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CHAPTER VII

MANAGEMENT

By Henry S. Dennison

In this chapter[1] are recorded the methods of management found in a survey of American manufacturing and marketing. For the most part, they represent what can be called average good practice, though in some cases methods too significant to omit entirely, but used in too few companies to warrant the broader title, are described as methods of the exceptional few.

The survey first examined managerial methods used in keeping up and building up the organization itself; then in meeting the problems of manufacturing, marketing, selling, merchandising, and clerical control. The order followed in this chapter is the order of the topics in the Field Interview Schedule printed in Appendix A.

To get the facts upon which this chapter is based, some 500 people, employed by 100 different companies, were interviewed. Advice was sought from professional consultants, bankers, and other men in contact with the business world. Advantage was taken of many public and private inquiries which have been carried out during the past few years into special phases of managerial technique. And close study was made of business articles and books, going back in many cases, for purposes of comparison, to those of a dozen years ago to give indication of the important trends of effort and attention. By these means it was sought to present as broad and true a picture as possible.

From a list of several thousand companies, out of which the most nearly typical were selected by trade association officials and others well-acquainted with the field, 100 were chosen as nearly as possible to be fair samples of normally successful, established businesses.

The sampling, therefore, and the chapter do not actually cover the whole field of American business. They leave out the failures and that large group of the Babbittry of business, whose methods are safe and dependable, but whose ways change slowly and only after learning of the well-tested practices and of the more aggressively successful. They leave out also those not yet settled-down enough to have established management practices.

[1] The author was assisted in the direction of the survey and the drafting of this chapter by Ernest R. Burton, John S. Keir, Richard H. Lansburgh, Erwin H. Schell, and Donald S. Tucker.

The survey, however, did not confine itself merely to the ultra-successful; it included small and large companies making moderate to notable successes in a variety of businesses in different sections of the country. Among them, all the main divisions of the census, except lumber, tobacco manufacture, musical instruments, and railroad repair shops, are represented by two or more companies. It is believed to be a fair sample of the group of American business men whose management practices would by any practical man be considered the "prevailing" practices. Its results check well with the considerable number of surveys into specific methods which have been made in the last few years.

Earlier standards were characterized by the phrase "business is business," with the implication that whatever means succeeded were right ones. Muckraking and regulative law followed, not only as the effects of the first changes of attitude but also as the causes of further changes. A specific and widespread assertion that modern business has obligations beyond the law appeared in July, 1915, as the "Rotary Code of Ethics." In 1921, 1922, and 1923, dozens of trade associations adopted ethical codes;[2] in 1924 came publications of the United States Chamber of Commerce code and of Hoover's *Principles of Business Conduct;* and in 1926 there was almost an epidemic of books on business ethics.

But the course is no more run when codes are formulated than when evils are first exposed. Codes may be little more than words or may, on the other hand, through their effect on consciousness and subconsciousness, develop a professional pride or a powerful social demand for decency.

This survey gave evidence that a growing number of business men care a great deal for something more than what they can get out of business for themselves. To the organization itself, and to its investors, there is a decided sense of responsibility. Toward customers, also, there is such a sense; at least, *caveat emptor* as an alibi is dead. Toward employees there is less feeling of responsibility; yet there is some. Business morals may be called more or less rudimentary according to the standards by which they are judged; they certainly exist and seem to be evolving. Progress toward higher intellectual standards for management is clearly indicated by the survey. The values of training in the material sciences are widely granted.

A large majority of the companies in this survey expressed it as their aim to work for progress in the next few years through perfection of physical facilities; only 20 per cent included the bettering of the skill and morale of the employee. It is, therefore, obvious that there are as yet only the beginnings of scientific thinking on the more human problems. But the marked tendency toward the scientific rather than

[2] For many examples, see *Codes of Ethics* by E. L. Heermance, 1924.

the opportunist type of mind, and the growing belief that training for general business management is worth while, make it possible that the human problems will some day get a larger share.

Of characteristic and weighty influence upon American business management as a whole, and often of saving influence upon those who prefer to follow rather than to pioneer, are the business publications and the business meetings which, each in its own way, lift managerial noses off grindstones and help each manager to see his problem as one of a group of problems from a study of which he may learn much. A considerable majority of companies belong to one or several sorts of business associations, and a much larger number take one or many of the business publications whose circulation aggregates 11,000,000.[3]

The Department of Commerce published, in 1926, a list of nearly 9,000 business associations, 6,500 of which were local, 1,100 state-wide, and 1,200 interstate, national, or international. Their activities ranged over almost the whole field of management, including especially statistical service, cost accounting, industrial and commercial research, simplification, standardization, credit information, traffic and transportation studies, and trade ethics. It is significant that several hundred business executives are members of some national association of the social sciences.[4]

The last few years have been extremely favorable in many ways for the development of those intellectual, moral, and social attitudes which lead toward high professional standing. The situation of to-day holds all the opportunity any one could desire for the wholesome development of business management into a great profession.

I. ORGANIZATION

To find the better forms of internal structure has commanded the increasing attention of American business during the last few years. The natural course of evolution away from absolute one-man management, aided by the financial shake-ups of 1921, gave to good organization structure a growing importance. A mere increase in the number of the departments and divisions of a straight line organization has not been sufficient to meet the demands of modern complexity, since it has required of each of a large number of executives too wide a range of knowledge. Certain especially difficult and important functions have, therefore, been more and more set aside for the particular consideration of one man or a group of men, who are expected, in one way or another, to guide, direct, or supplement the actions of line executives in these fields. It has been

[3] The *Market Data Book* lists 1,111 business and 524 professional publications. The total of such circulation figures as *are there given for business publications* is 11,333,078.

[4] See details of membership in the American Statistical Association in their *Journal*, June, 1927.

more and more generally recognized that the conquest of a special problem requires not only the ability and will to win, but also the devotion of men who have sufficient time for its solution.

Functionalization.—When the word is used in its strictest sense there can be found few organizations which are not formed partly along "functional" lines; to separate selling, or accounting, or buying, is to departmentalize with respect to the type of activity or function rather than the type of goods to be handled, equipment to be used, or territory to be covered, and hence to functionalize. These more obvious and inescapable divisions of labor, however, have been so long settled as to be considered normal "line" departments; an organization must have gone somewhat deeper in its specialization of types of activity to be generally described as "functionalized."

The more fully functionalized type of organization has been experimented with and written about for more than a score of years, but until recently its significant applications have not been many. To-day there is to be found a definite trend toward the development of such functional departments as "Planning," "Material Control," "Personnel," "Methods," "Sales Promotion," "Styling," and "Merchandising," as well as some less sharply defined advisory positions like "Economist" and "Statistician." Companies well-functionalized some years ago have continued to develop their organizations in the direction of further functionalization. New companies have often set up their organizations along functional lines, while new general managers of old companies, when they have reorganized, have almost uniformly done so on a functional basis. Many of the organizations which do not use the functional structure are operated by heads who have held their positions for a long time. That the trend is the result of a broad change in the ideas of management is indicated by the fact that the size of the company, or the nature of its work, bears little relation to the extent of its functionalization.

Managers have found that, when functions are newly set off, their performance usually requires more personnel than when they have been fully developed. When the work is better known it can be simplified, and sometimes certain functional and line responsibilities may both be assigned to the same executive. Or a functional responsibility may reside in a committee of line executives. The more important and exacting functions, however, remain in charge of a staff executive, sometimes aided by a large number of assistants.

In marketing, the employment of functional specialists is new and hence its development to-day is extensive rather than intensive. Among the separate functions which have evolved, are the development of merchandising policies and practices, sales promotion, marketing research, style bureaus, and product improvement. With rare exceptions, all

have been created since the war, and show a marked acceleration during the last five years. Particularly noticeable are the undertakings of the Association of National Advertisers and of some advertising agencies in market analysis, and the extension of the field of management consultants into marketing.

An important by-product value of the use of functional specialists has been found in the chance it offers for making fuller use of the widely ranging variety of natural aptitudes among executives. The kind of man too "one-sided" to make a good line executive has been found capable of excellent work in a functional or staff position.

Research.—Research through the material sciences got a great start during the war, and much support during the days of excess profits taxation which followed. It has now progressed so far that many kinds of organization have been set up for it;[5] there are company, joint, consulting, and trade association[6] laboratories, and co-operating research services in universities. Some manufacturers have combined in maintaining laboratories to conduct researches covering basic process problems interesting to all. It is widely believed by business managers that the research activities of leading companies are among the primary causes of their success. Prosperity has really come to mean a rate of advance rather than a state of affairs. Even pure research—formerly thought uncommercial because related to no designated commercial purpose—is now supported by a few American concerns.

Functionalizing and the establishment of organized research both arise to meet the same need—that of finding out more about some parts of the total job of management than can be found out in the odd moments of a line executive's life. There has been rapid progress by chemical and physical research into processes generally believed twenty years ago to be understandable only by practical men "skilled in the art." Since 1921, a similar invasion into those business processes which are more subject to human than to mechanistic influence has been begun by departments of methods research, statistical research, and market analysis.

Co-ordination.—The greater complexity of business problems, and of the organization necessary to cope with them, have forced attention upon better methods of co-ordinating the plans and the work of specialists and executives. Where there are research men, staff men, and operating men, a close mutual understanding and counseling among them has been found necessary, whether it is effected by formally arranged conferences and committees or, as one executive put it, "by a great use of shoe

[5] There are 999 listed in the *Bulletin* of the National Research Council, July, 1927, No. 60, as compared with 300 in *Bulletin*, No. 16 of 1920.

[6] The United States Chamber of Commerce, in November, 1925, published a list of 527 specific research projects of 68 different trade associations.

leather." Under a pervasive one-man control, where the chief executive disposes of all important questions, such co-ordination is, in theory, effected through that man. But the trend is definitely away from control by one man; and, even where it exists, his absences may force department heads into conferences so frequently that they have, in effect, a system of regular operating committees.

The use of the conference as a co-ordinating device is widespread. Conferences, occasional or frequent, and systematic interchange of information among executives, form the two steps first taken by those companies which are tending away from one-man control. They do not change the responsibilities of men or departments, or affect in any way the visible structure of the organization, but often become slowly crystallized into committees. Committees seem to be a normal evolution of the consultation necessary to co-ordinate a complex organization. Irregular conferences among executives and their subordinates, however, are still the most common means of co-ordination.

After first trials, committees have often seemed wasteful of time, and frequently first trials are ill adapted to their ends or are led by unskillful chairmen. Some companies have found committees too unwieldy and have returned to the appointment of an operating head, who calls such conferences or consultations as he desires. Yet for every plant abandoning them, there were found eight which added to their number. Committees, where favorably regarded, are looked upon as methods of education and cross-fertilization of ideas, as valuable sources of counsel, and as opportunities to gain co-operation in the effecting of constructive changes.

There seems to be less use of committees in very large and very small companies than in the medium-sized. So-called "executive committees," or committees dealing with general matters, are the most frequent type found. In a few companies, such committees actually control the operations of the business, but there is evidence to indicate that committees which are clearly understood as advisory to a responsible executive survive better than those whose votes constitute in themselves executive decisions. Where complete committee control is found, the reason for it seems to be that some leading executive has passed out of the company, no choice to succeed him seems possible among the remaining executives, and to bring a man in from the outside is not desired.

A list of typical committees most commonly found in the survey follows:

Small Plants, up to 500 Employees	Plants Employing 500 to 1,000 Employees
General Committee.	General Committee.
Quality Committee.	Cost Committee.
Scheduling Committee.	Budgeting Committee.
Committee for Purchasing Control.	

Estimate Committee.
Finance Committee.

MEDIUM PLANTS, 1,000 TO 5,000 EMPLOYEES

General Manager's Staff.
Advertising Council.
Competition Committee.
Cost Committee.
Budget Committee.
Design Committee.
Executive Committee.
Foremen's Committee.
Manufacturing Betterments Committee.
Merchandising Council.
Management Committee.
Inventory Control Committee.
Personnel Committee.
Safety Committee.
Service Committee.
Standards Committee.
Sales Committee.
Production Meeting.
Scrap Committee.
Labor Committee.
Wages Committee.
Power Committee.
Suggestion Committee.

LARGE PLANTS, 5,000 TO 10,000 EMPLOYEES

Intercompany Committee.
Waste of Material Committee.
Usual committees above.

VERY LARGE PLANTS, ABOUT 10,000 EMPLOYEES

Future Demands Committee.
Public Relations Committee.
Industrial Relations Committee.
New Work Committee.
Special Committee for Parts Problems.
Co-ordination Committee.
Works Committee.
Usual committees above.

