved only with difficulty. It might be assumed, therefore, that textile and cutting operations could be readily combined if variety were not important and if fabric manufacture did not require large-scale operations. Such conditions were among those facilitating the widespread establishment of

full-process mills in the early days of the knit-underwear industry. This extensive use of vertical organization specifically depended upon:

1. *Staple nature of fabrics and garments.* At one time, knit underwear was not subject to frequent or radical changes in either fabric construction or garment design. There was no place for a specialized cutting industry with styling ability and facilities for offering garments in a wide variety of models and fabrics. Cost was largely a matter of materials. Under these conditions, operating efficiencies that could be secured by combining cutting with knitting became important. Because cutting operations were simple and added small value, integrated operations were more efficient than specialized operations.

2. *Ease of balancing knitting and cutting.* It was easy to set up knitting and cutting departments that not only were in productive balance but could also be operated on an efficient and low-cost basis. Moreover, the ease with which varied fabric styles were made on a knitting machine meant that even a small knitting mill could provide itself with the limited assortment of fabrics needed for underwear. Ordinarily in fabric manufacture, especially in weaving, low-cost production can be secured only by concentrating on a limited variety of constructions.

3. *Method of distribution.* The products of the typical small underwear mill were generally distributed through commission houses and selling agents to wholesalers. All of these agencies brought the output of individual mills together to form a complete line of underwear which was sold under a private label. Specialization in the type of garment produced was made possible by the prevailing method of distribution, and this facilitated the integration of knitting and cutting. If the

mills had been required to produce a full line of underwear, integration would not have been easy to achieve.

#### *Conditions Now Unfavorable to Integration*

The old full-process underwear mills depended for their success upon a nicety of balance among numerous factors. Staple design in garments was balanced against staple design in fabrics. The cutting department was set up to consume the fabric output of the knitting department. A disturbance in these balances meant trouble, and trouble has been the lot of many full-process underwear mills since demand has shifted to lighter and shorter garments of varying cut and fabric and finishing has become an important styling function.

1. *Demand for lighter and shorter garments.* This has completely upset the long-established balance between knitting and cutting operations. Shorter garments meant that the cutting departments could do with less fabric and lighter-weight fabrics meant greater fabric production in knitting departments. The heavy investment in spinning and knitting equipment compelled many full-process underwear mills to turn their machinery to new products. This development has been marked in the Mohawk Valley where firms like the Broadalbin Knitting Company, and the Gilbert Knitting Company have virtually abandoned the production of underwear for the production of other knit garments and fabrics for sale. Other firms in that area, like the Faith Mills, have added a line of knitted overcoatings and topcoatings to supplement their production of underwear.

2. *Increased variety of fabrics.* The possibilities of operating a full-process knit-underwear mill have been diminishing as the demand has grown for variety in fabrics used. This has made it increasingly difficult for a

full-process plant to supply its cutting department with a complete line of fabrics. The introduction of men's nainsook union suits, for instance, encouraged specialized cutters to make underwear out of purchased woven fabric. To meet this competition, some full-process mills have made garments from purchased woven fabrics.

The introduction of circular-knit rayon fabric in the early 20's added to the variety of fabrics used in making knit underwear and made for a separation of knitting and cutting operations. When rayon tubing was first used in knit underwear, many full-process mills failed to see any possibilities in the new fabric. It was practically conceded by them to the specialized knitters who had been producing rayon fabrics for the dress trades. Some full-process mills like Munsingwear, Inc., and the Waynesboro Knitting Company did undertake the production of rayon fabrics, but most full-process companies either ignored rayon fabric or purchased it.

At present, the number of fabrics used for underwear has become so large that it is difficult for any mill to produce all of them. As a result, specialized knitters have emerged to produce fabrics for specialized cutters who cut a wide variety of fabrics into a wide variety of garments.

3. *Increased importance of finishing.* When knit underwear was mainly a cotton/wool product little finishing was required. This situation is changing with the use of rayon fabrics. The latter are dyed in the piece, and printing has been utilized recently for the finishing of some styles. This innovation transfers fabric styling from the knitting to the finishing operations and not only serves to divorce cutting from knitting operations but also opens the door to converting. It is probable that this development will proceed even further in the future. Already there is some evidence that a

gray-goods market is developing in both warp-knit and circular-knit rayon fabrics.

#### THE PROS AND CONS OF LINKING FABRIC AND GARMENT MANUFACTURE

In view of the difficulties which textile companies would face in garment manufacture, one can well ask why any company should consider such an undertaking. It does seem as if it would be a waste of effort unless one takes account of the situation in which most companies producing fabrics find themselves. Cutters of wearing apparel have long been among their important customers, but in recent decades they have become almost the sole market for one fabric line after another. As a result, most fabric producers have become largely dependent for their success upon the buying, styling, and merchandising methods of an industry over which they have no control.

Not only are most fabric producers dependent upon another industry but they are handicapped in making contact with consumers either to appraise trends in consumer buying or to secure consumer preference for their products. It is this situation that turns idle speculation about the integration of textile and cutting operations into a serious discussion. The risks involved in garment manufacture, great as they are, may be little more than the alternative of remaining a textile manufacturer and assuming those same risks second hand. At least a few textile concerns have come to this conclusion in recent years and have established cutting departments. If other concerns should contemplate taking this step, they would do well to consider the methods which appear to have worked satisfactorily.

#### *Methods Which Have Worked*

The development of a policy of selling both fabrics and garments but in non-competing

markets seems almost essential if any program of mill integration into garment manufacture is to be successful. If a mill or its fabrics are already known to retailers and consumers through brand promotion, it may be able to shift over entirely from selling fabrics to selling garments without fatal financial losses. Nevertheless, this would be exchanging dependency upon one cutting market for dependency upon one retail market. A much safer program for a mill would include the development of new fabric markets that did not compete with its own garment line. This, it will be recalled, is the policy that the Goodall Worsted Company has followed.

If a mill or its fabrics has no standing with retailers and consumers, it can hardly hope to meet with anything but failure in taking up garment manufacture unless it begins with a side-line item that does not compete with its major fabric customers. A number of companies are following this plan today. It does not jeopardize the company's major source of income while status with retailers and consumers is being acquired, and it gives the executives of the company time in which to become "retail-minded." It is not an easy matter, however, to find a satisfactory garment for a side-line product. Even when it is found, the expense of developing new outlets may delay the time when net benefits accrue. For example, if variety of fabric is important to the selected product, the economy of long weaving or finishing runs must await the development of volume distribution.

Since its management would need to concentrate on distribution problems, a mill proposing to make garments might well consider having its garments made on a contract basis, at least during the initial development stage. This arrangement would permit a trial organization to be set up without the expense of acquiring cutting facilities and without the re-

sponsibility of dealing with garment labor. It would also permit the integrating mill or converter to concentrate on building up sales outlets without having to be concerned with the problem of producing garments. Actual acquisition of cutting facilities could be brought about later if that appeared to be desirable. The extent to which cutting can be contracted for depends, of course, upon the ability to control quality and obtain service from commission cutters.

#### *Obstacles to Be Overcome*

Even though a textile company were to carry on textile operations that would facilitate garment manufacture, and employed proved methods, it might still court failure in setting up a garment-cutting department. Every textile concern which may be thinking of undertaking garment manufacture should survey the obstacles in its path and appraise its own ability to overcome them. The major obstacles usually encountered may be summarized as follows:

1. *Demand for variety in garments.* Where garment design is subject to rapid style changes and involves the need for numerous variations of a current style, as in many lines of women's ready-to-wear, it is difficult, if not impossible, to combine textile and cutting operations successfully. Under such circumstances style risks are pyramided, but this hazard is likely to be overshadowed by the inability of a mill- or converter-owned cutting factory to sell enough garments in highly styled lines to make the venture worthwhile in terms of fabric volume. Modern retailing in highly styled merchandise is one continuous round of "special events" featuring constantly changing variations on current styles. Thus it is incumbent upon retailers to buy their garments from many and ever-changing sources in order to get the variety which they need. A mill- or converter-

owned dress- or coat-cutting establishment would be just one source and no matter how well it succeeded in garment styling it could not supply the variety that retailers could obtain by dealing with numerous independent cutters. As one mill put it, after experimenting with its own coat shop, retailers can be sold a far greater quantity of fabrics of the same pattern through several independent cutters than through a mill-owned cutting department.

2. *Demand for variety in fabrics.* Not all garments by any means involve frequent style changes in both garment and fabric design. There is a large class, of which men's suits are an example, that require variety in fabrics but little in cut of garment. In the manufacture of such garments, the style risk is already carried largely by the fabric producer. There is, however, a demand on the part of retailers for garments made out of a variety of fabrics and this is difficult for the mill-owned cutting department to supply without incurring prohibitive production costs. Ordinarily, therefore, forward integration is not feasible where garments must be supplied in a wide variety of fabrics. It has been demonstrated, however, that a mill-owned cutting department can operate effectively in this field if its product has sufficient status with retailers to permit wide distribution and if staple fabrics can be used in a substantial portion of the output.

3. *Wide difference in scale of production.* Even though a garment may be staple both as to cut and fabric used, mills may still face almost insurmountable barriers if they try to become garment manufacturers. For example, in overalls manufacture the scale of textile operations is so much larger than the scale of cutting operations that a denim mill could scarcely develop a cutting capacity sufficient to use a major portion of its fabric output. In such a situation the selling of garments in

competition with cutters to whom fabric is sold offers no solution. In every known case where this policy has been followed, the benefits secured through owning a cutting plant were more than offset by the resistance developed to the sale of fabrics.

4. *Increased complexity of distribution problems.* When a mill or converting house shifts from the selling of fabrics to cutters to the sale of garments to retailers, it multiplies several-fold the number of customers which it has to serve, its selling budget, and its credit risks. It is seldom that these increased costs and responsibilities can be shifted to wholesalers, for direct selling to retailers prevails in most lines of cut-and-sewn garments. Not only would a mill or converting house which went into cutting expand its distribution problems but it would also encounter new distribution problems. In many garment lines, brand promotion is so common that a textile company with a cutting department would have little choice except to compete in brand promotion with well-established and experienced garment manufacturers or to sell to large retailers on a private brand basis. Either choice would be dangerous if the garment in question involved the company's "bread and butter" fabrics. Then there are a host of other marketing problems that the textile company which turned garment manufacturer would find in its lap, many of which grow out of selling a finished consumer product. They include such questions as whether to fix the prices at which garments retail and how to keep large retailers pushing the branded merchandise of a manufacturer.

5. *Difficulty of effecting economies.* There is no point in a textile company's becoming a garment-manufacturing company unless definite benefits can be secured. While freedom from dependency upon the cutting trades and opportunity for developing a consumer fol-

lowing for its products would represent substantial gains, they could not be permanently maintained unless garments could be made better or more cheaply by the mill-owned cutting factory. Some savings should result from the elimination of intermediate sampling, selling, and handling costs, but these could easily be offset by losses arising from poorly designed or poorly merchandised garments. More substantial savings would be necessary to support mill integration into cutting. Such savings would be secured if the vertical set-up resulted in nearly continuous operation of the mill. This result could be most readily obtained if the mill had a fabric-producing capacity less than the needs of the cutting department. Such an organization is nearly out of the question for a textile company. Accordingly it becomes almost imperative that a textile concern undertaking garment manufacture should also develop non-competing fabric markets. If it does so and if the contact obtained with the retail market through garment selling can be utilized to plan production, then a textile concern which goes into garment manufacture has some chance of effecting substantial savings through continuity of mill operations.

6. *Lack of versatile management.* When a textile company establishes a garment factory, it enters a business entirely different from textile manufacturing. This step may lead to the spreading of management so thin that inefficient administration results. In addition, it may develop that a company's executives are so "production-minded" that they are incapable of dealing effectively with the problems of garment styling and distribution. It would be a rare textile company which would

not have to bring in an outsider to deal with these problems. Yet this arrangement could be very unsatisfactory, for the company would be asking a "hired man" to make its most important decisions—the seat of power in most textile companies today is that position which carries responsibilities for merchandising decisions. In the light of these considerations, there is all the more reason why a textile company which desires to undertake garment manufacture should begin with a side-line item rather than by trying to ape those companies which have risked their businesses on a major venture into cutting. Such a procedure would give time in which to train managerial talent equal to the task.

#### *A Safe Road to Vertical Organization*

How to avoid obstacles and minimize risks is the task which faces any mill or converter that tries to combine textile and cutting operations. This cannot be done readily through tapering weaving capacity in relation to cutting capacity, a procedure which is available to cutters. Neither can textile concerns run the risk of competing with their fabric customers. The evidence strongly indicates that, if conditions are favorable, such as a minimum demand for variety and the possibility of achieving a satisfactory balance of equipment between operations, a textile concern can develop a garment business successfully, provided that it is able to develop garment markets that are not competitive with its major fabric markets. This qualification limits the field for the integration of textile and cutting operations, but it does indicate a road to vertical organization that would permit experiment without catastrophe.

## CHAPTER III

# VERTICAL ORGANIZATION FOR THE FABRICATION OF HOUSEHOLD TEXTILES

IN CONTRAST to the manufacture of apparel textiles, the manufacture of household textiles is as a rule organized integrally. The production of certain types of curtains, bedspreads, and draperies constitute the only exceptional cases in which fabricating is not usually combined with weaving. Integration has been tried even in the manufacture of these products. These facts about the household field raise two questions. First, what accounts for the prevalence of integration? And second, why are integrated operations rare in the manufacture of a few products like novelty curtains?

Compared with the manufacture of apparel, the fabrication of household textiles is a relatively simple task. They are nearly always cut on straight lines and the sewing operations require no special skill. Simplicity of fabrication, however, does not alone provide sufficient basis for integrated operations in household textiles or, otherwise, tailored bedspreads, draperies, and novelty curtains would not be commonly made by independent cutters. Since these products are probably bought more for their decorative value than for their utility, they may properly be classed as style merchandise. Nevertheless, some styled household textiles, such as Jacquard bedspreads, are made by integrated companies. One must therefore consider more than the mere question of whether a product is style or staple merchandise to find the basis of integrated operations in the household textile field. For this purpose, it is helpful to analyze the experiences of those industries making sheets, bedspreads,

and curtains, in which both specialized and integrated operations have been tried.

### SHEETS

Sheets, like garments, were once made in the home and are now largely factory made. As fabrication has shifted from home to factory, garments have become the products of specialized cutting industries while sheets have become the products of textile mills. This vertical development of sheet manufacturing did not occur, however, until after cutters and distributors had tried sheet-making.

The fabrication of sheets on a factory basis appears to have been first undertaken about 1892 by the Ernest Simons Manufacturing Company, which was at that time a cutter of shirts and night shirts. Later the wholesale dry goods house of H. B. Clafin and Company entered the field, buying sheeting and having it fabricated on contract. At about the same time, the Utica and Mohawk Cotton Mills, and later the Naumkeag Steam Cotton Company, began to make and sell finished sheets. Sheeting mills generally, however, did not adopt the practice of selling made-up sheets until after the World War. Nevertheless, the sheet business is now almost entirely in the hands of textile mills, only two independent fabricators being left in the field.

It is said that mills were first induced to enter the sheet business to escape the sharp competition in the sheetings market. Both jobbers and retailers were accustomed to use sheetings as "loss leaders." To discourage this practice, which resulted in pressure on mills



for low prices, one mill brought out finished sheets under ten different trade marks and confined each brand to one jobber in a wholesale trading area. Naturally other sheeting producers felt impelled to follow suit. Similar inducements have existed in most apparel lines, but mill fabrication has, nevertheless, not become common in the production of these lines as it has in sheet manufacturing.

The reasons for the growth in mill fabrication of sheets are quite apparent. The cutting operation is a very simple one involving only tearing and hemming. It does not add any distinctive features; the quality, width, and general appearance of the sheet are determined by mill operations. Since there is no style element in sheet manufacture, independent cutters could only obtain a competitive advantage over textile mills by producing sheets more cheaply or by distributing them more effectively. The opportunities to do either are quite limited. The manufacturing margin is too small to overcome the greater handling costs of specialized cutting, and distribution problems are not acute. Mills or their agents were long accustomed to sell sheetings to wholesalers and they now also sell direct to the larger retailers. Sheets presented no new distribution problems to the mills. Like sheetings, they could be sold in large quantities through relatively few outlets to a market which was nation-wide.

Even if a cutter would find it possible to fabricate sheets at a lower cost than a textile mill through using very cheap labor, this advantage could easily be cancelled by poor judgment in the purchase of sheeting. In other words, the fabricating margin is so small in sheet manufacture that a cutter could only protect that margin by being a successful speculator in raw cotton. Again one is back to the fact that the operations necessary to turn sheetings into sheets contribute no distinctive

feature to the finished product. This is a decided contrast to garment manufacture, for in this field fabrication involves selection of the fabric and of the model and size into which it is to be cut. It is no wonder, therefore, that sheet and garment manufacture have developed along divergent lines as the making of sheets and garments has shifted from the home to the factory.

#### BEDSPREADS

The production and distribution of bedspreads is much more akin to that of curtains than to that of sheets. In recent years bedspreads have become a part of the home decorative scheme and are, therefore, subject to rapid style obsolescence. Among the different types of bedspreads, only Jacquard and lace are made and sold in finished form exclusively by textile mills. It is important to note that the variety in which these spreads can be offered to the consumer is determined by a mill operation.

Chenille spreads are produced both by mills and by machine-tufting companies, while hand-tufted candlewick bedspreads are produced under the direction of so-called "contractors." Tailored spreads are fabricated almost entirely by cutters. With the present trend toward chenille spreads, interest naturally centers upon the possibilities for their manufacture by mills which supply the cloth. So far only two mill companies, namely the Bates Manufacturing Company and the Callaway Mills, have entered this business, the volume still being produced by machine-tufting companies which buy their cloth and tufting yarns.

What textile mills will do in the chenille field probably turns on how long this type of spread retains its popularity and whether mills generally are able to reproduce chenille-like spreads directly on the loom. This is not to

say that all mills which produce suitable cloth for chenille spreads are potential manufacturers. On the contrary, only mills which have marketing and styling experience in the bedspread or allied fields are likely to undertake chenille manufacture. Although they are a styled product, like Jacquard spreads, chenilles are essentially different in that all styling is done after and not in the weaving process. Obviously specialists are going to do well under these conditions and only mills with experience in the styled bedspread field, like Jacquard, can hope to compete against them.

Although tailored spreads are in eclipse today, they will, no doubt, return to favor some time in the future. In the past, mills have apparently not been able to manufacture and distribute such spreads. Cutters have had an advantage in being able to select from a wide range of fabrics offered by many mills, often using goods designed originally for dress purposes. The styling of tailored spreads is therefore largely a matter of using an ever-changing variety of fabrics. No mill can meet such competition from its own looms. Moreover, the cutters of tailored spreads are frequently able to secure at bargain prices fabrics that were originally designed for purposes other than bedspreads. Thus, even if tailored spreads should again become quite popular, it is doubtful whether any mills could secure much of the business.

### CURTAINS

As in the bedspread field, the curtain industry is made of separate branches which are organized in distinctly different ways. In the lace-curtain branch it is customary for mills to sell finished curtains as well as lace piece goods, most of the piece goods being sold for fabrication by housewives and interior decorators. This is in sharp contrast to the

novelty-curtain branch, which includes tailored, ruffled, and cottage curtains. In this field, fabric and curtain manufacture are carried on by separate companies. Thus these two branches of curtain manufacture compare roughly in organization with the Jacquard and tailored branches of the bedspread industry.

Most of the lace fabric for curtains is produced on Nottingham lace-curtain machines. Since one of these machines costs in the neighborhood of \$20,000, it is not surprising that there are only a few companies in the business and that most of them sell made-up curtains. The styling, wearing qualities, and general appearance of the finished curtains depend entirely upon the lace-making operation. The cutting and hemming necessary to produce the finished curtains are quite incidental. As a consequence, independent cutters do not figure in the lace-curtain business. No doubt lace manufacturers would sell nothing but finished curtains if it were not for the substantial demand for lace piece goods on the part of both interior decorators and housewives, a demand which is probably kept alive by the wide variation in window sizes.

Although weaving and cutting are now carried on by separate companies in the novelty-curtain field, there have been several attempts to combine these operations under one management. The most ambitious was that of the Powdrell and Alexander Company. This company began operations in 1919 as a manufacturer of novelty curtains. Later it acquired weaving and spinning mills and a finishing plant. In 1934, however, it gave up the manufacture of curtains and devoted itself entirely to the manufacture and sale of finished curtain fabrics.

One of the reasons most frequently given for the failure of vertical organizations to maintain their position in the novelty-curtain

industry is their inability to meet the low wage costs of the independent cutters. While this may be a contributing factor, it is not the sole factor. The cutting and sewing operations in sheet manufacture could probably be performed by even cheaper labor than in curtain manufacture. Yet independent manufacturers have not been able to give textile mills any serious competition in the finished sheet business. The reason is undoubtedly that there are no special styling or distributing functions to be performed in sheet fabrication such as are required in the fabrication of novelty curtains.

Instead of cutting a staple fabric of one general construction into products that differ only in size, as is the case in sheet manufacture, a fabricator of curtains has to cut a variety of cotton and rayon fabrics into products that differ in design as well as size. Moreover, fabric needs change frequently; the fabrics used in one season may be quite out of fashion the following season. In other words, concerns which make novelty curtains have to perform styling functions and assume style risks much the same as concerns which make dresses. Under these circumstances, it is not surprising that all companies which have tried to combine fabric and curtain manufacture have given up the venture.

One integrated company tried making only a part of its curtain fabric requirements and buying the rest. After a trial of several years this policy was discontinued and the company started producing most of its fabric needs. It was not long after this step was taken, however, that the company abandoned the manufacture of curtains. While other factors may have forced this decision, the competition of independent cutters who were free to draw on the product of hundreds of mills undoubtedly played a major role.

It has already been mentioned that there

are special distributing as well as styling problems that go with the manufacture of novelty curtains. Compared with the marketing of sheets, the marketing of novelty curtains is a small-scale business. Even large wholesalers and retailers purchase such curtains in relatively small lots per number. Moreover, tastes in novelty curtains differ in the various parts of the country. All this means that the distribution of curtains on a national scale is not an easy task. Small local curtain manufacturers can offer very effective competition in many sections of the country. To combat this situation, one integrated curtain company set up branch curtain factories in several key cities so that customers in or near those cities could be supplied with regular or special styles on short notice. Despite this step, however, this company found itself unable to meet the price competition of the independent cutters of curtains and consequently withdrew from the field.

Important as styling and distributing problems may be in the fabrication of novelty curtains, they are not the only reasons for the lack of vertical organization in manufacturing. Another important factor from the mill standpoint is the fact that many curtain fabrics are sold in the gray and require specialized finishing equipment. Consequently a mill which undertook curtain manufacture would find itself competing against converters as well as cutters of curtains. This situation is in marked contrast to that in sheetings, for a true gray-goods market has never been important in that field, the mills which sold sheetings for bed purposes having always sold them finished, except in those sections of the country where housewives preferred to buy so-called "brown" sheetings and do their own bleaching. Thus whether the fabrics in question are usually sold gray or finished has much to do with determining whether a mill is in

a good position to take up fabrication.

#### VARIETY, THE KEY TO ORGANIZATION

From this brief survey it is apparent that whether a particular household textile will be produced by integrated or specialized concerns largely depends upon the variety in which that textile must be offered and the manner in which that variety is secured. For example, both sheets and Jacquard bedspreads are made by vertically organized companies. While there is virtually no variety in sheets, there is variety in Jacquard spreads, but only as a result of operations preceding fabricating. That is to say, weaving and fabricating are combined in sheet and Jacquard spread manufacture because the fabricating operation contributes little or nothing in the way of variety. The same can be said for blankets, towels, table linen, and lace curtains. The independent cutter plays little or no part in the fabrication of these products because their styling depends upon mill operations and not upon the assembly of a variety of fabrics from many different mills.

A distinctly different situation is found in the manufacture of the few household textiles in which specialized operations are common. In the manufacture of such products as novelty curtains, tailored bedspreads, and draperies, the presentation of a varied line is essential and this depends upon using fabrics varying in color, pattern, and construction. Thus, as in many lines of apparel, styling is the responsibility of the fabricator because he decides what fabrics will be used. If the time should ever come when sheets would be made from varying types of fabrics in both patterns

and colors, it is conceivable that they too might come to be produced largely by independent cutters who would take the responsibility of selecting what fabrics to use.

In addition to the element of variety, three other factors are important in determining the feasibility of integrated operations in the household field. These are the fabricating margin, the problems involved in distributing the fabricated product, and whether the fabrics used are generally sold gray or finished. For the most part these factors are closely related to the element of variety. If the fabricating operation involves styling, the fabricating margin is usually large enough to attract independent cutters into the field. Furthermore, the product which is styled in the fabricating operation is usually one like novelty curtains which can only be sold in small quantities per style and is, therefore, not an attractive type of merchandise for a textile mill to produce and distribute.

Where converted fabrics are used in household textiles, it usually follows that variety is important in the finished product, as in the case of tailored bedspreads or draperies, and that mills would have to assume the styling risks of both converters and cutters if they were to make and sell finished products. Thus, though other factors play a part in determining the organization of production in the household field, the variety of style effect demanded in the finished product is the real key. If consumers want great variety and that variety depends upon the fabricating operation, the chances appear to be slight for combining successfully the fabricating operation with prior textile operations.

## CHAPTER IV

### COMBINING THE MANUFACTURE AND USE OF INDUSTRIAL TEXTILES

INDUSTRIAL users have frequently combined the manufacture and use or fabrication of textiles; in marked contrast, textile manufacturers have seldom attempted this type of integration. It is true that a few instances can be cited of textile concerns which fabricate a part of their output of industrial goods. For example, the Callaway Mills and the William E. Hooper and Sons Company make such products as canvas trucks and laundry baskets, while the Kendall Company may properly be classified as a textile concern which went into the manufacture of surgical gauze. But in view of the vast volume of industrial textiles which is produced, such isolated cases serve principally to emphasize the fact that it is exceptional for textile companies to integrate forward in this class of goods.

#### *Can Textile Mills Fabricate Industrial Goods?*

The producer of industrial goods is primarily a specialist in the manufacture of textiles to precise standards. A broad, technical knowledge of the properties of textiles, often supplemented by research, enables such producers to offer a wide line of yarns and fabrics to numerous industrial users. Many of these textiles have alternate uses. To fabricate them for several different markets would be almost out of the question, since this would require a mill to become expert in manufacturing for and distributing to widely different trades. Concentration upon the manufacture of one product, however, would usually afford an outlet for only an insignificant volume and

would still create a distribution problem mainly by interfering with fabric sales. For example, a manufacturer of duck fabrics tried making tarpaulins. He found not only that he was unable to meet the competition of specialized manufacturers of canvas goods but also that the tarpaulin business curtailed his sales of duck fabrics for other uses. Many of his fabric customers made tarpaulins as well as other canvas goods and were disinclined to buy from a concern that competed with them. Such competition with customers would be even more marked in single-purpose goods.

It is obvious that textile mills are seldom in a position to give serious thought to establishing departments to use or fabricate their own output of industrial goods. A weaver of papermakers' felts would not become a manufacturer of paper in order to assure a ready market for felts. A producer of tire cord would not make tires; the manufacturing problems are too formidable. In other cases, like hospital gauze, the distribution problems are a powerful deterrent. It is only reasonable that producers of industrial textiles are not ready to give up established outlets for the doubtful opportunity of trying to manufacture and distribute finished products in a non-textile field.

Although it is not common practice to combine the production and use of industrial textiles, it is customary in most lines of industrial goods for the larger producers to operate their own spinning, weaving, and finishing plants. The prevalence of this practice is explained partly by the need for controlling quality, so

important in most industrial goods. Moreover, specialized converting is not adapted to the production of most industrial textiles, which require little or no finishing. The infrequency of converter operations means that the mills, or their agents, must distribute the industrial fabrics made by them. Such distribution usually requires the establishment of a widespread sales organization, contacting mill and factory executives and cooperating in the development of special fabric needs. Thus the vastness of the problems assumed by those who combine the production and distribution of industrial textiles tends to prevent further integration into the manufacture of any of the products that may be made from these textiles.

#### *The Interest of Textile Mills in Backward Integration by Their Customers*

A major problem faced by the plants which manufacture industrial textiles is not how they can integrate forward, but how they can devise policies which will deter industrial users of textiles from integrating backward. When a user of industrial goods goes into the textile business, the market in which the textile mills have been selling is narrowed. The change in the competitive situation does not usually stop at this point, for available cases show that the integrated user almost invariably finds himself at some time or other having to sell textiles because his capacity exceeds his needs.

Building or acquiring a mill is a step that affects operations for many years long after the market conditions that originally induced integration have been forgotten. Experience shows the virtual impossibility of planning backward integration so that the industrial user does not have to sell textiles at one time or another before the mill wears out or becomes obsolete. The pressure to sell may result from changes in the type of textiles used or from a decrease in consumer demand for a certain product. Or the seasonality of

the requirements for textiles may lead to production of goods for the market as an alternative to operating for inventory during periods of seasonal inactivity. Other factors can be found to explain the apparent inability of industrial users who produce their own textiles to keep textile capacity equal to or less than their need for fabric.