Organization charts are maintained by relatively few companies, and fewer still keep them up to date. Yet the interest in developing effective organization is much alive. The chart as an aid seems to have its principal value to each company in the earlier stages, and to picture the status of organization rather than its living relationships. In business literature of ten years ago it was frequently to be found, but seldom indeed to-day. Careful job specifications, including the beginnings of a description of the working relationships among jobs, seem to be taking the place which the chart once held as an aid to organization building. The setting forth of an organization form, as if it were capable of being fitted down over a going concern, hardly appears now in the business publications in which it was common fifteen years ago. It is the principles of organization rather than the forms which are to-day being discussed.[7]

It might be assumed that increase in the size of an organization would demand that greater attention be given to organization form. This has, of course, occurred in some cases, but in general there is a striking lack of relation between the size of a business and the methods used to operate it. A dominating one-man control is to be found in one of the

[7] See, for example, Oliver Sheldon, *Philosophy of Management*, 1923; *Scientific Foundations of Business Administration*, by H. C. Metcalf, editor, 1926; *Psychological Foundations of Business Management* and *Business Management as a Profession*, by H. C. Metcalf, editor, 1927; David R. Craig, "Measuring Morale and Leadership Ability," *Personnel Journal*, October, 1927, p. 155 (publication of the Personnel Research Federation).

very large organizations of the country; and highly decentralized, functionalized, and co-ordinated forms are to be found in relatively small, though not, of course, the smallest companies. The characteristics and tendencies of the man or men "at the top" are still the pre-eminent influences in determining what shall be the form of an organization.

In these days of mergers, it is to be expected that many articles upon organization and reorganization would appear, but so far it would seem that the financial aspect rather than the structural aspect of mergers has held the center of attention.

Executive Technique.—Handling functional and research specialists—men who must themselves originate and create—has brought into prominence a technique of consultation, persuasion, and inspiration, as against a technique of order-giving. It is the man who can lead rather than domineer who is now chiefly desired in executive positions. The large organization needs an able head, but must have much more brains at the top than one head will hold; the organization pyramid is being rounded at the peak.

Just what the qualities of creative leadership are—just what is involved in the position of the chief executive—has been the subject of several discussions and articles in the past few years.[8] It appears in business publications, in the proceedings of the Taylor Society, the American Management Association, the Society of Industrial Engineers, the Personnel Research Federation, the American Society of Mechanical Engineers, and crops up in many discussions with business executives. The idea that even the chief executive's job admits of analysis and comparison of methods is in sharp contrast to the older ideas that its fulfillment could not be described further than as an expression of the personality of the holder, and that it was only results that could be counted.

It is impossible to know whether or not changes in managerial personnel have been more than normally rapid during the last decade. We must rest with the presumption that ups and downs among different lines of business, shifts in ownership since 1921, and changes in business technique have combined to make them so. The newcomers into each managerial grade appear to have come from outside the organization rather more often than one would expect who knew how common is the praise of "promotion from the ranks." But a majority still come from within; and in the larger and long established companies a big majority. The specialists who are being used in increasing numbers come more often from outside.

[8] For example: H. P. Kendall, "The Problem of the Chief Executive," Taylor Society *Bulletin*, April, 1922; M. P. Follett, "The Illustion of Final Authority," Taylor Society *Bulletin*, December, 1926; and Ordway Tead, "Nature and Uses of Creative Leadership," Taylor Society *Bulletin*, January, 1927.

There is probably a real increase in the care with which the younger men hired are being looked over for those qualities which fit them for later promotion. College graduates are being taken more frequently, as would almost necessarily be the case, since the numbers of baccalaureate degrees increased from 38,500 in 1920 to 71,500 in 1926; of professional degrees from 8,000 to 20,000; and of graduate degrees from 4,850 to 11,450.[9] Some prejudices against the college graduate still remain, but among an unimportant minority; the rating of technical graduates is generally high.

Selection for promotion rests as yet almost wholly upon the general judgment of "results." In a small but growing number of cases where budgets have been carried through in considerable detail, they have been found to furnish a useful standard against which "results" can be checked.

A considerable number of companies—in this survey as many as one-half—make bonus payments, in one form or another, to their executives. The bonuses are paid in cash, in stock, or the right to buy stock, and are apportioned according to individual or departmental showings, to salary, or to some combination of factors.[10] The amounts depend in most cases upon profits, but in a few are based on departmental showings independent of company profit, thus partaking rather of the nature of piece rates or commissions. They have come rapidly into vogue in recent years, supplementing the straight salary which is now to be found in a decreasing number of companies.

Planning.—Until recent years, it has not been at all the common practice among business concerns to attempt to plan their courses on paper in advance. The form of organization and quality of men had to be such as were best able to meet emergencies. The distinct trend now, begun in a small way well before the war, is to try to avoid emergencies, by making and examining pictures of the possibilities the future may contain. With some truth it can be said that modern hand-to-mouth buying has made hand-to-mouth thinking impossible. The length of time for which plans can be laid vary, of course, from style goods to staple goods, every step in simplification of product or standardization of parts allowing a longer planning period. In the factory, a manufacturing schedule based on orders has often of necessity been replaced by a schedule based on prospective business. The planning of sales effort, found necessary as manufacturing plans develop in accuracy and detail, has only begun.

Budgeting.—A plan for the whole organization is coming to be called the master plan, one condensation of which is the budget. Budgets, though known years ago, have made extraordinary progress in the

[9] Figures given by the American Council on Education, Washington, D. C.

[10] Many varieties described by C. C. Balderston, *Managerial Profit Sharing*, 1928.

business world since the publication of McKinsey's book[11] in 1922. They have come in more rapidly than any other management device of parallel complexity which has ever been introduced. Of the companies which now have budgets, it is estimated that four-fifths have introduced them since 1921, while many budgets which existed prior to that time have since then been bettered in operation or expanded to cover more phases of the business. Originally starting as expense budgets, they extend themselves almost necessarily to cover estimates of sales, of probable operating improvement, and of needed enlargements and replacements. Consulting accountants say that where they used to start with cost accounting, now, starting with budgeting, they find costing and planning follow naturally.

The first two or three years of budget making have been frequently reported as yielding unsatisfactory results, but usually by the fourth year enough lessons have been learned, and enough skill gained, to produce a good budget. From then on, it is not uncommon to hear stories of uncanny accuracy. The reponsibility for the preparation of the budget is ordinarily put into the hands of some special officer, who in a large organization will devote himself to the budget but in smaller ones will have other duties. He gets department heads to work up their own figures, in close consultation with him; for the acceptance by operating officials of the budget as reasonable–in a word their consent to the budget figures—has been found essential to its most effective use. As might be expected, therefore, the budget is used chiefly in those companies which attempt to have an organized plan of operating take the place of a continuous issuance of orders from headquarters, and it forms for them a valuable addition to their methods of co-ordination.

The common period of budgets is a year, though they are made for as short a time as one month. In some companies both short- and long-time budgets are used, the one for routine operating, the other to aid in such problems as reinvestments and financing.

Bankers' Influence.—There are only a few banks in the United States which are as yet paying much attention to the budgets of the companies which are borrowing from them, and hence budgets so far have seldom been shown to the banks. In fact, the interest in and the influence of commercial bankers upon practices of business management have not been disclosed by these studies to be as strong as was thought at the beginning. In a few cases they have taken over or greatly influenced management; in most they have not concerned themselves with management methods, or have confined their interest to the encouragement of better accounting and statistical information.

Investment bankers seldom interest themselves in the smaller companies. The fees and other gains of reorganization and merger,

[11] J. O. McKinsey, *Budgetary Control*, 1922.

however, have brought them to the forefront in hundreds of the large recent incorporations. In them, their influence upon management is often dominant, but the directions in which it is exerted vary so widely from banker to banker, and even from case to case, that no prevailing trend can be reported; the typical influences common to all radical financial changes are there, of course, but show few elements which are peculiar to the banker. There is a recent tendency among investment houses to employ men who are expert in different lines of business to look into possible opportunities for reorganization or merger, and to sit upon the board of directors of those companies in which the house has an important interest.

Upon the management of the older corporations the influence of the financial world seems to be growing less. There is, therefore, some evidence for the theory that financial domination increases when changes are rapid and decreases as business affairs stabilize.

Forecasting.—Forecasting services in the United States are many and varied. With the help of several institutions, a list of 132 was compiled, but there is no reason to believe it includes all there are. For the purposes of this chapter, however, many can be left out of consideration, for some carry only special trade information, and a large number have as their predominating purpose to serve those who want information concerning stock market investments or speculations. Those which relate themselves to business management reduce to small numbers. One of these was kind enough to analyze its circulation list and reported that even of these selected customers, 60 per cent were clearly using the service only as an aid to investment.

Two years ago, the combined circulation of five of the best-known forecasting services was reported as 35,000.[12] Allowing one-half for the large number who take more than one, and eliminating 60 per cent estimated as investors only, there remain about 7,000 which go to business managers. In addition to this relatively small number, there must be taken into account the great general circulation which reports of business facts have had in recent years. These reports appear in newspapers, trade papers, business magazines, reports of the Department of Commerce, and in monthly publications by banks. The combined monthly circulation of two among the best known of the bank bulletins is 275,000. The use of forecasting by business management cannot as yet be called widespread; but the knowledge of the facts upon which forecasting must be based would seem to be much larger, and growing.

Among the companies of this survey, the most serious use of forecasting, as an aid in management, was made by the few who had established a statistician to study all reports and information pertinent to their particular problems.

[12] Cox and Hardy, *Forecasting Business Conditions*, p. 41, 1927.

The organizations forecasting business conditions use principally the following three methods in different combinations:

(a) The setting forth of differences above and below the so-called normal, and the use of the theory of business cycles.

(b) A study of recurring sequences, on the theory that what will happen will usually resemble what has happened under comparable conditions.

(c) A cross-section balance-sheet analysis of all the forces working either up or down at the moment.

No one of the larger organizations relies exclusively upon any one of these.

The business weather is, at any given moment, the resultant of a confusing combination of forces. At the present stage of our knowledge, it is sometimes difficult to say with preciseness what that weather is. Exactness in prediction can hardly be expected as yet, though careful forecasting should have chances in its favor over random guessing, just as weather forecasting has.

In testing accuracy, few services can be used, because, of the few which are left after investors' and speculators' services are eliminated, only a part are definite enough in their month-to-month statements to be checked by the outcome. Even then, there are logical and statistical difficulties in the way of a dependable test.

In 500 forecasts of general prices, just over one-half were found correct, just over one-quarter were incorrect, and about one-fifth negative, that is to say, neither harmful nor helpful in their results. The ratio of helpful to injurious predictions was 18 to 10. In 433 forecasts concerning the volume of general business, nearly two-thirds were correct, one-sixth incorrect, and one-sixth negative. The ratio here of the helpful to the injurious was 37 to 10. Five hundred forecasts on individual prices were tested. As with the predictions of general prices, these ranged a little better than one-half correct, a little better than one-quarter incorrect, and one-fifth negative.

The forecasts tested above were spread over the whole period from 1921 to 1927. Accuracy, however, does not run evenly over this period. It was distinctly better before 1923, during which year it suffered greatly, with the result that forecasters grew more and more cautious, and many qualified their predictions out of all definiteness. This whole period, moreover, was marked by relatively slight changes in total business volume or average prices. The prediction of "slight or no change," therefore, predominated during the period. When the few changes did come, accuracy of prediction was distinctly less.

It was as difficult a period on which to test forecasting as has recently occurred. The few general services that were issued in the extreme days of 1920 make a better showing. All of them gave general and early warnings, though not always as solemn as events proved warranted. One,

which started early and emphasized its warnings strongly, was rewarded by a sharp though temporary drop in the number of its subscribers. At the opposite extreme there are to-day some fly-by-night services which make a specialty of enthusiastic and favorable prediction. All services must feel the pressure in this direction, and it is to their credit that so many are resisting it, and, against the difficulties of insufficient knowledge of facts and causes, are helping to develop what should some day become an important aid in business navigation.

However specific results in its chosen field may be judged, forecasting must be credited with having done a considerable share toward developing a desire in the American business manager to look farther and farther ahead, a growing faith in the possibilities of doing so, and, finally, a habit of mind which has shown its influence not merely in forecasting for the guidance of general management but in departmental budgeting, production planning, far-sighted research, and longer-range planning of capital expenditures.

II. MANAGEMENT OF MANUFACTURING

Purchasing.—Most manufacturing companies have a sharply differentiated purchasing department, with full and elaborate purchase records. Purchasing is naturally always in close contact with the manufacturing division, but is not often subordinate to it.

Orders may be placed through competitive bidding or exclusively with tested vendors. Quite commonly a combination of these methods is used by calling for competitive bids, from tested companies only On account of the growing emphasis upon uniform quality, it is probable that there is a slight trend at the present moment toward buying of tested vendors, checking their service from time to time by placing orders out for competitive bids. A minority use competitive bidding only. The policy of splitting orders among two or more vendors and that of maintaining a single supply are found in about equal numbers, but those who use competitive bidding, added to the former group, definitely set the going practice against buying exclusively from a single supplying house.

The responsibility for buying certain principal materials is sometimes in the hands of other officials than the purchasing agent. In the smallest plants, particularly, is this true; while in the largest there are few cases to be found where the purchasing agent does not do all of the buying. Not uncommonly, however, the purchasing agent is strongly influenced by the selling department, or board of directors, toward certain customers, thus taking part in what is called reciprocal buying.

An interesting development of recent years is the attention given by some purchasers toward the saving of salesmen's time and convenience,

and, in general, cultivating their constructive goodwill. It was not to be expected that this sort of trend would occur in times like these, when the buyer controls the market, and yet it is to-day a trend and indicates that purchasers are developing a broader conception of their function than that which ruled some years ago. Buyers are taking their part in working out annual contracts with price adjustments, and in placing repeat orders without salesman's call, each primarily for the purpose of saving time for the visiting salesman. Sometimes this time is again used up, but in somewhat more productive ways, by asking intimate and constructive assistance from the salesman himself, having him go into the plant, see its problems, and make such suggestions as he can toward their solution. The changes in buyer-salesman relations are doing more to lower inventories and co-ordinate production without vertical combination than is generally realized. There is real evidence that a widening knowledge of facts is reducing the area of dickering.

In one company which takes its job of purchasing in a seriously professional spirit, there was appointed some years ago, at the request of the purchasing agent, a special "auditor," who reports directly to the executive officers. He examines all orders, quite independently of the purchasing agent, being sure that the proper amount of competition has been secured, that no favorites are being played, and that consideration is given to all new sources of supply. In general, there will be found among purchasing departments a drift away from the old notion that placing an order constitutes a great and personal favor.

Purchasing agents are more and more keeping in touch with the general market through commodity indexes and business publications, among which trade journals prevail. The economic behavior of specific commodities in the last decade has varied so widely from the curves of average economic activity that general statistical services are not so widely used in purchasing departments as are the journals and reports which publish all of the significant facts concerning each of the separate important commodities.

Inventory Control.—The shortage of materials during the war and the boom, and their excess during the 1921 depression, both resulted in a great increase of concentration upon inventory control. The wider use of planning and budgeting has since then added its influence. Control of raw materials, goods in process, and finished stock is obtained through a close checking of card records, or the use of maxima and minima, and in some companies is entrusted to an independent stores department, to special committees, or, in a few cases, to the budget department itself. This control is not now chiefly for financial reasons, but rather more to reduce the risks of depreciation and obsolescence of material, which the lessons of 1921 proved to be considerable, and to save the wastes of cart-

ing materials unnecessarily in and out of warehouses,[13] which the more recent studies into production costs have disclosed.

One of the dramatic developments of the last year or two is to be found in some automobile plants, where the average inventory has actually decreased from several months' to a three or four days' supply. A reserve stock of all materials used in three or four days' production is placed in a convenient warehouse, but daily deliveries from vendors are arranged according to the production schedule. Materials are, therefore, planned to be taken directly from the freight cars and placed in the manufacturing departments where they are used, thus eliminating handling and the expense of stores control. Obviously, such a tight system can be successfully managed only with very dependable railway freight service and in a business where a large part of production is carried out on a uniform daily schedule.[14]

Production Management.—Production is managed either by sending all orders into the works as fast as received and leaving the sequence of their production to be arranged by each department head, or it is planned, to a greater or less degree, on the basis of known standards of output and quality, of known inventories of raw materials and parts, and known or estimated demand for finished products.

Complete production planning, as it is found to-day, includes routing, or the determination of the path of an order through the plant; scheduling, or the determination of the time at which each operation shall be done; dispatching, or the actual assignment of orders to the production agent for the work which he is to do next.[15] In this survey, the majority of plants was found to have functionalized their production planning. Most of them had done so under the spur of war times; some, especially in the metal trades, started even before that. Most of those which have not yet done so are laying plans to give it special attention. Like other functions, planning, when first isolated, was heavily centralized and overelaborated, later it was simplified and partly decentralized.

Production planning varies greatly in complexity. In a jobbing shop with diversified product, large and expensive planning departments are to be found; in a one-product shop, making by continuous process a standardized quality, production planning once installed is simple of operation.

[13] Eugene G. Grace, in the *Saturday Evening Post*, September 6, 1926, traces broad and wholesome effects of close inventory control, emphasizing especially regularization of employment.

[14] See Inventory, Chap. II, Industry, Part 1, p. 91; Chap. III, Construction, p. 242; Chap. IV, Transportation, Part 1, p. 302; Chap. V, Marketing, p. 350; Chap. IX, Price Movements, p. 637.

[15] A fuller description can be found in the Production Control section (beginning p. 597) of *Management's Handbook*, L. P. Alford, editor, 1924.

Costing is found closely associated with planning. Both use much the same facts and both serve the needs of general management in controlling production. Like planning, costing is found in a majority of plants, but in a variety of forms. Until the last few years, costs were "actual costs" almost exclusively, though kept with great differences in accuracy and detail. Actual costs vary with each lot and with every season; their use as a check on selling prices or for budget purposes is, therefore, limited. A few years ago there was a strong movement toward standard costs[16] worked out either roughly from past averages, or more carefully from standards of quantity production per hour and of materials used. The purpose to which these costs are put, in the largest single number of cases, is to show profit margins, but an almost equal number use them to check departmental performance; some use is made of them to determine the actual losses involved in part-time operation, or as aids in working out special economies. Most companies using standard costs are also keeping actual costs, but much simplified in detail and reduced in expensiveness. Where production is fully serialized, costing as well as planning is greatly simplified.

Quality Standards.—One factor upon which production planning depends is uniformity in the quality of materials. If automatic machines are regularly to produce parts capable of being assembled without slow and painful hand fitting, the raw material or parts fed into them must be of standard and uniform quality. Or if effective systems of wage payment are to be installed, the materials furnished to the worker must have a dependable uniformity.

Buying upon specification and checking by testing laboratories has become the going practice. Most of the larger companies, and many of the smaller ones, have their own laboratories; and commercial laboratories are freely used by them, as well as by those which cannot afford their own. Practically all managers report that they are increasing the precision of their specifications, which in the larger companies comprise several printed volumes. Some work out their own specifications, as must be done in special cases; but, for the more staple items, the large majority are using the published standards which leading trade associations have been active for several years in developing. The American Society for Testing Materials and the American Engineering Standards Committee[17] have had large shares in this development, and a considerable number of companies are using to an increasing extent the specifications of the United States Bureau of Standards.[18]

[16] T. H. Sanders, *Problems of Industrial Accounting*, 1923, gives a chapter outlining in brief form the principles of standard costs. See also several bulletins of the National Association of Cost Accountants.

[17] See their *Year Book* for 1928.

[18] See *Standards Year Book*, 1928.

Uniform standard quality in parts to be assembled, and in final product, is being provided for by similar methods. Special inspection departments, often under or closely connected with the engineering department or the laboratory, are maintained in a considerable proportion of companies; and parts and product specifications are set up with the same care as material specifications. The processes themselves have been studied by engineers to eliminate chances of variation. Automatic thermostatic control, perfected mixing devices, elaborate jigs, highly accurate gauges, and electrical tempering are found in increasing numbers.[19] The field survey clearly showed the greater pressure for quality output which increasing competition has exerted upon manufacturers. Quality demands have, in fact, been giving executives more concern than have quantity demands. In some goods this machine-made age is giving us better and more dependable quality than was possible in the age of handicraft. The progress of engineering toward objectified control of quality is certainly one of the significant trends of our technical progress.

Since the publication of *Waste in Industry*, in 1921, more and more attention has been given to the problem of gaining continuous co-operation from the whole body of employees toward the maintenance of standard quality and the avoidance of the waste of rejections. Some form of financial incentive to this end has been set up in a fair number of plants, which has been supplemented in some of them by other influences intended to develop a favorable group habit of thought. Suggestion systems, periodical quality meetings, and publications have all been used, and the maintenance of quality and the elimination of material waste have been subjects frequently appearing in the consultations of employers and employees in union relationships or works councils. There is an increasing tendency to install special departments which study the causes of every sort of waste and the better utilization of such wastes of materials as cannot be prevented.

Maintenance Standards.—The maintenance of machinery in standard condition, which is as necessary to standard quality as is uniform material, has not been given the same attention. It is in the newer plants that more specific machine maintenance standards seem to be most often found. A few factories schedule maintenance, so planning as to get replacements made ahead of actual need and at such times as will least interrupt production. In most companies there is no such planning, and maintenance departments are expected to act only in response to the calls of producing department heads.[20]

[19] See Mechanization, Chap. I, Consumption, p. 52; Chap. II, Industry, Part 1, p. 84, Part 2, p. 104; Chap. III, Construction, p. 234; Chap. V, Marketing, p. 328.

[20] The Society of Industrial Engineers, *Bulletin*, December, 1927, p. 7, and June, 1928, p. 5.

Quantity Standards.—Control of production is found to increase with the specification of standards of quality and quantity, and with the accuracy and fullness of planning. For many years after Frederick W. Taylor first set forth his ideal of a true control of production processes,[21] its acceptance as a practicable goal was slow, but of late years it has been rapid. It is now common practice to have some sort of quantity standards, and once established, even crudely, there is a distinct tendency toward their continuous improvement; for efforts toward the advance planning of production and the developing of incentive wage payments encourage progress toward greater accuracy of quantity standards.

Methods for determining standards range from a rough analysis of past records through the study of machine speeds and some crude and sometimes harmful over-all time studies, to careful elemental time and motion studies. The more laborious but more substantial methods seem to be gaining slowly.[22] Employers find that the cruder forms carry with them evils which become more serious as time goes on. Over-all time studies which fail to analyze and standardize the process, and which, therefore, set a time standard for an unstandardized process, result in piece or bonus rates only roughly accurate. Some are too high and some too low, causing fluctuations in earnings not corresponding to effort, and complaints of favoritism. Readjustment without analytical time study results in bickerings or feelings of resentment. Any readjustment, or threat of readjustment, of rates downward that is not convincingly supported by facts, and some that are, will inevitably result in output restriction. The full power of a standard of output is not realized unless the standard can be accepted as just.

A detailed report of scores of cases of restriction, which strikingly illustrates the variety of circumstances under which this practice will arise, is to be published by S. B. Mathewson and William Leiserson. This study finds incentives double-acting. Before, during, and after over-all time studies, there are strong influences at work to limit production, sometimes in most ingenious ways. Men commonly are convinced, and often correctly, that management has in mind a figure of "excessive earnings" at which it will cut rates or make other vital changes. These figures are played up to with great skill by employees in a wide variety of situations, not confined to the manufacturing field. The motives are, in a very large majority of cases, motives of simple self-protection.

Increased Output.—Within such limitations as individuals and groups have set for their protection, output per man per year has, nevertheless,

[21] See Frederick W. Taylor, *Shop Management*, pp. 94–124.

[22] See for Results of Society of Industrial Engineers' survey, "Development of Standard Practice for Time-Study Engineering," Society of Industrial Engineers, *Bulletin*, November, 1927.

increased notably. Such plants as could be found in this survey with man-hour productivity figures running back several years show considerable increases, but the fact that they were few, and that, because they were careful enough to keep such figures, they were probably among the most interested, precludes the use of their experience as anything more than corroborative evidence. Thirty-five, which furnished information going back to 1919, showed a man-hour productivity increase of 74 per cent; and a few who can compare 1927 with 1924 show an average increase of 39 per cent.[23]

This increase is the result of the interplay of several causes. Among them are the introduction of new machines,[24] the better internal arrangement of factories through which, by "serialization," supermachines are made out of groups of machines, production control, more rigid specification of quality of materials, change in methods of wage payment and in the basic attitude between employer and employee, shortened learning periods, and reduced labor turnover.[25] Many of the technological changes have been made possible by simplification of product or standardization of parts. In the companies where style has made the product less standard than before, there was less evidence of increased productivity.

There could be found no single impelling force which drove management to its recent rapid technical progress, though well up in the list stands the influence of higher wages. A great many changes have originated from attempts to get low costs in spite of high wage rates, and then have been continued and have spread into fields where wages were not high. Changes to reduce manufacturing costs have, in fact, become the fashion. They are becoming less and less casual, less dependent upon the good ideas and ingenuity of operating men, and more upon the work of research and accounting departments, specially set up to increase the frequency of improvements in method.

Whether and to what extent there is to-day an overexpansion of industrial facilities are questions which may be answered only by a determination of the correct amount of equipment for a given output and of the true extent of demand. The opinion of industrialists is about evenly divided on the subject. There is general agreement that the war times and 1920 saw heavy overexpansion, the lessons of which were costly

[23] For further details of output per man, see Chap. II, Industry, Part 1, p. 81, Part 2, p. 103; Chap. III, Construction, p. 248; Chap. VI, Labor, p. 447; Chap. VIII, Agriculture, p. 602.

[24] It must be noted that the production of machinery from 1922 to 1927 shows no noteworthy increase. For a complete description of mechanization in four industries, see G. E. Barnett, *Machinery and Labor*, 1927.

[25] A clear case of what can be done by management alone, with only slight changes in mechanization, is set forth in Chapter V, pp. 350–1.

and not easily forgotten; but few managers regard their own equipment as too extensive for normally active times. The Department of Commerce is at the present time making a survey of the industrial equipment of the country, which should constitute a sound beginning of better knowledge on this subject.