While the potential burden of excess capacity may deter many industrial users from acquiring textile units, it has been more than offset in some cases by the prospect of possible savings through making textiles instead of buying them. These savings have often proved to be temporary, however, and a number of industrial users who manufacture their own textiles report that their costs of production have frequently exceeded market prices during recent years. Since some of these concerns face the additional necessity of selling textiles in the open market, a serious competitive disadvantage may be the principal result of their vertical organization. Even though backward integration may prove to be ineffective for the industrial-goods user when it is put into practice, the mere proof of its ineffectiveness does not help the industrial-goods producer unless he gets some satisfaction from saying "I told you so."

Every industrial user of standardized textiles in large volume is a potential textile manufacturer. The task of the producers of industrial textiles is to understand why backward integration has occurred, and to develop policies for production and distribution that will forestall further activities in this direction. These policies obviously must insure reasonable prices, maintenance of standard quality, and a ready supply of fabrics.

#### *What Is the Extent of Backward Integration?*

When industrial textiles are required in small volume or when style and variety factors are important, backward integration is

not generally practical. Even in such cases, the possibility of savings in cost or considerations of quality control have occasionally induced integration. Although integration has included the task of selling a considerable part of its textile production, the Kieckhefer Container Company has been making papermakers' felts in conjunction with the operation of its paperboard mill at Delair, New Jersey. In styled goods, the advantages of making its own damask mattress coverings and upholstery materials induced the Simmons Company to effect a close relationship with the Rosemary Manufacturing Company and the Roanoke Mills Company, which continue to sell a wide variety of textile products.

At least two of the major automobile companies have manufactured a part of their upholstery cloth and one of them still has a financial interest in a mill making a line of woolen goods for the automotive and garment trades. It appears, however, that the woolen mill is not operated as a wholly integrated department of the automobile company. While it must compete with other weavers for the business of this particular automobile company, changing patterns and styles when necessary to meet such competition, it is but natural that the bulk of its woolen fabric production is sold to the affiliated company.

Users of standard industrial textiles in large volume have often undertaken textile production as a means of saving costs, controlling quality, or securing an assured source of supply. Large tire companies now manufacture practically all of their cord requirements. Producers of bags and of surgical dressings have gone extensively into the production of textiles. Backward integration in these fields has been developed to the point where the vertical organizations are dominant.

In a number of other industries where it is common practice for even large users to purchase all their textile requirements, one or

two companies have taken the unusual step of producing their textile needs. For example, one shoe manufacturing company weaves its shoe linings, while the Standard Coated Products Corporation produces gray goods for its oilcloth and other coated fabrics. Only recently the Western Shade Cloth Company acquired its own textile facilities to provide for the company's requirements of fabric to be used in the manufacture of window shades. Yarns for dry mops are spun by the O'Cedar Corporation, and a number of the larger manufacturers of wet mops spin their yarn requirements. These by no means exhaust the list of instances of users of industrial textiles who have engaged in textile operations. They are sufficiently numerous, however, to indicate that backward integration by users of industrial textiles can be effected in varied products. There is always the possibility that other users may, for one reason or another, decide to make their own textiles. For example, the large companies that now purchase yarn for wire insulating purposes would likely consider the acquisition of their own spinning departments should yarn margins become attractive.

In discussing the selected cases of backward integration in the remainder of this chapter, major attention is directed to tires, surgical supplies, and bags, which are produced to a large extent by vertically organized companies. A separate section is devoted to a brief discussion of a few cases where backward integration has been effected by one or two concerns in an industry in which the common practice is to buy textiles.

#### MANUFACTURE OF CORD BY TIRE COMPANIES

Prior to 1918, and before the extensive use of cord, tire fabric was produced principally by a half dozen or more leading cotton mills in New England, and by the Bibb Manufacturing Company, the Cannon Mills, and other

mills in the South. The tire cord that has supplanted fabric is now largely produced in textile mills owned and operated by seven rubber tire companies. A number of factors contributed to this development, the more significant being:

#### *Control of Experimentation*

When cord was first being substituted for fabric, the tire companies engaged in considerable experimentation. At least one company reports that it started the manufacture of cord to keep the advantages of its experiments from becoming generally available.

#### *Certainty of Supply*

The period of 1919-1920 was one in which tire sales increased rapidly and the shift from fabric to cord was most pronounced. Sufficient supplies were not immediately available from the independent producers and prices of cord increased to a high level. This state of affairs was a strong inducement to the large tire companies to set up their own cord plants to provide a certain supply at a reasonable price.

#### *Cost Savings*

The difference between the cost of producing cord by the tire companies and the price of buying cord from independent producers appears to have been between five and six cents a pound within recent years. This margin of savings has been one of the reasons for extending the spinning capacity of the tire companies since 1933.

#### *Quality Control*

Competent observers believe that, while the relatively high price of cord induced integration by the tire companies, vertical organization would have occurred eventually for no other reason than to control quality. For example, the character of the cotton fiber used

is one of the factors determining the life of a tire, and the selection of the proper fibers cannot always be controlled when cord is purchased, even on specifications.

The story of the backward integration of the tire companies is that at the time they started they were able to produce cord cheaper than they could purchase it. The tire companies, already in the textile business, have not generally chosen to manufacture other fabrics, such as chafer cloth, which are used in relatively large volume in the production of tires. The prices of these fabrics have not included a large enough margin to make integration profitable, although it could readily be developed. As a matter of fact, it is reported that one rubber company has loom equipment for weaving both chafer cloth and light sheetings, and that another is in a position to weave chafer cloth on its own looms. So far the amount of fabric woven by the tire companies does not appear to have represented a large part of total requirements.

The experience of the tire companies indicates very clearly that the policy of acquiring a capacity less than actual needs can be satisfactorily maintained only as long as there is a substantial market in which to buy peak needs. When practically all tire companies integrated to make cord, the independent cord market became too "thin" and too uncertain to assure the availability of supplies for peak needs. This market has tended to be highly speculative as respects purchases by integrated concerns. Moreover, these concerns have not been able to supply fully their peak needs by making to stock, since cord dries quickly if it is not promptly made into a tire casing.

Some integrated tire companies still depend upon the independent cord producer for a part of their needs, especially for peak requirements, but it is said that they have often en-



countered difficulties in securing outside supplies. Since they come to the market only at times when the demand for cord is active, they cannot secure as favorable terms from the independent producers of tire cord as are available to tire companies that purchase all of their needs and that are continuously in the market. In 1933, for instance, cord prices increased rapidly with an increased demand, and integrated companies felt that they were asked to pay an excessive price for the cord they purchased.

Difficulties in securing peak requirements of cord on the open market at favorable prices have apparently induced a number of tire companies to go further into the textile business than they originally intended. By expanding their own spinning capacity to meet peak requirements, they acquired a capacity that cannot be used continuously for their own needs. This either increases the cost of cord production because idle equipment must be carried or makes necessary the sale of cord on the market. Either course decreases the net advantages of operating an integrated cord plant. Certain of the tire companies sell cord to the non-integrated tire companies, while one has even made an attempt to sell yarn to the insulated wire and the hosiery producers.

As a result of extensive backward integration by tire companies, the markets of the independent cord producers have shrunk decidedly. It is questionable whether the latter could have followed any price or production policies which would have forestalled the vertical organization of the tire companies. The demand for cord increased with such rapidity as to make a sellers' market inevitable, with a consequent saving in cost to the integrated mills. Nevertheless, some observers have said that "intelligent management and sales policies could have saved the inde-

pendent producer a good part of his market." It is significant, however, that the Bibb Manufacturing Company, the largest independent producer of tire cord, is now stressing the merits of certain heat-resistant cords that have been patented. The integrated companies are making purchases of this cord for tires to which it is peculiarly adapted. This fact indicates that the producer of industrial textiles should continually seek to improve his product so that cost will not be the sole consideration of an industrial customer who contemplates backward integration.

#### PRODUCTION OF FABRIC BY SURGICAL GAUZE MANUFACTURERS

Unlike tire cord, some industrial textiles are used as a component part of products that are essentially textile in nature. Surgical supplies are an example. From the standpoint of combining production processes, the weaving of tobacco cloth and its fabrication into hospital supplies offers no great difficulties. It is one thing, however, to sell tobacco cloth and quite a different problem to distribute surgical gauze for hospital or home use. Any specialized weaver of tobacco cloth looks with longing at the price of this fabric when it is put up as a surgical supply; but he hesitates to tackle the task of developing the far-flung distributive organization which is necessary to sell those supplies.

No textile mill could consider engaging in the manufacture of hospital gauze on a large scale without creating a distribution system for selling retailers, wholesalers, surgical supply houses, and hospitals. In addition, attention would have to be given to the special handling and "put up" problems that go with transforming great quantities of staple textiles into sterile products, conveniently packaged, for use in small amounts by individual users. To solve these marketing problems in the face

of competition from the integrated companies already established in the field would be a formidable task for any textile mill. It would not even be easy to secure outlets for a small volume by emphasis on local distribution. This field is already served by smaller surgical dressing manufacturers who specialize on one type of product to be marketed in one area. It would appear that textile mills could readily manufacture these products only if the selling problem were simplified in some manner. For instance, the Kendall Company, a former textile finishing concern, began the manufacture of surgical supplies at a time when the government was making extensive purchases. This concern later secured a distribution system through the acquisition of Bauer and Black.

Unlike textile mills, surgical supply companies which sell in large volume appear to be able to develop vertically with comparative ease. Johnson and Johnson, the United Drug Company, and the Kendall Company all operate cotton mills. In addition, one other large surgical supply house is reported as having close affiliations with a cotton mill. These companies have found it practicable to make their own fabrics because of the regularity of demand for their product, the staple nature of the fabrics required, and the many alternate uses to which these fabrics may be put. They face a minimum of risk in going into the textile business.

Even when textile capacity exceeds the company's needs for surgical supplies, the surplus fabric can be readily sold through brokers and requires little attention to marketing. There are some reasons for believing that the sale of these excess textiles may be a satisfactory business in itself, even though this method ordinarily is not adapted to other products. The partial use of the textile plant for integrated operations assures low over-

head costs and a certainty of outlet for most of the production; extra yardage can be made at a relatively low cost. It appears that these advantages result from the standard nature of the fabrics and the wide uses to which they are adapted. At any event, tapered capacity has not been found to be a prime requisite to the backward integration of surgical supply concerns.

#### *The Johnson and Johnson Plan*

Johnson and Johnson operates the Chicopee Manufacturing Company to make and finish fabrics and the Chicopee Sales Corporation to dispose of such goods as are not needed for surgical supplies. Assurance that spindles and looms will operate at or near capacity does not rest upon a policy of making only the minimum quantity of fabric needed for surgical gauze but upon the ability of the Chicopee Sales Corporation to sell fabric. This ability arises partly from the availability of low-cost fabrics to sell, which in turn results from an assurance of relatively full-time operation of the manufacturing division to meet the fabric demands of the surgical supply division. Since the needs of the latter are supplied by the textile selling organization, both the textile producing and the selling division have a firm base from which to conduct general market operations.

The unique plan of tapered capacity used in the Johnson and Johnson textile divisions rests upon the multi-purpose uses of tobacco cloth, since all of the goods produced by the Chicopee Manufacturing Company are of light construction. Some of the production not used for surgical supplies can be sold in the gray-goods market. Other fabrics can be finished for sale as dusting and cleaning cloths or sold to the clothing trade for interlining fabrics. The expansion of the textile business was caused partially by the increased fabric

needs of Johnson and Johnson for surgical dressings and partly by the success of the textile sales organization. The program in its entirety represents a notable use of vertical organization to provide a high degree of flexibility.

#### *Kendall Company Experience*

The Kendall Company started in the textile business as a job finisher and then branched first into the manufacture of surgical supplies and later into the production of cotton goods. Thus the Kendall organization is an example of both forward and backward integration with the finishing operation as the starting point. Even in this case, a start toward meeting the problem of distributing surgical supplies was made before cotton mills were acquired. As was previously mentioned, the integration into the surgical supplies business was undertaken when the pressure of war-time demand eliminated the need for a widespread sales organization. Later, a well-developed marketing system was secured through the acquisition of the Bauer and Black Company.

The program of the Kendall Company is based upon the wide use of existing facilities. Gray goods are both sold and purchased; finishing is conducted both for its own account and on commission; various products of tobacco cloth are made and sold; and its associated drug and surgical supply houses carry a diversified line. For example, Bauer and Black sell surgical gauze, absorbent cotton, bandages, adhesive plaster, heat pads, corn plasters, and many related products, while the mills sell crinolines, curtain material, bookbinders' cloth, and linings. By diversifying its products, by tapering its capacity for producing fabric as compared with that for finishing, and by assuring an outlet for part of the textile output through acquired surgical supply houses, the Kendall Company has

placed itself in a flexible position to make adjustments to changing market conditions. Certainly the success of the company is not tied in with any one product or with any one market.

#### *The United Drug Company*

The United Drug Company has a finishing plant, the Absorbent Cotton Company of America, and operates a subsidiary known as the United Cotton Products Company for the manufacture of cotton fabric. With its outlets for surgical supplies already established, the United Drug Company was in a position to have some of its fabric needs woven on commission and later to acquire its own textile plant. While most of the production of the United Cotton Products Company is for the Absorbent Cotton Company of America, fabrics and yarns are sold on the market.

#### *Summary*

This analysis of the integration of textile and surgical supplies manufacturing has shown that (1) vertical organization is common, (2) it depends upon adequate marketing facilities, and (3) it is customary for the production of the integrated textile plants to be in excess of the needs of the surgical supply division.

The production of textiles beyond the requirements of their use for surgical supplies is practical because tobacco cloth has varied uses in other fields and can be sold without an extensive sales organization. Moreover, textile operations can be planned upon the basis of an assured, steady demand from the surgical supplies department. Any additional production that can be made under conditions of decreasing overhead costs per yard of fabric not only provides a benefit to the surgical supply division but also a means of selling textiles on a competitive basis. It may be that

the availability of an assured outlet for the bulk of the textiles produced serves to make it profitable to sell surplus production in the market.

Under the conditions just described there are several advantages that can be secured by the surgical supply companies that have excess textile capacity. Of prime importance is the availability of an adequate supply of fabrics at reasonable cost should emergency needs develop. Moreover, such vertical organizations are in a favorable position to supply the increasing market for surgical supplies which has come with the increasing number of patients who go to hospitals for treatment and with the increasing use of prepared materials in the treatment of minor injuries at home.

#### COMBINING TEXTILE AND BAG MANUFACTURE

With a few exceptions, such as Ballard and Ballard, users of bags do not produce their own needs but rely upon bagmakers. Most of the large manufacturers of bags produce at least a part of the fabric which they cut into bags. The question arises why textile mills have not gone into the production of bags as an outlet for their fabric, just as they have engaged in the manufacture and sale of finished sheets.

There are at least four serious obstacles that tend to prevent textile concerns from undertaking the manufacture of bags. First, the printing of bags and the engineering approach necessary in developing bags for particular uses are specialized problems, alien to the work usually undertaken by textile mills. Second, the bleaching of bag fabrics usually requires specialized finishing facilities, which involve either an added investment for the mill in single-purpose equipment or the use of job bleacheries. There is some question whether the use of the latter method would

provide costs that are competitive with those of integrated bagmakers. Third, it is not easy to distribute bags. Bagmaking plants are scattered throughout the country, near the point of use, in order to provide the required delivery and service. Fourth, bagmaking involves the use of fabrics and materials other than cotton textiles, such as jute and paper, that would have to be purchased by a textile mill going into the bag business. The need for handling new materials is not an inviting prospect.

At one time, textile mills did make seamless bags when they were used for grains. Since these bags were formed on the loom, their manufacture cannot be classed as an example of vertical organization. A few textile mills still make seamless bags, but the cut-and-sewn bag has long been the most important type. It is stated that the textile mills with established outlets for seamless bags lacked sufficient inducement to install the equipment necessary for making fabric for the cut-and-sewn bags. Such a reorganization of their business did not appear practical since the cut-and-sewn bag developed about the same time that cotton mills were being extensively started in the South. These cotton mills originally manufactured cheap, ordinary fabric for sale in the gray, with no idea of the use to which their fabrics were put. They were the chief source of bag fabrics for the specialized bagmaking business that developed.

The use of large quantities of cotton fabric of a standard construction by the manufacturers of bags permits them to undertake the weaving and finishing of gray goods. By manufacturing cotton fabric in smaller quantities than are needed in peak periods, a bag manufacturer can assure the steady operation of his textile plant. This makes for a possible lower cost and a greater certainty of supply than when all the fabric is purchased. The need

of bagmakers for a fabric of uniform quality supplies them with a further reason for undertaking the manufacture of fabric. It is to be noted, however, that practically all the backward integration of bagmakers occurred at a time when the cotton industry was expanding in response to attractive opportunities for profits. Their vertical organizations not only provided the manufacturers of bags with a certainty of supplies and a control over quality but with a profitable investment.

The integrated manufacturers of bags have their own spinning, weaving, and finishing departments. While these textile departments are in productive balance, they are set up with a capacity to produce only a part of the bag fabrics required. As a consequence, the vertically organized bagmakers are not usually faced with the necessity of selling fabric. On the contrary, they rank among the largest buyers of gray cloth. Their experiences indicate that large industrial users of textiles can sometimes establish textile units without assuming the problem of selling yarns or fabrics.

In the analysis of the rubber tire industry, the point was made that extensive integration in the manufacture of a product from industrial textiles precludes the use of a tapered capacity because the market for textiles becomes too thin. This situation has not occurred in bag fabrics, even though a considerable volume is produced by integrated concerns. Bagmakers use basic fabrics suited to making many products in addition to bags. Even though these manufacturers produce most of their own fabric needs, ample supplies are customarily available in the market. It is significant that in producing a similar type of fabric of wide use, the surgical gauze manufacturers chose to produce in excess of their own needs. The two contrasting programs, the bagmakers' and the surgical gauze manufacturers', indicate that either can work out satis-

factorily as long as the fabric is of standard construction with a wide and varied use.

#### THE MAKING OF TEXTILES BY INDUSTRIAL USERS WHO COMMONLY BUY TEXTILES

The cases already discussed are typical of a general development of vertical organization by the volume users of industrial textiles in an industry. It has been noted that backward integration by rubber tire manufacturers and by surgical gauze producers has resulted in the acquisition of excess textile capacity. Even when one or two concerns in an industry integrate into textile operations, contrary to the common practice of buying textiles, they show a tendency to secure a capacity to produce more than their own need for fabric. This may result from changes in the type of material used or from a decrease in consumer demand for a certain product. Such shifts can quickly upset well-laid plans for a tapered capacity and can put an industrial user deep in a textile industry. Nevertheless, the opportunities to save costs, control quality, or secure an assured source of fabrics have often appeared sufficiently alluring to offset any potential problem of surplus textile capacity. Some of these cases will be briefly discussed.

#### *Coated Fabrics*

The Standard Coated Products Corporation is one of the largest producers in the United States of light oilcloths, artificial leather cloths, and fabric wall coverings. This company produces most of its own textile requirements and even operates a clay mine from which filler materials are obtained. The integration into textile manufacture was based upon the opportunity for lower fabric costs at a time when textile equipment could be secured at unusually low prices. It is obvious that the availability of cheap textile mills may be quite alluring to a concern that is interested

in vertical organization. This is by no means the whole story behind the acquisition of textile plants by the Standard Coated Products Corporation. The need for assuring a certainty of supply of materials during the war resulted in the purchase of one mill.

While Standard integrated into the manufacture of textiles on a taper basis, it also planned to sell in the market a part of certain fabrics it made on a mass-production basis. Thus, while the company would always purchase some gray fabric, it would also sell other gray goods. By varying the proportion of textiles produced and used within the organization and that sold on the market, the company has seldom had any of its textile equipment idle.

The entrance of the Standard Coated Products Corporation into the textile business took a principal buyer of cloths for coated fabrics out of the market. Since then the market prices have occasionally been below the cost of producing fabric by the integrated department. On the other hand, should the vertical organization be discontinued, it is believed that this might cause such a strengthening of prices, especially when the market is firm, as to result in added costs for Standard. This supposition would imply that while cost savings as a result of the integration are small, they do represent a competitive advantage. Aside from cost considerations, the company feels that its vertical organization assists it in being the first on the market to use a new type of fabric for oilcloths and similar products.

A recent reorganization of this company was partially caused by a falling off in the use of "deck" material and other automobile furnishings and of artificial leather for furniture covering. With the problem of adjusting the entire business to a changed consumer demand, the company has found it relatively easy to adapt its cotton mills to new require-

ments, but the task of finding new products for the coating departments was a much more serious problem. Since none but standard, multi-purpose textiles are manufactured, they were readily sold in the gray-goods market with a minimum attention to distribution. While it was not possible to get out of the textile business when the needs of the company changed, it was possible to divert the textile production to other users.

Even under the circumstances just described, major shifts in demand ordinarily place a heavy burden upon the integrated concern. Undoubtedly, manufacturers of coated fabrics who purchase all their fabrics are sometimes in a more favorable position to shift their course with the tide of consumer demand, since they do not have to correlate coating and finishing production with gray-weaving capacity. But when fabrics are at a premium, the integrated mill has advantages in the goods it uses and sells in the gray-goods market.

#### *Yarn for Mops*

In the dry-mop industry, the O'Cedar Corporation is the one concern that spins its own yarn, and it has a greater spinning capacity than is necessary to meet its own present needs. While factors of cost and quality control undoubtedly induced this integration, the O'Cedar Corporation is faced with the task of selling dry-mop yarn to maintain a low yarn cost. The problem of this company is simplified by the possibility of selling surplus yarn through jobbers instead of directly through a specially organized distributive system. It appears that much of the excess yarn is sold through jobbers to other dry-mop manufacturers.

Fibers used in the manufacture of wet mops are coarser than those required for dry mops, and careful attention to standards of quality

is not necessary. Most of the fiber used is waste. At least half of the wet mops are made by large manufacturers, who spin their own yarn, such as the J. E. Fricke Company and the Southern Mills Corporation. These companies produce a varied line, of which wet mops are but one important item. They also make other finished textile products. The Southern Mills Corporation, for instance, knits and cuts polishing cloths. Most of the integrated wet-mop manufacturers have an excess spinning capacity which is utilized only by selling yarn on the market, sometimes to other mop manufacturers.

### *Shoe Linings*

The inflexibility of an integrated concern in meeting changing demand is well illustrated in the production of shoe linings. At one time, the bleachery of the Pacific Mills at Lawrence was enlarged and reëquipped for the converting of shoe linings. Just about the time operations were to begin, marked changes in fashion led to a precipitate decline in the use of shoe linings. High shoes practically went out of use and the yardage of shoe cloth used was greatly reduced. Any shoe concern that had previously integrated into the production of linings would have found itself head over heels in the textile business, even though fabric capacity had been tapered to provide only its minimum needs. There is one shoe manufacturing concern today which weaves its own shoe linings, but it has sometimes found it necessary to sell fabrics.

As a general rule, the rubber companies which make rubber shoes and rubber-soled canvas shoes do not attempt to make linings for rubbers or canvas for shoe tops. Only the United States Rubber Company makes a small amount of knitted fabric for the linings of its rubber shoes. The primary reason for this lack of integration is the wide variety of fabric

needed for the production of these shoes. Any one type of fabric is used in quantities that are too small to support efficient textile plant operation. Moreover, integration would not be sound in the face of possible style changes that could make the textile equipment ill-adapted for the manufacture of fabrics used in shoes or rubbers.

### SIGNIFICANCE OF INTEGRATION EXPERIENCE

In nearly all cases in which the production and use of industrial textiles have been combined, the initiating company has been an industrial user. Analysis of these cases shows that the problems and risks assumed with this vertical form of organization vary materially according as special-purpose or general-purpose equipment is acquired. It is necessary, therefore, to evaluate the pros and cons of combining the production and use of industrial textiles in terms of the type of textile operations that are taken on by an industrial user.

#### *Acquiring Special-Purpose Equipment*

At the time special-purpose textile equipment is acquired by an industrial user, its operation may provide very attractive savings in cost or may meet an urgent need for certainty of supplies. Even though such advantages loom large at the moment, they should be evaluated in terms of how long they are likely to continue. When a company engages in the textile business, it usually has to commit itself to policies for many years to come, since mills cannot ordinarily be scrapped or sold after a few years' use without substantial capital losses. Particularly with special-purpose equipment, the question of what to do with textile capacity no longer needed may become a serious dilemma.

The experience of a number of industrial users, especially tire companies, indicates that the decision of a user to manufacture a part

of his needs of single-purpose textiles ultimately requires him to discontinue all outside purchases. In other words, even though the principle of tapered capacity is followed at the beginning, its advantages cannot be expected to continue. The tire companies at first produced but a part of their cord, purchasing the balance on the market. Since their integration resulted in a "thin" cord market, they could not rely upon independent cord producers to furnish occasional needs at a reasonable price. Most of them gradually expanded their cord capacity, and consequently have to carry the burden of idle equipment in the off-seasons.

It might appear that, as an alternative to having equipment idle, textiles could be manufactured for sale. Although such a policy has often been found feasible for staple gray goods of many uses, readily sold through brokers, it is not so easily applied to specialized products. Since the excess production of single-purpose textiles, like tire cord, can be sold by an industrial user only to competitors, the cost of carrying idle equipment will likely appear to be the lesser of two evils.

It is bad enough for the vertically organized concern to have a greater textile capacity than it needs during seasonal inactivity. But even this is not as serious as the question of what to do with an owned textile mill when its product is no longer required. This contingency may arise from a change of product specifications which makes the single-purpose equipment less useful in supplying industrial textiles or even valueless for this purpose. Unless the advantages already secured from integrated operations have been so substantial as to permit the creation of adequate reserves for product and machinery obsolescence, a considerable loss will result. This risk of owning special-purpose equipment is one that can scarcely be fully anticipated. It is a for-

midable "con" to balance against the most inviting "pros."

Aside from considerations of cost, the desire to control quality may make it necessary for an industrial-goods user to acquire special-purpose equipment. When the control of quality is paramount, it may be possible to offset partially the risks of obsolescence by securing a price differential for an improved product. The general use of vertical organization for quality control may, however, quickly reduce the margins established as a provision for future contingencies.

It may be concluded that the immediate advantages accruing to industrial users through the operation of special-purpose textile equipment must be quite marked to compensate for the contingent problems and risks. Tapered capacity cannot always be relied upon to result in efficient operation. Moreover, the obsolescence of the product manufactured on special-purpose equipment may mean that the concern has a textile mill that cannot be used.

#### *Acquiring Equipment to Make Multi-Purpose Textiles*

An industrial user of staple textiles can engage in their manufacture without assuming any extraordinary risks of product or machinery obsolescence. Since staple textiles have many uses, the market for them is not only broad but is conducted on a basis approximating that of an organized commodity exchange. Consequently industrial users who make staple textiles have found it possible to exercise a wide choice in setting up their organizations.

The large bagmakers commonly manufacture cotton textiles on a tapered-capacity basis. This form of organization has been continued for many years, and bagmakers are still among the largest purchasers of gray cloth. They have not felt the pressure of a "thin" market which forced the tire companies to expand



their textile capacity because bag fabrics have such wide uses that their market is extensive, despite the textile operations of bagmakers. The integrated bag companies took on textile plants when good profits accrued from their operations, and they are in a position to secure any favorable profit margins that may become available in the future. Since their tapered capacities have assured the low costs of full-time operation even in a buyers' market, their vertical organization has been adapted to both upswings and downswings of the textile market. The program followed by the bagmakers is an outstanding example of the use of partial integration to secure a flexible organization adapted to changing economic conditions.

Some surgical gauze manufacturers who make staple textiles for their own use have followed quite a different method. Inasmuch as the manufacture of surgical gauze is not subject to extreme seasonal fluctuations and has been favored by an increasing demand, the tapering of textile capacity is not essential to insure continuous plant operations. Either a tapered capacity or a balanced capacity can be developed. There is some advantage, however, in having a textile capacity in excess of present needs as preparation for any sudden increased demand for surgical gauze. Since the yarns and fabrics used for surgical gauze have many uses, an integrated surgical gauze company can produce more fabrics than it uses, selling any excess through brokers with a minimum attention to distribution problems. Moreover, the steady demand for fabrics within the organization assures low-cost mill operation and even permits the production of additional fabric at decreasing costs up to the point that overhead items do not increase proportionately.

Integrated bagmakers are large purchasers of gray goods, and some vertically organized manufacturers of surgical gauze sell large vol-

umes of gray goods. In several instances, the industrial users who make staple textiles have planned to combine the two methods and both buy and sell textiles. Such a policy is followed, for instance, by the Standard Coated Products Company. The textile mills of this company specialize in making the staple constructions which its coating departments use in large volume. By manufacturing these fabrics in excess of its own needs, the company attains a volume sufficient to give low production costs. This permits the profitable sale of some textiles and maintains market contacts which can be readily used if an increased volume of fabrics has to be sold outside at some time in the future. The fabric constructions required in smaller volume are purchased.

When the experiences of the bagmakers, surgical gauze manufacturers, and other users of staple goods are contrasted with that of the tire companies, it is evident that backward integration provides a company with a much higher degree of flexibility if it involves the acquisition of general-purpose equipment than if it involves the ownership of single-purpose equipment.

#### *Can Producers of Industrial Textiles Integrate Forward?*

The major integration problem of the independent producers of industrial textiles centers about the ever-present possibility that users may make their own textiles. This "threat" may be more real as respects general-purpose textiles, but the history of the backward integration of the tire companies shows that it can materialize even with special-purpose products. These considerations place a burden on manufacturers of industrial goods to be constantly developing improved products and to be so efficient that their prices will not induce backward integration.

The "defensive" approach to vertical or-

ganization in industrial goods arises from a recognition of the fact that forward integration has been but rarely attempted or considered to be advantageous. Its use for any one product would ordinarily provide an insignificant outlet for fabrics, but would require the assumption of major production and distribution problems. Forward integration is practical, therefore, only if a product essentially textile in nature and manufactured and distributed in a simple manner can be found. Such an "order" is hard to fill, but opportunities may occasionally arise. For instance, the Kendall Company integrated into manufacturing surgical supplies when the distribution problem was temporarily simplified by wartime emergency. Even in this case, it later became desirable to acquire an already developed distributing company.

#### *Contrasting Experiences*

Producers of industrial textiles can seldom integrate forward to use or fabricate their products. Industrial users of textiles in large volume, however, have often undertaken the

manufacture of their own textiles. Their experiences show that the risks entailed are at a maximum when single-purpose equipment is acquired and at a minimum when general-purpose facilities are secured. The validity of this contrast does not depend solely upon the relative usefulness of the two types of equipment when textile needs change as a result of new product specifications or a shift in consumer demand. In addition, when vertical organization is developed through securing general-purpose textile equipment, an industrial user has a greater flexibility of choice in adapting the organization to his own needs. Only in this type of integration is it possible to choose between producing minimum needs and buying peak requirements, producing in excess of total requirements and selling the surplus, or following both practices but on different fabric constructions. Whenever the production of staple textiles becomes profitable in its own right, industrial users of them in large volume may be expected to go into the textile business as they have in the past.

## CHAPTER V

### COMBINING THE WEAVING AND CONVERTING OF GRAY GOODS

Most gray-goods weavers who have achieved any success in converting continue to sell some of their production in the gray-goods market. Similarly converters who have gone into weaving continue to purchase some gray goods. In other words, where weaving and converting have been most successfully combined, it has been on a partial basis with weavers generally employing the principle of non-competing dual markets and converters the principle of tapered capacity. These principles, which have been discussed in preceding chapters, serve the same general purposes when used to link weaving and converting as when they are used to bridge operations in other markets. Their use to attain flexibility, however, is particularly urgent in combining weaving and converting. The dependence of a weaver upon either the gray-goods or the finished-goods market exclusively results in inflexibility for adjusting to either strong or weak markets. Similarly, the converter who depends solely upon the open market for his supplies of gray fabric does not possess an organization that is readily responsive to the needs of both buyers' and sellers' markets.

#### PARTIAL INTEGRATION

Discussions of the gray-goods market are too frequently couched in terms of why and how it should be eliminated. The real problem is to use this market for necessary speculative purposes and to avoid its use when such speculative services are not required. The following discussion, therefore, considers how

these objectives can be attained through vertical organization. There are a number of outstanding cases in which both weavers and converters have done so.

It is easy to conclude that vertical organization is a snare and a delusion because specialized gray-goods weavers apparently have had advantages over the integrated finished-goods mills in the buyers' market that has prevailed with only minor interruptions during recent years. Converters have ample reasons for avoiding the weaving of any part of their fabric needs when goods are generally plentiful and cheap. One should recall, however, that in seasonal or cyclical periods of rising prices and of relative scarcity of fabrics, the "verticals" have definite advantages and a greater opportunity for profits. Just as specialization in the productive processes is adapted to weak textile markets, so is the vertical organization designed for maximum efficiency when the demand for fabrics is strong.

If in future years recurrent selling and buying movements are to be typical of the gray-goods market, the ideal organization would be one that is flexible enough to shift quickly between specialized weaving or converting and vertical operations. Such a high degree of flexibility is obviously not practical as a means of meeting either seasonal buying movements or cyclical changes. No business can be completely reorganized with each season or cycle. In view of these limitations, the experiences of partially integrated organizations show them to be best adapted to meeting the press-

ing necessities of both a buyers' and a sellers' market and to insuring the continued existence of a concern through both the ups and downs of business. These partially integrated concerns, if weavers, have followed a policy of selling both gray and finished fabric, and if converters, a policy of both weaving and buying gray goods.

#### *Where Partial Integration Can Be Used*

Although there are often marked advantages in using partial integration instead of complete integration, it does not follow that this form of vertical organization is adapted to the business of every weaver or of every converter. Much depends upon the fabric handled and the trade to which it is sold. If the gray goods are styled on the loom and manufactured to stock, a weaver may be able to sell finished goods without a substantial increase in style risks. Converters may have to purchase styled gray goods on advance orders or commission contracts, running the risk of owning these goods during weaving without controlling their production. The acquisition by a converter of weaving equipment to make styled gray goods may limit both his style risks and his dependency upon outside mills for exclusive fabrics.

The problem of bridging the gray-goods market for staple fabrics is of a different character than that for styled gray goods. While the weaver may dislike the smaller margins prevailing on staple goods, he cannot go into the finished-goods business without taking on styling risks that he generally is ill-equipped to assume. On the contrary, the converter of staple goods is already responsible for such styling as is required in finishing them. Whether he determines to weave in his own mills depends largely upon the opportunity for making fabrics cheaper than

they can be purchased and the need for assuring a certainty of supply.

It seems evident that some of the considerations important to combining the weaving and converting of gray goods have a different application to styled and to staple gray goods. For the production of styled gray fabrics, integration has sometimes been developed by weavers and converters to minimize style risks. Or, put in another way, the point at which styling is introduced into the fabric has much to do with determining what type of organization has the best chance of success.

The styled and staple characteristics of the gray goods are only a part of the story. Even if a weaver converts but a part of his production, he will have to assume the exacting task of selling to the cutting trades. Likewise, a converter may be utterly confounded by the job of running a mill. Assuming, however, that a mill or converting company has the managerial talent to develop a program of partial integration, and that some of the fabrics which it handles are styled on the loom, it may succeed or fail according to the procedures followed in setting up the "vertical" aspects of its business.

The opportunities for partial integration in the gray-goods field having been sketched, the details must now be filled in. What procedures have been found effective to a program of selling both gray and finished goods? Should a converter ever try to weave any of his print cloth requirements? How can weavers overcome the difficulties which confront them in selling the cutting trades? Light is thrown on these and similar questions in the following analysis of mill and converter experience in combining the weaving and converting of gray goods. This experience is considered separately for staple and for styled gray goods.

### PARTIAL INTEGRATION IN STAPLE GRAY GOODS

Since a large proportion of the fabrics woven in the gray are of staple construction, the adaptability of partial integration to the production of these goods largely determines how extensively gray-goods weaving and converting can be combined. Print cloths, accounting for the largest yardage of staple gray goods, are of particular importance in this connection. Like most staple constructions, print cloth depends for its styling and final use upon the manner in which it is finished. If printed, it may be a highly styled dress fabric or just ordinary percale used for countless apparel and household purposes. If merely bleached or dyed, its uses are even more varied, ranging from book bindings to artificial flowers. Because of these varied uses for staple constructions like print cloth, the textile concern which sells them finished must be a specialist in both styling and merchandising. Obviously, the abilities required for successful styling and merchandising are quite different from those required to run a mill. It is no wonder, therefore, that most gray-goods mills have left the risks of styling and merchandising to the converter. While these risks are thereby avoided, others inherent in gray-goods weaving may become even more pronounced.

#### *Speculative Aspects of Gray-Goods Weaving*

Producers of staple gray goods, whether of cotton, rayon, or silk, frequently fail to realize that speculative risks are by no means eliminated from their business by the transfer of styling and selling responsibilities to converters. The production of print cloths is actually a highly speculative business in which few mills have been able to build a reputation for quality that provides them with a premium above the market price. Lacking con-

tacts to provide the "feel" of the market, mills have frequently embarked on productive programs that were widely at variance with the demand for goods. Usually this demand is overestimated as each individual mill strives for near-capacity operation. There seems to be a constant tendency to deliver to the gray-goods market more than it will readily absorb. While the market will put a price on whatever goods are produced, the weaver is frequently surprised at what the market considers his goods to be worth.

#### *Mill Converting of Print Cloth*

Can the speculative aspects of gray-goods manufacture be limited through vertical organization? Does the sale of finished goods hold out any more promise of profitable operation than the sale of staple gray goods? The situation in percales throws some light on these questions. A large majority of printed percales are produced by converters with their own printing equipment, such as the Pacific Mills, M. Lowenstein and Sons, the Arnold Prints Works, and the Southbridge Finishing Company. While the large-scale operations of these firms are made possible by the mass market for percales, the severity of competition in this field has undoubtedly led to the combination of finishing and converting under one management. This provides the vertical concern with the benefits of both finishing and trading margins, although the fact that such firms dominate this part of the business has tended to narrow the combined margins.

From the way percales are commonly produced, one may conclude that a weaver of staple cotton gray goods who desired to assume converting functions in a large-volume print field would probably have to operate a print works in order to meet competition. Under these circumstances, forward integration is a very difficult step, since few weavers

produce enough fabric to support a printing plant of their own. This difficulty is accentuated by the fact that a considerable part of the production of cotton print cloth is sold bleached or piece-dyed. The gray-goods mill that would offer a complete line of finished goods made of cotton print cloth could not concentrate on prints alone. For this type of goods, the large scale upon which converting is conducted makes forward integration impractical in most instances. The managerial resources of most concerns are not large enough to tackle weaving, converting, the operation of finishing and printing plants, and the setting up of a distribution system to sell finished goods.

The limitations of existing managerial resources must be considered even when the weaving and converting of rayon print cloth is under discussion, although forward integration in the production of these goods is not so difficult to achieve. In contrast to cotton, there are a number of cases where it has been accomplished. The scale of converting operations in rayon fabrics is much smaller than in cotton, and finishing requirements can be met through commission contracts. While these conditions assist forward integration, the weaver who converts his rayon fabrics faces his own peculiar troubles arising from a shorter style cycle and a complex distribution problem. When the state of the finished-goods market is considered, such forward integration to convert staple gray goods is not often inviting because the maximum gain from an heroic effort is apt to be insignificant.

#### *Selling Both Gray and Finished Print Cloth in Non-competing Markets*

The difficulties just recounted indicate that a mill which tries to convert its entire output of staple gray cloth has little chance of success. This is particularly true of cotton print

cloth. It is, therefore, of interest that a less sweeping approach is being tried with apparent success in the case of two companies, one in the cotton and the other in the rayon market. These concerns have developed a program of partial integration by which they sell a varying part of their print cloth production as finished goods and the balance as gray goods.

In the first instance the cotton mill sells staple goods in the regular way to converters, but prints a relatively small portion of its total production for purposes other than dress-cutting. Its finished fabrics include fancy ducks, tickings, and awning stripes which do not compete with the products of the converters who buy its gray goods. While such a plan does not mean that a large proportion of the concern's production is sold as finished goods, it does provide the company with an opportunity to limit its dependence on the gray-goods market. This company appears to be able to keep two printing machines of its own in operation for its own products. Its experience is of interest, not because of the volume of finished goods that is involved, but because it indicates that the non-competing principle can be used to some extent in effecting forward integration even in goods that are printed. If this form of organization can be extended, the possibilities of forward integration of weavers of staple gray goods may not be entirely hopeless.

The second instance of forward integration in this field employs a variation of the non-competing principle and further encourages the view that the use of the principle may be extended. An important concern recently began to sell the major portion of its production of rayons as printed fabrics while continuing to sell some gray fabric to converters. By selling its finished goods to retail outlets, this concern avoids competing with

its converter customers who sell the dress cutters. Undoubtedly the possibilities for gray-goods mills selling rayon prints would be much greater if sales of piece goods to retail outlets could be depended upon to provide volume sales. The retail market for rayon piece goods, however, is too small to provide a non-competing outlet for many mills.

In general, forward integration does offer some opportunity to the mill producing staples like print cloth when it can develop a policy of selling both gray and finished goods in non-competing markets. It has been suggested by some observers that such a policy is more feasible for a company that utilizes the services of a selling agent who handles both gray and finished goods. Then a mill going into the finished-goods business would not have to develop its own distribution system.

#### *What Staple Gray Goods Are Weavers to Convert?*

It is easy to say that gray-goods mills might make a success of converting if they finished only a part of their production. But what are they to convert? Their finished-goods sales should not compete directly with their sales in the gray. One answer in the cotton field is for a mill not to attempt to sell finished prints at all, but to devote its energies in the finished-goods market to selling piece- and yarn-dyed fabrics. A large cotton concern with numerous mills is in a position to assign certain plants to the manufacture of colored goods and others to gray goods. This is frequently done. The mill set-up required for the production of gray goods and of colored goods, however, ordinarily preclude the manufacture of both in the same plant. Moreover, while no extensive sales department is necessary to sell gray goods through brokers, the primary market for cotton colored goods is not so highly cen-

tralized. The selling of these fabrics usually requires a widespread sales organization.

The problem is somewhat less difficult in the rayon and silk field. A fairly complete line can be offered in the finished-goods market without the inclusion of prints. Thus a rayon or silk mill may sell gray goods in one market and piece-dyed fabrics in the finished market. While the distribution of finished rayons is complex because of the large number of cutters, the market is localized in New York. The old silk houses, long sellers of finished fabric, had their own distribution systems long before the coming of rayon. Although they have found it necessary to sell rayon fabrics in the gray, most of them are also in a position to sell finished rayons to cutters. They have made extensive use of non-competing dual markets at the gray-goods stage.

On the whole, it would appear that only limited lines of staple gray fabrics are adapted to conversion by mills. These are for the most part fabrics finished by piece-dye processes in staple or semi-staple colors having such limited uses that a widespread distribution system is not necessary for their sale. Moreover, the experiences of the industry suggest that standard rayon fabrics can be more easily converted by mills than can staple cottons.

#### *Converter Experience in Weaving Staple Cottons*

While major obstacles are faced by the weaver of staple gray goods who desires to make and sell finished goods, it may be that converters are in a better position to bridge this gray-goods market. It is significant that some converters have already acquired their own finishing plants as a means of reducing costs of operation. Since they still operate under extremely competitive market conditions, in both converting and finishing, is it not logical

that they should weave a portion of their requirements of gray goods to reduce operating costs still further? In this connection, one recalls that several large units partially integrated from weaving to finishing have not held up well in the long buyers' market that began in 1927. Few, in addition to the Pacific Mills and Cohn-Hall-Marx, have continued the vertical type of organization that includes weaving. What is the significance of this situation?

The converter who weaves a portion of his requirements has a major advantage over the specialized converter on an upswing when certainty of fabric supply and cost provides a competitive advantage. The trouble has been in the scarcity of upswings or even of regular cyclical fluctuations in staple cotton goods. A vertical may have a tapered weaving capacity that provides some of the advantages inherent in full-time operation, but this can avail little if gray fabrics can be generally purchased at or below the cost of production.

In a buyers' market such as has prevailed in cotton gray goods for the past ten years, the converter purchasing all his fabrics has lower material costs than one weaving for his own account. If it could be imagined that margins on gray goods would become alluring, many converters could, and probably would, undertake the weaving of at least a part of their fabric needs. Such a program would likely be preceded by a continued scarcity of gray goods and extensive advance ordering. These possibilities indicate that the margins for staple gray goods cannot remain excessive for any long period.

While a converter with tapered weaving capacity is not ideally organized for the downswing, he is prepared for operating on a manufacturing rather than on a speculative basis in any market. Only because the prices of cotton gray goods have been low for a

long time can it be said that the combination of cloth manufacture and converting has been disadvantageous.

#### *Rayon Weaving by Converters*

The relative stability of filament-rayon prices, as compared to those of raw cotton, limits the risks of converters of standard rayons who undertake the weaving of a portion of their fabric requirements. In addition, converters who weave fabrics of rayon-filament yarn need not concern themselves with yarn production as would be essential in the weaving of cotton fabrics. Even in rayon fabrics, however, weak markets have so prevailed that converters have seen little chance of producing their own goods substantially cheaper than they could be purchased. Operations in rayon prints are on a much smaller scale than in cotton, and there is a lack of volume to support such extensive converting operations as prevail in cotton. Since pigment rayon fabrics are being made to an increasing extent by cotton mills, it appears probable that rayon prints will be largely produced by the existing cotton converters. Even though such concerns may not see their way clear to engage in the weaving of cotton, they may eventually turn to weaving their own rayon. The advantages of possible cost savings and quality control would likely be the most important motivating factors.

So far, rayon converting has not been as susceptible to the economies of large-scale operations as has cotton. Most converters specializing on rayons have been unable, therefore, to operate their own printing plants. As long as this situation prevails, the converter specializing in rayon prints will become a vertical by going into weaving instead of following the cotton pattern, under which converters acquired printing plants.

The interest of rayon converters in assum-



ing weaving responsibilities is attested by the fact that a number, like the Colonial Mills, have acquired direct ownership of weaving facilities. Others have entered extensively into weaving through the use of commission weaving contracts. Either approach has usually been an adaptation of the taper principle. In this connection, it is significant that a number of old silk houses have readjusted their organizations to a vertical basis with tapered capacities from finishing to throwing. Some, like the Susquehanna Silk Mills, are now really converters who weave a part of their requirements. There are many indications that the complete vertical organization with tapered capacity is nearer to realization in rayon than in cotton, though, of course, even in rayon extensive developments depend upon firm market conditions.

#### PARTIAL INTEGRATION IN STYLED GRAY GOODS

Many cotton fabrics, but more especially many rayon fabrics, are styled fabrics even in the gray. Their point of styling is at the loom rather than at the dye kettle or printing machine. In this respect, they are not unlike worsted goods and there are cogent reasons for combining their weaving and finishing. Unlike worsteds, however, rayon and silk broad goods can be assembled from different mills by converters and finished together as a uniform product. These considerations indicate that certain characteristics of styled gray goods favor the integration of weaving and finishing, while others encourage specialized operations. It is for such fabrics that integration on a partial basis is particularly feasible.

#### *Sale of Finished Goods by Weavers*

The weaving of styled gray goods for stock requires a close knowledge of consumer trends

if the risks of style and inventory losses are to be held to a minimum and if converters are to secure the service they demand. Some weavers of rayon fabrics state that they attempt to keep fully abreast of style trends in finished fabrics and in garments in order to advise converters on their purchases. To the extent that this situation is typical, the weaver is certainly in as good a position as the converter to assume style risks on finished goods.

The weaving of many kinds of rayon gray goods inevitably involves considerable style risks that can only be partially shifted to the converter by means of advance orders or commission weaving contracts. The latter is a common form of operation which varies in extent with market conditions. In most years, a rayon mill making goods only on order would likely have to operate at a lower percentage of capacity than its competitors and bear higher costs. On the other hand, a mill which made styled gray goods for stock would incur little more style risk if it converted those goods.

Since the weaver of styled rayon and cotton gray goods must carry style risks, he assumes a part of what is usually considered as a converter's task whether he likes it or not. Consequently, the sale of finished goods would appear to be necessary if sufficient profit is to be made on the well-styled patterns to offset the losses sustained on those poorly styled. Moreover, by selling finished goods, the weaver of styled gray goods acquires market contacts which aid him in planning his weaving program more intelligently.

It is clear that the most urgent need for coordinating weaving with converting exists in the production of styled gray goods. In many cotton lines, this is difficult to achieve by an integrated set-up because of the multipurpose nature of fabrics and the instability

of yarn prices. But rayon goods are more suitable to the combining of weaving and converting. Rayon goods are frequently finished in solid colors which involve relatively small additional style risks as compared to the weaving. The major style problem is to make the right kind of gray goods, and this is largely the responsibility of the weaver. Consequently, it is not surprising to find an imposing list of weaving concerns such as the Duplan Silk Corporation, the Stünzi Sons Silk Company, and Stehli and Company which convert a large part of their production of styled rayon gray goods.

#### *Converter Weaving of Styled Gray Goods*

Because style risks are inherent in certain types of rayon gray goods, converters frequently find that market conditions require them to place advance orders for specified constructions instead of buying from stock. Certain novelty constructions are not usually made to stock at all. As a matter of fact, these goods are often manufactured under commission weaving contracts. Their use enables a converter to secure exclusive styles as well as to insure some certainty of supply. Moreover, this device is often the means of securing lower cost fabrics, especially when prices are weak.

Most of the larger rayon and silk converters report that they regularly purchase considerable quantities of goods on advance order and even secure from 10 to 20 per cent of their requirements on commission weaving contracts. They say that some commission work is essential at all times to provide them with an intimate knowledge of manufacturing costs as well as to secure exclusive styles. Although the extent of these converter practices varies considerably with market conditions, they appear to be more general at all times in rayon than in cotton

because of the greater importance of style in the gray goods.

During recent years, it has been frequently stated that "the converter has the upper hand" and that rayons could at times be purchased for a price below their cost of production. Why should a converter attempt to weave goods under such conditions? It must be recognized that whether the weaver or converter has the upper hand depends upon supply and demand. Weaving plants will tend to sell more gray than finished goods during periods of falling prices when the pressure of idle equipment is most severe and when seasonal fluctuations in demand are most marked. There will then be no problem of supply or price for the specialized converter. But when opposite conditions prevail, the converter may not find his supply of fabrics as readily available. Even in the market of the past ten years, some converters like Cohn-Hall-Marx have found advantages to weaving rayons styled in the gray, even though standard constructions were purchased. This program permitted a coordination of supply with the demand for special constructions which could otherwise be secured by the converter only on advance orders even in a buyers' market. The well-established converter must be concerned with developing such an organization as will provide him with an assured minimum supply of gray goods and especially of styled fabrics, irrespective of market conditions.

In piece-dyed rayons, many gray-goods manufacturers now feel the need for selling finished goods at the same time that certain converters feel the need for integrating into the weaving of gray goods. The prevalence of such points of view indicates quite clearly a major field for integration on the partial basis of either selling both gray and finished goods, or both buying and weaving gray goods.

*Opportunities in Spun-Rayon Fabrics*

Fabrics of spun rayon are today being offered in blends with wool by both cotton and worsted mills and in 100 per cent rayon content by cotton mills. The worsted mill generally combines the weaving and finishing of these fabrics; cotton mills usually sell them as gray goods. This is a natural difference based upon the policies of selling to which these two groups of mills are accustomed. But if cotton mills continue to sell spun-rayon fabrics in the gray, can worsted weavers avoid doing likewise? Will they not be forced to sell a part of their production in the gray in order to keep their looms busy?

If worsted mills are unable to sell finished spun-rayon fabrics against the competition of cotton mills, they will probably not fare much better in the gray-goods market. On comparable yarn constructions, cotton mills can spin wool-rayon mixed yarn a few cents a pound cheaper than can worsted mills; presumably even this differential might be widened on long runs for gray goods of staple construction. In other words, worsted weavers do not face so much the question of whether they should sell spun-rayon fabrics in a gray or finished state as whether they can sell any spun-rayon fabrics. Against this possibility they apparently have one major line of defense and that is to design their spun-rayon fabrics as if they were worsted fabrics and in constructions that cotton mills cannot readily duplicate. So far, cotton mills appear to be limited by their machinery to the finer deniers of staple and, furthermore, most of them cannot weave the 54-inch wide goods preferred by the cutters of wool and wool-type fabrics.

Even if spun-rayon fabrics continue to be made chiefly in cotton mills, there is still the question of whether they will be sold in the gray or as finished goods. This seems to de-

pend upon cloth construction and the extent to which the same fabric is used for alternate purposes. If standard constructions predominate in spun-rayon fabrics, an extensive gray-goods market would appear to be inevitable, considering that cotton mills have been accustomed to market filament-rayon fabrics in the gray. It is possible, however, that some cotton mills may use spun rayon as a means of lifting themselves above the level of gray-goods competition. This they may be able to do with spun-rayon fabrics where they have not succeeded with filament-rayon fabrics. The cut-rayon fiber opens new doors to individuality of fabric through fiber blending and unique yarn constructions. Since such fabrics would be styled in the gray, they would probably lend themselves to finishing by integrated weaving mills.

It will not be easy, however, for cotton mills to retain control of the finishing of spun-rayon fabrics. Finishing promises to be extremely important in the styling of such fabrics. For example, various resin treatments are now being used to obtain crush-resistant qualities or wool-like "hand" after the spun-rayon cloth is woven. Such processes will undoubtedly encourage specialized finishing under converter direction, for the finish may largely determine the style appeal of the cloth and also the use to which it will be best adapted. Furthermore, low prices may depend upon finishing being done on the volume basis typical of converter operations.

**PROBLEMS FACED BY MILLS THAT TAKE UP CONVERTING**

It is ordinarily not easy for a weaver to develop an organization capable of selling both gray and finished goods. The difficulties are increased when the program involves the sale at different times of varying percentages of gray and finished goods. It is therefore

somewhat surprising to find that some mills have partially integrated into converting. In the light of their experience, the following six problems stand out as being of particular importance.

### *Selling against Converter Competition*

When a weaver undertakes to sell finished goods, he immediately faces the necessity of handling not a few large orders but a host of relatively small ones. Instead of maintaining contact with a few brokers or converters, he has to sell the cutting trades, which means that his accounts may number several hundreds. A mill may do an excellent job of styling its finished line and still fail miserably because it is not able to sell cutters against converter competition. This fact raises the question of what competitive advantages converters may have and whether these advantages can be matched.

Perhaps the outstanding advantage which converters have over integrated mills is that of price. This is in part temporary and in part permanent. It is temporary so far as it rests on a buyers' market in gray goods which permits converters to buy cloth at or below costs of production. It is permanent so far as it rests on a converter's ability to strike good bargains with gray-goods mills irrespective of the market trend. Even when prices are firm, there are some gray mills willing to sell for less than others, especially between seasons. This consideration suggests that a sellers' market would be the best time for a mill to inaugurate a program of selling finished fabrics, for then the converter's price advantage should be at a minimum.

Next to price, the service advantages of the converter warrant attention. Cutters, especially in the rayon and silk dress trade, buy in small quantities, demand quick deliveries, insist on terms long enough to finance their

business, and yet expect returns to be accepted without much question. This is a new kind of business for gray-goods mills and they have much to learn about it. Of course, the converters more or less supply these services, and mills selling against them would have to follow suit, especially on size of orders and delivery. The financing and credit problem, however, could be shifted to factors.

Even if a mill owner were able to meet a converter on both price and service, he might still lose the order. Because he assembles fabrics from a number of mills, a converter can usually offer a greater range of styles than any one mill selling finished goods. But the cutter's instinct to shop around makes this a less important advantage than it might appear. What really counts in the end is usually the fact that the converter sells on a personal basis. Salaried salesmen of an impersonal corporation can hardly be expected to compete on even terms with converters who have a personal stake in their business and close individual contact with cutters.

### *Selling Competing Lines of Gray and Finished Goods*

One of the first decisions that a gray-goods mill has to make when it embarks upon a program of partial integration is whether to try selling finished goods to the customers of the converters who buy its gray goods. Some concerns have been able to "carry water on both shoulders." One mill encountered no marked difficulty in selling underwear fabric and bed-spread fabric in both the gray- and finished-goods markets by offering goods in distinctly different price lines. When this firm used a similar policy for linings and dress fabrics, however, some converters refused to buy any of its gray goods, while others restricted their purchasing to times of outright necessity. This case is typical of a number analyzed.

The broker may also be counted upon to show reluctance to do business with a mill that asks him to sell a varying and uncertain part of its gray production. While it might be assumed that a mill could readily dispense with the broker's services, only a few outstanding concerns have so far been able to take this step. Ordinarily, satisfactory mill relations with the brokers are essential to disposing of gray goods.

The experiences of gray-goods weavers indicate that direct competition with converters in the finished-goods market is accompanied by difficulties in selling gray goods. Such difficulties are most pronounced when fabric is plentiful, the time when an integrated concern often finds the sale of gray goods most essential.

#### *Selling Non-competing Lines of Gray and Finished Goods*

Market practices and prejudices make it desirable for a partially integrated weaver to produce one type of gray goods for sale to converters and quite different types of fabrics for distribution as finished goods. This need for non-competing lines of gray and finished goods has been met in various ways. One concern has sold shirtings and dress goods in the gray and offered its finished goods for draperies, linings, underwear, and neckties. An apparently successful program of partial integration has been developed by one weaver through the sale of a special line of finished goods to cutters of higher-priced dresses and of a line of gray goods to converters designed for lower-priced dresses. One concern sells cotton goods only in finished form, but sells its rayons in both the gray- and finished-goods markets, because in rayon it can sell non-competing lines of fabrics. Such programs are typical of the ways in which gray and finished goods can be sold in non-competing markets,

either by making them for different purposes or for different price lines.

It is of particular significance that not a few but many rayon and silk weavers sell part of their production in the gray and part as finished fabric. In virtually every case, the gray sales department and the finished-goods sales department are operated as separate units. There is frequently a considerable problem in correlating their operations. But, in the uptown market, with numerous converters and cutters, such a sales organization at least partially avoids competing with customers. The problem is much more difficult in cottons where converters are fewer in number.

One successful weaving concern sometimes sells as much as 70 per cent of its rayon production as finished goods and at other times sells as little as 30 per cent. This company has been able to take advantage of selling in whatever market provided the largest margin between price and cost of production. The foundation of this company's successful policy has been the development of an integrated finishing department with a capacity greatly in excess of its weaving capacity. This enables the company to stand ready to finish most types of goods. While considerable finishing equipment may be idle at any time, the comparatively small loss on overhead has been more than compensated for by the advantage of flexibility in selling. Since gray goods are sold through brokers, there is no particular problem to the mill in expanding or contracting its volume of these sales as long as satisfactory broker contacts are retained. A varying number of salesmen must be employed, however, in selling finished goods directly to cutters. The company in question has determined that it can maintain a sound nucleus for a finished-goods sales department as long as at least 30 per cent of its production is sold finished. Such a department can, it has been

found, be rapidly expanded when necessary, but must be operated as a business unit separate and distinct from that department charged with the sale of gray goods.