Effect upon Workers.—The effects of these great changes upon the worker is a matter of considerable controversy. Some men believe that the present changes are merely a continuation and accentuation of those which began with the Industrial Revolution, and that reabsorption of the unemployed into activities made possible by the increased producing power of the world has been constantly going on, though, of course, more slowly during the inactive sectors of the business cycle than during the active.

Others believe that we are facing a wholly new problem, which they call "technological unemployment," and that there is now and will continue to be an unemployment of serious proportions unless something is done about it.[26] The thing that is certain is that our information concerning the extent, nature, and reasons of unemployment in this country is inadequate.

The inadequacy of public information is, unfortunately, equaled by the inadequacy of information in individual companies. Few of them know exactly what numbers have been released or transferred on account of technical improvements, and almost none knows anything about what has happened to the men who were released.[27] It is not a new problem to industry, but in former times it was none of the manufacturer's business what happened to workers after he laid them off. He is now begin-

[26] Studies of the extent of unemployment will be found in Chap. VI, Labor, pp. 462–478, and reference to technological unemployment in Chap. II, Industry, Part 1, p. 92; and Chap. V, Marketing, pp. 321–331.

[27] A recent study of cutters in the Men's Clothing Industry in Chicago, by Robert J. Myers, a graduate student at the University of Chicago, shows what has happened to displaced workers in one industry. (Dr. B. M. Squires, Chairman of the Trade Board, Men's Clothing Industry, Chicago, and Professor at the University of Chicago, included a reading of the survey in an address before the American Association for Labor Legislation, December 26, 1928.) A detailed description appears in the accompanying table.

Further data on the problem appear in a study, "Measuring the Mobility of American Labor and The Absorptive Power of American Industry," made by Dr. Isador Lubin for the Institute of Economics of the Brookings Institute, Washington, D. C. (Part of the findings in this study were presented before the American Statistical Association at the December, 1928, meeting in Chicago.) The second tabulation here given, made by Dr. Lubin, shows the periods of unemployment of a sample of 754 discharged workers.

From a group of 820 discharged workers, of those who found jobs 273 went to work in new industries, and 221 in new jobs; 188 returned to their old jobs and 134 to the old industry. In this case, nearly half of the workers on new jobs received lower incomes than in their previous permanent employment.

NUMBER AND PER CENT OF TOTAL OF 217 CUTTERS FROM HART SCHAFFNER & MARX, AND 153 CUTTERS FROM OTHER FACTORIES ENGAGED IN SPECIFIED OCCUPATIONS, EARLY SUMMER, 1928

Occupation	Number		Per cent of total	
	Hart, Schaffner & Marx	Other	Hart, Schaffner & Marx	Other
Total	217	153	100.0	100.0
Total cutters	49	25	22.6	16.4
Men's clothing—				
Chicago, regular work, union	10	7	4.6	4.6
Chicago, regular work, non-union	4	3	1.8	2.0
Chicago, temporary work	16	2	7.4	1.3
Chicago, job permanence unknown	0	9	0.0	5.9
Out of city	6	3	2.8	2.0
Allied trades	13	1	6.0	0.6
Professional men	5	2	2.3	1.3
Tailors and cleaners	3	14	1.4	9.2
Skilled workmen, not elsewhere classified	14	10	6.4	6.5
Grocers, confectioners, etc	17	9	7.8	5.9
Politicians	6	4	2.8	2.6
Office clerks	3	2	1.4	1.3
Real estate and insurance agents	13	11	6.0	7.2
Drivers, truckers, etc	17	24	7.8	15.0
Firemen, police and letter carriers	2	0	0.9	0.0
Farmers	1	0	0.5	0.0
Salesmen, not elsewhere classified	34	20	15.7	13.1
Bartenders and bootleggers	4	1	1.8	0.6
Factory and industrial workers	9	7	4.2	4.6
Caretakers, janitors, messengers, etc	11	4	5.1	2.6
Day laborers	4	4	1.8	2.6
Not employed	25	16	11.5	10.4
Dead	6	2	2.8	1.3
Retired	2	3	0.9	2.0
Ill, unemployable	3	1	1.4	0.6
Unemployed, seeking work	14	10	6.4	6.5

PERIOD OF UNEMPLOYMENT OF 754 DISCHARGED WORKERS

Length of time unemployed	Number who found jobs	Per cent who found jobs	Cumulative per cent who found jobs	Number still unemployed when interviewed	Per cent still unemployed when interviewed	Cumulative per cent still unemployed
Under 1 month	47	11.5	.....	43	12.5	.....
1 month – 2 months	66	16.1	27.6	40	11.6	24.1
2 months– 3 months	66	16.1	43.7	37	10.8	34.9
3 months– 4 months	60	14.6	58.3	34	9.9	44.8
4 months– 5 months	43	10.5	68.8	26	7.6	52.4
5 months– 6 months	30	7.3	76.1	22	6.4	58.8
6 months– 7 months	28	6.9	83.0	27	7.9	66.7
7 months– 8 months	23	5.6	88.6	18	5.2	71.9
8 months– 9 months	18	4.4	93.0	31	9.0	80.9
9 months–10 months	10	2.4	95.4	19	5.5	86.4
10 months–11 months	7	1.7	97.1	7	2.0	88.4
11 months–12 months	3	.7	97.8	8	2.3	90.7
Over 1 year	6	1.5	99.3	29	8.4	99.1
No data	3	.7	100.0	3	.9	100.0
	410			344		

ning to see the matter in another light.[28] The new attitude is well expressed by Ernest G. Draper, of Hills Bros. Co., who says,

> It is now time for the modern business man to give up thinking of this hazard of industry (unemployment) as a charitable problem and begin thinking of it as a business problem which directly affects his company's net income . . . Unemployment is not only harmful from a social point of view. It is wasteful from a business point of view. When enough industrial leaders can become sufficiently interested in this serious maladjustment of society, the chances are that it will succumb to their ingenuity just as many other so-called insoluble situations have done in the past.[29]

A remark of Professor Tugwell is also to the point.[30]

> One difficulty which runs all through attempts to get control of the modern forces in the interest of a better world is that the old rate of change has been superseded by a greatly accelerated one.

This comes close to the heart of the present problem. The *type* of to-day's change is, in its effect upon the workers, the same that we have been experiencing for nearly 200 years; the *rate* of change may now be such as to introduce new considerations and demand new measures.[31] The crucial factor may be the rate of invention of new consumers' goods, as compared with the rate of invention in machines and processes of manufacture.

Besides affecting workers through unemployment and shift of occupation, the last few years have brought important changes in the demand for skill. During the last century many special "skills" have been made worthless by process changes; more than once has the work of the skillful father been displaced by the untrained fingers of his wife and children. Where technical changes came slowly, the new occupations themselves soon allowed of the development of new special skills. But where these changes are as rapid as they are to-day, and bring with them such erratic fluctuations in market demands, there has been afforded to employers special reason to work out the newer processes in such form that they demand the least possible training and hence contain a low "skill content." Often by holding raw materials and parts to rigid standards, the old need of skill in detecting and manipulating variations has been entirely done away with. Some of the automobile plants in 1927 took farmers who had been driven out of their homes in Arkansas by the floods and put them not only on the assembly lines but on specialized machine tools. They claim that these men in a few days were among the best

[28] See, for example, article on the five-day week by Clarence W. Barron in *Dow's Financial Bulletin*, June 8, 1928. For a full analysis, see *Business Cycles and Unemployment*, National Bureau of Economic Research, 1923.

[29] *Personnel*, American Management Association, August, 1928.

[30] *Industry's Coming of Age*, 1927.

[31] The results reached by Dr. Wolman on page 478 indicate no immediately pressing problem of this sort.

workmen they had ever had. Many companies say they "would rather have green men with no preconceived notions."

As the great number of highly specialized machines increases, there is less and less carry-over of skill from one job to another, and fewer places to which a worker can put to use any special skills he has managed to gain, but there are more places in which he can reach average ability in a very few days.

An important influence in shortening the learning period has been the higher intelligence of the learners; more have finished grade school,[32] more have been in trade schools and high schools, and, since the restriction upon immigration, relatively more have understood English.

Any real knowledge of the extent to which skill has been displaced, or of the social consequences of such displacement, must wait upon some consensus of opinion as to what is to be taken as constituting skill. Miss Bezanson,[33] in 1922, made one of the earliest studies in the field, but little has been published since. Meanwhile, general opinion repeats that "there are fewer highly skilled jobs but fewer really unskilled jobs;" or that "all of the old really skilled workers can find high place in the new schemes of things as foremen, tool makers, machine fixers, and the like."[34]

Effects of the War on Management of Labor.—War times, with the difficulties in obtaining large numbers of employees, in getting them trained to wholly new jobs and holding them against temptations to shift, forced wider recognition of personnel management as a distinct function. The work of the Army itself in placing, training, and assimilating its millions had no small part in bringing about this recognition. Up to that time, the problem of personnel management had been recognized by few as one of importance. With free immigration, help was easy to get, and, though it was not easy to hold, to hold it seemed of no importance until a highly original article by Magnus W. Alexander, appearing just before the war, made a powerful case against the extravagances of a high labor turnover.

To meet the extreme war-time situation, men were called to personnel management who were new to the problem; necessarily so, since not a half dozen men in the country could be called old to it. Their experience was academic but their outlook fresh, their sympathies and earnestness were high, many of them had keen and well-trained minds, and they knew enough to begin at once to learn from each other by pooling their experiences. They overcentralized and overelaborated the job, as is always

[32] Between 1920 and 1924, the pupils in public high schools increased from 1,850,000 to 2,950,000; in private secondaries, from 117,000 to 216,000; in industrial trade schools, from 185,000 to 410,000; in percentage of total school population, from 2.1 to 3.3 per cent. *Statistical Abstract*, 1926.

[33] *Quarterly Journal of Economics*, August, 1922.

[34] From the field survey.

likely at the installation of a new functional department; and in this case all the more so because of the intense pressures.

With the business stagnation and glutted labor market of 1921, they were virtually swept away, but they left behind them new practices, and old ones modified: psychological and trade tests, job analyses and classifications, rating scales, systematic training, and shop committees. What is of more importance is that they left a habit in the business mind of considering personnel management as a difficult, distinct, and major function of business management. Previously, such little selection, training, health and safety work, insurance and social contacts, and joint relationships as had been attempted, had often been administered with no co-ordination, with disproportionate emphases and accidental and fluctuating interests—sometimes as frills, sometimes as personal whims of benevolence, seldom as serious projects of human engineering.

Subsequent Trends.—To-day, though unquestionably greater attention and interest is given to the materials and machines which an organization handles than to the humans of which it is made up,[35] attention to the problems of personnel management has by no means lapsed, but appears rather to be increasing. There is not so much said now in the field or in publications about the personnel manager himself or the centralizing of the personnel functions. From 1918 to 1920 there was a great deal, which dropped off into an almost complete silence by 1922. Since then, attention has been given more to the specific and practical measures of personnel management, with the implication that they are among the problems of general management rather than problems apart. Especially out of fashion to-day are the magazine articles which in 1919 and 1920 described "what we do for our employees."

Personnel management to-day is now tending to emphasize the responsibility of line officers—foremen and department heads—for sound relationships, but to give to staff personnel men the task of analyzing and criticising results, and devising and installing measures to make them progressively better.

Among different-sized companies, personnel work varies, there being naturally less of it in the smaller plants.[36] In plants of 2,000 employees, it is common to find it fully organized, and some smaller plants do very complete work. The results of this survey, arranged geographically, show considerably greater activity in the Middle West than in the Northeastern section.

Selection.—The routine parts of the job of personnel management, most widely recognized and functionalized, are selection and placement,

[35] Examples of a considerable variety of executives' attitudes toward labor are given by J. David Houser, *What the Employer Thinks*, 1927.

[36] See "Personnel Administration in Companies of 1,000 or Less," American Management Association Convention Address, Series No. 10, 1924.

maintenance of individual records, medical service, and supervision of transfers and separation.

The utilization of psychological and trade tests for selection and placement was given a big start during the war by the work of the Army Committee on Classification of Personnel. A great deal of the work which had been so rapidly undertaken, however, was given up during the depression of 1921; but, even before then, it had become evident that no single simple method would suffice to discover and test the subtle and varied qualifications of men. Most companies, therefore, have now dropped tests completely and only a small minority use them at all; many of these have specialized them greatly, attempting by tests to find particular trade skills and different types of aptitude, rather than general intelligence levels. An unexpected number of companies were found carrying on correlation studies to discover special uses to which information in application blanks might be put. They report fair success in their results so far.

There is a promising field within which the technique of testing is being developed in the selection of life insurance salesmen,[37] department store employees, and employees of street railway and taxicab companies. Steady work is being done by groups of psychologists,[38] and by the United States Civil Service Commission,[39] which, required by law to use examinations for selection, is doing outstanding work in inventing examinations which really examine. Universities which have student personnel officers, or which are experimenting with methods of meeting the admission problem, are also making their contributions to the discovery of less subjective, fluctuating, and capricious methods of selection.