### *Getting Close to the Market*

The mill that wishes to develop its own converting may profit from the past experiences of other companies by recognizing that there is no substitute for putting a major executive close to the market. This is essential to insure a production program readily adaptable to changes in trends of consumer buying.

It may not be easy for production executives to "get close to the market," especially when industrial problems, including pressing labor questions, seem to be pulling mill executives back to the plant and away from the markets. Under these circumstances, should mills sell directly or appoint a selling agent? Experience shows that some mills selling finished goods in the downtown market have secured proper contacts by selling directly and that others have reached the same objectives by selling through an agent. Neither method has always been adequate. The mere opening of a New York sales office in charge of a subordinate does not insure a prompt change in the production of gray goods as changes occur in the demand for finished goods. That objective can be attained only by placing a major executive in close contact with the wholesale and retail garment markets with authority to change production schedules.

A cotton mill that had long sold finished yarn-dyed goods through a sales agent attempted to sell its production of piece-dyed goods in the same manner when they were first produced by the mill in the early 20's. With the new line, the mill found itself constantly faced with obsolete goods because of its inability to change production schedules rapidly enough. As a result, it shifted to gray

goods and arranged for one of its major executives to be associated with a selling agency to develop what amounted to a specialized converting department for the mill. In this case, the agency method provides the mill with the advice necessary to keep its production program in tune with the market. While the same results might have been secured by direct selling, the program as described limited the necessity for creating an entirely new selling organization.

Another type of procedure to facilitate forward integration, which might be described as "semi-converting," has recently been undertaken in the uptown market by several rayon mills. A number of mills have associated themselves with an agency which assumes the responsibility for: (1) advising the mill respecting the gray stock to be manufactured, especially providing detailed advice during the off-season; (2) overseeing the finishing of goods and advising the mill upon style trends; and (3) selling fabrics for the mills. At all times, ownership of the fabric remains with the mill. However, the mill really acquires the services of a converter without having to set up its own converting department. While this arrangement is not dissimilar to that often existing between mills and their selling agents, it is different from the usual relationship in that finishing is combined with selling. Such arrangements may assist the gray-goods mills in selling both gray and finished goods without direct competition with their gray-goods customers.

### *Mill Operation of Finishing Plant*

Closely allied to the problem of whether a gray-goods weaver should sell finished goods is the question of whether the mill should operate its own finishing plant or depend upon job finishers. An analysis of the experience of many textile companies shows

that the answer varies materially with different types of finishing and with the general plan of integration.

There are marked advantages inherent in the mill operation of a rayon piece-dye finishing plant even though job finishing prices may be so low as to leave no cost saving to the mill which does inside work. Some plants, however, report savings in cost as a result of finishing fabrics in certain styles on which they specialize, and state that their organization possesses marked advantages from the standpoint of quality control. Not only is the finishing under the direct control of the agency which will sell the finished goods, but by a co-ordination of finishing and weaving it is often possible to secure a better-than-usual quality of gray goods. This results from a prompt elimination of weaving defects which can be detected only in finishing.

In certain instances, weavers who have started their own finishing plants really set up a separate business specializing in certain kinds of finishes. Work is undertaken on such finishes for the affiliated weaving department and on a commission basis for other mills. On the other hand, such a mill with a finishing department may send part of its work out to job finishers. Such procedures grow out of the various specialized finishes used on rayon fabrics.

Since the installation of a finishing plant for rayon piece-dyed fabrics does not require a relatively large capital investment, it is not surprising to find the seller of finished rayons, whether mill or converter, tending to operate his own finishing plant. In contrast, the requirements of cotton finishing appear to be more exacting, both in capital investment and in volume necessary to support low-cost operations. It is difficult for weavers, other than the largest, to undertake cotton finishing unless the plan involves commission work or the

finishing of gray goods purchased from other mills.

A carefully devised plan for acquiring a finishing plant has been inaugurated by one rayon weaver as a means by which he can gradually enter the finished-goods business. The plan is cited because it may point a way for taking on gradually the varied and complex functions of converting. The concern in question recently started its own rayon-finishing plant for piece dyeing. While the finishing plant is already in operation, no change has been made in the policy of selling all fabrics in the gray to converters. The mill, however, is in a favorable position to go after the business of finishing its own gray goods on a commission basis for the converter. Some inducement to get this business can be offered because handling costs are at a minimum. There are many benefits that can accrue under this plan. For this discussion, the interesting point is that the mill has taken one step toward integration into converting. Should the executives later determine to sell finished goods, it has already narrowed the number of problems that must be met.

#### *Selling only Finished Goods and Curtailing Weaving Capacity*

In a few cases, mills have found it disadvantageous to sell in both the gray- and finished-goods markets because of competition with customers and have chosen to sell finished goods only. In order to secure operating advantages through integrated organization, they have developed a tapered capacity, organizing their businesses so that their gray-goods capacity is less than their requirements of gray goods. By weaving mainly novelty and styled constructions, they can correlate production and sales of these styled gray goods and secure a certain supply of exclusive constructions. By purchasing all their needs of

staple merchandise and their peak requirements of styled gray goods, they have insured the continuous operation of their mills and the opportunity to buy gray goods advantageously. Thus these weavers have built an organization similar to that usually developed by a converter who integrates backward.

How can a weaver work out his destiny through transforming himself into a converter? The attempts on record have usually resulted from adversity, and a tapered capacity has sometimes been secured through the scrapping of looms. Certain of the old silk concerns are typical. They were formerly integrated concerns with production balanced between various departments. This arrangement proved to be inflexible in meeting changing economic conditions. As a result, these companies have reorganized on one of two bases. They have either reorganized to sell both gray and finished goods, or they have developed a program of tapered capacity to support the selling of finished goods exclusively.

It is significant that these silk companies, after experiencing the difficulties of a wholly integrated position, have reorganized on a partially integrated basis. Their present organization cannot overcome past mistakes; but it has been molded by adversity to meet future uncertainties.

#### PROBLEMS FACED BY CONVERTERS WHO ACQUIRE MILLS

As long as gray goods can be purchased at or below the cost of production, it is not to be expected that converters generally will go out of their way to acquire weaving equipment. Moreover, many converters operate with too limited capital resources to permit their entrance into a phase of textile production requiring a heavy fixed investment. Many are predominantly traders without a flair for manufacturing, to no small extent dependent

for their existence upon the continuance of a buyers' market in textiles.

The possibility of combining gray weaving and converting by backward integration is obviously limited to converters with extensive resources in both capital and managerial ability. Such firms cannot fail to be concerned with developing a form of business organization adapted to the needs of changing market conditions. Only if they anticipate a continued buyers' market for many years to come is there reason to accept without question a policy of purchasing all gray goods required for converting.

#### *Timing the Acquisition of Weaving Capacity*

While converters are in a favorable position, by comparison with weavers of gray goods, to combine weaving and converting, experience shows that success depends to no small extent upon the timing of the combination. If equipment is acquired when fabrics are scarce and the prices of weaving equipment high, the chances for success are obviously limited. A sudden determination to integrate under such conditions has, in a number of instances, resulted in the acquisition of inefficient weaving capacity at such a relatively high cost that the venture proved to be expensive when a weak market developed. Experience shows that it may be almost fatal for a converter to acquire fixed assets on the eve of a depression.

The decision concerning when to jump is crucial in beginning any program of integration. From the converter's standpoint, a plan that keeps the runway open for a quick jump and that recognizes the need for investing in looms before values rise would be ideal. One converter of rayons has acquired sufficient interest in weaving mills during the time of a buyers' market to insure that, when and if it becomes desirable to engage directly in



weaving, the integration step can be taken quickly and at no excessive cost. In the meantime, a measure of control over gray fabrics is secured by commission weaving contracts with the mill. Such a flexible position cannot be readily attained by many, but it does embody marked advantages for the converter.

### *Tapering of Capacity*

It seems obvious that converters who undertake to weave gray goods should acquire only sufficient weaving capacity to supply their minimum needs. This assures certainty of supply and of price in a rising market, and it need not be a serious disadvantage in a falling market. For instance, some converters who operate looms make their own novelties and styled gray goods in a weak market and buy their requirements of staple fabric. If the converter did not weave, he would generally be required to secure styled gray goods through advance orders or commission weaving contracts, even during a buyers' market. By making these goods, the converter can use his knowledge of style trends to plan a flexible production program that might often be less risky than the placing of advance orders. Because of the tapered capacity, bargains in staple goods can be secured just the same as if the converter had no weaving responsibilities.

It is not possible to generalize about the relationship of the productive capacities that are required for the "safe" operation of a weaving plant by a converter. The problem varies with different types of goods and with the markets for particular fabrics. A review of the examples of converter operation of weaving departments shows that as little as one-third of requirements or as much as two-thirds is provided. Of course, a different kind of set-up is in operation when the converter makes virtually all styled gray goods required

and buys most of the necessary staple fabrics. The degree of taper in each individual company depends on its own problems and organization.

### THE CASE FOR PARTIAL INTEGRATION

If integration requires a weaver or converter to deal with all the problems raised in the foregoing discussion, why should he not maintain his specialized position rather than borrow trouble? There is much to be said for this point of view. Undoubtedly, many mills and many converting houses have neither the financial nor the managerial resources to extend their operations into new fields. Moreover, there is still opportunity for the specialist who can weave gray goods cheaper than any one else, or who can outdo his fellows on styling.

Even the foremost specialists, however, may find it difficult to maintain their businesses over the years as weak markets alternate with strong, as old products give way to new, and as first one operation and then another becomes the focal point of styling. Actually, the specialized concern is at the mercy of change—today it is a feast for the converter and a famine for the mill; tomorrow it is a feast for the mill and a famine for the converter.

Although the avoidance of the risks of a specialized position may be strongly desired, a combination of weaving and converting may not be a practical step in this direction. For example, whether or not a program of integration should be attempted frequently depends largely upon where styling is introduced into a product. To take over that process which is responsible for the essential style characteristics of a fabric usually involves considerably more risk than to integrate from the point of style determination. If gray goods are styled on the loom, or in a previous opera-

tion, the mill can take over converting with a minimum of additional style risk. A totally different situation exists when the gray fabric is staple construction that becomes highly styled in finishing. With these goods, it is the converter who takes on little additional style risk in combining weaving and converting.

In addition to the style characteristics of a fabric, the number of uses to which a product may be put are important to the integration problem. Some gray goods, like print cloth, have a wide market arising from their suitability to many purposes. Other constructions are sold in narrow markets. A mill which elects to convert a gray fabric with alternate uses may face the task of developing sales contacts not in one trade but in several. By the same token, a program of selling both gray and finished goods can be effected more easily for a fabric with wide than for one with limited uses. If a fabric is used for but a single purpose, there is little chance of selling it finished without competing with sales of gray goods. The converter, specializing in distributing to one trade, seldom has a broad enough distributive base upon which to establish weaving operations.

Even when the product is suited to integration in a given case, the success of expanding an organization is far from assured. Experience shows that the efficient administration of a vertical organization demands much more than the usual manufacturing or converting ability. Mills may hire sales managers who can sell finished goods and converting houses may hire mill superintendents who know how to produce cloth efficiently. Both may fail in a program of integration. That failure can often be traced to the inability of the major executives of the company to adjust themselves to the new program.

Although a concern has adequate managerial resources and fabrics that lend themselves

to vertical operations, it would probably gain little by combining the weaving and converting of gray goods if it did not thereby obtain a more flexible position. How to be flexible though integrated should be the major consideration in every effort to bridge the gray-goods market. The persistence or anticipation of large profit margins in gray goods obviously tends to induce backward integration by converters. Such integration, however, limits the converter's ability to buy low-priced goods should the gray-goods market later become particularly weak. It leaves him with a lessened opportunity to secure the fabric variety that comes from a choice made from the array of fabrics offered by many mills. Moreover, although changes in style or product specifications may make less desirable the gray goods that can be produced in the mill of a converter, he must nevertheless try to find a market for them in order to keep his looms running. Similarly, the gray-goods weaver who endeavors to convert his entire production merely substitutes the disadvantages of a completely integrated position for those of specialization. The completely integrated concern may be as inflexible to meet changing conditions as the specialized concern.

The experiences that have been analyzed indicate that flexibility can best be attained by partial integration. The source of flexibility in a converter's program of partial integration is the tapering of weaving capacity. On a rising market, it provides a part of the gray goods needed at cost of production and without the necessity of paying a scarcity premium. On a falling market, it permits control over the manufacture of styled gray goods and purchase of staple constructions at market prices.

From the standpoint of a mill, the selling of non-competing goods is the heart of a program of partial integration. Only rarely have mills been able to sell finished goods to the

customers of the converters buying their gray fabrics without suffering a decline in their gray-goods business. It is far more practical to seek out markets for finished goods that do not interfere with gray sales. This may involve modification of selling policies at the gray-goods stage. Gray sales may be restricted to the converters who service cutters of lower-priced garments, while finished goods are sold only to the cutters of higher-priced garments. If a weaver did not see any chance for keeping gray and finished sales on a non-competitive basis, he would probably be better off if he never tried partial integration.

The possibility of satisfactorily combining gray-goods weaving and converting is thus

limited not alone by the character of the fabrics produced and the availability of managerial resources but also by the use that is made of partial integration. It is likely that where fabric characteristics are favorable to vertical organization, recurring changes in market conditions and profit margins will induce some integration. Profit margins can therefore probably not long remain excessive in such products. But even the most alluring immediate benefits should not obscure the need for being flexible to meeting changed economic conditions. Partial integration is the conservative and practical course to follow in combining the weaving and converting of many types of gray goods.

## CHAPTER VI

# INTEGRATING YARN AND FABRIC MANUFACTURE

IN CONTRAST to their infrequent efforts to combine cloth and garment manufacture, or weaving and converting, textile mills have had a great deal of experience in linking the manufacture of yarn and fabric. Even a cursory study shows, however, that neither complete integration nor specialization is invariably the one best type of organization at the yarn stage. In one industry, low yarn costs may be so essential that most mills can operate only on a self-contained basis. In another, yarn variety may be such an important element of styling that few mills, if any, can afford to be hampered by yarn-producing equipment. Even though such factors may dictate a particular form of organization at one time, new conditions may turn it into a serious liability at another.

Full-process underwear mills, for example, found that their whole styling and merchandising policy was hampered by the surplus spinning equipment that developed with a change to lighter and shorter garments. In the worsted industry the specialized units have found it increasingly difficult to compete on delivery and price with weavers who operate their own spinning departments. Either integrated or specialized operations may, therefore, at times prove to be a handicap, depending on the product and on changes in marketing or other conditions within an industry.

Under these circumstances it would be desirable to analyze the problems of organizing yarn production in each textile industry. That, however, would not be practicable within the limits of this chapter. It has been necessary, therefore, to select a number of representative

industries for study. This selection has been made with a view to giving a comprehensive picture of the varied problems of organization which confront textile companies at the yarn stage. The industries selected have been grouped into three broad classes according to whether yarns and fabrics are commonly made by specialized or integrated companies. These classes are:

1. *Industries in which specialized operations are common.* In the production of rayon woven goods, rayon knit fabrics, and knitted outerwear, the making of yarn is usually carried on by specialized producers for sale to weavers and knitters. It is of interest, however, that there are several cases in these industries in which yarn and fabric manufacture have been combined in one vertical organization. Are these cases mere exceptions or do they foreshadow a trend toward integration?

2. *Industries in which both specialized and integrated operations are common.* Both specialized and integrated concerns carry on yarn production in the worsted-goods, upholstery-fabric, and cotton/wool knit-underwear industries. While vertical organization seems to be growing less important in underwear manufacture, it is gradually becoming dominant in worsted goods and growing more important in the pile-fabrics branch of the upholstery industry.

3. *Industries in which integrated operations are common.* In the cotton woven-goods and the woollen-goods industries, it is the practice of most companies to spin the yarn out of which their fabrics are woven. The conditions responsible for these integrated operations deserve

consideration, along with any signs of change. For example, what effect may the use of spun rayon have upon the organization of cotton or woolen mills?

The term "yarn manufacture" is used in this chapter to mean the spinning of yarn from discontinuous fiber such as cotton, rayon staple, or wool and the production of rayon filament. All throwing, twisting, winding, dyeing, and other intermediate operations between spindle or spinnerette and loom or knitting machine are regarded as yarn-converting operations and beyond the scope of this study. This explains why no consideration is given here to rayon throwing, or to the throwing operations of the broad-silk and the full-fashioned hosiery industries.

#### INDUSTRIES IN WHICH SPECIALIZED OPERATIONS ARE COMMON

Among the industries in which the production of yarn and the manufacture of fabric are usually carried on by separate companies, the rayon woven-goods, the rayon knit-underwear fabric, and the knitted-outerwear industries have been selected for special consideration. In the last case, the products are finished goods ready for consumer use, whereas in the first two the products are merely "raw materials" for other industries and trades.

##### *Rayon Woven-Goods Industry*

One of the major questions concerning the organization of production in textile manufacturing today is whether the production of rayon-filament yarn and fabric can be widely combined. Formidable barriers exist. The relatively large scale of operation now required in the production of rayon-filament yarn means that most weaving mills have neither the capital nor the yarn-consuming capacity to become rayon producers, and even those few weavers who could use enough yarn

in total pounds would probably need a greater variety than their own plant could economically supply. Likewise, integration into fabric manufacture is not attractive to rayon producers because it does not appear to offer a large enough outlet for their yarn production; furthermore the profit margins on rayon cloth are not alluring. Despite these barriers the Celanese Corporation of America, a rayon producer, and the Manville Jenckes Corporation, a rayon weaver, have each successfully combined the making and weaving of rayon-filament yarn.

The Celanese Corporation of America manufactures yarn and woven and knitted fabrics, as well as some finished consumers' goods, such as men's bathing suits and men's underwear. While sales of fabrics and garments constitute but a minor part of the total business of the company, they are important from the standpoint of securing certain advantages of integration. These sales provide an important contact with the consumer. In addition, by raising the standards of styling and merchandising activities applied to Celanese products, consumer satisfaction in the use of these products is better assured.

Originally this rayon-producing company undertook the manufacture of fabrics in order to acquaint the trade with the proper methods of weaving, knitting, and particularly dyeing fabrics made from its yarn. This step was prompted by the fact that the rayon produced, namely acetate, requires different handling and processing from other types. Furthermore, the Celanese Corporation was interested in seeing that knowledge of the special properties of its yarn was carried through to the consumer. Accordingly, it sold its fabrics to retailers as well as to cutters. The manufacture and sale of finished fabric, although of some importance in the whole business of the Celanese Corporation, is definitely subsidiary to its

yarn production and sales. In origin and even at the present time, the fabric business has many of the elements of a promotion of the yarn business.

It might seem that the Celanese policy is a departure from the principle of attaining vertical organization through cultivation of non-competing dual markets. Actually this principle is being employed. The Celanese Corporation maintains high standards of styling and quality in its own fabrics and garments and sells them in higher price brackets than those of its customers. This policy avoids the development of opposition from customers and at the same time tends to stimulate them to do a better job of styling and manufacturing.

Since 1932, the Manville Jenckes Corporation has been producing a large portion of its needs of filament-rayon yarn. Once this company made both gray and finished cotton goods; the principal part of its business today is in rayon gray goods. The company first began to experiment with making its own rayon about 1929 because of difficulties in obtaining an adequate supply and a feeling that the price then paid to producers yielded them a large margin of profit.

It is important to note that the Manville Jenckes Corporation has definitely followed the principle of tapered capacity in integrating back into rayon-yarn production. Although a considerable variety of rayon yarn is required in weaving, Manville Jenckes has found it feasible to concentrate its own production on 150-denier, 48-filament rayon. The other yarn constructions needed by it are purchased. As a result, the company reports that it has been able to operate its rayon plant more or less continuously and to achieve lower costs and more uniform quality than if it had purchased all of the yarn it needed. The lower costs have been due to savings in handling as well as to continuity of operations. For in-

stance, the company has pioneered with the "cake" form of spinning which reduces the number of operations between spinning of the filament and weaving. This is illustrative of the kind of improvement in process that may develop through integrated operations. Undoubtedly the backward taper of capacity in this case has also had much to do with the success of the vertical organization.

Thus, for entirely different reasons, rayon-filament and fabric manufacture have been effectively combined by the Celanese Corporation and by the Manville Jenckes Corporation. Are these to be considered merely as interesting but exceptional cases, or do they represent the forerunners of a more general development? There are indications that other companies have given serious thought to the idea of integrating the production and weaving of rayon-filament yarn.

As standard constructions have developed in gray goods of rayon-filament yarn, mills have found themselves competing less on style and more on price. They are finding it necessary to do everything possible to decrease production costs. One possible means is, like Manville Jenckes, to produce their own filament yarn. Though most weavers of rayon-filament yarn do not have the capital resources or do not use a sufficiently large quantity of one specification to consider the operation of a rayon-producing plant, certain of the larger weavers are differently situated. Were it not for the rise of spun rayon, they might well improve their competitive position by producing their own rayon filament.

Even these weavers cannot be sure that their needs of filament rayon will remain sufficiently constant during the next few seasons to warrant their establishing their own producing plants. So far it has not appeared practicable to build a rayon plant which can be converted from filament to staple as the need arises. An-

other limiting factor is the scarcity of trained technicians experienced in the production of rayon on a commercial basis.

Although spun rayon may serve to prevent weavers from becoming rayon producers, its advent may bring about another type of integration. Some weavers of rayon fabrics have cotton-spinning departments and many are adapting these departments to the spinning of rayon staple. It would appear that weavers without spindles will have to follow suit and acquire spinning facilities if they expect to compete in the manufacture of spun-rayon gray goods. Only if they achieved distinction for their fabrics by using a variety of yarns or weaves of unusual character would they have a strong reason for not spinning yarn. Without distinctive styling a weaver of spun-rayon gray goods who purchased yarns could hardly hope to compete with those who have spinning departments. This fact is realized by a number of rayon weavers; there are reports that several are already negotiating for idle cotton-spinning mills in the South with the idea of converting them to the manufacture of spun-rayon yarns. How far this trend may go depends in part, however, upon the producers of rayon staple. It may be that they will ultimately sell the standard numbers of spun-rayon yarns.

As for the filament producers, is there any likelihood that they will follow the Celanese Corporation of America and set up their own weaving departments? If other producers go into rayon weaving, they are not likely to do so for demonstration purposes, as did Celanese. By this time, most rayon producers have made some provision for showing what can be done with their yarns through coöperative work with selected customers. It is possible, however, that rayon producers might feel impelled to establish weaving departments if idle capacity should become chronic in their indus-

try. Rayon plants are geared for continuous operation and therefore the producer will be driven to great lengths to avoid shutdowns.

#### *Rayon Knit-Fabric Industry*

The development of the rayon knit-fabric industry has occurred in the last two decades. Most of these fabrics are circular knit, being used principally in making underwear. While a few knitters of underwear make rayon fabrics for their own cutting rooms, most of the full-process mills have held aloof from this new fiber. With the full-process mills reluctant to attempt the knitting of filament rayon, specialized knitting mills were organized to produce the new fabric for underwear cutters.

By 1931 severe competition had developed among the fabric knitters and as a result the fabric was cheapened by excessive stretching and weighting. This led to consumer dissatisfaction. To meet this problem and to insure a market for their rayon, both the Tubize Chatillon Corporation and the Industrial Rayon Corporation chose to integrate into the manufacture of circular-knit fabric. Both of these companies wished to demonstrate the best way to knit and finish fabric in order to avoid excessive stretching and weighting and to raise knitting standards by offering a better fabric than the knitters were selling. They also desired to learn, at first hand, the extent to which yarn defects were responsible for fabric faults and to use this knowledge in the improvement of rayon quality. It also appeared that losses from defective yarn could be minimized if the yarn were knit into fabric by the producer.

Circular-knit rayon underwear fabrics can be made from one or two numbers of filament yarn. After being knitted, they are usually dyed in a limited range of solid colors. Moreover, these fabrics can be finished for other purposes, such as polo shirts, dresses, and

gloves, and therefore have a fairly wide market. As a result of these characteristics, knitting and fabric-finishing departments can be run almost as continuously as the rayon plant itself. It is not surprising, therefore, that some rayon producers have been able to integrate successfully into fabric knitting. They are said to have a considerable advantage in production cost over the specialized knitting companies because of the elimination of certain repackaging operations. Specialized knitters can hardly hope to compete with the rayon producers under these conditions, except as the latter sell fabrics at the same or higher prices than their yarn customers.

The knitting companies that have grown to a considerable size by producing circular-knit rayon fabrics would not be inclined to sit idly by and see their business go to the knitting departments of rayon producers. There is some talk that one or two such companies are contemplating the production of their own filament yarn. This step would involve much more than integrating to produce cotton or wool yarn. It would mean going from a textile industry into a chemical industry—a step which would require heavy fixed investment and prolonged experimentation before suitable yarn could be produced on a commercial basis. Probably few knitting companies have the capital resources to support such experimentation.

#### *Knitted-Outerwear Industry*

It has always been the general practice for knitters of bathing suits, sweaters, dresses, and other knitted outerwear to purchase rather than to make yarn. Because of the versatility of the knitting machine and because of changing styles of knitted apparel, virtually all types of fibers and yarns are used. Some companies do have their own woolen spinning departments, but these are usually an inheritance

from an original start in the hosiery or underwear business. Even these mills with woolen spinning departments usually buy worsted-spun yarn—the kind most widely used by knitted-outerwear manufacturers.

It is significant that the few knitted-outerwear companies which now have worsted-yarn spinning departments are very large according to the usual scale of knitted-outerwear manufacture. One, the Jantzen Knitting Mills, has built up a national market through advertising and the others, like the Malden Knitting Mills, have concentrated on selling large distributors. Not one of these companies is typical of the concerns engaged in the manufacture of knitted outerwear.

Ordinarily the knitting of outerwear is a small-scale business in comparison with the spinning of worsted yarn. Even the knitter who has achieved a substantial output can afford to integrate into spinning only if he uses but one type of worsted yarn and that in a few constructions. Not many knitters are in such a position. In order to keep their plants going throughout the year, many companies manufacture a varied line ranging from bathing suits to sweaters and from infants' wear to dresses. For such a company to add spindles would be out of the question, for its yarn needs are too varied. They include Bradford-spun worsted yarns ranging from all-wool to blends of several fibers, French-spun worsted yarns of several descriptions, cotton-spun yarn, and a certain amount of rayon filament, to say nothing of all sorts of colors and constructions of these yarns in amounts varying from a few pounds to several thousand during the course of a season.

In view of the variety of yarns now used for knitted outerwear and the possibility of an even greater variety with the advent of spun rayon, it does not seem probable that any extensive degree of integration will develop.



Furthermore, a knitter might take on a worsted-spinning plant only to find that a more economical system of yarn manufacture had been developed, such as may be foreshadowed by current experiments with spinning wool on the cotton system. Nor does it seem probable that spinners of worsted yarns will extend their operations to the manufacture of knitted apparel, since they would encounter difficulty in disposing of their surplus yarn and would probably be forced to supplement their own yarn production with outside purchases of different types.

#### *Outlook for Integration*

Two major obstacles stand out to explain the lack of integration in all three of the industries just reviewed. These are the vast differences in scale between the yarn-producing and the yarn-consuming processes and the need for greater yarn variety than one producing unit can economically supply. In going into either the knitting or the weaving of fabrics, rayon producers have not tried to bring yarn and fabric production into balance. Rather they have made it a policy to knit or weave but a part of their yarn output, marketing their fabrics in such a way as to stimulate rather than retard their yarn sales. Likewise, the one weaving company which has integrated into rayon production and the outerwear companies which have integrated into worsted-yarn production have not tried to bring their yarn-producing and -consuming capacities into balance. Instead, they have concentrated their own production on one or two yarn numbers so as to provide volume numbers at low cost for their yarn department and have secured what yarn variety they needed by purchases. Partial integration is the procedure uniformly followed by companies which have "gone against the tide" in effecting vertical organization in these industries.

It is an open question whether many companies will emulate the few which have combined yarn-producing and -consuming operations in the rayon woven-goods, rayon knit-underwear fabric and knitted-outerwear industries. Certainly the advent of spun rayon adds to the variety obstacle and there seems to be no immediate prospect of technical changes which would materially reduce the investment required in yarn-producing as compared with weaving or knitting equipment. Nevertheless, there are certain possibilities which should be taken into account regarding the future organization of the rayon woven and knit fabric industries.

Integration into fabric manufacture on the part of producers may occur again as it has in the past to establish a market for a yarn that requires special handling. Undoubtedly there are many types of synthetic fibers and yarns still to be developed, and any one of these might require its originator to become a fabric producer in order to demonstrate how this particular type of fiber or yarn should be processed. There is also the possibility that competition in the rayon industry may increase to the point where some producers, particularly those which are small, will choose to try weaving or knitting a substantial portion of their own production because that might involve less prospect of loss than having part of their capacity chronically idle. As for weavers and knitters of rayon, they are less likely to undertake rayon production in the future if competition should become more intense among producers than if producer margins should be maintained. In the latter event, some of those who wove or knitted staple constructions in large quantities might be tempted to undertake rayon filament or staple manufacture. While this and the other possibilities which have just been mentioned may never materialize, they at least seem suffi-

ciently probable to warrant the conclusion that the present specialized organization of the rayon fabric industries is by no means necessarily permanent.

Granting, however, that specialized operations may continue to prevail for some time in rayon fabrics as well as in knitted outerwear, companies with exceptional management in these industries may be able to gain a competitive advantage through combining yarn and fabric manufacture. But this will be true only if the companies do not try to achieve equal balance between operations. Rather they should follow the example of Celanese or Manville Jenckes and set up a partially integrated organization. The backward integration of a weaver or knitter may eliminate selling and handling charges between operations on a part of the output and at the same time admit of some variety in fabric lines through yarn purchases. From the standpoint of a yarn producer, this partially integrated set-up can give an assured outlet for part of his yarn and stimulate sales of the remainder.

It must be kept in mind that partial integration depends upon a substantial sales-yarn market such as now exists in both rayon-filament and worsted knitting yarn. Without such markets, a weaver or knitter making part of his yarn requirements might find it difficult to purchase the remainder at reasonable prices, and a yarn producer selling in a very limited market would find it difficult to avoid competing with his yarn customers by forward integration, however restricted in scope.

#### INDUSTRIES IN WHICH BOTH SPECIALIZED AND INTEGRATED OPERATIONS ARE COMMON

Of the major textile industries in which both integrated and specialized operations are common, those producing worsted woven goods, upholstery fabrics, and cotton/wool

knit underwear are typical. In the worsted industry, the companies performing both spinning and weaving appear to be increasing in number and making more headway than the specialized companies. The same seems to be true also of certain large producers in the upholstery field. The reverse is the case in the knit-underwear industry, where the mills without spinning departments are faring better than those with spinning departments.

#### *Worsted-Goods Industry*

Over the past fifteen or twenty years specialized weaving companies in the worsted field have steadily lost ground to the companies doing both spinning and weaving. This trend began some years before the World War when the attractive margins then enjoyed by spinners induced many weaving mills to establish spinning departments. Moreover, most of the integrated mills which had been buying a part of their yarn needs were encouraged to add enough spindles to supply their full needs. Then, early in the 1920's, came a prolonged decline in the sales of wool fabrics for women's apparel. In the sharp competitive struggle which followed, the specialized weaving mills were at a distinct disadvantage. Most of them lacked the financial resources of the larger vertical companies which were setting the competitive pace on popular-priced worsteds. In addition, many were located in high-cost centers and had no experience with styling fabrics other than women's wear. The growth of hand-to-mouth buying in the fabric markets also favored the integrated concerns, since they could usually provide quicker delivery than the weaving mills which had to depend upon outside sources for their yarn.

Is the decline in specialized operations to continue until all worsted fabrics are produced by integrated mills? Perhaps, but there are three new factors that may favor specialized

operations in worsted manufacture. These are the styling possibilities opened up by the development of mixed-fiber yarns which the introduction of rayon staple has occasioned, the threat of cotton-mill competition in the lower-priced medium-quality worsteds, and the increasing demand on the part of men's clothing manufacturers for both confined patterns and confined fabrics.

Already many worsted mills have put mixed-fiber fabrics into their lines. The results so far have not always been satisfactory, especially in men's wear, and the current movement for labeling may retard the use of mixed yarns where the purpose is to achieve a lower price. However, the surface has probably only been scratched in developing the styling possibilities of mixed-fiber yarns in both worsted men's and women's wear. Should competition force the development of these possibilities, the worsted mill which buys its yarn may have a decided advantage over the integrated concern in styling because of the varied sources on which it can draw for mixed yarns.

Cotton mills have already progressed far in producing fabrics that simulate worsteds. This innovation may foreshadow devastating competition for worsted mills. It is true that most cotton looms do not lend themselves to the weaving of all types of worsted-like fabrics because of their narrow width and light weight. Nevertheless, these disadvantages have not been sufficient to prevent cotton mills from competing with worsted mills in the dress-goods, summer-suiting, and work-fabric markets. Furthermore, there are reports that some cotton mills in the South are contemplating the installation of new looms that can weave fabrics of the usual weight and width of worsteds. If these "straws" do forecast increasing competition from cotton mills, there is only one defense available to worsted mills.

They cannot undersell cotton mills, but they may be able to outdo them in styling, quality, and service. Under these conditions, they might find it expedient to buy at least a part of their yarn supply in order to provide a broader base for their styling.

This threatened cotton-mill competition, plus the growing demand on the part of men's clothing manufacturers for individuality of fabric, makes the outlook for the self-contained worsted company none too promising. Many an integrated worsted company may find it necessary to buy novelty yarns to free its styling from the limitations of its own spinning facilities. Moreover, those specialized weaving companies which have managed to survive may find their lack of spindles a decided advantage if they make full use of the styling possibilities in mixed-fiber yarns.

The advent of rayon staple and the style possibilities which it opens up, the prospect of cotton-mill competition, and the growing demand for fabric individuality on the part of cutters are all illustrative of the type of change which can create serious problems for the company which is self-contained at the yarn stage. Since such changes in markets and styling are always in prospect, it would seem that integrated worsted companies should try to develop organizations that could readily adjust themselves to changing conditions. At one time many vertically organized companies in the worsted field did maintain themselves in a fairly flexible position by making only their minimum yarn requirements and purchasing their peak needs. Today the worsted weaving-yarn market is too thin for most companies to follow this practice, although it is known that one concern purchases 40 per cent of its yarn needs and makes the remainder.

The pressure of idle spindles has led some integrated mills to sell knitting yarn and to diversify their fabric production. For exam-

ple, there are companies which now make worsted suitings, dress goods, tropicals, necktie linings, auto cloths, and miscellaneous industrial fabrics. This diversification is in decided contrast to the pre-war practice of concentrating on a limited line for one market. It must be recognized, however, that neither the sale of knitting yarn nor the diversification of fabrics can provide the integrated worsted company with sufficient flexibility to shift its major production each season to whatever market promises to be the most profitable. Such shifts might be possible if worsted yarns and fabrics, like cotton gray goods, could be sold through brokers and did not require the maintenance of a selling organization and of customer contacts in each market. Nevertheless, the sale of knitting yarns and of a diversified line of fabrics has been found to be a very desirable policy for an integrated worsted company. It frees the company from dependence upon one fabric line which might suddenly require less yarn and thereby jeopardize the well-being of the entire company.

This consideration of the organization problems of the worsted industry requires attention to the significance of the growth of top-making. Here is a case in which integrated operations are already being displaced by specialized ones. It is estimated that about 50 per cent of the wool consumed by worsted mills is bought now in the form of top as against 25 per cent or less only ten years ago. This trend is undoubtedly a reflection of a desire on the part of the self-contained worsted mills to shift a part of their inventory risk and to make more effective use of their working capital. Top can be bought in smaller quantities than grease wool and nearer to the time of actual use. Thus, by giving up their vertical organization at the top stage, many worsted companies have been better able to continue vertical operations at the yarn stage.

### *Upholstery-Fabrics Industry*

Although pile upholstery fabrics are woven by more than twenty mills, the bulk of the business is in the hands of about half a dozen large concerns. While yarn, made principally of mohair or wool, is purchased by the smaller companies, the larger units have followed a plan of spinning at least a part of their yarn needs. These concerns usually operate worsted-spinning departments, but the requirement of a wide variety is so marked that even the largest of the firms in this group, Collins and Aikman, buys its cotton yarns. Moreover, these companies have not always found it possible to keep their worsted spinning departments continually busy on their own needs. Most of them make yarn for sale. At least one of them follows the policy of setting aside a certain number of spindles to be used solely for sales yarn. Thus a constant contact is maintained with the purchasers of this type of yarn and during times when the demand for upholstery is slow, the number of idle spindles can be reduced more easily by expanding the sales-yarn department. In addition to securing a broader basis for the operation of their machinery, the integrated companies in the pile-fabric field are able to obtain control over the quality of the worsted yarn used on their own looms.

Flat upholstery may be divided into two types, staples and novelty fabrics. The former is used principally by the automobile industry and is made chiefly by woolen and worsted mills as one of several lines of woven goods. In this group may also be included the all-cotton upholstery and drapery goods that do not require great variety in pattern. This business is mostly in the hands of southern cotton mills which turn out a general line of colored goods. While integration of spinning and weaving is the prevalent form of organization among these mills, its maintenance de-

depends upon the continuance of the manufacture of a staple type of fabric which will not require a great variety of different kinds of yarns.

There are, in addition, those Jacquard fabrics in which variety of pattern is featured, made largely for the furniture and drapery trades. These may be termed "novelty" fabrics. Many different yarns of varying constructions are used in their manufacture and spinning and weaving are seldom integrated. Only if a plant can reduce the need for yarn variety through specializing on upholstery fabrics for which there is a large market per pattern will the addition of spinning be practicable. New fibers such as cut rayon, new processes of manufacture, and changing demands make specialization on a single line of doubtful value. The pile-fabric mills found this out several years ago when automobile manufacturers suddenly began using flat upholstery fabrics.

#### *Knit-Underwear Industry*

Years ago knit underwear was manufactured largely by knitting mills that operated their own spinning plants. The yarns then used were blends of wool and cotton spun on the woolen system. Because of the importance of controlling fiber blending, most companies saw fit to do their own spinning. Later, when all-cotton knit underwear became popular, many of the larger knitting mills added cotton-spinning departments in order to secure the added profit margin on yarn. This step was feasible because underwear manufacture in those days did not require yarns of varying kinds, counts, or twists. The garments too were relatively staple in nature, and mills could specialize in making one type, since the responsibility for assembling a complete line for sale to retailers was assumed by selling agents and wholesalers.

Conditions are entirely different today. The displacement of heavy-weight, long-sleeved union suits by light-weight, athletic-cut garments has caused a substantial decrease in the quantity and a change in the character of the yarn needed. At the same time, the market for cotton and cotton/wool underwear has declined materially as silk and rayon knitted garments have become popular with women and as underwear cut from woven fabrics has become popular with men. The trend toward direct selling to retailers has often required a mill to offer a much more varied line than when it sold mainly to wholesalers. Such changes have served to lessen the quantity and increase the variety of the yarn required by underwear mills. These shifts in product and in distribution channels have thrown heavy burdens upon the underwear mills with spinning departments. Generally speaking, the changes left them with the capacity to produce certain kinds of yarns in excess of their actual need, and often under the necessity of buying substantial quantities of yarn which their own spinning departments were not equipped to produce.

All sorts of changes in policy have come about since the integrated knit-underwear mills found themselves with excess spinning capacity. Some have chosen to continue the manufacture of underwear from yarn made on their own spindles and to keep surplus spindles busy by developing yarns for other products such as sweaters and knitted piece goods. Others sell their excess yarn and buy filament-rayon yarns to round out their underwear line. Still others have sold or scrapped their spindles and become knitters of underwear, buying all of their yarn.

Judged by volume, the integrated companies are still an important factor in the cotton and cotton/wool underwear field. The Underwear Institute reports that the 25 un-

derwear companies which have their own spinning departments account for approximately 40 per cent of the annual sales of cotton and cotton/wool knit underwear. The remaining 60 per cent of the sales are distributed among some 260 companies which buy either yarn or knit fabric.

It would appear unlikely that any of the underwear companies now buying yarn will try to produce their own needs. As one big company put it, "It is profitable to own a spinning mill only in years of high yarn prices." The margin between fiber and yarn prices will have to widen materially to induce much backward integration by the knitters of underwear who are not already equipped for spinning. Most knitters use a great variety of yarns and none can be sure which type will be in most demand from one season to the next.

#### *Factors Influencing Organization*

One can find in the experience of the three industries just reviewed a fairly complete record of the conditions that both encourage and discourage the combination of yarn and fabric manufacture. Much turns on the technique by which the product is styled. If style is developed by combining yarns of different colors but of the same or closely related counts, as in the manufacture of worsted apparel fabrics or auto cloths, integrated operations are quite feasible. On the other hand, if the product is styled through the use of a variety of yarns of different counts, constructions, and fibers, as in novelty upholstery fabrics or knit underwear, few producers can operate on a self-contained basis, and specialized yarn and fabric operations are probably to be preferred.

It is important to note that competition tends to force integration where the spinning operation is in itself not a crucial factor in styling. Consider, for example, the trend to-

ward integration in worsted goods when competition was mainly on the basis of price and delivery. Since worsted styling does not depend upon the variety of yarns used, the specialized weavers have had no major styling advantage over the integrated concerns except those equipped to accept small orders for confined patterns from manufacturers of high-priced clothing.

Closely associated with the technique of styling is the difference in economical scale of operation. If spinning is most economically carried on by a large plant, as is true with cotton, it is difficult to combine this operation with a relatively small-scale undertaking like the knitting of underwear without having surplus yarn-producing capacity. Such has been the experience of nearly all underwear mills with cotton-spinning departments except the very few that have been able to build up extraordinarily large sales of low-priced, conservatively styled underwear. Yet where fabrics can be produced on a scale comparable to spinning, as in the manufacture of worsted men's wear or auto cloths, it becomes quite practicable to combine the yarn- and cloth-producing operations.

The experiences of both the worsted and the knit-underwear industries emphasize the need for vertical organizations that can adjust themselves to change. Presumably this would call for an organization at the yarn stage which made yarn both for its own use and for sale or made only a part of the yarn needed and bought the rest. These devices, however, really depend for their success upon the existence of a substantial sales-yarn market. Such a market prevails in upholstery and knit-underwear fabrics but not in worsted goods. Although the sales-yarn market for worsted weaving yarn is not large enough to enable many integrated companies to taper their spinning capacity by

purchasing a part of their yarn needs, it is adequate to permit a few concerns to follow this practice.

Where capacity cannot be tapered nor surplus yarn production readily sold, the vertically integrated company can achieve flexibility by developing either a diversified line of fabrics or a new yarn market. These steps, however, have seldom been taken until after mills have encountered difficulties in keeping their spinning and weaving departments in balance. Although these devices spread a mill's risks and lessen dependence upon one market, they do not provide a mill with flexibility in the sense that yarn and fabric markets can be manipulated in accordion-like fashion as opportunities for profit occur. That is feasible only where customer contacts and a sales organization to service them do not have to be maintained.

#### INDUSTRIES IN WHICH INTEGRATED OPERATIONS ARE COMMON

Among the industries in which yarn-producing and yarn-consuming operations are commonly carried on under the control of one management, the experiences of the cotton- and woolen-goods industries are of major interest. In both, integration begins with the purchase of fibers, although the cotton industry is principally a producer of staple fabrics while the woolen-goods industry produces mainly styled fabrics.

##### *Cotton Woven-Goods Industry*

In general, the manufacture of most cotton woven goods has been characterized by the integration of spinning and weaving since the industry first developed in New England during the early 1800's. This is true of the production of cotton gray goods, domestics, and most colored goods. The exceptions occur (1)

in the manufacture of such fabrics as novelty upholstery materials for furniture, which often require such a large variety of yarns that they can be procured most economically by purchase, and (2) in the manufacture of such goods as narrow fabrics, which are unsuited to large-scale operation.

The fact that a combination of spinning and weaving under one management is the accepted method of production for most cotton goods does not mean that the industry lacks organization problems at the yarn stage. Cotton mills are continually faced with the problem of keeping both their spinning and weaving equipment in operation. Any number of events, ranging from a change in weave construction to a change in loom shifts brought about by legislation or labor agreements, can increase or decrease the need for yarn. Such developments put the integrated company in a quandary—will the change last one producing season or several?

Many companies manufacturing cotton gray goods have tried to develop a type of organization that would permit them to meet the changing yarn needs of their weaving departments with a minimum of idle time in their spinning departments. A very common practice in the South has been to maintain a spinning capacity equal to or greater than the mill's peak needs, surplus spindles being used to make yarn for sale to the knitting trades. While this plan assures a sufficient supply of yarn when fabric constructions require more yarn, it by no means provides an automatic outlet for yarn when fabric constructions require less yarn or when the fabric market slumps. If a company does not regularly offer yarn to the knitting trades, it will probably encounter difficulties in developing a market of any volume when one is needed, unless the yarn is offered at a substantial reduction from

the prices being generally asked. This practice can be disturbing to the cotton knitting-yarn market when demand is not active, although it is often effective from the standpoint of the integrated company.

Thus flexibility may be obtained by selling yarn in a market that does not compete with fabrics. In this industry, it is not possible to secure a flexible organization by tapering spinning capacity because there is no well-developed market in which to purchase cotton weaving yarns of the type and quantity needed.

A new opportunity for developing a flexible organization at the yarn stage is afforded cotton mills by the advent of cut rayon. Instead of having idle spindles, as happened when they took up the weaving of filament-rayon fabrics, cotton mills weaving spun-rayon fabrics should be able to use their spindles in the production of spun-rayon yarns. Moreover, if they desire, many of them should be able to develop substantial yarn markets in spun rayon. These yarns have so many potential uses that cotton mills should have little difficulty in developing yarn markets that do not compete directly with their own fabric business. In this respect cotton mills are in a favored position over other textile mills because the medium and finer numbers of spun rayons can be spun more cheaply on the cotton than on any other system.

Along with the growing use of rayon staple in certain sections of the cotton-goods industry there is also a growing use of other fibers, such as wool and mohair. This should permit some cotton mills, particularly those now making yarn-dyed goods, to develop a backward taper of capacity between their spinning and weaving departments if they want to develop a line of novelty as well as staple fabrics. Spinning departments could be scaled down to where they could be kept busy on more or less staple

cotton and spun-rayon yarns while all mixed yarns of a novelty type could be purchased from specialists in the production of fancy yarns. This plan would not only make for more efficient operation of the spinning department but also provide the cotton mill with a more diversified line of fabrics. Moreover, there is little likelihood that the supply of mixed-fiber or novelty yarns would dry up, since the many uses to which they can be put should provide enough volume to keep a number of efficient producers in the field.

#### *Woolen-Goods Industry*

The variety of fibers used and the novelty patterns featured would seem to call for independent spinning and weaving operations in the woolen-goods industry. Actually no significant volume of goods is produced this way and the reason is readily apparent. Woolen fabrics are really styled on the mixing floor prior to carding, for it is the fibers used and their blending which largely determine both the character and the price of a woolen fabric.

As long as there is a demand for this type of fabric there will, in all probability, be little change in the integrated set-up of this industry. For years, some woolen mills have been using rayon waste with other fibers in certain of their blends. The advent of cut-rayon staple does not appear to point to any change, since it can be processed just as effectively upon the woolen system as rayon waste, except, of course, that it is a somewhat more expensive raw material.

Woolen mills have less opportunity than worsted mills for tapering their spinning capacity and buying yarn outside or selling yarn when their fabric business is slack. They are, therefore, practically forced to operate on the self-contained principle of neither buying nor selling yarn. Under these conditions many



woolen mills have attained some flexibility by keeping the single-shift capacity of their spinning departments considerably under that of their weaving departments and making up for the deficiency by running their spindles for more shifts than their looms. This policy usually assures sufficient yarn for peak needs and it often permits full single-shift operation of the spinning department during slack periods.

Another insurance against changing conditions for the self-contained woolen mill is the production of a diversified line of products going to widely different markets, such as men's suitings, women's coatings, blankets, and snow cloths. Such a move toward diversification might even be carried another step into the cutting of garments, especially into those made from novelty wools. This diversification of woven products can give much the same result as if a mill sold both fabrics and yarns. When business in one line slows up, or constructions in a fabric line take less yarn, it is possible to turn the surplus yarn capacity to another fabric instead of to sales yarns, as is done by some of the cotton mills.

#### *Guarding against Inflexibility*

In these industries where yarn-producing and yarn-consuming operations are frequently combined under one management, the major organization problem is how to make this vertical combination flexible to meet changing conditions. When integration becomes common at any stage, the backward tapering of capacities does not work. The taper principle depends upon an adequate market or the presence of sufficient firms willing to do commission work. Neither of these conditions prevails in the woolen-goods or the cotton-goods industries because the very factors which make for integration prevent their development. In-

stead, flexibility can be obtained by selling both yarn and fabric, by diversifying woven products, and by varying the number of shifts run in the spinning departments.

As in other industries already discussed, the development of new yarn or fabric markets is not a wholly satisfactory solution. These markets cannot be widely developed when the need for them arises, and once established they are not easily contracted if a company's fabric department needs more yarn. In such cases, it often happens that more spindles are added and thus the company, so far as the relation between its yarn capacity and yarn needs is concerned, may become as inflexible as before. There is a net gain, however, in that the company's income is more stabilized when derived from several rather than from one market.

The balancing of a mill so that the spinning department has to run more shifts than the fabric-producing department does keep down the spinning investment, but it still makes styling subservient to what will keep the spinning department busy. Of course, no plan of operation, short of making only staple yarn needs and buying novelty requirements, will eliminate this handicap.

#### THE MAKING AND USING OF RAYON STAPLE

If rayon staple should realize the potentialities envisioned by many observers, it may become the major textile fiber. Such a development would undoubtedly have far-reaching effects upon the organization of the textile industries. These effects cannot be adequately anticipated, because the future of rayon staple lies largely in the hands of the technician. Nevertheless, speculation about the relation of rayon staple to the general pattern of organization can be crystallized in two questions: (1) are producers, spinners, or intermediate parties going to prepare rayon fiber for spin-

ning? (2) is rayon fiber to be produced, spun into yarn, and then woven or knitted into cloth by a number of specialized companies or by vertically organized concerns?

It is not likely that the methods of preparing rayon fiber for spinning are definitely established. At present a continuous man-made fiber is chopped up into short lengths and then tediously reformed into a continuous strand by a series of expensive operations. Perhaps some way will eventually be found whereby the producers can offer rayon staple in top or roving form rather than in bulk form as at present. Experiments are under way in both this country and Europe to develop processes by which this can be accomplished.

Considering their investment and resources for research and experimentation, it now appears that the producers of rayon staple would be the most likely agencies to develop some way of turning out rayon roving rather than cut fiber. With this technical advance in prospect, mills are hardly warranted in making a substantial investment in new equipment for preparing rayon top or roving.

Although rayon staple has so far been manufactured only by the rayon-producing companies, this fiber is better adapted than filament to production by textile mills. The technical problems are not as difficult to solve nor is as large an investment required. Surely if the Manville Jenckes Corporation has found it desirable to make a good share of its filament-rayon needs, mills which use a substantial quantity of rayon staple should find it equally advantageous to set up producing plants. It is, of course, illogical to presume that every textile mill is a potential producer of the rayon staple which it uses. A large consumption of cut rayon of one or two descriptions would be required to support such integrated operations. Not many textile companies would meet this qualification and, also,

have the inclination along with the financial and managerial resources to produce rayon fiber.

If there is a possibility that some mills using rayon staple will be tempted to set up their own fiber-producing plants, does it follow that some producers of cut rayon may add plants for making spun-rayon yarns or fabrics? Producers of rayon staple appear likely to feel less inducement to integrate forward than consuming mills to integrate backward. When a rayon-producing company sells rayon staple, nearly all textile mills are its potential customers, but when it sells spun-rayon fabrics it is in competition with nearly all textile mills for the business of converters and cutters. It is difficult to believe that a producer of rayon fiber under these circumstances could sell more rayon in the form of fabric than in the form of fiber. It may well be, however, that some producers of rayon staple will follow the practice which they have employed in the production of filament rayon of making some spun yarns and fabrics to show what can be done and to exert a stabilizing influence on their markets.

#### ATTAINING FLEXIBILITY AT THE YARN STAGE

The foregoing analysis leads to the conclusion that the question of whether a specialized or integrated organization is best adapted for the production of yarn can never be fully settled. What may be a highly desirable form of organization under one set of conditions may prove to be highly undesirable if those conditions change. It becomes especially important, therefore, for every textile mill engaged in yarn or fabric manufacture or both to review constantly its organization policies. Much help can be drawn from the experience of the industries reviewed in this chapter as to the factors to be considered in determining whether integrated or specialized operations are most desirable. If integrated operations are

inevitable, it is important to inquire how they may be kept sufficiently flexible to permit adjustment to changing conditions without endangering the well-being of the company.

*Factors Which Determine Whether to Integrate or to Specialize*

The form of organization called for at the yarn stage is largely conditioned by:

1. *Relation between yarn and fabric costs.* When yarn costs represent a substantial proportion of the cost of producing fabric, there is strong pressure to combine yarn and fabric manufacture. This is particularly true if yarn prices include a relatively large margin of profit or if substantial cost savings can be secured through the elimination of intermediate operations. If the margin between yarn and fabric costs is exceptionally narrow, as in the manufacture of cotton print cloth, and if wide differences in scale do not exist, competition usually forces all companies to combine yarn and fabric manufacture.

2. *Extent to which character of fabric depends on variety of yarns.* It is seldom practicable for a self-contained company to produce a line of fabrics which require a variety of yarn constructions, whether the variety be in terms of size, twist, or system. On the contrary, integrated operations thrive where the yarn department can be devoted to one system of spinning and run on a very few yarn numbers with simple twists. The use of colored yarns as a source of variety in designing fabrics is still possible as long as standard yarn sizes and twists are used.

3. *Extent to which character of fabric depends on unified control of all operations.* In the manufacture of some fabrics, control over the production of the yarn is essential, even to the selection of fibers, if the fabric is to have the character desired when finished. This may be necessary to insure uniform

quality, as in the production of many industrial goods, or to provide for unusual style effects, as in woolen apparel fabrics. In the latter fabrics, styling really begins with the mixing operations preceding carding and ends with the finishing processes, particularly fulling.

4. *Relation between scale of production of yarn and fabric.* Wherever yarn production requires a much greater capital investment and technical skill than fabric manufacture, the integration of these operations is no easy task. From the standpoint of a yarn producer, it means risking drastic curtailment of volume unless some method can be worked out for continuing to sell yarn. From the standpoint of a fabric mill, integration into yarn production which requires much greater capital investment and technical skill than fabric production would be feasible only where a mill was able to build up a volume consumption of one or two yarn numbers and had adequate financial resources. Even then, such a step might not be justified unless lower yarn costs or greater uniformity of yarn quality were imperative and appeared to be attainable through integration.

*Keeping Operations Flexible*

While the problem of keeping operations flexible is of concern to both specialized and integrated companies at the yarn stage, it is particularly serious to the latter. The specialized firm does run the risk of changes in product, process technique, or markets favoring integrated operations, but such changes can usually be anticipated. The real danger to the specialized firm is that it may elect to integrate on a self-contained basis and thereby become highly inflexible at the yarn stage. As for the company already integrated, it runs the risk every season of finding its entire styling and merchandising dictated by the need for pro-

ducing those goods which will keep its yarn unit busy. The preventive of this eventuality appears to be the maintenance of an organization sufficiently flexible to adjust itself readily to changing market and competitive conditions. The policies which have been employed for this purpose with some degree of success are now summarized.

1. *Using dual markets.* The use of dual markets is frequently resorted to by self-contained companies which have found themselves with excess spinning capacity and by yarn producers faced with shrinking yarn markets. For example, several integrated companies in the worsted industry have turned part of their spindles to making sales yarn for knitted outerwear when they have found it difficult to use their entire yarn output. Likewise, many cotton mills in the South which formerly specialized in producing yarns for the hosiery and underwear markets have added weaving departments as their yarn business declined. A company selling both yarns and fabrics cannot expect to sell mostly fabrics when that business is good and to switch almost entirely to yarns when the fabric business is bad. On the contrary, successful selling in both markets usually requires the maintenance of customer contacts in each and an experienced selling organization to deal with them.

2. *Tapering yarn capacity.* Fabric producers may obtain all the advantages of integrated operation with a minimum of the disadvantages if they set up yarn-producing units to supply only a part of their yarn requirements, provided they use a few numbers in great volume. By this procedure, they can secure ready flexibility because they can curtail weaving or knitting operations without leaving spinning equipment idle and can expand fabric production without investing in additional yarn-producing equipment. On the other hand, once integrated operations become gen-

eral in an industry it may not be easy for companies integrated by means of tapered capacity to secure yarn from outside sources on favorable terms. Furthermore, such integration is not possible when a wide variety of yarns made on different systems are necessary or when the required scale of operation for yarn making is greatly in excess of that prevailing in the manufacture of fabric.

3. *Diversifying fabrics.* The importance of fiber blending in the woolen industry, in determining both the styling and the price of the finished cloth, discourages either the selling or buying of woolen yarn. Under such conditions, a company has little chance to use partial integration. Probably its best opportunity for attaining a measure of flexibility is diversifying the products made at the cloth stage so that it does not depend upon the demand of any one specific market. Several woolen mills have done this by making and selling such varied products as men's suitings, women's coatings, ski cloth, blankets, and slasher and other mechanical fabrics.

4. *Varying shift operations.* Cotton print cloth mills, for example, have little opportunity for tapering their spinning capacity, since they are unable to go into any market to purchase their requirements of yarn. Nor is there a market in which they can sell yarn when business is slack. Consequently they are compelled to integrate on a self-contained basis, neither buying nor selling yarn. Certain print cloth mills have attained a degree of flexibility by keeping the single-shift capacity of their spinning department below that of the weaving department. The spindles are customarily operated for a greater number of shifts than the looms to provide for peak needs. Full single-shift operation of the spindles is also assured during slack periods. This policy limits the investment in spindles and also anticipates the time when a change in de-

mand will require either the contraction or expansion of spinning operations.