Preceding psychological examination, and now extending in development far beyond it throughout industry, is medical examination.[40] The majority of companies, large enough to have a clinic of their own,[41] are using medical examinations and are steadily improving them in accuracy and detail. Few can be found which have dropped medical examination after once taking it up.

A systematic understanding of the jobs, among which an employee, once selected, has to be placed, has made slower headway. Job specifi-

[37] Grace E. Manson, "What Can the Application Blank Tell?—Records of 4,000 Life Insurance Salesmen," *Journal of Personnel Research*, July, 1925.

[38] For example, see Slocombe and Bingham, "Men Who Have Accidents; Individual Differences among Motormen and Bus Operators," *Personnel Journal*, December, 1927.

[39] L. J. O'Rourke, "Saving Dollars and Energy by Personnel Research," *Journal of Personnel Research*, January, February, and March, 1926.

[40] *Medical Care of Individual Workers*, National Industrial Conference Board, 1926.

[41] A few interesting cases of small companies running clinics jointly were found in the files of the National Industrial Conference Board.

cations are not common, and those which are more than hasty and informal generalizations, sufficient perhaps for the rough methods of selection used, are less common. In the rare cases in which they go beyond a roughly general description, they seem to have been prepared for the purposes of classification of wage and salary bases and standards, and worked out as a thorough-going job study by the personnel officer and the line officers concerned, in close collaboration.

Where there are functionalized employment departments, there is often to be found a systematic follow-up of new employees, used both as a means of checking correctness of selection and placement and as a means of developing good will during the difficult period of adjustment. Performance and attendance records and the pay changes of new employees are given special study and checked against standards. During the adjustment period, employees are frequently talked with in order to discover, if possible, any special difficulties in their way. Medical examiners, too, are more and more frequently following up their preliminary work. Few companies have compulsory periodic medical examination, but a growing number are offering facilities for examination, under such conditions as will enlist the confidence of the employees and persuade them to take voluntary advantage of it.

Training.—In spite of the obviously shorter learning periods required for many of the newer jobs, the interest in training[42] aroused at the time of the war has not materially abated. The actual training school, or vestibule school, has almost disappeared, but it is common to find functional supervisors who give attention to the training which now generally takes place in the producing departments, though often in special subdivisions of them. Apprentice training courses are still used in considerable numbers, though restricted for the most part to a few trades; but special training for aliens, so common ten years ago, has naturally fallen off, and, in the few cases in which it exists, is now provided for chiefly by the community rather than the factory.

For foreman training, there are to be found, and apparently in increasing numbers, foremen's conferences, co-operation with the Y. M. C. A.'s and State's departments of education, evening classes at the plant in special subjects, and discussion groups. A survey by the United States Chamber of Commerce gave the number of courses for foremanship training as 105 in 1925 and 933 in 1927. The old doctrine that a foreman was to learn his job on the job and from the job is not so often heard.

In a small and growing number of companies, educational opportunities are offered for those beyond foremanship grade; courses in cultural subjects having no direct relation to the business were found

[42] See H. G. Kenagy, "The Technique of Training on the Job," American Management Association, Annual Convention, Series No. 74, 1928.

in a little less than 10 per cent of the companies of this survey. Some of the larger corporations have carefully arranged job sequences to be followed through under the guidance of a training supervisor. These were especially designed for college graduates, but are usually open to others who can pass an appropriate examination.

An interesting special case of training has been developed by the public relations departments of some public service corporations. Their corps of "service samplers" continually test the contact of employees and public, reporting the especially good cases by name and the unsatisfactory cases without identification. These latter are made the subject of discussions by executives and of large group conferences of "contact employees," at which methods of improvement are considered.

As a means of general education, the company or plant magazine stood high ten years ago, but as such it has been quite widely discontinued. Few other activities related to personnel management have been so curtailed in recent years as the company magazine. Yet it remains in a significant number of cases,[43] ranking now as a method of fostering good will and promoting better acquaintance among all members of the organization rather than as a strictly educational device.

To assist in the orderly progress of employees, and to get such objective help as is possible in selecting men for promotion, a few companies have continued and developed the rating scales which came into use during the war. In themselves, rating scales have not gone far, but, even in some of the places where they are undeveloped or have been given up, they nevertheless have emphasized the double importance of correct selection for promotion and the consequent need of the utmost possible avoidance of the distortions of unaided personal judgment. It is more and more widely recognized that, while the importance of choosing the right person for promotion is great in so far as his work in the higher position will affect the company, it is many times greater in its effect on his fellow employees, who are bound to set the fashion of their performance by what his elevation led them to believe were the accomplishments upon which promotion depends. Rating scales, however imperfect, have shown an advantage in being a down-on-paper statement, usually with important qualities so listed that they cannot be overlooked. They have helped to avoid the day-to-day fluctuations of personal opinion.

Several companies provide a small special committee of department heads to review periodically the rating charts of the entire personnel. They discuss the relative qualifications of various individuals for eventual salary increase or for promotion to advanced positions. Then when a vacancy occurs, the work of this committee is first canvassed to find if

[43] The National Industrial Conference Board, in November, 1928, estimated about 700 in the United States.

any members of the organization can be considered in line for the position. In a few companies, such job and man classifications have grown after some years into a standard promotion schedule, with normal lines of progress extending on from each position.

Separations.—Discharge is in most companies still the exclusive prerogative of the foreman, though in some the approval of the personnel manager is necessary. In a considerable majority, on voluntary separation or discharge, an exit interview is carried out in order that special and remediable causes of misunderstanding may in the given case, or in future cases like it, be overcome. Many companies circulate the general information from these exit interviews among their executives, to disclose departmental differences or trends toward the better or worse.

In spite of reductions in labor turnover rates, indicated by the studies of the Metropolitan Life Insurance Co. to be not far from one-half,[44] interest in turnover does not seem to abate but rather to increase. This is probably because certain organizations of high standing, such as the Policyholders' Service Bureau of the Metropolitan Life Insurance Co., the Brown University Bureau of Business Research, the Bureau of Industrial Research of the University of Pennsylvania, the Ohio State University Bureau of Business Research, and some trade associations are issuing current and valuable information on the subject.[45] A great many companies are reporting to them. About two-thirds of the companies covered by this survey were tabulating turnover figures, and a little less than one-half were reporting their figures periodically to some outside organization.

Little evidence can be gathered from the field as to the age at which workers are being retired.[46] There seem to be more jobs on which the vigor of youth is demanded, and fewer on which the sort of skill is needed which would increase with age. Yet, in examining individual cases, there is seen to be still a considerable amount of work fit for older men. On the whole, it seems likely that during depressions there would now be a somewhat larger number of the men over 55 and a smaller number of the younger men laid off from factories than in days before the war. It is not clear as to whether or not this, if true, would result in increased social hardship.

Wages.—Rapid shifts in relative skills, new jobs, and new methods on old jobs, have led many companies to make critical comparisons among their wage rates and weekly earnings. Where this has been done thoroughly, it has disclosed the interest of the worker not only in the amount

[44] The highest rate, reported in their monthly medians for 1922, is 96 per cent; in 1923, 130 per cent; in 1927, 48.3 per cent; and in 1928 (7 months), 41.5 per cent.

[45] W. A. Berridge, *Personnel Journal*, June, 1927.

[46] A small sample of employees, carrying group insurance, showed average age slightly higher in 1925–1927 than in 1917–1920. See Chap. VI, sec. 4, p. 471.

he receives but in what he regards as the fairness of its relation to other amounts. As Whiting Williams found, the wage or salary is to its recipient not only an income but also a symbol of status.

Personnel departments and operating executives have considered it important to work toward the elimination of the more serious discrepancies in rates and, if possible, to develop orderly and rational systems of differentials. In nearly one-half the companies in this survey were found job and rate classifications, with various basic rates worked out from union scales or from comparable rates in the vicinity. Interchange of information on rates has been common for many years. Lately, in the larger centers, it has become still more common on account of the formation of local associations of employment managers.

Forms of incentive wages which take into account quantity or quality of output, or both, have come rapidly into use in recent years, although they cannot yet be estimated as covering a majority of the workers.[47] They are no longer merely piece rates, but have a variety of forms combining time rates, piece rates, premiums, and bonuses in many ways. Group rates are now being used increasingly.

Besides direct payments, there are to be found length-of-service bonuses, attendance bonuses, and suggestion awards.[48] Pay for vacations has also come into vogue to some extent during the last ten years. Of 199 vacation plans described by Mills, 75 had been adopted before 1919, 100 in the five years from 1919 to 1923 (inclusive), and 24 in the three following years.[49]

From the discussions of business managers, speeches at their conventions, and a considerable number of articles published by them, it is obvious that an economic doctrine quite different from that prevailing among them some years ago has gained a foothold. Instead of believing that every cent paid as increased wages must come from the investor's return, or else from ultimate consumers, it is now widely believed that, where an appropriate increase in productivity can go along with an increase in wages, the consequent increase in purchasing power results not only in higher standards of living and better states of health but also in increases in the quantities and varieties of goods which can be sold. These increased quantities, by helping to carry overhead and by making specialized operations possible, tend further to reduce cost and so again to increase wealth. In 1921, this theory as a business manager's doctrine cannot be said to have been born. The President's

[47] The National Metal Trades Association found in 672 member plants that 307 paid their employees on a straight time basis exclusively. Of the total employees in all 672 shops, 27.5 per cent were paid on incentive basis. It is wholly probable that the percentage for industry as a whole is higher than this.

[48] For details, see Z. C. Dickinson, "Suggestions from Employees," *University of Michigan Business Studies*, Vol. 1, No. 3, 1927.

[49] Charles M. Mills, *Vacations for Individual Workers*, 1927.

Unemployment Conference gave out its findings in the autumn, and one of its members, Roy Dickinson, an editor of *Printer's Ink*, wrote several articles on the relation of wages to the volume of trade. But among operating executives the most frequent subject for discussion was the necessity for "liquidating labor" before recovery could be expected from the depression. In 1921, more than 300 articles appeared telling of methods used in cutting wages and speculating as to how far they would fall. By 1922, articles of this sort had disappeared and those about wage incentives had taken their place. In 1923, Mr. Baum, in the *Paper Trade Journal*, wrote, "It is becoming a sign of poor management and a mark of disgrace to pay low wages." Since then even more emphatic statements have been made and by employers of national reputation.[50] The high wage doctrine by 1926 had gained its present standing. Nevertheless, no one can say whether its foothold is as yet strong enough to stand the strains of a long depression. Not many popular beliefs gain such strength in a half dozen years.[51]

Security.—Of all the problems of personnel management none has had so much attention as those which pertain to the workers' need for security—regularization of employment, accident prevention, group insurance, pensions, savings plans, and stock purchase plans.

To judge from the companies of this survey, the beginnings of substantial progress have been made, since the Unemployment Conference in 1921, in moderating the severities of seasonal irregularities. In about one-half of the companies it was found that definite measures had been put into effect; in 4 per cent especially trying conditions had increased irregularity; in 5 per cent nothing had been done to attempt to mitigate the effect of seasonal fluctuations; and in 40 per cent the problem had never been acute. Among the measures reported are increased standardization of products, better planning, scheduling production, inducing customers to buy more regularly, additional or specialized warehousing facilities, training employees to be versatile, manufacturing to stock, working repairs in with production, and adding complementary lines of goods. The ladies' garment industry in Cleveland in 1921, and the men's clothing plants in Chicago in 1923, took steps toward regularization of employment through guaranteed employment and unemployment insurance plans. In 1928, the garment industry in Rochester and in New York City began the establishment of unemployment insurance funds. All of these arrangements have been worked out through the co-operation of employers and unions. A few individual

[50] Among them, the article by Eugene G. Grace in the *Saturday Evening Post*, September 4, 1926, cited above.

[51] The birth of this doctrine has been a subject of much interest to foreign observers. Most of them conclude that it gained its place by the force of economic circumstances rather than by reasoned adoption.

companies in various lines of manufacturing have established unemployment compensation plans[52] which have helped to regularize workers' incomes.

Under the combined influence of industrial medical departments, safety engineers, the National Safety Council, insurance companies, and factory legislation, a broad interest in physical working conditions has been aroused in the minds of manufacturing executives.[53] Special safety inspectors, sanitary inspectors, and committees on health and safety are often to be found in the factories, and within the past few years particular attention has been given to the designing of machinery so as to avoid serious hazards. Beginning at first merely with the posting of safety rules and the guarding of machinery, safety work has lately progressed into more difficult psychological fields, and is attempting through internal advertising, safety contests, and other forms of recurrent emphasis to establish throughout the whole plant a frame of mind alert to avoid all accidents whether arising from mechanical or nonmechanical sources.