In a few words, the problem of organization at the yarn stage is first a question of whether conditions warrant specialized or integrated operations, and second a question of how the organization called for can be readily adapted to changing conditions. In this connection one observation stands out above all others—the integrated company which attempts to achieve exact balance between its

yarn and fabric departments usually finds these departments thrown out of balance sooner or later as products, markets, processes, or raw materials change. Change is the all-pervading characteristic of textile production and distribution today, and change is the foe of balance. It would seem, therefore, that integrated companies today might profitably accept unbalanced operations as the normal way in which they have to do business and, wherever possible, adjust their organizations accordingly.

## CHAPTER VII

### DEVELOPING VERTICAL ORGANIZATION BY BRAND PROMOTION

THE promotion of a mill brand to the consumer can be successfully accomplished only by that textile concern which has the managerial talent and the inclination to become retailer-minded. For, like it or not, if a branding program is to be effective, a textile company must know almost as much about some aspects of retailing as if it operated a chain of retail stores. Thus the more the company knows about retailing the more effective will its promotion be.

The branding of any textile product to the consumer invariably involves "going into retailing." Although this applies to a limited extent to the branding of fabric and yarn, it strikes with full force in the case of finished textiles, such as hosiery, underwear, domestics, and yard goods. The textile companies that have branded these products have been unable, for example, to avoid grappling with the question of retail price policy. They have had to decide whether to let each retailer set his own price or to retain a measure of control over the retail price. In addition, many of them have found themselves concerned with clearance sales, retail stock turnover, display methods, local advertising, and, in some instances, even the training of sales clerks.

Branding of the fabric used by the cutting trades usually leads likewise to the assumption of retailing functions and also to programs for inducing the cutter to use labels and hang tags extensively, and finally to creating safeguards against the use of branded fabrics in inferior garments or other products. The need for control over the quality of the garment in which branded fabric appears has frequently

led mills to license cutters, as in the case of the Pepperell Manufacturing Company, and has even resulted in outright integration into cutting, as in the case of the Goodall Worsted Company.

The promotion of a consumer brand for yarn used in knitting and weaving is a still more arduous step than the branding of fabrics. Retailing tasks are assumed and attention must generally be directed to controlling the quality of the fabric made of the branded yarn. Licensing of weavers, knitters, and converters is frequently necessary. If the yarn brand is used with cut-and-sewn products, the yarn producer may find it necessary to supervise the construction and sometimes the styling of these products to insure that the brand will not fall into disrepute with the consumers.

Brand promotion may quite properly be considered a form of vertical organization. It can be made to provide such advantages of outright integration as greater assurance of outlets for products and the opportunity to obtain a price differential for extra attention to quality and styling. This is true, however, only if it goes beyond merely registering a trademark and affixing it to a product. To give a manufacturer real control over distribution, his branding program must include direct and continuous promotion to consumers, for otherwise the distributors and other manufacturers who may intervene between him and the consumer would feel no compulsion to follow his merchandising advice or even to handle his product.

Such promotion in itself is a form of in-

tegration, since the manufacturer is thereby taking over a part of the selling job of those who carry his product. Furthermore, as has been pointed out, it almost invariably requires the assumption of still other retailing functions and, in yarn and fabric branding, of contingent manufacturing responsibilities. The development of a vertical organization by branding, however, avoids many of the risks and responsibilities of mill ownership of a cutting department or mill operation of retail outlets. On the other hand, brand promotion can seldom, if ever, provide the economy or profits gained by combining two or more operations under one management.

Since the problems faced in developing vertical organization through brand promotion depend largely upon how far the manufacturer is removed from the consumer, it has seemed well to give separate treatment in this discussion to the branding promotion of (1) finished consumers' goods made in textile mills, such as hosiery and domestics, (2) piece goods for sale over the counter, (3) fabrics sold to cutters, and (4) yarns for the weaving and knitting trades. It may be mentioned in passing that branding has been used by a number of companies in the marketing of industrial textiles. This experience is not considered here, however, because the nature of most industrial textiles precludes their being promoted to consumers.

#### BRANDING FINISHED CONSUMERS' GOODS

Some textile products are ready for consumer use when they leave the door of the textile mill. Such consumers' goods as hosiery, knitted bathing suits, floor coverings, and domestics could conceivably be distributed directly from mill to consumer. As a matter of fact, some textile concerns have seen fit to merchandise their products in this way. The Real Silk Hosiery Company and the Olson

Rug Company have developed their own distributive organizations for selling finished consumers' goods "direct from the factory to the consumer." Others, like the Gotham Silk Hosiery Company, market a small portion of their goods through affiliated retail outlets with which their name is identified, in order to secure a direct appraisal of consumer trends and to build prestige.

But only rarely does it appear practical for producers of consumers' goods to depend primarily upon their own distributive agencies for selling directly to the consumer. For most textile products, such programs would usually require the retailing of a wider line of products and more varied styles of one product than can possibly be made in any one plant. One should not conclude, however, that textile mills must depend entirely upon the merchandising of an unidentified product by retailers. Many mills selling finished consumers' goods have demonstrated that brand promotion can be used as an effective means of integration into retailing.

From the outside, it might appear that such companies as Cannon in towels and sheets, Phoenix in hosiery, Jantzen in bathing suits, and Kenwood in blankets engage in brand promotion by the simple device of advertising to consumers. Analysis of the experiences of these and of other companies shows that there is much more to brand promotion. It is the purpose of the present section to indicate the nature of the "much more," emphasizing the extent to which effective brand promotion involves going into retailing.

#### *Pricing Policies*

Since the price of branded merchandise tends to control the retail mark-up, it is obvious that, if retailer coöperation is to be secured, the pricing policy to be followed by the mill on its branded goods is crucial.

Within the past several years this problem has taken on an entirely new aspect. Contracts between manufacturers and distributors to govern retail prices have been legalized by so-called "fair-trade" laws, passed in forty-two states. These laws have been made much more significant by the passage of the Miller-Tydings Amendment to the anti-trust laws. This amendment has set aside the Sherman Anti-Trust Act sufficiently to permit a manufacturer in one state to make price contracts with distributors in another state, provided both states have fair-trade laws. Thus the problem of what manufacturers should do about retail prices has changed its character completely. Yesterday it was a question of whether a manufacturer could curb price-cutting on his branded line without running afoul of the law. Today the problem is whether manufacturers should make use of the positive control which recent legislation has placed in their hands. While the changes in law permit a wider latitude in determining pricing policy, they do not decide whether retail prices for branded goods should be fixed.

One of the first difficulties with resale price maintenance is that retailers lose the chance to appeal to their customers on a price basis. If several retailers in the community are handling a branded line and selling identical qualities at the same price, there is a limited basis upon which they can compete. As a consequence, many mills have found that the mere carrying of their branded line by all of the important outlets in a trading area does not necessarily result in securing a substantial sales volume. There are exceptions, Palm Beach suits being a notable one, where a strong consumer following has been developed and where the uniqueness of a branded product results in a lessened emphasis on price and an increased emphasis on completeness of line and service.

Assuming a manufacturer elects to fix the resale prices of his products, he then has the problem of what price to fix. In a sense he puts himself in the position of a store merchandise manager. Not only does he face the question of what mark-up is necessary to win the cooperation of retailers but he also has to consider the prices of competitive lines, especially of the jobber- and store-branded lines. Since the prices of products with a manufacturer's brand must ordinarily be set for an entire season, considerable risk is involved. The president of a company making a nationally advertised line of women's full-fashioned hosiery points out the importance of guarding against putting its suggested retail prices too high in relation to the retail prices of private and unbranded lines. He has found by experience that its sales fall off materially as soon as this differential begins to widen.

The matter of mark-up is also a problem that requires careful attention. That which provides an attractive profit for one retailer may not interest another. Not only is their relative efficiency involved but one outlet may extend greater service to customers than another, or may be located in a congested metropolitan center where costs of operation are high as compared with those of an outlet located in a rural trading center, even taking into account any differences in stock turnover. Only in exceptional instances has it apparently been feasible to fix prices at various levels to suit the needs of different trading areas. This policy appears to be particularly adapted to articles of high value. Even such a program does not meet the need for different mark-ups for the several types of retailers in the same competitive district. This has occasionally been met by developing different brands, sometimes applied to an identical product, to be sold at varying mark-ups and prices.

It would appear from the experience of tex-



tile concerns that every company selling branded merchandise must have a consistent policy respecting retail prices. Unless some control of price is worked out, the successful mill brand may be exploited by retailers to the point where it has little value. A rigidly fixed price, inflexibly applied, however, often results in decreased volume. There seems to be no general principle governing the establishment of a pricing policy. Rather, each company must work out the policy best adapted to its own products and channels of distribution. The development of a sound price policy is, however, but one phase of the problem of securing continued retailer coöperation. The broader problem has been met in a variety of ways, the most successful of which are now to be analyzed. They include such devices as the exclusive agency and coöperative retail departments.

#### *Exclusive Agencies*

Giving one retailer in each trade center the exclusive right to carry its branded line has been found, in the marketing of men's suits, to provide an effective answer to the question of what to do about retail prices. This method of distribution has usually resulted in the pushing of the mill brand by the retailer. A retailer tends to sell that merchandise which is easy to sell and which returns an adequate profit. This is usually the merchandise which provides sufficient mark-up and on which the store cannot be shopped either from a price, quality, or style standpoint. The exclusive agency can give the retailer a product unavailable to his direct competitors. A properly conceived merchandising policy of the manufacturer will forestall any fear of the retailer that, in pushing a branded line, he is working for the manufacturer rather than for himself.

There are serious limitations, however, to the use of the exclusive-agency method. Ob-

viously merchandise purchased by consumers when they need it and wherever they then happen to be is not susceptible to the exclusive-agency method of distribution. This merchandise, such as haberdashery and women's hosiery, has some of the characteristics of "convenience goods." To adopt the exclusive-agency system for distributing this type of merchandise would be to curtail sales volume materially in the large retail centers. On the contrary, certain other types of merchandise, such as men's suits or carpets and rugs, may be sold on this basis without a sacrifice of volume, since consumers shop for them.

In appraising the possibilities of the exclusive-agency plan, a concern need not limit itself to the usual form. Some modification has been employed by certain companies with very satisfactory results in distributing lines not generally thought of as adaptable to agency distribution. For example, the Munsingwear company gives exclusive agencies to many of its dealers in hosiery and underwear, but those in some of the larger communities receive a franchise for a very limited area. In New York City, outside of the true retail center, a dealer's territory will be described in blocks. This modification of the accepted exclusive-agency plan implies that this device has possibilities in fields that are as yet untried.

#### *Coöperative Departments*

Since the exclusive agency is not particularly adapted to the marketing of certain types of branded merchandise, other devices have been developed to secure retailer coöperation in their sale. Some manufacturers, notably Cannon in towels and Quaker in lace curtains, have employed a "prestige" form of promotion to win retailer support for their brands.

Arrangements are made with one or two outstanding retail outlets in the larger trading

areas to establish a special department for the mill's branded product. The mill supplies merchandising advice, display materials, and advertising copy. The retailer sets aside definite space for this department separate from the general line of similar merchandise. The objective of this program is not merely to increase the volume of sales in the stores with which the coöperative arrangement is made but also to insure that the branded line will always be featured in one of the better known and highly respected outlets in each community. As a consequence, it is felt that many other stores will carry the line because of its prestige value. These coöperative departments are not easily established, however, because key retailers are usually reluctant to identify themselves too closely with the product of a single mill. This reluctance can usually be overcome only by manufacturing a product of superior quality, price considered, and advertising it effectively to consumers.

Another variation of the coöperative department idea is that employed by certain manufacturers of women's full-fashioned hosiery. For example, the Gotham Silk Hosiery Company has arrangements with a number of retail stores by which it assumes complete charge of merchandising the store's "Gotham Gold Stripe Hosiery" department. The store forwards to the Gotham Company each day a report of sales and each month a detailed analysis of its current stock and its expected total volume of dollar sales for the next month. On the basis of this information, the manufacturer ships the merchandise that, in his judgment, is the minimum amount needed for stock of current styles. The store is supplied with advertising copy and part of its advertising expense is paid by the manufacturer. By virtue of providing an exchange privilege on all unsalable merchandise and extending credit to the store, the Gotham Silk Hosiery Company really assumes responsibil-

ity for merchandising the store's hosiery department and its financing and style risks as well.

The experience of the Gotham Company indicates how far brand promotion may take a manufacturer into retailing. Certainly a program of this sort makes an unusual demand upon a manufacturing organization for merchandising talent. Moreover, it tends to make a manufacturer's profits largely dependent upon particular retailers. Their continued coöperation with the manufacturer is essential for the success of the brand promotion. In addition, the manufacturer has a large stake in the status of its coöperating retailers in the market they serve. The best plan of merchandising can be of no avail to the mill if the store fails to maintain the good will of its customers. Obviously, where branding programs depend upon particular retailers and the coöperation extended by them, textile mills will select their retailing outlets with the utmost care.

#### *"Promotion Numbers"*

The merchandising policy for securing retailer coöperation followed by several producers of domestics is in marked contrast to the coöperative department idea. These producers have been unwilling to limit their distribution by granting an exclusive agency to a single retailer in a trading center. The need for volume sales requires that their line be offered by several retailers in each large center. The producers of domestics have realized, however, that retailers and especially the large department stores prefer merchandise on which they cannot be shopped. Provision is therefore made to supply each outlet with special numbers once or twice a year. The mill is able to keep its production costs down on the special runs since these numbers are given to many stores simultaneously, but to only one in each trading area. Under this plan, the

retailer's need for special items is met without curtailing distribution and in such a way as to induce him to push the brand and to follow the suggested price.

It may be that this plan of merchandising has fashioned the purchasing habits of consumers in buying domestics. Customers are said to delay their purchases until the advent of traditional "sales." Since the merchandise for such sales is often made to "sell at a price," the practice may affect the better-quality merchandise adversely and leave neither customer nor retailer satisfied.

### *Personalized Selling*

It should not be supposed that coöperation with merchants in pushing a mill's branded line need always depend upon some contractual device or promotion "bait." Much may depend upon the extent to which the mill's contact with retailers is personalized.

Several textile companies have recognized the importance of the personal element in dealing with retailers. The methods of one company deserve special comment. The major executives of this mill, which produces a nationally advertised line, make a point of knowing and visiting the leading retailers of the country. In addition, the executives spend some time behind retail counters in order to get first-hand knowledge of the problems retailers meet in selling their goods. Literature is sent periodically to the sales clerks to assist them in selling, and store executives are invited to the plant to become acquainted with the operation of the mill and its problems.

Under this program, a direct contact is established between the sales people and the mill. So effectively has this task been carried out, in several cases, that when a vacancy has occurred in the buyer's position, the store manager has asked the mill to recommend some one to fill the vacancy. Undoubtedly this plan, when it works, pays greater dividends in

money expended than any other program for securing retailer coöperation. Much depends, however, upon its uniqueness. If all mills with the same kind of branded product were to employ these tactics, probably none of them could hope to have much success.

### *Private vs. Mill Brands*

There is a disposition in some quarters to believe that private brands will interfere materially with the development of mill branding programs. Certainly retailers will resist the brand that is accompanied by an impractical pricing policy or which is not promoted with a view to meeting the retailers' requirements. Retailers who are alert will not be expected to exert extra effort to sell branded items at an unduly high price if something "just as good" can be made available at a lower price. Consequently, they will employ their own brands to avoid dependence upon mill brands that are linked with ill-advised policies.

But the question of private brands vs. mill brands goes even deeper than this. Private brands are essentially a creation of the large retailers. Thousands of retailers sell individually in such small volumes that they are in no position to establish private brands. As a group, however, these retailers represent an important market for textiles. Furthermore, it is logical to suppose that any growth in private brand promotion by large retailers will heighten the interest of the smaller retailers in mill brands, especially where those brands are supported by intelligent merchandising assistance. In appraising these possibilities for promoting mill brands in coöperation with the smaller retailers, the question naturally arises whether the smaller retailers will be able to stay in business in competition with newer types of distribution. This question goes beyond the scope of this study, but it is one that cannot be ignored. If large retail outlets

as a group should feature their own private brands still more than at present, mills might find their own brand promotion entirely dependent upon the fortunes of the independent retailer.

That the independent retailer is important to the producer of nationally advertised brands is almost axiomatic. There is little reason to believe that chain organizations or group buying offices can afford to accept price dictation by manufacturers, even if it is supported by the finest merchandising program. If they do, their prices and their merchandise will be little different from that offered by competing establishments. Even the large independent department store may prove hard to sell, since the setting of prices by the manufacturer means the setting of mark-up and may lead to the determination of merchandising policies by the manufacturer. This could mean that a clerk at a clerk's salary could supervise a department—a situation which no store buyer would knowingly assist in creating.

Although mills selling branded lines are likely to meet increased competition from store-branded products, there is no reason to believe that this should seriously hamper a promotional program in which careful attention is given to the maintenance of retailer co-operation. Such coöperation has often led to the assumption by manufacturers of numerous retailing functions and risks. Unless a textile company is willing to assume such responsibilities and has the merchandising talent to handle them, it would probably do well to refrain from brand promotion, or at least any extensive and expensive program.

#### BRANDING PIECE GOODS FOR SALE OVER THE COUNTER

In finished consumers' goods, integration through brand promotion varies in effectiveness with different products. No difficulties

confront the consumer in visualizing the final appearance of such products as blankets, towels, or hosiery. A selection is made from a range of colors and combinations of materials especially fabricated for specific uses. So far as the textile industries are concerned, over-the-counter goods, with which this section deals, may be considered as finished consumers' goods. Fabrics sold for manufacture in the home or to the consumer's order are subject, however, to wholly different standards of purchase and use from those effective for most finished products. No one concerned with the sale of yard goods can predetermine either the type of garment likely to be made from the fabrics or the materials likely to be combined with them. With all their similarities to finished consumers' goods, the conditions of sale of yard goods for varied uses, depending upon the tastes, experience, and needs of each consumer, are vastly different from those affecting the sale of all other finished textile products.

While any program of branding yard goods must be adapted to the nature of the consumer demand, its possibilities depend primarily upon the type of outlets selling yard goods and upon the persistence of an interest in home sewing. If the sale of yard goods has shrunk less in general merchandise and dry goods stores serviced by jobbers and in chains which favor their own brands, any brand promotion directed to these outlets must obviously be adapted to their peculiar requirements. On the other hand, if the interest in cutting and sewing garments in the home is waning everywhere and the long-run trend of sales is downward, then the future prospect may not make it worth while for any producer to undertake a branding program.

No one can answer these inquiries for all uses of yard goods. It can be said that the most pessimistic comments about the dress-

goods business come from merchants in large stores in the shopping centers. While some of these retailers feel that the market for piece goods has not yet been stabilized and is still declining, others are encouraged by some recent increase in the number of customers, despite a decline in the dollar-unit of sale. On the other hand, the sales of fabrics by stores located in small- and medium-sized towns seem to have been maintained or, at least, to have suffered less than those in the style centers. Further, from a factual check with larger distributors, it appears that chain stores have enjoyed, during recent years, an increase in sales volume in their piece-goods departments. Any inquiry about the recent trend of the sale of fabrics to be cut and sewn in the home is thus complicated by differences in retail experience and opinion. No doubt, for certain uses, such as underwear for women and children, garments made in the home have been substantially replaced by the products of the cutter.

Some indication of the interest of the consumer in sewing dress fabrics may be gained indirectly. The most likely item to accompany the purchase of yard goods would be a pattern to be used as a guide in its cutting. For certain articles no pattern is necessary. Consequently, the sale of patterns can be used mainly to indicate the interest of consumers in dress fabrics.

The trend of pattern sales, based on records, does not warrant any one in painting too gloomy a picture of the interest of consumers in their use. In fact, the trend of pattern sales has been steadily upward since 1931 and in part of this period the rise was extremely rapid. It is true that in these years some change occurred in the methods of sale and in the type of stores through which patterns were offered. The industry found business in variety stores and in some chains which

had never before carried patterns. Even if one wishes to discount the rise between 1931 and 1934 by arguing that the supplying of stock to new outlets accounts for some of the business, the fact still remains that the sales of patterns by 1936 were nearly five per cent above those of 1934 and stood considerably above those in pre-depression years. Even if one goes still further and assumes that women make fewer garments per pattern than formerly—a change which should develop slowly—it would still remain true that no one could translate the trend of pattern sales into a declining one. Consequently, there must still be a considerable interest in the purchase of patterns and the dress fabrics with which the patterns are used. At any rate, it would seem unsafe to assume that there is a lack of consumer interest in home sewing. It also would be unsafe to assume that the shrinkage in value found in some records is a safe measure of a shrinkage in yardage.

Another factor in the sale of patterns might well be stressed. The change in outlets through which patterns are sold, when considered beside the comments of merchants, may well point to some shift in the areas in which the yard-goods business is most important. The comments of merchants, the sale of patterns, and the verification made from the records of large distributors indicate that the decline in interest in yard goods for use in home-sewn garments has occurred in the style centers and large metropolitan areas where consumers are adequately supplied with a wide selection of ready-to-wear dresses. If this is a correct picture, the mill or converter employing brand promotion in the sale of piece goods can hardly expect to build a large volume by catering to department store trade. In fact, the results would probably not justify an extensive brand-promotion effort unless it were designed primarily to reach the customers of ready-to-wear

departments. Although the volume market in piece goods may be with chains and general merchandise or family clothing stores, brand promotion through such outlets is no easy task. The reluctance of chains to feature mill brands except on a "sale basis" has to be overcome; the general merchandise stores are difficult to sell economically except through jobbers and the latter prefer their own brands.

There is no way of deciding whether the market for yard goods now prevailing in chains and small stores will continue. What would happen to sales of yard goods if some of the areas now dependent upon an inadequate selection of moderate-priced dresses should be better serviced is uncertain. Any company which attempted to reach it, except as an auxiliary market for unbranded fabrics, would have to adopt special methods to keep abreast of shifts in the trend of sales.

#### *The Market for Yard Goods*

It is important to realize that there has been no lack of promotional effort on the part of large retailers. Some have almost turned their yard-goods sections into dress display rooms in order to visualize for their clientele the uses of fabrics. Producers have staged style shows and even sent them on the road to encourage the use of patterns and cloth in similar models. Retailers have tried advising the consumer on every aspect of dressmaking, to the point where they almost became makers of apparel themselves. One cannot conclude, therefore, that all stores have not attempted to stimulate the sales of yard goods.

One may wonder, however, whether this promotion has been directed at the real problems of home sewing. It has been shown by surveys that the difficulties of home sewing do not arise from an inability to find fabrics or to use patterns. By far the largest number of home sewers are handicapped by an in-

ability to do their own fitting. When a similar problem developed in the hand-knitting field, it was met directly. The revival of hand knitting a few years ago must be credited in part to the demonstration shops with which the country was dotted. Many of these shops were in residential districts and they were open at hours when the home knitter could get advice when she most needed it. If the consumer is to be helped with home sewing, she will have to be assisted in her problem of fitting. In providing such a service, department stores in large cities are limited by their location and hours and doubtless many other agencies have encountered other difficulties in providing a "fitting" service.

Many stores assert that they have permanently lost those customers who sew for the sake of economy. In some cases, women's ready-to-wear cannot be matched by the home sewer either in variety or price. The conditions of sale of the two products differ. The outlets competing for the consumers' purchases are more numerous in ready-to-wear than in fabrics. The mark-up on yard goods has been generally maintained by department stores, whereas in ready-to-wear initial mark-ups have been offset by substantial mark-downs. The combination of lower-priced dresses and the attempt to maintain profits on unit sales of yard goods has presented a double obstacle to piece goods. The answer to the question of whether woman can be induced to buy more yard goods is largely economic. It depends upon the ratio between the price of ready-to-wear and the price of fabrics out of which the home-sewn garments can be made.

#### *Mill-Operated Yard-Goods Stores*

From time to time a few silk mills have attempted to operate chains of retail piece-goods shops. All have been so unsuccessful that they had to be abandoned. In one instance,

the store management was forced to carry the company's own cloth instead of being able to go into the open market to secure a variety of styles. Since no company could at all times possess the best styling on every fabric or provide sufficient variety, the stores were placed at a competitive disadvantage. A more recent attempt was even less successful because the mill soon fell into the error of using its retail outlets to dispose of remnants and mill ends. Obviously, such stores could not compete with others supplied with a complete line of currently styled fabrics. In no case were these firms able to dispense with sales to cutters or other retailers.

There are no reasons for believing that mills can successfully control the distribution of piece goods through the operation of their own retail outlets. If a form of vertical organization is desired, brand promotion appears to be much more feasible than the establishment of mill-owned stores, even though the branding of piece goods is not easy.

#### *Basis for Branding*

Because the attention of the purchasers of yard goods is focused directly upon the fabric, both retailers and manufacturers agree that technical improvements in finishes offer a fertile field for promotion. For example, any one who can treat cotton voiles in such a way as to minimize fraying or stringiness in damp weather gives them a utility value worth identifying to the consumer. Even in an unfavorable market, guaranteed dyes or non-shrinking and crease-resistant finishes command a price differential. In general, the experiences of textile concerns indicate that piece-goods branding can be most effectively based upon uniqueness of product, design, and uniformity of quality. The consumer will appraise the adaptability of the color and pattern of the fabric to the use she has in mind irrespective

of whether or not the fabric carries a brand.

Although there are important exceptions, the branding of particular fabrics in a line of yard goods is not usually feasible, even though they may possess unique characteristics. This is particularly true of fine cotton goods such as voiles, lawns, batistes, dimities, and organ-dies. The wide variety of fabrics, the relatively small volume of sales of any one construction, and the frequent eclipse of one type by another are not favorable for individual fabric identification. The branding of one fabric is only practical if there is the likelihood of a sufficiently long run in the first year to finance the entire promotion. The Dumari Textile Company with its Powder Puff muslin had this advantage, and there have been other similar promotions such as Normandie voile. Yet these are not usual.

#### *The Family Brand*

The difficulty of promoting any one fabric both effectively and economically has led to the wide use of family brands on yard goods and particularly on fine cotton fabrics. Ely and Walker now use Gilbrae as a family brand on wash goods such as batistes, lawns, voiles, and some of its fine rayons. The Peter Pan fabrics of Henry Glass and Company represent a brand less strictly applied than Gilbrae, though perhaps better known to the consumer. Many others have a series brand which is applied to their percales as well as to their fine goods. The program of the Pacific Mills combines specific brands and family brands. New fabrics receive individual promotion at first in order to create the widest possible demand for their unique features and to determine whether they should be admitted into the family-brand group. Experiences with these and similar plans indicate that a family brand strictly applied to a line of fabrics that are somewhat interchangeable is worth attention.

This type of promotion, however, requires emphasis upon uniformity of quality rather than upon unique characteristics.

The family brand, sometimes covering items other than piece goods, has also been used to provide flexibility in servicing retailers by restricting different items to stores in the same competitive area. Unless the number of items in such a line is rigidly restricted, however, the name does not aid a consumer much in making selections. If a line of merchandise is to lend itself to aggressive selling, the items included in the line must be closely allied. On the other hand, the series should cover some items which keep the name continuously before the user throughout most of the year, though its use on staple fabrics admittedly makes it more difficult to attract attention to a wholly new item.

#### *The Branding of Prints*

It is noteworthy that prints are branded more frequently than other types of yard goods. This is particularly true of percales, which have no particular distinctiveness of weave and no wide variation of quality, though there are several grades. In their distribution, producers seem generally to have tried to secure an increase in volume for their own fabric line by differentiating it from similar goods of competitors. Some of the better known trade-marks include Quadriga of the Ely and Walker Company, Punjab of James H. Dunham Company, and ABC of Arthur Beir and Company.

These are specific brands, applied to percales which account for by all odds the largest volume in over-the-counter sales. Yet there is little evidence that these brands have carried through to the ultimate consumer. Though the fabric lines of various finishers may differ in color and in style, they are displayed to the consumer on retail counters at

identical prices. Branding seems to have brought their sponsors no price differential.

In these fabrics of standard construction and wide use, it is unlikely that the name of one maker or another on the board on which cloth is wrapped will add one iota to the acceptability of the fabric, unless experience proves to the consumer that she can rely more upon the uniform quality of one brand than upon another. Barring differences in quality, which brand promotion may well have helped to eliminate, the consumer is likely to buy on the basis of color and price. When the firm can advertise some special feature such as permanent finish, non-shrinkability, or unusual color fastness there is evidence of consumer interest. As far as price is concerned, one may say that percale branding illustrates the principle that when fabrics are essentially alike in quality and style, they will tend to sell for the same price whether identified or not. It is likely that competition between percales is on the basis of patterns offered rather than of brand.

#### *The Promotion of Rayon*

The success of rayon producers who have engaged in the broadest types of promotion proves little to other branches of the industry dealing in well-known fabrics. They had a new story to tell. Their progress was news and held attention. The fiber, its uses, and the safeguards to be observed in its treatment were points to which consumers' attention could be directed. These lent themselves to being advertised simultaneously in the various markets from yarn to retail. Any appraisal of the results in rayon must take into account the fact that it is a different matter to promote a new product than one long in use. It must also be stressed that in the sales of rayon piece goods, the advertised brands of the producers of yarn have overshadowed the brands



of the weavers. It should be pointed out that the promotion of fabrics is a slow process and that the results of recent programs cannot yet be fully appraised. The success of piece-goods sections devoted to Crown Tested Rayon and other fabrics indicates that active promotion and special displays may be effective.