Fatigue and monotony have been given some attention as causes of accidents and of injury to nerves and body structure as well.[54] Yet almost nothing is known about them or the conditions which bring them about. There is wide popular discussion of the effects of modern mechanization upon decreasing skill and increasing monotony, which is extremely difficult to bring down to cases even after the examination of many plants. This is likely to be true so long as we know no more than we do at present about what precisely constitutes fatigue and monotony and their relation to skill. The comprehensive changes of the past few years, running in many directions and in varying amounts, have made studies in this field peculiarly difficult. For a change in conditions of work may, merely as change, induce fatigue or interrupt monotony. There have been many displacements by highly simplified jobs of complex jobs which used to be called skilled and were therefore considered interesting; and there are jobs of tending new, elaborate, and expensive machines which are not now called skilled but which demand a high grade of general intelligence and care. There are thousands of jobs for the unskilled carrying with them a high interest content and greater opportunity for self-respect than most unskilled jobs of former days. And there are thousands of jobs calling for the simplest repetitive effort, concerning the interest-content or fatigue-effects of which we as yet know nothing.

[52] See Herman Feldman, *Regularization of Employment*, 1925; and *Business Cycles and Unemployment*, National Bureau of Economic Research, 1923.

[53] A close comparison of 359 companies by the American Engineering Council showed a drop of 10.4 per cent in accident frequency between 1922 and 1925.

[54] See "Mental Hygiene in Industry," in *Psychological Foundations of Management*, H. C. Metcalf, editor, 1927.

A considerably increased satisfaction in the job seems to be possible through working in teams. Modern methods have greatly enlarged the use of workers teamed up into organized groups, and there is some evidence that a given job is less monotonous when it can be continually seen as a part of a more complex job done by the team of which one is a member. At the moment nothing final can be said upon this extremely important subject of job interest. From all the evidence available, it seems, however, wholly safe to guess that the total fatiguing effect of factory work has not increased, whether monotony has or not.

The hazards of accident are now generally met, in part at least, by state laws; the hazards of sickness are met quite commonly by employee mutual benefit associations, independent of or assisted by employers, and also to a growing extent by group insurance. Group life insurance has had the most striking development in recent years—54 per cent of the companies in this survey, and 40 per cent of 4,655 companies reported on by the National Industrial Conference Board in 1927, had it in force. The Board estimates that, by the end of 1926, 4,700,000 employees were covered by group insurance totaling $5,500,000,000. In October, 1928, Mr. Graham, of the Equitable Life Assurance Society, estimated 5,800,000 employees covered by $7,500,000,000 of insurance.[55]

Ten years ago, the argument was generally advanced for group insurance that it would reduce labor turnover, but it is doubtful if it ever did so in any significant number of cases. To-day it is generally advocated upon the grounds that relieving the stable and responsible type of worker from some of the worries of death and sickness hazards results in benefit to the company through his released energies and enhanced goodwill. There has been a strong drift toward having employees share in the costs of those plans for life and sickness insurance which have been instituted in the last five years. The Conference Board reports that, of the group insurance plans established in 1919, 6.7 per cent were contributory, and in 1925, 68 per cent.

Pension plans are rarer than group insurance, in spite of the fact that the pension idea is the older. They are found in a great variety of forms, among which can be discovered little uniformity of idea. Publications on the subject have increased since 1921, partly because the failure of certain pension plans called attention to the ease with which their true costs can be overlooked, and recently a few group insurance policies with annuity provisions have been taken out. As the higher costs are realized, there is likewise a growth of contributory plans. In the report of Bryce M. Stewart, of the Industrial Relations Counsellors, Inc., it is stated: "While only 16.7 per cent of the plans recorded in this study are contributory, the proportion of contributory plans has increased steadily from 10.5 per cent of the total number established in the five-year period

[55] Other and fuller figures are included in Chap. VI, pp. 484–487.

1906–1910 to 24.6 per cent in the period 1921–1925." Eighty-five per cent of the plans covered were set up after 1910. As the case for pensions from a purely business point of view, it is urged in Mr. Stewart's report:

> That, in the absence of formal pension provisions, employees are likely to be retained on the pay roll beyond their efficient age; that the pension plan affords greater facility in the retirement of incapacitated employees, and that a modern pension scale is probably less costly than the retention of aged workers on the pay roll.[56]

The growing belief of workers that employers are opposed to hiring persons past middle age in order to keep their pension liability low, and discussions of the difficulties involved in developing adequate private industrial pension plans, have stimulated in a few states the movement to establish state pensions supported by taxation.

The study made by Dr. Lubin[57] shows an unexpectedly large proportion of younger men among the unemployed:

AGE DISTRIBUTION OF UNEMPLOYED

Age	Number	Per cent of unemployed	Cumulative per cent
15 to 20 years	72	9.5	9.5
21 to 25 years	118	15.7	25.2
26 to 30 years	122	16.2	41.4
31 to 35 years	157	20.8	62.2
36 to 40 years	111	14.7	76.9
41 to 45 years	77	10.2	87.1
46 to 50 years	30	4.0	91.1
51 to 55 years	26	3.4	94.5
56 to 60 years	14	1.9	96.4
Over 60 years	16	2.1	98.5
No data	11	1.5	100.0
Total	754		

Believing that financial and other difficulties will make adequate pensioning impossible, some companies, by instituting schemes which offer special incentives for cash savings, or which enable the employee to purchase the stock of the company upon an installment basis and at a price below the market, have in recent years encouraged employees to make provision for old age. Many companies promote thrift in co-operation with savings banks,[58] making it easier for employees to save by permitting them to authorize pay roll deductions to be credited to their

[56] See also, E. S. Cowdrick, "Pensions, A Problem of Management," American Management Association Convention Series No. 75, 1928, and a report on "Pensions in Trade Unions," by M. W. Latimer, Industrial Relations Counsellors, Inc.

[57] See footnote 27, p. 514.

[58] Employees' savings data from 1917 to 1925 can be found in "Trend of Wage Earners' Savings in Philadelphia" by Margaret Schoenfeld, published in the *Annals of the American Academy of Political and Social Science*, September, 1925.

accounts at the bank. Several varieties of savings plans, especially Christmas and vacation savings, have been known for many years, but, until the war period, were actually in effect in a very small number of companies. Thirty-three per cent of the companies covered in this survey have now established savings plans, or co-operate with banks, building and loan associations, and similar organizations in the effort to promote thrift among employees.

Stock purchase plans were found in one-quarter of the companies covered in this survey, appearing in one-third of those having functionalized employment work, and one-fifth of the others. While stock purchase plans have existed in a few companies for more than a quarter of a century, the movement as a whole is of comparatively recent origin. "During the war and the period of prosperity that followed, the movement increased with special rapidity. In 1921, when business was depressed, and in 1922, there was a distinct falling off in the number of companies making new or further offerings of stock. In 1923, however, the movement started with renewed vigor."[59] Of the 389 plans, considered in 1928 in the report of the National Industrial Conference Board, 273, or 70 per cent, were established during the period from 1916 to 1925, and 162, or 42 per cent of the total, during the five-year period from 1921 to 1925. There has been much discussion[60] as to the possible influence of such movements upon the future, but they are in fact too new as yet to afford decisive evidence as to their effects. A few failures which have wiped out employee savings have pointed the need of special caution.

Company loan funds seem to be of diminishing significance. In a few plants provision for making loans to employees from company funds will be found, but a mutual savings and loan fund, and, especially in some localities, credit unions, have made less frequent the calls of employees upon employers for emergency aid.

Credit unions, from European models, were adopted by Canada in 1900, through the influence and enthusiasm of M. Desjardins. In 1909 they were established in Massachusetts, with the help of Pierre Jay, who was then bank commissioner; and under the influence of Edward A. Filene have since then grown greatly. In 1927 there were 279 in Massachusetts with assets of $13,500,000; and in other states, with later starts, there has been similarly rapid growth. Being self-managed, they give training in business methods to many rank and file employees and hence are of a broader than financial significance.[61]

[59] R. F. Foerster and Else H. Dietel, *Employee Stock Ownership in the United States*, 1926, p. 7.

[60] See, for example, the *Proceedings of the Academy of Political Science*, Vol. II, No. 3, April, 1925.

[61] See R. F. Bergengren, *Cooperative Banking, a Credit Union Book*, 1923.

Other provisions aiming at financial benefit to employees are company stores and special buying privileges. They were found, in this survey, in one-fourth of the companies having functionalized personnel work, and in 6 per cent of all others. The movement to establish company stores was at its height during the war years and until 1921, but their importance from the standpoint of money savings has greatly diminished in recent years because of the decreased cost of living. In most companies where there are still special buying provisions, the list of goods handled has been greatly reduced; it includes sometimes only those articles regularly carried in stock by the company for its own use.

At one time, the social, athletic, and recreational activities known as "welfare work" were regarded as inducements which would attract the better class of employees. Company provisions for these activities, and opportunities of the same character afforded by various public and private organizations in most communities, are now so common that their differential value as special attractions is almost negligible. The results of this survey showed no recent development along these lines. On the contrary, there were several companies in which one type or another of such activities had been discontinued because of diminished interest on the part of employees and in order to reduce expense. Nevertheless, social activities, such as picnics, dances, and entertainment for employees and their families, were carried on in one-third of the plants visited; athletic teams, partly or wholly supported by the companies, in one-half; and recreational facilities, such as rest rooms and game rooms, in more than 40 per cent.

Joint Relations.—While there is no adequate measure of the changed and changing attitude of management toward joint relations, it is apparent from many indications that executives to-day are more ready than they were before the war to enter into organized schemes for regularly dealing with their employees. It is still undoubtedly true that in most establishments the relations of the management with employees are with individuals only, and based solely upon supervisory contact. This was the situation in well over one-half of the companies covered by this survey. About 20 per cent had active, formal employee representation plans, 10 per cent dealt occasionally with specially elected employee committees, and 6 per cent were working under union agreements.

The year 1921 saw the discontinuance of many arrangements for joint relations, both union agreements and independent employee representation plans. The serious unemployment at that time and the weakened position of the unions resulted in the abrogation of many arrangements made during the war and boom years. Many plants closed, and when they reopened the employee committees which had previously existed were not revived.

The figures in the following table of the National Industrial Conference Board show that there have been many changes and a slight net growth:

GROWTH OF EMPLOYEE REPRESENTATION[a]

	1919	1922	1924	1926
Number of companies with employee representation plans	145	385	421	432
Number of companies establishing new employee representation plans during the period between surveys	.....	317	173	59
Number of companies discontinuing employee representation plans during the period between surveys	.....	77	137	48
Number of workers covered by employee representation plans	403,765	690,000	1,240,704	1,369,078

[a] Adapted from table in *Service Letter*, No. 359, January 10, 1927.

It does not appear that the success or failure of an employee representation plan or of a co-operative relationship with a trade union is dependent upon the size or nature of an enterprise. The attitude of the managing officials has more to do with it. An analysis of the cases of abandonment of works councils[62] shows the causes reported by the companies to be "discussion of trivial matters," "lack of interest in elections," "poor selection of representatives," "plans too cumbersome," "improper candidates for representatives," "fluctuation of employment demoralized councils," "business conditions," "committee would not respect instructions from supervisor," and "more time spent in conference than in production." From these it is apparent that the executives in the companies which abandoned works councils had not seriously regarded joint committees as affording employees an opportunity to participate in the processes leading to decisions affecting them, or thought through many of the problems of operating in conjunction with them, but had continued traditional attitudes and methods of control.[63]

Most employee representation plans, adopted in the years of the war and the boom, came from mixed motives, ranging from sentimental to ulterior, and most of them failed.[64] It is as yet too soon for final judgments of the survivors or of the younger plans. But there is plenty of evidence that, where built soberly into consistent relationships with the whole organized structure, they are proving to have deep and many-sided values.

[62] National Industrial Conference Board, *Service Letter*, No. 364, February 14, 1927.

[63] For fuller description and discussion, see Burton, *Employee Representation*, Baltimore, 1926.

[64] See, also, Chap. VI, Labor, p. 484.

During recent years there has been an increasing amount of discussion[65] concerning the effectiveness, both from the standpoint of management and of labor, of union-management co-operation, under arrangements similar to those obtaining on the Baltimore & Ohio, Chicago Northwestern, Grank Trunk Western, Chicago, Minneapolis & St. Paul, and Canadian National Railroads. This idea, also, is too new to judge; with it, as with other radical changes, such as newly installed piece rates, mergers, and works councils, there is always danger of being misled by the clean sweeps of a new broom. But certain special areas of possibility for co-operation have been under test for a number of years by some of the printing trade unions, and similar work in the clothing trades is beginning to show something of the opportunities and limitations of unions as partners of management in working toward higher productivity.

III. MANAGEMENT OF MARKETING

Since 1920, it is pre-eminently the problem of marketing, and especially the creation of demand for the product and the development of new products, which has held the attention of business executives. It is often said that mass production is forcing selling; it is probably more accurate to say that the turn of the price curve in 1920, after a score of years of scarcely interrupted rise, has forced both mass production and intensive selling.

A widespread interest in marketing methods cannot be said to have come with the turn of prices, although at that time there was plenty of talk about the difficulties of getting sales. As early as October, 1920, however, articles suggesting a more scientific viewpoint on marketing appeared in the Taylor Society *Bulletin*. The Joint Committee on Agricultural Inquiry in 1922 issued a report which attracted attention to certain high costs of marketing. And the *Harvard Business Review*, since 1922, has persistently printed articles analyzing sales problems.

In recent years, interest has increased with great rapidity.[66] Distribution conferences were held by the United States Chamber of Commerce in 1925, and commercial surveys and special marketing censuses have recently been made by the Domestic Commerce Division of the Department of Commerce. As yet, however, marketing technique must be judged primitive both in its planning and in its control. There are a few important exceptions, but as a whole it must be said that manufacturers, wholesalers, and retailers alike, in their marketing thinking since 1920, having passed through the expletive stages, are only just entering the

[65] See, for example, *Bulletin* of the Taylor Society, February, 1926.

[66] Since 1922, a large number of books on all phases of marketing management have been published.

explorative. Even to-day, more marketing executives are worrying than are analyzing conditions and inventing measures appropriate to them.

Among those companies which have made changes, there is appearing a tendency toward functionalization similar to the tendency which has been developed in manufacturing. There are being introduced into their sales departments men to give centered attention to special problems of progress. It is being found, as was found in the factory, that those men responsible for carrying on the daily routine of getting orders should not be solely depended upon to devise and improve the methods of getting them.

The department to devise methods of selling is most often the "sales promotion department." For the development of new and improved goods to sell, there are engineering or design departments or committees who concentrate on merchandising. These companies have sent an increasing number of specialists into the field, not chiefly to sell but rather to prepare the way for future sales by learning and teaching the best uses of the goods. For those who have sold production equipment, this has meant sending men who have sometimes acted as consulting engineers for their customers; for those who have sold to retailers, it has meant sending men expert in display methods or in specialized retail salesmanship. Measures of this sort have not usually been planned for permanency, but have been undertaken rather more often to develop a new market or to consolidate an old one.

Sales Personnel.—Even where, in these companies, special men have not been sent out into the field, attempts to serve a similar purpose have been made through an alteration of salesmen's methods or of personnel. Selection, training, and remuneration have been subjects of increasing interest in discussions and in business literature.[67] Something like 50 per cent more articles appeared on these subjects in 1927 than in 1925. The companies which are reorganizing their sales efforts are taking more pains with selection, in an attempt to get men not merely of good manner and persuasive powers, but of quick intelligence. For producers' goods, technically trained men have been increasingly sought, and to sell all sorts of goods there is a growing demand for college graduates. Psychological tests were tried in many cases, but have persisted only with a few large companies; interest in them does not seem to have waned, but sales managers are rather holding off until more satisfactory tests have had a chance to be developed.

The training of salesman to meet the difficult conditions of the field is being carried on with increasing elaboration, and always with more emphasis upon knowledge of the product and its uses, and distinctly

[67] "Selection, training, and supervision" stood second on a list of 27 "outstanding problems of marketing management" in the answers to a questionnaire of the Taylor Society, published in its *Bulletin*, December, 1927.

less upon the technique of persuasion and what used to be called salesmanship.

Changed conditions have forced companies to give more and more consideration to the problems of salesmen's remuneration. Some years ago, certainly, and probably now, a straight commission on sales was the prevailing method. To-day, wherever missionary and educational work are important, this simple method is found inadequate. A number of other devices are being tried, some of which have been enthusiastically proclaimed as the one best method. Most of the sales executives who are working at this problem seem to believe that no one system will be found; that a variety of devices of remuneration will have to be combined in different ways to meet different conditions.

In the past, there has been a general lack of close management in the routing of salesmen and in studying their performance through frequent reports. One frequently heard the complaint that " men do not like to be held to a definite route," and "we can not get our older men to turn in any reports." This situation is closely parallel to those of an older day in factory departments, where piece rates or the "highly skilled workmen" were depended upon to keep the wheels going.

To-day, the attempts to get increased sales and more capable salesmanship, and yet to sell at a lower sales cost, have encouraged the analytical studies of quotas, which have been widely instituted during the past few years, and have led some companies to restrict the territories or lists of customers salesmen are expected to cover.

Sales Costs.—Sales expense is the center of increasing attention. A number of companies reported that they were now undertaking a study of this problem, and were setting up new statistical or accounting precedure for the purpose. The figures of 81 companies, widely distributed geographically and over different trades, have been carefully analyzed by Bigelow, Kent, Willard & Co., Inc., of Boston. They are for the first six months of 1926, 1927, and 1928, as shown in the tables on page 534.

The general trend of reduction in manufacturing costs has made selling relatively, even where not absolutely, of greater importance.[68]

With the encouragement of the Harvard Bureau of Business Research, accounting for sales *expense* has been greatly extended and improved. Sales *costing*, however, as it bears upon different lines of goods or classes of customer, has been little analyzed. There has been a certain degree of broad departmentalizing; but the prevailing custom has been to express the cost of selling as an over-all percentage applying equally to all goods and all transactions, thus losing any differentials of cost there may be

[68] The trends of sales expense among retailers, wholesalers, chains, and department stores are discussed in Chap. V, pp. 352–374.

COSTS ANALYSIS OF 81 COMPANIES

Item	Profit-making companies			Losing companies		
	1926	1927	1928	1926	1927	1928
Number	68	62	51	13	19	30
Sales ratio	1.000	1.039	0.982	1.000	0.949	0.977
Sales	1.000	1.000	1.000	1.000	1.000	1.000
Manufacturing costs:						
Material	0.491	0.476	0.475	0.602	0.591	0.588
Labor	0.182	0.180	0.179	0.191	0.190	0.188
Manufacturing expense	0.107	0.108	0.117	0.153	0.158	0.142
Total	0.780	0.764	0.771	0.946	0.939	0.918
Gross profit	0.220	0.236	0.229	0.054	0.061	0.082
Commercial costs:						
Selling	0.082	0.110	0.121	0.121	0.147	0.156
Administrative	0.054	0.058	0.056	0.099	0.087	0.080
Total	0.136	0.168	0.177	0.220	0.234	0.236
Operating profit or loss	0.084	0.068	0.052	−0.166	−0.173	−0.154

CHANGE IN RATIOS FROM 1926 BASIS IN PER CENT

Item	Profit-making companies		Losing companies	
	1927	1928	1927	1928
Materials	− 3.06	− 3.26	− 1.83	− 2.33
Labor	− 1.1	− 1.65	− 0.52	− 1.57
Manufacturing expense	+ 0.93	+ 9.3	+ 3.27	− 7.2
Selling expense	+34.1	+47.6	+21.5	+28.9
Administrative expense	+ 7.4	+ 3.7	−12.1	−19.1
Profits of profit-making companies	−19.0	−38.1	.....	.....
Losses of losing companies	.....	.....	+ 4.2	− 7.2

among them. Significant of a change are two recent articles,[69] published by the Department of Commerce at the request of its Advisory Committee on Distribution.

Reorganizations of the sales force cause temporary extra expenditures by selling departments, much of the sort which, when spent for tangible assets, are counted as investments. Those manufacturers who are so reorganizing know this, and count it as a special expenditure. But they expect it, when fully completed, to reduce their cost of sales even in spite of hard market conditions.

[69] J. W. Millard, *Analyzing Wholesale Distribution Costs*, and G. E. Bitner, *Analyzing Retail Selling Costs.*

Advertising.—It was commonly believed that, in its day, the excess profits tax was the cause of a tremendous increase in advertising. During the depression of 1921, advertising was greatly curtailed, but the indications of this survey are that, between 1922 and 1924, the amounts spent in advertising increased at nearly double the rate of other increases in sales expense.[70] Since 1924, this rate of increase has materially diminished.

High pressure selling efforts of the producers of various forms of advertising accompanied these great increases in expenditures, and a large number of advertisers allowed themselves to be governed by plans originated by the sellers, without taking the trouble to find out for themselves all the factors involved in this important part of their marketing management. As a result, many advertisers have been spending their money with no definite goal or, if they have one, without knowing whether they are hitting the mark or not. Among the sellers of advertising are many highly efficient men, who approach their tasks in a conscientious frame of mind, who believe that the future of advertising will depend upon the analytical intelligence with which it is used, and who are working energetically toward sound practices. There were definite general indications in the first part of 1928 that advertising appropriations were going to be looked at with a more discriminating eye, either to reduce the total amount or to apply it in more effective ways.

Merchandising.—By far the most important occurrences in American marketing have been the invention and introduction of a wide variety of new consumers' goods. These well-known inventions, and the national success of those who have sold them, easily give the general impression that every business man in this country is altering his merchandise and inventing new. As a matter of fact, it is hard to discover in a field survey that the job of analyzing merchandise and its uses, the every day part of the job of merchandise invention, is adequately arranged for. The progressive development of the quality and utility of merchandise, and its continuously closer adaptation to both market needs and manufacturing facilities, have been the responsibilities of no one in particular and everyone in general. They were usually found to be expected of the chief executive or the board of management, in addition to their other duties. The result has been that such improvements as did occur were often strokes of good fortune or the consequence of insistent market pressure. Final results are, therefore, spotty. The known cases of organized systematic merchandise inventing, outside of the engineering industries, are few in number as compared to the total business organizations of the country.

[70] For 1927 the total spent on advertising, as estimated by Dr. Copeland, was $1,500,000,000. See Chap. V, p. 402.

Those who have taken definite steps to meet the need are specializing upon research into the make-up of the merchandise and the needs of the market, and toward a closer co-ordination of the designing, engineering, manufacturing, and sales departments. They are trying to find out how to make their products accord in quantity and kind more nearly with the desire and capacity of consumers to buy, and hence to find savings in simplifying the movement of goods from shipping platforms to ultimate consumers, comparable with the savings which have been made in manufacturing them. The influence of field specialists, demonstrators and instructors, upon this work is notable. The creation of most merchandise is, in fact, found to be more effectively carried out in contact with the place where it is used than shut up in a manufacturing laboratory.

The function of merchandising is only partly the developing of new goods. An integral part of it is eliminating items and standardizing parts. This task, which under the influence of the Department of Commerce has gained the name "simplification," has won a definite standing in American industry. It is being carried on both by trade associations and by individual employers. Where merchandising is to be found thoroughly organized, the simplification process is being worked out continuously, going along with the development processes of adding new goods and improving old. By persistence in pruning out the least desirable and adding the better, progressive improvement of the lines to be sold is accomplished.

Determining the price at which goods were to be sold has, in the past, been a responsibility of the sales department in most companies. Pricing is now showing a trend away from exclusive selling influence. It is carried on in a variety of ways, which most often lead up to an ultimate board of management for approval; but in the discussions and determinations of price bases there are more and more appearing such other influences as that of the accounting department or the field specialist.

During the years of greatest upheaval, many manufacturers, to determine their sales possibilities, undertook thoroughgoing market analyses which were, however, too expensive to be carried on generally. Some market analyses of wide usefulness, available to all, have been instituted by some of the larger advertising agencies. More recently the Department of Commerce has undertaken, for the first time in the history of this country, a census of retail and wholesale distribution. It is experimental only, covering 11 cities, but has proved to be of such interest that it is expected to be the forerunner of the first complete national Census of Distribution to be taken in 1930. While the variety of information required by different companies is great, there is certain basic information for the setting of quotas, the allocation of sales territories, the evaluation of competition, and the checking of performance, which is of definite value to all.

Trade Channels.—The general pressure for sales, intensified and complicated by the rapid rise of chain stores, has given to those manufacturers who sell to distributors for resale some special problems, the definite solutions for which are as yet hardly to be found. Whether to try to distribute identical products through all the different trade channels, or whether to sell through the jobber, or direct, or exclusively to chain stores, are problems being tried out in many ways. Those manufacturers who have experimented the longest believe that the answer does not lie in any one alternative, but in some nicer adjustment of means to ends. To them, to rely exclusively upon the chain store, or jobber, or to eliminate either, offers no solution. They are experimenting to find what parts of their business are best adapted to the one means or the other.

Almost any close study of the market reveals one tendency which must necessarily run with low inventories and hand-to-mouth buying. Speed and dependability of delivery are of increasing importance in getting orders. This tendency has worked with the cost of selling as an influence, slight as yet but probably significant, toward so delimiting sales areas as to make the most of territorial advantages.

Wholesalers.—Developments in transportation, in availability of capital, in advertising, in merchandise, and in chain store and mail order retailing have combined to change greatly the traditional management problems of the wholesaler—the "jobber" of former days. His markets are not the same, nor is the competition he must meet. Skill in making a good "trade" is taking second place before skill in a nice fitting of varied means to ends. He is accommodating himself but slowly to these changes; in general it may be said that he has attempted rather to trade his way out of his troubles. But in February, 1928, a Wholesalers' Conference, held in Washington, sought to stimulate frank analysis, research, and constructive action.