### *Branding Wool Piece Goods*

Few as are the attempts to reach the final consumer by direct promotion of silk and cotton fabrics, there are still fewer in wool fabrics. It appears that only three producers concern themselves with promoting yard-goods sales. These are the Forstmann Woolen Company, the Botany Worsted Mills, and the Pacific Mills. The fabrics of other mills may find their way to piece-goods counters but not through any special efforts of the mills or their selling agents to enlist consumer interest. Any inattention of women to labels or promotion of wool goods may well arise from the fact that the formal type of garments to which wool fabrics are suited are more likely to be sewn by a dressmaker, who frequently also selects the material, than by the home sewer. This condition may well be changed by the sheer wool fabrics available in recent years. Women who buy piece goods, however, have generally put color and pattern ahead of brand names in all fabrics. So far as wool fabrics are concerned, however, consumers may become more interested in company or brand names known to signify wearing qualities if the use of rayon in the production of wool piece goods continues to grow.

The importance of the usual advertising of a brand name for certain types of piece goods may easily be overemphasized. In the last analysis, reputations rest upon the judgment of well-informed men in the trade who are technically able to appraise the intrinsic qualities of workmanship. When a manufacturer

has won the esteem, or envy, of his fellows, his reputation soon passes on to first purchasers, until his products are rated favorably by the final distributors. His standing in the trade gives his fabrics their reputation. Retail outlets are then anxious to exploit every bit of prestige that his name will bear. They thrive on it.

The fact that A. D. Juilliard and Company make no effort to identify their fabrics to consumers does not prevent retailers from advertising these products. The name of Dumari, well known to every store executive, has only in rare cases been promoted on his fabrics. Certainly these and other reputations, won on the basis of the skill and care with which fabrics are made, could be promoted to the consumer if the conditions of the retail market warranted it. They certainly would not suffer from definite labelling, and might benefit if the present interest in identification should cause consumers to prefer branded fabrics.

### BRANDING FABRICS SOLD TO CUTTERS

While brand promotion of finished consumers' products, including piece goods, involves the assumption of retailing functions, the textile concern which promotes a consumer brand on fabrics sold to cutters often takes over certain responsibilities of both retailing and cutting. For example, control over the retail prices of garments in which the branded fabric appears is often essential to prevent its exploitation in "special" sales. In addition, there is usually need for taking steps to insure that the branded fabric is not cut into garments of inferior construction or mediocre style. Since the success of the brand program depends first upon how the fabric is made into garments and then upon how the garments are retailed, the textile concern cannot leave either of these matters to chance.

The branding of fabrics sold to cutters is by

no means new to textile mills. It was a problem with which some mills were concerned as early as 1910 and there are indications that it was tried even earlier. Certain mill names have had significance to consumers for decades. Despite attention to fabric branding by first one textile company and then another, it has still to achieve general use. This result is not unexpected, for fabrics sold to cutters are not bought by consumers as fabrics but as made-up garments. Consequently, those who brand fabrics that go to cutters have to find some way of arousing consumer interest in the cloth. Furthermore, it is necessary to provide the consumer with some means of identifying the textile company's product in the made-up garment. If these objectives are successfully attained, there is ever-present danger of exploitation of the textile brand by both cutters and retailers. Wherever textile companies are enjoying success with branding fabrics sold to cutters they have had to: (1) arouse consumer interest, (2) secure the support of cutters and retailers, and (3) guard against exploitation.

#### *Arousing Consumer Interest*

When one looks over the experience of those textile companies which have tried branding the fabrics which they sell to cutters, three types of appeal stand out as having been most successful in arousing consumer interest. First, there is the appeal of a new and unique fabric. This appeal has been used by a number of fabric producers such as Brand and Oppenheimer with Congo Cloth, S. Stroock and Company with camel and other specialty hair fabrics, and the Continental Mills with knitted fleece overcoatings. Second, there is the appeal of an old fabric improved in quality. Here the outstanding example is the promotion of the "Sanforized" finish for cottons. It is possible that some of the new finishes for rayon such as "Vitalized" may become as popular.

Third, there is the appeal of a fabric brand as a guide to garment quality even though the fabric may be of a type generally available in the market. The branding program followed by the Pepperell Company makes use of this appeal as well as that of fabric durability. In the eyes of consumers Pepperell is probably not branding percales but pajamas, play suits, aprons, and the many other garments cut and sold under its license plan.

A mill or converter brand sometimes catches the attention of consumers simply because it is the only one in a particular fabric field or because it is used in a field where there has been a marked trading down in fabric quality. Neither of these situations in itself is sufficient, however, to support a branding program indefinitely. This objection can also be raised against building a brand program around a new and unique fabric or new properties in an old fabric. Sooner or later competitors will bring out good substitutes and then the original brand may lose much of its pulling power. There would seem to be only one real protection against such contingencies and that is to make consumers feel that the mill brand stands not only for the quality of the fabric but for that of the garment as well. In other words, a mill virtually becomes a seller of finished consumers' merchandise when it enters upon a continuing program of advertising to consumers the fabrics which it sells to cutters.

With the present interest in fiber identification, the question naturally arises whether compulsory labelling will aid or hinder fabric branding. It might be assumed that, if every producer had to declare what was in his fabric, individual company brands would no longer mean much to consumers. That is a very questionable assumption, however, for it presupposes that fiber content alone can be taken as a guide to wearing quality. This is seldom the fact. No matter what the fiber content of

a fabric may be, it will give poor service when made into a garment unless it is properly manufactured and tailored. All of this suggests that the firm with a branding program which stands for uniform quality not only of fabric but of garment may have unusual opportunities in the next few years. The important thing to the consumer, after all, is some tangible, straightforward assurance of wearing qualities. Technical information seldom provides this for the average consumer whether it concern fiber content, yarn count, or breaking strength.

#### *Securing the Support of Cutters and Retailers*

There is much more to a brand-promotion program than merely advertising in the national magazines. As a matter of fact, it is reported that when one large textile company engaged in national advertising a number of years ago its results were practically zero. One of the reasons was that the consumer was provided with no means of knowing when he or she bought garments made out of the advertised fabrics. It is an elementary principle of fabric promotion that there must be some concrete, definite way by which a consumer can immediately recognize that the garments displayed in a retail store are made out of the branded fabric.

The actual mechanics of effecting fabric identification are not a problem. Labels and hang tags can be attached. The real problem is how to get coöperation from the cutter and retailer in seeing that the identification is carried through to the consumer. If a cutter refuses to use the labels or to attach the hang tags, the mill may as well stop its advertising. Similarly, if the retailer persists in replacing the mill hang tags and labels with his own, the mill is again in a difficult position. These conditions have been faced by practically every company that has tried brand promotion. Of

course, these are serious problems only in the initial stages of a branding program. If a brand really gets over to consumers and comes to be in great demand, both cutters and retailers will be certain that all the company's identification gets through to the consumer.

It appears from experience that a mill has more chance of securing coöperation from the cutters in promoting fabric brands if it sells to those cutters who have no branding programs. In the men's wear field, for example, mills have not been able to secure the coöperation of those cutters who engage in national advertising, except on the basis of confining the mill's brand to one house. This restriction, of course, is seldom practical because it usually places too narrow a limit on volume.

Even those cutters who do not engage in brand promotion for their own account are often averse to tying up with a mill brand because they feel that they may become too dependent upon one mill for their fabrics and profits. Obviously, retailer interest must be cultivated to overcome this obstacle. Even the labels or tags used to identify the fabric can be made to help in these efforts. For example, one company has hit on the idea of attaching to an ensemble tag a little piece of the material out of which the garment is made. The tag provides suggestions as to what colors would go well with the garment and puts in the consumer's mind the idea of buying suitable accessories. Such merchandising aids induce retailers to ask cutters for garments made of branded fabrics.

It is possible that a flank attack could be made on the problem of securing coöperation from retailers and cutters through promotional activities in the yard-goods field. At least one company is known to have adopted a policy of using its piece-goods market with retailers as a means of securing retailer and consumer

acceptance for its fabric brands. The theory is that such acceptance would make it easier to sell the branded fabrics to cutters. The plan has not been in effect long enough to evaluate its results. It would appear that this program could be rather widely adopted if it were not for two serious obstacles. One of these is the attitude of many ready-to-wear buyers who pride themselves on saying, "If you saw it in our piece-goods department, you won't find it in our ready-to-wear." The other obstacle is the apparent shift of the volume sales of piece goods to chain stores, which are reluctant to further the sale of goods carrying a manufacturer's brand.

#### *Guarding against Exploitation*

Almost every textile company which has had any success with branding has found sooner or later that its branding efforts were being exploited by both cutters and retailers. As soon as it is apparent that a mill brand has pulling power with the public, cutters of popular-priced and low-end garments are likely to want the branded fabric even more than do the quality houses. These cutters find it easier to sell retailers their ordinary line if they include a few garments of the branded fabric in each order. Similarly retailers catering to the mass market are prone to feature branded fabrics in their special sales as a means of attracting consumers. Some retailers are accused of having gone so far as to feature a particular mill brand with no garments of that fabric brand in stock. All of this confuses consumers about values and creates dissatisfaction among quality cutters and retailers. It usually leads to the branded fabric's appearing in garments varying widely in tailoring and styling. When this happens the mill brand rapidly loses its pulling power with consumers. Practically all mills with branded lines have had this experience. It caused the Goodall Worsted Company to establish its own garment factory and it has

led several mills to withdraw their branded lines from the open market and sell them on a restricted basis.

Thus the experience which textile companies have had with fabric branding leads to the conclusion that the branding program must include some provision for assuring that the branded fabrics appear in garments which do not reflect upon the brand, and that these garments are so merchandised by retailers as to make for repeat sales. Practically speaking, a mill must assume cutting and retailing responsibilities if it is to make its brand program successful. A company which goes in for fabric branding is really embarking on a program of vertical organization that carries through to the home. How this control of garment quality and retail merchandising may be effected varies with the size of the textile company, its products, and the markets in which they are sold. Fundamentally, the control is obtained through some form of selective distribution. By some means the mill must select cutters who will maintain quality or style standards and retailers who will follow the merchandising plans best calculated to maintain the prestige of the mill's brand. Sometimes the brand is restricted quite informally to one or two cutters; sometimes it is formally licensed, often to as many as several dozen cutters.

From a textile company's standpoint, there are two obvious disadvantages to any form of selective distribution. In the first place, this method of distribution can only be successful if a major executive of the textile company becomes familiar with the problems of both cutters and merchants. His task is not so much to act as a policeman but as an expert on merchandising who can advise both cutters and retailers on how their selling activities may be facilitated. Far more serious, however, is the fact that any form of selective distribution tends to curtail a mill's sales volume by limiting the number of its customers. This is really

the problem of selective distribution whether it be an outright licensing arrangement or an informal understanding. Various means of meeting this problem of securing protection without serious loss of volume have been employed, of which the more effective are analyzed here.

#### *Restricting Brand to Single Cutter*

In a number of instances textile concerns have found it practicable to restrict their entire output of a branded fabric to one cutter. This is the plan followed by such wool manufacturers as F. C. Huyck and Company in selling its Kenwood Tweeds for women's wear, the Continental Mills in selling its Mount Rock overcoatings, the Chatham Company in selling its Homespun suitings. In these cases, however, the companies involved make a diversified line of fabrics and other textiles and are, therefore, not dependent upon the volume which they sell in any one line. They follow a policy of separate brands for each individual fabric line. By restricting each line to one or two cutters they probably secure a larger total volume than if they sold on the open market. Moreover, this arrangement tends to assure certainty of outlet without the mill's becoming dependent upon the fortunes of one cutter.

Somewhat in contrast to this practice of branding many different fabrics is that of the Lorraine Manufacturing Company, which concentrates its main promotional efforts on its seersucker line, although it manufactures and sells a great variety of fabrics. Its branded seersucker cloth for men's suits is sold exclusively to one cutter. The restriction of this fabric to one outlet is possible because the company has a limited capacity for the production of seersucker, which is subsidiary to its volume lines of unidentified worsted and rayon gray goods. In addition to men's suitings, the company sells other fabrics on a license basis under a brand name owned by the mill. Protection

appears to be at a maximum when sales of a fabric for one purpose are confined to a single cutter. This restriction is possible, however, only when a mill's capacity for producing the fabric can be limited to somewhere near the cutter's needs.

While the restricting of a fabric to a single cutter makes for ease in controlling the use of the brand, it may involve the assumption by the textile concern of nearly as much style risk on garment design as if actual cutting were undertaken. A mill can safeguard itself fairly well on this score in the men's wear field if it selects a cutter with proved ability as a tailor and distributor. This helps little in the women's wear field. A cutter with a fine reputation as a stylist may easily lose that standing in one or two seasons if he fails to turn out garment designs that win popular approval. For this reason the restricting of women's wear fabrics to one cutter for more than one season is hardly practicable unless they are fairly staple material such as tweeds for suits or coatings for travel coats.

#### *Selling to Selected Cutters of Competing Garments*

For many mills, of course, it is not feasible to restrict a branded fabric to one cutter because the mill's capacity for producing the fabric is too large. Under these circumstances, various plans have been tried for selling several cutters the same fabric and at the same time retaining some control over its distribution in the form of garments. One company, for example, follows the practice of restricting the sales of its branded fabrics to garment houses with an established reputation for quality workmanship which sell only to retail outlets featuring quality merchandise. Cutters are induced to cooperate through help on their styling and merchandising problems and through the practice of now and then giving each cutter a pattern for his own exclusive use.

This method is particularly adapted to women's wear because it involves no formal license or contract agreement and, therefore, permits the prompt withdrawal of a line from any cutter whose style leadership slips or who fails to follow suggestions about price or construction of garment. Its success, however, depends upon a well-established and sought-for fabric brand and upon the careful selection of cutters and retailers.

Another plan which places little restriction on volume but which, on the other hand, gives little control over garment quality is that of selling to all cutters who wish to buy while restricting promotional material to those cutters who buy more than a specified volume. In the long run, the success of this plan would seem to depend upon how well the cutters buying in large volume maintained standards in their garment manufacture. In certain lines, the very large cutting houses have had to maintain better standards than the smaller houses in order to dispose of their garments, but size itself is no guarantee of a cutting house's ability or desire to maintain standards. At best, this program would appear to be a device for shifting from a program of selling branded goods on the open markets to some form of selective distribution that would assure the quality of the garment in which the branded fabrics were used. This might be attained through continuing to give promotional aid only to those cutters which bought in large volume, but requiring that their garments meet certain quality standards and periodically checking the observance of these standards by means of some impartial testing agency.

#### *Selling to Selected Cutters of Non-competing Garments*

In many lines of fabrics, the volume of production is so large that it cannot be disposed of to a relatively few selected cutters of a

certain type of garment. A number of textile concerns with branded fabrics have met this problem by licensing selected cutters in a number of lines which are non-competitive. This arrangement is widely used with such standard fabrics as percales. The brand serves not so much as a guarantee of fabric quality alone as a guarantee of the wearing qualities of the garment in which the branded fabric is used.

Percales, for example, are made and sold in large volume and are used in the cutting of various types of garments, as well as of other products. While the use of licensing arrangements in the marketing of percales has been adopted by a number of companies, the plan of the Pepperell Manufacturing Company is probably of most interest. By licensing a few selected cutters in each of a number of non-competing garment trades, this company has been able to secure volume without being dependent upon a few large outlets or upon an indiscriminate use of its brand. Naturally, the cutter licensed to use the Pepperell name must be selected with great care, since the value of the fabric name is dependent upon the cutter's product and his methods of merchandising.

All plans for licensing cutters should take into account the fact that the cutters with the finest reputations for styling and tailoring need least the benefits of mill branding and licensing. Cutters in a relatively strong position frequently do not feel the necessity of paying a premium for fabric in order to take advantage of the name and advertising of the cloth supplier. Selecting the licensees and inducing them to "go along" may be a slow and tedious task. Even if a measure of progress is achieved, it is often unlikely that a large mill or converter will be able to license enough cutters to absorb its entire volume.

If the cutters whom it licenses take only a part of a company's fabric output, it may have

difficulty in selling unbranded fabrics to unlicensed cutters. It has the task of convincing the latter that the licensees actually pay a premium for the privilege of using a brand name. This obstacle may be exceedingly difficult to overcome. From this standpoint a concern which makes diversified fabrics for use by non-competing cutters is in an advantageous position. It can brand and license one line while selling unbranded lines to other markets without creating doubts in the minds of unlicensed cutters about whether those who are licensed actually pay a premium.

#### BRANDING YARNS TO THE CONSUMER

The yarn producer who undertakes to brand to consumers his machine-knitting and weaving yarns has all the problems which confront a fabric producer engaged in brand promotion plus that of being one step farther removed from the consumer. In the eyes of the consumer, he assumes responsibility for the workmanship not only of cutters but also of the weavers or knitters. Furthermore, he has to overcome the reluctance of both cutters and textile mills to cooperate in another company's promotional program. These added responsibilities and difficulties, however, are overshadowed by the problems of arousing consumer interest in a product whose identity is so completely hidden as is that of yarn in finished apparel or household textiles.

One particular yarn construction can be made into a vast variety of fabrics with widely different properties according to the way it is woven or knitted and finished. Under these conditions it is difficult to persuade consumers that they should be interested in yarn brands, or that one brand is to be preferred over another. It is on this account, no doubt, that relatively few yarn-producing companies have tried to carry their brand promotion to consumers, and that most of those which have

taken this step have found it necessary to assume responsibility for the quality of the merchandise in which their yarn is advertised as being used. The rayon-yarn producers in particular have taken various steps to insure the public that their yarns would be used in fabrics meeting certain minimum quality standards.

#### *Rayon Promotion*

The branding program worked out by the American Viscose Corporation for its rayon yarns (Crown Rayon) seeks to insure the uniform maintenance of fabric quality in all textile products which carry the company's special mark of tested quality. The company licenses weavers, knitters, and converters to use the Crown Tested Quality insignia on those Crown Rayon fabrics which, upon submission of samples, meet standard specifications. The license contract requires the maintenance of these standards throughout the entire run of the fabrics on which the insignia are to be featured. It may be noted that these licenses are issued to producers of finished fabrics and not to those producing only gray goods.

Direct advertising to consumers is supplemented with extensive merchandising aids to retailers who feature Crown Tested products. So far the plan has achieved its widest use in yard goods and home furnishings. Since the styling of fabrics, as well as their pricing, is determined by the mill or converter who receives the license, the mark of Crown Tested Quality signifies only that Crown Rayon yarn has been used and that the fabric meets certain minimum quality standards. This quality emphasis is peculiarly adapted to yard goods and home furnishings chosen by the consumer to a great extent according to the quality and durability of the fabric. As previously noted, this situation is in marked contrast to that in

most ready-to-wear lines, where garment design overshadows fabric characteristics in influencing the choice of the consumer. The Crown Quality Control plan includes provision for use with ready-to-wear, although its extensive use for this purpose has yet to materialize. With the widespread use of rayon in ready-to-wear and the continuance of some consumer doubt about the qualities of rayon, it is not at all inconceivable that the successful promotion of the Crown Tested insignia for yard goods and home furnishings can be made to "carry over" to ready-to-wear. There is some evidence that such an extension of the use of the insignia is being facilitated as department store buyers for ready-to-wear observe its value in the yard-goods and home-furnishings departments.

In estimating the possibilities for rayon yarn brands in the ready-to-wear field, it should be kept in mind that yarn branding has one distinct advantage over fabric branding in the eyes of cutters and retailers. When cutters and retailers support the fabric-branding program of a textile concern they definitely limit their sources of supply and the variety of fabrics in their garments. In contrast, they may support a yarn-branding program such as that of Crown Tested Quality without becoming dependent upon any one source of fabric supply or curtailing fabric variety in their garments. Rayon producers, therefore, should be able to take advantage of "the consumer wants to know" movement by developing branding programs that meet the demand for fiber identification and standards of fabric quality in ready-to-wear.

As used at present with ready-to-wear, the branding program of the American Viscose Corporation involves only fabric testing. It obviously cannot certify to the style of garments and does not attempt to specify or control their tailoring standards. To be sure,

careful control of fabric standards may go far toward insuring the production of a satisfactory garment, since the consumer is in a position to judge, by inspection, the acceptability of its style and of its construction. Moreover, selection of the cutters who are entitled to use a brand on novelties or so-called "exclusive" fabrics can minimize the risk that a fabric or yarn brand will be associated with poorly styled garments. These means are often the only practical ones available to keep the yarn brand from being associated with unsatisfactory garments.

1. *Diverse objectives of programs for branding rayon.* Not only the American Viscose Corporation but all the large rayon producers engage in brand promotion which carries through to some extent to the consumer. Considerable significance attaches, moreover, to the fact that the extensive and continued yarn-branding programs are virtually confined to rayon. The brand promotional work of the rayon companies has varied objectives, tending to emphasize either quality control or style and product development. The quality control plans, especially those applied to knitting yarns, are designed primarily to prevent consumer dissatisfaction arising from poor fabrication of the producer's branded yarn. The Tubize Chatillon Corporation, for example, permits the use of the Chardonize label only in garments which meet minimum tailoring and fabric construction standards. Independent agencies are used to check on the observance of these standards.

Other promotions of rayon companies, stressing style and development work, aim to associate their yarn brand with highly styled products and to provide yarns especially adapted to current styles in fabric and garments. Much of the branding program of the E. I. du Pont de Nemours rayon department has this object. It involves the creation of a



mass demand in a less direct way by influencing and anticipating style tendencies. Often a particular fabric is developed by the du Pont Company in coöperation with a weaver, finisher, and converter, as well as with selected garment manufacturers and retailers. Such plans are designed to utilize the full style possibilities of rayon.

A program of the du Pont type depends upon the soundness with which trends in garment and fabric styles are anticipated or directed. The production of yarn must precede by several months its use in garments. If certain yarns that peculiarly meet the current style vogues are produced, they will obviously be in demand. The carrying out of this type of brand promotion requires an influence in style centers rather than in the volume markets. If a certain yarn is especially adapted to current styles and is available from only one company, an assured demand has been created.

2. *Significance of rayon experiences.* One cannot start with the rayon-branding experience and generalize about the branding of other yarns. On the contrary, this experience must be evaluated in the light of the idea that it is easier to promote a new product than an old one. The first use of rayon left the ultimate consumer "in a fog" about the new fiber that she encountered at almost every turn in her shopping tour. The consumer readily recognized the "eye value" of the new fabrics used but asked, will they wear? how will they wear? how must they be handled? Since first experiences with rayon fabrics were often unsatisfactory, the consumer naturally regarded them as cheap and inferior. The constant improvement in rayon yarn gave producers "a story to tell" and attractive prices of rayon products that made the consumer interested in learning about the new yarn.

Now rayon has such a well-established place among the fibers that it is time to inquire

about the future of brand promotion in the rayon industry. Rayon can no longer be considered as a fiber which differs widely in quality and usefulness according to who produces it. To the extent that the quality of a fabric depends primarily upon cloth construction rather than upon yarn content, the consumer will obviously be unable to judge fabric quality by a yarn brand. Under these conditions, the successful promotion of a yarn brand would seem to depend increasingly upon associating the brand with fabric specifications. Furthermore, if idle capacity should develop in the rayon yarn-producing industry, the unstable price situation which would follow might well encourage exploitation of the leading rayon yarn brands by cutters and retailers. Under not dissimilar market conditions, brand promotion of fabrics has led to outright integration into cutting as the best way to secure the benefits of a well-established brand.

It is not at all inconceivable that a continued program of rayon yarn branding may ultimately help induce producers to integrate into fabric manufacture and even into garment manufacture. Such an eventuality cannot be lightly dismissed, for, as was noted in a previous chapter, three rayon yarn producers have already integrated into fabric knitting, and one of the motivating factors was the need for controlling the quality of the fabric in which a branded yarn was used. One of these companies, the Celanese Corporation, also weaves a part of its production and sells some fabricated merchandise such as polo shirts and men's underwear. While these steps were taken partly to demonstrate what could be done, they have also served to lift quality standards of products made of Celanese yarn. Perhaps the Celanese program of brand promotion combined with partial integration may prove to be the sound policy for the long run.

The rayon yarn-branding program, then, is

significant in three ways: (1) that new yarns with unique characteristics can be promoted to the consumer, (2) that identification of yarns to consumers is less difficult where the yarn contributes to the basic style characteristics of the fabric or garment, (3) that the branding of yarn should be regarded as vertical organization, since the success of the brand inevitably requires the assumption of some responsibility for subsequent steps in the production and distribution process.

#### *"Lastex"*

It is apparent from the rayon experience that new yarns with distinctive characteristics are particularly amenable to branding if protection is provided to insure high standards in the use of that yarn. A further example of this type of yarn branding and promotion is the development of "Lastex" yarn by the United States Rubber Company.

"Lastex" is the trademark name for a patented elastic yarn made by covering the spun latex core with silk, cotton, wool, or any other textile fiber. It is either woven or knit into fabrics, with or without other yarns of the same character of fiber. Products which contain "Lastex" yarn are entitled to use the trademark name on labels and in advertising matter. In the manufacture of bathing suits, the promotion of this yarn has been so effective that bathing suits made with "Lastex" yarn have become a distinct class of swimming apparel. In many cases, the name of the manufacturer of the garment has been submerged by the name of the yarn.

Conditions were extraordinarily favorable for yarn brand promotion in this case, but one should not minimize the capable consumer advertising that was used. Ample capital was available to insure the carrying out of an extensive promotional campaign. At the time this yarn first appeared, no similar yarn was

available, so that uniqueness could be emphasized. Within the past two years several other elastic yarns of various types of construction have appeared in competition. These seem to be following the same general development of encouraging the use of their names in connection with use of the yarn.

#### *"Durene"*

Outside of rayon and the rubber-core yarns, there have been but few recent attempts at promoting yarn brands. Mention should be made, however, of the experience of a group of mercerized-cotton-yarn producers with the promotion of the trademarked name "Durene." In appraising the significance of this coöperative effort, it may be noted that mercerized yarn imparts distinctive style characteristics to products manufactured from it. The use of one brand for similar products of a number of companies had the advantage of decreasing the resistance of any user who might object to becoming dependent upon one company as a source of supply.

The Durene Association was founded about eight years ago by six large mercerizing companies for the purpose of informing users of the merits of mercerized cotton and of developing a common name for their product. The association planned originally to license knitters and others who used the mercerized yarn of these member companies. Labels with the name "Durene" and the number of the licensee were to appear on finished garments that contained Durene. All members of the association were required to maintain certain minimum standards of quality. As the plan worked out, however, the number of licensees was not restricted. Consequently considerable dissatisfaction arose among the better-grade knitters and retailers because the Durene label appeared on all qualities of garments. This experience amply supports the view that re-

strictive licenses must accompany a yarn brand if that brand is to be of value to those who use it and to the consumer who depends upon it.

Another major difficulty arose from the general practice in the knitting trades of using mercerized cotton yarn in conjunction with other yarns. Accordingly a garment with the Durene label would often contain a substantial percentage of other yarns. Neither fabric construction nor garment specifications were under control of the Durene producers, who were therefore entirely unprotected against the manner in which the name was used. Yet they were held responsible by the consumer for the quality of all yarns in the garment, as well as for its construction.

This coöperative branding plan, introduced when business conditions were heading for a prolonged depression, proved to be an unfortunate one. Sufficient funds were not available for any ambitious promotional development. Furthermore, the depression brought about a decline in the prices of competitive fibers, such as silk and rayon, which seriously hampered the sale of mercerized cotton.

The Durene Association is still in existence, but its emphasis, for the time being at least, has been turned away from brand promotion. Instead, the major function of the association is to seek to develop new uses and new styles for mercerized yarn. For example, the most recent development has been women's sport hosiery made from Durene. Should this prove successful, the sponsors plan to continue the use of the name.

There is much to be learned from the experience of the Durene Association. If a licensing plan is to be followed for a branded yarn, licenses cannot be granted indiscriminately. In addition, there should be some method of controlling the quality of the finished garment. Here, however, difficulties might arise in a coöperative program, since each participant

would in effect have to guarantee the quality of his competitor's product and to permit an outside agency to pass judgment on his customers.

### *The Fleisher Experience*

It is possible that yarns that neither are new nor have distinctive style characteristics can be successfully promoted to consumers if the yarn brand is made to signify durability and uniform quality of the garment. Obviously this promotion encounters the least difficulty where style does not completely overshadow wearing qualities and where few garment manufacturers have sought to establish their own brands.

An attempt at this type of branding was undertaken several years ago by S. B. and B. W. Fleisher, Inc. In addition to worsted machine-knitting yarns this company produced a nationally known and advertised line of hand-knitting yarns. In promoting the sale of the former, a plan was evolved whereby garments made from a superior grade of Fleisher yarn would carry a tag which guaranteed the quality of the fabric. Through national advertising, the consumer was encouraged to look for this tag on bathing suits, sweaters, and other types of knitted outerwear. In order to forestall price-cutting, the use of the brand name was limited to one or two selected knitters in each field. At the same time the company continued to sell its regular grade of unbranded yarn throughout the market.

The Fleisher plan of yarn brand promotion contained certain essentials to success. Considerable good will and consumer acceptance of the Fleisher name had been built up by years of advertising of their hand-knitting yarns. Use of the brand name for machine-knitting yarn was restricted to non-competing licensees who were required to maintain minimum standards of quality in garment con-

struction. This program was strengthened by a limitation of the brand to only the best grade of Fleisher yarns and by a guarantee of fabric quality to the consumer.

The ultimate success of this plan rested upon the ability of the company to keep all of the provisions of its program operative over a period of years. Considerable time and money had to be spent to secure consumer good will, and care had to be taken that price and quality standards were maintained. A conditioning factor to success was the competition from knitters who did not have a right to the Fleisher name but who used Fleisher's unbranded yarns. Unfortunately, the company met financial difficulties and, for reasons not associated with its yarn-merchandising program, was forced to liquidate. Since the program was discontinued before it had an adequate trial, it is impossible to ascertain what may have been its chances of ultimate success.

#### THE RELATION OF BRAND PROMOTION TO VERTICAL ORGANIZATION

To the textile company which wishes to exert some control over the distribution of its product without the hazards of outright integration, it is evident that brand promotion has much to offer. Nevertheless, as this review of mill experience has shown, the promotion of branded lines affords no easy road to vertical organization. It is true that mills can merely trademark their products and advertise that label to consumers, but this avails little if the coöperation of retailers is not won. Furthermore, in the case of yarns or fabrics, the label may be a positive handicap if the materials to which it applies are used in inferior garments. In other words, continuing success with a program of brand promotion almost invariably requires a textile concern to assume some responsibility for the subsequent manufacturing and merchandising operations necessary to put

the mill's product into the hands of consumers.

In addition to considering whether it is able to assume the contingent responsibilities that go with brand promotion, a textile mill contemplating such a program should take into account its proximity to the consumer. Not only do the difficulties of brand promotion increase with the number of markets through which the product must carry a brand, but the program must also be adapted to the stage at which the company starts. A program which may be suitable for a producer of finished consumers' goods like hosiery or blankets would probably be quite unsuitable for a producer of fabrics or yarn. A yarn producer has to be concerned about what fabric mills, finishers, converters, and cutters do to his product as well as about its reception in finished form by retailers and consumers. In contrast, a manufacturer of hosiery, for example, has only the problem of securing and maintaining the co-operation of distributors.

Another factor influencing the nature of a program of brand promotion is the reputation of the company. In some respects, it is easier for a company which has been in existence for many years and which has a reputation for quality to initiate a branding program than for a concern recently organized. One observer has pointed out that one of the greatest assets of many of the older companies in New England is the name of their company or product and its status in the trade. In some cases, these names have significance to the consumer despite the fact that there has been little active promotion behind them. Certainly this is something that can only be attained after a period of years and that a new company cannot readily achieve.

Whether the company is old or new, however, the nature of the program and the direction which it is to take depend primarily upon the character of the product. The attention of

both consumers and distributors is more easily attracted to a product with characteristics not easily duplicated by competitors. It may sometimes be assumed that a unique product, particularly in the case of yarns and fabrics, can be promoted to the consumer without the manufacturer's assuming responsibility for the character of the finished product into which it is put. This does not follow from experience. While an unusual yarn or fabric construction may attract consumer attention, it is even more susceptible to consumer disapproval than the ordinary yarn or fabric if care is not taken that it appears only in garments meeting minimum quality standards.

Above all, any branding promotion must be adapted to consumer wants. While this truth seems self-evident, there is often considerable difference of opinion as to just what the consumer is seeking. Much is said today about the desire of consumers for more information regarding the content of products which they buy. The wants of any particular consumer, however, probably vary from one product to another and from one time to another. Under certain circumstances, quality and durability may be more important than almost anything else, although under different conditions wearing qualities may be of little significance if the product is sufficiently exclusive. On the other hand, price may often be the controlling element. In view of the complexity of determining just what consumers desire in a product, each branding program must be based

upon a study of the market for which it is developed. There is probably no composite picture of what consumers want.

Much attention is being paid today to the question of fiber identification. If it becomes generally required in textile products, it should assist those companies which make the better quality products and which advertise that fact to consumers. Probably what the consumer really wants to know is not so much the fiber content of a product as how well it may serve his or her purposes. Fiber identification can lead to dissatisfaction once the consumer realizes that inferior garments, inferior fabrics, and inferior yarns can be made out of any fiber regardless of its inherent quality. Such a result may enable manufacturers with branded lines to gain preferred status with consumers by emphasizing that their brands are a guide to general quality. Of course, a preferred status will not accrue to a mill that merely prates about its products being better than a competitor's. The status will arise from a demonstration to the consumer showing why its products are better and from a provision of factual information regarding care taken to achieve quality. Thus, rather than being an added burden, the whole so-called "consumer wants to know" or identification movement can be made the basis of effective promotion by those companies which have the foresight to realize its potentialities and which sincerely endeavor to provide the consumer with merchandise that lives up to its promotion.

## CHAPTER VIII

### MULTI-MARKET INTEGRATION

SOME textile executives have dreamed of creating an organization which would bring together under one management all operations from the production of yarn to the distribution of finished products to consumers. In a few cases this dream has become a reality. The Real Silk Hosiery Company, for example, undertakes all operations from the purchase of raw silk to the sale of apparel direct to consumers through its own salesmen. To a certain extent the program of Carson Pirie Scott and Company represents a different attempt to assume responsibility for manufacturing and distributive functions.

Cases of the Real Silk or Carson Pirie Scott type are exceptional in the textile field, although there are a number of companies which control several major operations. In some industries, such as woolen goods and the colored-goods division of cotton manufacture, it is common practice for a single concern to perform all of the processes necessary to turn fiber into finished fabric. There are also many textile firms, such as the Cannon Mills in household textiles, Van Raalte in women's knitted apparel, and Goodall in men's apparel, which carry on all manufacturing activities from fiber preparation to fabrication. Many of these firms also exercise some control over the distribution of their merchandise through the use of brand promotion to consumers. At the same time, some large wholesale houses and retail stores buy gray goods, have them finished on commission, and have them made into garments or household textiles either in their own or contract shops.

Although the vertical organization which extends across two or more markets is by no

means typical, some firms appear to have succeeded in bridging several markets. This is sufficient reason for appraising the possibilities of such multi-market integration in the production and distribution of textile products.

#### HOW MULTI-MARKET INTEGRATION DEVELOPS

Most companies which carry on several major activities in the production and distribution of textiles are in one of three situations. First, there are those in industries in which it is common practice for each producer to perform several operations; second, those in industries in which intermediate markets are a recent development; and third, those which have gone "against the tide" in their respective industries and gradually assumed control of first one activity and then another.

Companies in the first situation have little choice but to be integrated. In woolen goods, for example, technical and competitive factors practically require each producer to spin his own yarn and weave and finish his own cloth. Strictly speaking, this can scarcely be regarded as a case of multi-market integration because no intermediate markets of any consequence have ever been developed to separate manufacturing processes. Companies of the second kind are in a quite different situation. As in woolen goods, it was common practice when they started business for one concern to perform several important operations. Afterwards, intermediate markets developed, with the result that these companies have found themselves competing against specialists at every turn. This has happened in the broad-silk and full-fashioned hosiery industries with

the development of gray-goods markets, and in the knit-underwear industry with the development of underwear-yarn and -fabric markets.

As for the companies which have gone against the tide in their own industries, one may well ask why, in the light of the difficulties usually encountered, they would attempt to bridge several markets. Some have undoubtedly developed as opportunity offered rather than according to a definite plan, like, for example, the cutter who found a mill available at bankruptcy prices or the textile company which found it necessary to become a garment manufacturer in order to save its investment in fabric-brand promotion. Nevertheless, many advantages derive from a vertical organization which spans more than one market, of which the opportunities provided for product development and greater stability of operations are particularly notable.

Control over several operations can be a decided aid in product development. This is illustrated in the creation of Baronet satin and Duray crepe by the Duplan Silk Corporation. Undoubtedly it was this company's experience in throwing and finishing as well as weaving which enabled it to pioneer with these rayon dress fabrics. But control over experimentation, styling, and quality would not alone be sufficient to support an extensive program of vertical organization. Probably of equal or greater importance are the opportunities which it affords for the better planning of operations.

A large part of the success which has been achieved by both the Goodall Worsted Company and the Kendall Company, to which reference has been made in earlier chapters, rests upon direct contact with the consumer market and their ability to utilize this contact in coördinating manufacturing operations. It is not essential that a company be as extensively integrated as the Goodall or Kendall companies to enjoy the benefits of coördinated

operations. Nevertheless, in nearly all cases of multi-market integration, the companies which have had the most success in coördinating manufacturing processes have been those that were thoroughly acquainted with the final market for their products, whether it was retail or industrial.

Other advantages attributed to extensive vertical organization are operating economies, more stable prices, and the opportunity to merge the profit margin on several operations. Some economies can usually be secured through the reduction of intermediate designing, handling, and transportation costs and the elimination of intermediate selling costs and credit losses. Whether or not more stable prices and profits follow depends not only upon the ability of management but also upon market conditions. During a sellers' market it seems that most vertical organizations can make unusual profits, while during a buyers' market only a vertical concern with an exceptional management succeeds in showing any profits.

#### PROBLEMS OF MULTI-MARKET INTEGRATION

The obstacles which have to be overcome in bridging two or more markets in the production and distribution of textile products are much the same as those encountered in bridging a single market except that they are often greatly magnified. For example, a rayon gray-goods mill that tried to make garments as well as to convert its own fabrics would find its style risks much greater, its limited fabric variety a more serious handicap, and its distribution problems even more complex than if it merely tried to convert its fabrics. How to meet these magnified problems is the task of those who want the benefits of multi-market integration. Much can be learned from the experiences of those companies which have

tried to bridge two or more markets. How have they met the more difficult problems that go with multi-market integration and what techniques have they found most effective?

### *Meeting Variety Needs*

If little or no variety is required in the final product it is sometimes practicable for all manufacturing operations to be controlled by one company, as is the case in sheet and surgical gauze manufacture. Lack of variety in the final product is not always a prerequisite, however, to combining several manufacturing operations. Much depends upon the nature of the variety required and the operation responsible for providing it. Blankets, for instance, vary considerably in color, finish, and warmth-giving qualities, but these properties are largely fixed by the time the fibers are prepared for spinning. As a result, blanket manufacture is carried on by integrated firms because there is no styling or variety-imparting function which would support the separation of spinning from weaving or of weaving from fabricating.

It is in the production and distribution of those textile products which have to be supplied in wide variety and have a relatively short style-life that intermediate markets flourish. Any concern which would bridge these markets successfully must find some way of reconciling the demand for variety with its own need for low production costs. In this connection it is worth noting that the wholesale houses of Rice-Stix and Ely and Walker follow the practice of acting as their own converters on many of the fabrics which they use in their own garment factories. Nevertheless, these wholesalers could not pass over the finished-garment and the finished-goods markets unless they had found some way of meeting the variety problem. Any distributor who buys gray goods for fabrication into

dresses assumes responsibility for every aspect of variety in those dresses.

Two factors undoubtedly account for the ability of Rice-Stix and Ely and Walker to act as their own cutters and converters in the manufacture of style merchandise like dresses. The mass markets served by these distributors permit them to make a substantial volume of garments in each design selected for manufacture. Moreover, their close contact with retailers enables them to know about what will appeal to consumers and to arrange for the special promotion of slow-moving numbers. No company which lacks this direct contact with a mass market can hope to have comparable success in combining operations which are responsible for adding variety to a product.

These examples of distributors becoming both fabricators and converters suggest that mills might meet the problem of variety by becoming manufacturing retailers. From the variety standpoint alone it might be easier for mills to do this than to become garment manufacturers. A part of the demand for fabric and garment variety which now pervades the wholesale markets is doubtless the result of a desire on the part of both garment manufacturers and retail buyers to have something different from their competitors. Put another way, the trade demand for variety is probably an exaggeration of the consumer demand for variety. A concern which combined manufacturing and retailing might therefore find its variety requirements far less than if it remained a manufacturer.

Experience shows that a textile firm need not own retail stores in order to minimize the variety problem. There are several cases of mill companies which have supported their integration into garment manufacture with brand promotion to consumers. This has a distinct bearing on the variety problem, for in most of these cases the companies have not



attempted to go to the consumer with a complete line of the garments offered. For example, the Botany Worsted Company, which both spins and weaves, has confined its venture into necktie manufacture to wool ties—it has not attempted to make a complete line of ties of varying materials as would the usual neckwear manufacturer. Without consumer support through brand promotion it would probably have been difficult for Botany to maintain the interest of retailers in a one-fabric line of neckties. Similar illustrations could be drawn from other apparel fields, all of which very definitely suggest that contact with the final consuming market is essential to overcome the handicap of a limited line which usually accompanies extensive vertical organization.

There is an altogether different method of attacking the variety problem that has been used by a number of companies in combining two operations and by a few in multi-market integration. This is the practice of setting up a vertical organization to produce only a part of the materials needed so that the remainder can be purchased to increase the variety of a line. For example, the Goodimate Clothing Company, to which reference is made in Chapter II, operates both a weaving and a spinning plant, but the capacities of these plants have been kept below the company's total yarn and fabric needs. This method of tapered capacity lends itself far better to backward than to forward integration. Its use depends upon the existence of markets that are sufficiently broad to insure adequate supplies of materials at reasonable prices during periods of active business.

### *Minimizing Style Risks*

Whether or not multi-market integration increases the style risk of a company depends upon the product and the operations responsi-

ble for its styling. For example, in popular-priced cotton wash dresses, styling is a combination of fabric design and garment cut, although fabric design is ordinarily the more important element, and this is usually determined by the converting operation. Consequently, a converter of cotton wash goods would not increase his style risks by adding weaving and spinning departments, and would only increase them slightly by acquiring interests in garment-cutting establishments. On the other hand, neither mills, garment houses, nor distributors could build an extended vertical organization in this field without greatly increasing their style risks; they would have to assume the converting function.

Styling, however, is not always so concentrated in one function. In dresses of spun rayon it may be a combination of fiber blending, weave construction, finishing, and garment cut. Under these conditions, style risks are increased with every function added regardless of the position of the integrating company. A good job of styling at one stage can be ruined by a poor one at another stage. At the same time, the concern performing several operations is in a better position to develop novelty features that require very close coördination of several processes.

An integrated company, especially if it has bridged several markets, cannot wait as long as its specialized competitors to see what may be popular. It has to start production ahead of the season if it is to have merchandise to sell when the season arrives. To avoid assuming excessive style risks, means have to be developed for anticipating style trends. The more widely extended the organization, the more essential is this advance style information. One mill company described its policy in this respect as setting up a periscope to find out what consumers were wearing and buying in key centers.

There are various examples of this periscope policy. One of the most interesting applications has been made by a company which is integrated from yarn preparation to the sale of finished fabrics for use in dresses and underwear. In order to plan the designing of these fabrics, stylists are sent to the Paris openings. On the basis of their reports of what appear to be the most promising ideas for the new season, a small quantity of fabric is quickly woven. It is then made up by hand into finished underwear and dresses under the company's direction. These garments are sold to selected retailers who report consumer reaction to the company. On the basis of these reports, production is started of those fabric numbers which are selling best. After a period of time guaranteed to coöperating retailers, the company offers to cutters what might be called its "consumer-tested" fabrics. By this plan the company is fairly certain of what is popular in underwear and dress fabrics each season before its looms begin to turn, and it has the added marketing advantage of having demonstrated to the trade the designs and models that will sell.

Other illustrations of the periscope policy could be given, such as that of the hosiery company which maintains a few stores for testing consumer reactions, or the yarn company with a fabric-development department, but they would only reinforce the conclusion that some means of anticipating style trends is essential in the manufacture of style goods. It is particularly essential to the company which carries on several manufacturing operations, since ordinarily it must start production ahead of its specialized competitors.

### *Spreading Inventory Risks*

The more operations a company performs before it sells any product, the greater are its inventory risks and the greater its opportunity

for profiting from inventory appreciation. Inventory losses, however, have been far more common than inventory profits in the last decade. This risk has put a heavy responsibility upon the management of an integrated company, especially if its operations bridge several markets. It is under the constant threat that any profits which it may make from manufacturing operations will be more than offset by losses arising from declining inventory values.

Although a variety of steps have been taken by integrated companies to minimize inventory hazards, none appears to have been highly satisfactory. Some concerns have been able to engage in hedging operations, while others have bought their materials as near to actual need as possible. In some cases partial integration has helped to minimize inventory losses. Companies accustomed to sell at two or more market levels usually have a little higher rate of inventory turnover than those completely integrated across the same market stages. Similarly, companies making only a part of their needs at two or more market levels have been able to follow a strictly hand-to-mouth buying policy on a part of their total material supply. Another variation of this same idea is that employed by two or three worsted fabric mills. These companies have discontinued making their own top in favor of buying from a topmaker but have an agreement with the topmaker that he is to use their combing facilities on a commission basis. This policy has permitted some worsted mills to buy materials as needed and in small quantities without having idle combing departments.

A consideration of the inventory risk problem in relation to integration may well take account of the probable stabilizing effect of rayon upon textile markets. Already there is evidence that the relative stability of prices in the rayon filament and staple markets is contributing to the growing use of these ma-

terials. This stability of prices of material should also facilitate the development of vertical organizations in the manufacture and distribution of rayon textiles wherever the variety problem can adequately be met.

### *Securing Flexibility*

In previous chapters where the possibilities for bridging particular markets have been explored, it has been found that lack of flexibility is probably the most serious weakness of the integrated organization. As one observer has put it, the specialized concerns can "cut corners sharper" than the companies organized vertically. Obviously the more markets a company attempts to bridge, the more inflexible it is likely to become as compared with the specialists in any of those markets. There are several "corners" which the company performing only one operation can usually cut more sharply than the one performing or controlling several operations.

Usually, the fewer operations a company performs, the more readily it can take advantage of new developments in style or product design. An integrated company often tends to keep on making the old style or the old product because to change would throw various operations out of balance or keep certain equipment idle indefinitely. It is all the more likely to do so if there are several operations to balance. The full-process knit-underwear mills found themselves in this situation a number of years ago when the athletic type of underwear was introduced. Some of those that had spindles were constrained to keep on making the older styles longer than market trends warranted by the need for keeping their spindles busy.

The development of a buyers' market can likewise put the integrated company in a very difficult position as compared with its specialized competitors who buy rather than make

their own needs of yarns or fabrics. This point is well illustrated by the experience during recent years of the so-called "verticals" which operate spinning, weaving, and finishing plants in the cotton print-cloth industry. These companies have been hard pressed to meet the competition of the converters who could buy their gray fabrics at distress prices and shift much of their inventory risk to the gray-goods mills. In fact, probably the "verticals" only survived in this situation because they, too, acted as converters and bought a portion of their gray fabric needs.

Neither changes in product design nor the development of a buyers' market can be more devastating for the vertically organized company than the introduction of new materials or new processes. When rayon fabrics first came on the market in the early 20's, most silk companies were inclined to discount the possibilities of rayon in the dress field. The integrated firms were particularly skeptical. They were satisfied with their business, and the adoption of the new fiber would have meant considerable change in organizations accustomed to carry on all operations from the importing of raw silk to the selling of finished broad silks. As it turned out, however, this attitude merely postponed the adjustment to a time when cotton mills had become substantial competitors in the rayon field.

There are several different ways by which companies performing several operations have sought to attain in some degree the flexibility of the concern which performs only one operation. The methods that have been used depend largely upon circumstances.

1. *Flexibility through contract operations.* Much of the inertia of the vertical concern arises from fixed investments that are not easily put to new uses or readily liquidated. One might, therefore, conclude that the best way to attain the maximum degree of flexi-

bility would be to restrict all investment to materials and to have all manufacturing operations carried on by contract operators. This in effect is the policy which nearly all retailers and wholesalers have followed in venturing into the textile business. Some, like Ely and Walker and Rice-Stix, have gone so far as to convert the fabrics which they use in their garment factories, but they have refrained from investing in mill properties. It should be emphasized that integration through ownership of goods rather than through facilities depends upon the availability of reliable and competent contract operations.

2. *Flexibility through partial integration.* Some companies have bridged two or more markets and secured flexibility by integrating on a partial basis. Briefly, this means that the company has continued to deal, either as buyer or seller, in one or more of the markets which it has bridged. Several illustrations of this plan of operation may be given, each drawn from a different textile industry, to show its wide applicability.

Some mention has already been made of the impact of rayon upon the broad-silk industry. The integrated silk company which has been able to adjust itself to the development of rayon about as well as any is the Duplan Silk Corporation. It has operated on a partially integrated basis from its origin, always selling both gray and finished silks. At present, this company throws both rayon and silk for its own use and on commission, sells both gray and finished silk and rayon goods, and does some job dyeing. By this arrangement the Duplan Silk Corporation is in a far better position to adjust its throwing, weaving, and finishing departments to the business of its finished-goods department than if it sold nothing but finished goods and accepted no commission business.

A policy somewhat similar to that of

Duplan is followed by certain cotton mills. One of these companies, for example, sells cotton knitting yarn, finished cotton goods such as khaki, rayon gray goods, and rayon finished goods. Adjustments between the cotton spinning and weaving departments are made by varying the weight of fabrics produced, while idleness in rayon throwing is guarded against by limiting its capacity to less than its own needs and having peak requirements thrown on commission. Flexibility between weaving and finishing in rayon fabrics is provided for by having a finishing capacity greater than its weaving capacity. This plan permits operations to be curtailed when business becomes dull by ceasing to buy gray goods rather than by stopping looms.

In the cases just discussed, the companies were bridging two markets, namely yarn and gray goods, but the policy of partial integration has also been employed with apparent success by organizations which span all the markets between raw fiber and finished consumer merchandise. As an example, one may mention the Erlanger affiliated enterprises, which include cotton spinning and weaving mills, two finishing companies, two knitting mills, and the B. V. D. Corporation, manufacturers and distributors to the retail trade of underwear, pajamas, swim suits, and sportswear, most of which is sold under the well-known B. V. D. label. These various units are all operated as separate companies, but their productive or distributive facilities are coordinated. To insure full use of these facilities, each affiliated company is operated as an independent unit, only a portion of each company's product, if any, going through the family group.

The Erlanger enterprises as well as the other cases already alluded to are large companies, but it should not be assumed that partial integration is a policy which can only

be made effective by the large firms. There are many instances of relatively small companies which have followed this policy with considerable success. One of the more extensive efforts, in terms of the operations involved, is that of the Walser Manufacturing Company, the annual sales of which are under \$500,000. This company knits both circular- and warp-knit fabrics from purchased yarn. About half its output is sold as finished piece goods to the dress and glove industries. The remainder, along with some purchased fabric, is made into underwear, pajamas, gowns, and sportswear. The Walser Company has its own finishing plant, the major business of which is job finishing. As a result of this method of operation, the company can emphasize its cutting or knitting activities as conditions dictate. Neither is wholly dependent upon the other—which is the purpose of partial integration.

Although there is much to be said in favor of partial integration as a device for maintaining flexibility in a vertical organization, certain shortcomings of this technique should be considered. It might appear that the policy of selling in markets at different levels, such as in the gray- and finished-goods markets, would permit a company to shift readily from one market to the other as conditions warranted. This shifting does not always work out in practice. It is by no means easy to overcome the reluctance of buyers to deal with a company that also competes with them at some later stage. Usually such customers must be offered a line which differs in construction, design, quality, or price from that used within the vertical organization. This modification, however, puts some limit on the extent to which machinery can be kept busy by shifting from one market to another. Furthermore, a seller can seldom go in and out of a market as he chooses without running the risk of

having to buy his way back when he wants to return. A company has to continue to do some business in any market if it expects to return to that market at some time in the near future. To a degree, the gray-goods market may be an exception if a mill uses a broker, but even in that case the broker is not likely to exert himself to find a buyer for a mill that calls on his services infrequently unless the mill is willing to sell below the market.

Some companies have employed the opposite procedure in using partial integration. They buy rather than sell in at least one of the markets which they bridge. By keeping capacity at each stage below that needed at subsequent stages a concern is assumed to be in a position to contract or expand its activities almost as readily as if not integrated, simply by reducing the amount of its purchases. Presumably, this plan makes for low production costs because of the assurance of maximum activity even during dull periods. There is much to commend this type of operation, although its use depends upon the existence of a broad market at every stage where purchases are necessary. Let the market be thin, as that for tire cord, and the concern which has to buy a part of its needs is likely to find it impossible during periods of great activity to secure adequate supplies at reasonable prices.

3. *Flexibility through product diversification.* There are many companies performing several operations which are not in a position to develop a partially integrated organization. Such companies are in a particularly vulnerable position if they confine themselves to one line of products. Not only is their opportunity for profit restricted but they are continually faced with the prospect of having far too much or too little machinery at some stage because of changes in the style or even the basic design of their product. To minimize these risks, a number of vertically organized concerns have

developed a diversified line of products, of which the Riverside and Dan River Mills may be cited as an example.

When gingham was popular, the Riverside and Dan River Mills did a large business in these fabrics, although it did produce other finished goods. As the demand for gingham declined, this company was faced with the necessity of finding new outlets. Rather than resort to partial integration, doing some business at yarn, gray-, and finished-goods levels, this company set out to develop a highly diversified production of finished goods and today it is selling finished chambrays, coverts, shirtings, drapery fabrics, wide sheetings, sheets, broadcloths, suitings, and handkerchief cloth. There are other companies following a similar program in cotton goods, and in woolen goods it is a rather general practice to make a diversified line of fabrics.

#### *Developing Management with Capacity for General Administration*

Emphasis has been placed upon the need of a vertical organization for some of the flexibility of the concern which specializes upon one operation. It should be recognized that the administration of an integrated company, especially if it covers several markets, requires different skills from those needed in specialized businesses like weaving, converting, garment-making, or retailing, or even in those which combine two operations. The management must have ability to delegate authority, to secure team work, and to coordinate diverse interests. It is not the type of management that experience in a particular line will necessarily develop. A man might be an excellent manufacturer or merchant and still fail as an administrator. The development of executives with the capacity for general administrative duties is at once the problem and the hope of companies extensively integrated in the textile

field. Undoubtedly a part of this capacity is the result of natural gifts, but a part also rests upon cultivation, and not a small factor in this development is a varied experience rather than one concentrated in a narrow line of activity. Some companies are endeavoring to meet this need, in part at least, by shifting their junior executives from one line of activity to another. Whether this or some other method will be appropriate depends upon the individual company, but somehow management with a talent for administration and a wide horizon must be secured by the vertical organizations extended over several markets if they are to be successful for any length of time.

#### THE PLACE OF MULTI-MARKET INTEGRATION

The many different problems that face those companies which try to bridge several markets may make it appear that there is really no place for this form of organization in the production and distribution of textile products. This, of course, is a far too pessimistic view, as the results attained by certain well-known vertical organizations attest. On the other hand, nothing has been found in this study which would indicate that integration, particularly of the multi-market type, is the solution to all the problems which beset textile manufacturing. To take such a position would be either to ignore the fundamental technical and economic factors which give rise to intermediate markets in the textile field or to charge textile executives with a collective incompetence that not even their bitterest critic would assume. There is a place, however, for the vertical type of company in the textile field, and the opportunities and problems of that type of company vary materially from one textile industry to another, as the discussions of the preceding chapters have emphasized.

Where, for technical and economic reasons, intermediate markets have failed to develop or are of minor importance, it follows that operations are performed by a single company. This is the situation in the manufacture of woolen fabrics and of many household and industrial textiles. Since companies in this situation compete only with vertical organizations like themselves, they do not face the same kind of problems which confront the company integrated across one or more markets. Nevertheless, they are troubled with the problem of keeping their various operations in balance and it is in doing this that many have found it desirable to diversify their products.

If restricted merely to the industries in which intermediate markets do not exist or are unimportant, the vertical type of organization would have minor significance. Its real claim for attention rests upon its possibilities in those textile fields where intermediate markets flourish. To what extent, for instance, may the dream of bringing all manufacturing and distributive operations under one management be realized? The difficulties just reviewed in the preceding section suggest that there will be no more direct attempts to realize this dream in the future than there were in the past. Even though a prolonged sellers' market might develop in textiles, it is hard to believe that many mills would risk investment in stores or that many retailers would buy mills. Distributing to consumers and manufacturing for consumers are two quite different types of businesses.

Though the integration of manufacturing and distributive activities through ownership of facilities may occur infrequently in the textile field, it should be kept in mind that some large distributors will probably continue to integrate backward into textile manufacturing wherever it is profitable to buy mate-

rials and have them processed and fabricated on contract. At the same time, brand promotion to consumers affords mills an opportunity to secure some of the benefits of outright integration with but few added risks and responsibilities as compared with store ownership.

Even if one disregards distribution and considers only manufacturing operations, there do not appear to be numerous opportunities for the further development of vertical integration. Wherever intermediate markets of any consequence exist, experience shows that they are bridged only under great difficulties. Much depends upon the ability of those who direct the company attempting the task. In the case of forward integration, it is essential that those directing the company be close to the selling end of the business. Furthermore, a company can seldom, if ever, ignore the market which it is trying to bridge. That market should be used either by continuing to sell a part of the product in it or by arranging to buy a portion of the materials needed at that stage. In other words, a company which attempts to bridge several markets in the textile field appears to have more chance of success if it does so on a partial rather than on a complete basis.

To sum up, lack of flexibility as compared with specialized concerns is probably the outstanding disadvantage of vertically organized companies. This disadvantage becomes even more serious as the organization is extended to cover several operations. Nevertheless, any number of firms have demonstrated that it is possible to secure the benefits of integration without becoming too inflexible. They have done so through confining integration to ownership of materials and having them processed or made up on contract; through integrating on a partial basis; and through diversification of final product.

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