Constructive methods are being tried in a few significant cases. Line analyses have resulted in lessening unprofitable sales pressures and removing slow movers and duplicate items. The Department of Commerce reported one case where 42 per cent of the sales were accountable for 14 per cent of inventory, and 17 per cent of the sales for 49 per cent of inventory.[71] Analysis of sales by regions and delivery costs have resulted in radical revisions of territory. Headway has been made in a few instances, even against the influence of hand-to-mouth buying, in reducing the number of those orders which are so small that merely entering and handling them use up their margin of profit.

In specific response to the chain store threat, a few wholesalers began, with chosen groups of retailers, to work out experiments in joint and

[71] J. W. Millard, *Analyzing Wholesale Distribution Costs.*

regular buying to save selling and handling cost, and in advisory specialist services for window display, store arrangement, accounting, and stock control. During the last three years, moves of this sort have spread with great rapidity,[72] especially in groceries and drugs. Group buying by wholesalers themselves has also been started, to enable them to hold their own with chain stores in buying power.

Small Retailers.—Dr. Julius Klein, of the Department of Commerce, reported, in his radio talk of September 8, 1928, an estimate of 750,000 retailers in the United States doing an average business of less than $25,000 each per year. In one of the trial census cities, "over a third of the retail stores are each doing less than an average of $7 worth of business a day." A great many have been and are being hard hit or actually knocked out[73] by chain stores. But it is not the smallest or those of any other size group which are losing; it seems rather to be those who have nothing but price to rely upon to make their appeal for patronage.

As offsetting the thousands of retail grocers who have been put out of business by the chains, the *Winnipeg and Western Grocer*, on May 15, 1928, calls attention to the "other thousands who have been spurred by chain competition into running better stores."

Little information is yet available from which any adequate picture of these hundreds of thousands of shops can be drawn, or anything more than a guess made as to their fate. When the department store came, and again the mail order house, their doom was proclaimed. Yet many survived and it is likely, therefore, that many will survive the coming of the chains. The crucial factor seems to be management ability rather than size or location. Failure stories seem to bear this out. A close study of 500 grocery failures found 65 per cent accounted for by beginners' handicaps—chiefly incompetence or lack of capital; 17 per cent were from character breakdowns; 16.6 per cent, from fire, flood, sickness, and robbery; and 1.4 per cent directly from competition.[74] Hardware stores, to judge from a survey of 1,330 of them, undertaken by the National Retail Hardware Association, do better in smaller communities than in large. Those located in towns of less than 1,000 population averaged 9.33 per cent profit on their investments in 1927, while those in cities of 50,000 and over made 5.96 per cent. Rent and salary expense in the smaller communities was 13.5 per cent of sales against 20.25 per cent in the larger.

[72] "Forty-two wholesale grocery firms, owned by a group of retailers representing 15,000 individual retail grocery stores throughout the United States, have organized the National Retail-Owned Wholesale Grocers' Association for the betterment of the individual retailer and the general improvement of trade conditions." *Journal of Commerce*, New York, January 27, 1928.

[73] But then they seem to be always getting knocked out by one thing or another, as an article by J. George Frederick in the *North American Review*, October, 1928, brilliantly and wittily sets forth.

[74] *Ibid.*

But even those independents left out of jobbers' chains are apparently not going to rest content without some of the advantages of group action. According to the New York *Journal of Commerce* of October 27, 1928, "thirteen buying groups of retailers in Canada with a total of 2,724 stores will do an estimated business of 54 millions in 1928. Buying groups did an estimated business of 42 millions in 1927, while chains did 49 millions." They claim that at least 50,000 United States retail grocers, who do a business nearly equal to the chains in their line, are affiliated in some way with co-operative groups.

With the settling down of chain store development, there has appeared evidence that a flowing in and out of managers and buyers between small independents, chains, and department stores, is taking place. To whatever extent this spreads, it seems likely to result in a better adaptation of special abilities to their appropriate jobs and a general raising of retail management technique. Without such outside influences, the intensely personal quality of the owner-merchant's job has made him slow to recognize any but its unique aspects and quick to reject ideas of change as reflections upon past performance.

To estimate conditions and trends among so large and varied a group of men is difficult. There would certainly not seem to be as yet sufficient grounds for the belief that the small, independent retailer is soon to be relegated to an insignificant share in the whole field of distribution.

Department Store Management.—The beginning of this decade found department store managers giving most of their attention to problems involving the procurement of goods and the maintenance of a satisfactory personnel. With the depression of 1920–21, interest turned to questions of stock control.[75] During subsequent years, increasing competition from other department stores, chain stores, and mail order houses, and the upward tendency of operating expenses have caused emphasis to be turned to problems of sales promotion, more precise control over expenses, and more careful selection of merchandise.

The past ten years have witnessed a definite trend toward great functionalization in department store organization. Many had attained their large size and volume of trade as the result of constantly adding departments, each under control of a department head or buyer who carried on the purchase, display, and sale of some new line of merchandise. During the period of abnormal business activity at the close of the World War, many of these departments were considerably enlarged, and a wide variety of burdens of administration were placed upon the buyers. In the general overhauling of organizations which occurred after the depression, departments were subdivided and buyers given control over more limited and specialized lines. Beginning with this period, there has been a small but growing tendency to introduce divisional

[75] See also M. P. McNair, *The Retail Method of Inventory*, 1925.

merchandise managers, who have been given charge of related departments to relieve the buyer of some of his co-ordinating responsibilities. Paralleling this trend has been a tendency to substitute, for the old-time floor walker, a section manager who has been given greater jurisdiction over personnel. Concentration of attention upon closer stock controls and increased rates of turnover has led to the functionalization of receiving, checking, and marking incoming goods. Justification has been found for giving greater power to such men as the comptroller, publicity manager, and general superintendent.

In addition to these trends, there has been during the past ten years, as in manufacturing, a tendency to introduce new functional activities, requiring the services of specialists, such as store display specialists, color experts, and traffic managers. Of predominant influence in the last few years has been the installation of "stylists."

All of these tendencies have combined to decrease the variety of responsibilities hitherto assigned to the buyer. In the last year or two there has been discussion among department store managers as to the desirability of even further subdivision of responsibility. Chain stores have always made it a practice to separate the functions of buying and selling. A similar separation is now being tried in a limited number of department stores.

In many stores, some of the complexities resulting from growth and the introduction of new departments have been avoided through the leasing of some specialty or service departments to syndicates composing a chain of such departments. A survey[76] of 88 stores in 1928 showed one-half the stores to have from one to three departments leased. Nearly two-thirds leased their millinery departments, and about the same number their beauty parlors; about one-third leased shoe departments, one-fifth their candy, and one-fifth their optical departments.

Recent years have witnessed a serious attempt on the part of some department store managers to standardize the quality of their merchandise. Testing laboratories have been introduced in many of the larger stores for the purpose of insuring proper quality of goods. Customer complaints have received attention of a more scientific nature, and specifications for purchases have been more rigidly defined. For example, during the last year or two, inspection of size has been increasingly undertaken.

A striking feature of the decade has been the rapid growth of resident buyers located permanently at foreign and domestic market centers, where they purchase for one or several department stores. This can be accounted for by the decreasing weight of a single department store buying power in comparison with that of other retailers since the advent

[76] By the National Retail Dry Goods Association, conducted by Miss Grace J. Averall.

of the chain stores and mail order houses. The growing importance of style in an increasing number of articles, and the rapidity of style changes, have also forced closer contact with the markets. Style has, in fact, affected nearly every part of the technique of retail store management.

The increased pressure of competition during recent years has thrown a heavy emphasis upon sales promotion. This activity is being directed to a greater extent toward the bringing of people into the store and to a lesser extent toward the selling of specific merchandise. Institutional advertising is increasing, and there has been a rapid growth of "shoppers news," distributed from house to house, thus taking a new place midway between newspaper advertising and direct mail solicitation. Department store window displays are tending more toward beauty and less toward the presentation of specific merchandise.

The similarity of their problems, and the noncompetitive nature of those department stores which are situated in different localities, have made them a particularly fertile field for the development of co-operative relationships. During recent years, a number of associations of department stores have been formed for the purpose of group research through store comparisons, as well as for the practice of group buying. Another feature of the period has been the development, through the Harvard Bureau of Business Research, of comparative statistics of expense ratios drawn from figures regularly sent to the Bureau by a large number of stores. These tabulations have developed standards with which contributors can compare their own figures.

Personnel work in department stores has passed through approximately the same cycles as it has in manufacturing, except that it was not so generally allowed to drop during 1920–21. With the exception of the work of training, the trend during later years has been toward greater functionalization. Training departments, at first highly centralized, show now a tendency to limit their activity to brief courses in store systems and procedure and to supervision over the decentralized training activities in the various departments.

The employment function has been assigned to a specialist in a large number of stores. The use of psychological tests is showing a slow increase, and in at least one instance psychiatric studies[77] have been undertaken. Rating of employees is a practice which is generally increasing, and many stores have arranged for a periodical review of salaries in the light of the more recent ratings. College graduates are entering retail stores in increasing numbers, and the study of retailing is included in the curricula of our educational institutions.

Medical service has been for a considerable period quite fully functionalized in department stores, but physical examinations are required in a limited number of stores and there is little evidence of their increasing.

[77] See V. V. Anderson, "A Psychiatric Guide for Employment," *Personnel Journal*, April, 1928.

Wage incentives for selling employees are common, and a variety of salary and commission or salary and bonus plans are in use.[78] The seasonal character of the business renders the setting of quota bases for such plans rather intricate, and there are some experiments with simpler forms of payment, which, nevertheless, will still be based upon individual effort. In office work incentive plans are being used more often, and there has been a determined attempt to install such systems in the delivery departments, in spite of the difficulties of establishing proper standards and units of measure. The setting of standards in other nonselling departments through time and motion study has been undertaken by a few stores, and there is evidence that increasing attention is being given to improvements in all nonselling operations.

There seems to be no recent growth in employee representation, similar to that shown in manufacturing, although a few stores have had plans of this general nature for a considerable period.

Chain Stores.—The rapid growth of chain store systems,[79] due to the trading strength of concentrated buying, to their opportunities to weigh consumer preferences, to their handling of only quick selling items, and to their elimination of auxiliary services, forced them promptly to center attention upon certain special managerial problems and to functionalize for their continuous handling. The selection of store location, inventory control, accounting, window display, local advertising, and store management were among the earliest specializations, and purchasing was subdivided almost from the first. Interchain competition and the adding of services and slower moving items have hastened the next stage in organization—the efforts to carry on the functionalized activities with closer economy and to blend them more thoroughly into the work of the line organization.

As chains increase in size, problems of warehousing and transportation come to the forefront, particularly in the cases of those chains which originated in large cities but whose expansion program is carrying them into the rural communities. There is some indication that manufacturers selling to chains are growing less willing to accept warehousing responsibilities and small lot shipments. Certain of the large chains have given much attention to this problem, with the result that their warehousing and transportation methods have been greatly refined. In general, however, traffic and warehousing management still offers many problems to be solved.

[78] See D. R. Craig, *Payment Methods in Department Stores*, Retail Bureau, University of Pittsburgh.

[79] See Hayward & White, *Chain Stores, Their Management and Operation*, 1st ed. 1922, 2nd. ed. 1925; W. J. Baxter, *Chain Store Distribution and Management*, 1928; Paul H. Nystrom, *Retail Selling and Store Management*, 1914; also Chap. V, Marketing, pp. 362–369.

Chain store advertising, the absence of which was originally set forth as one of their chain store economies, is increasing. The significance to the consumer's mind of many manufacturers' brands is causing a retardation of what appeared to be, in earlier years, an overpowering trend toward the development of private chain brands. There is a growing number of instances of co-operative advertising between manufacturers of nationally branded goods and chain store systems.

Judging by articles in the chain store publications, there has long been a keen appreciation of the importance of the store manager and, on the other hand, of the difficulty of directing him. In the effort to find practical integration between the specialists' contributions and local managers' individual abilities, between consistency of service and local needs, and between central policies and decentralized administration, chain store systems have carried out many valuable experiments. They have used premium payments, profit sharing, rigidly classified salaries, and individual salaries unclassified; they have turned traveling inspectors into supervisors or into teachers; they have had fields in which the store manager's behavior is rigidly standardized, and fields within which their own judgment rules. Through it all, there runs a persistent tendency to raise the average level of ability of store managers.

The original simplifications of lines down to those which sold most freely allowed problems of sales personnel to become secondary. Now, wherever lines are becoming elaborate and services are being instituted, and especially where there are several stores of one chain in a single community, a few training classes, psychological tests, and sales manuals are appearing.

A special set of problems for the growing chain system arise out of the balancing of expansion with intensive development. With some, total sales have increased, but the sales per store have decreased. The value of priority in a new market has incited many to expand at a rate which has jeopardized their effectiveness and resulted in supersaturation of some markets. There appear to be optimum sizes of chain store organizations, dependent upon the capabilities of the management, which have in some cases been exceeded.

Within the last few years, there has been a growing tendency to develop chains through the simultaneous merging of a considerable number of independent stores. This method of development is different from that followed by the older chains, and materially increases management problems.

Close observers agree that management structures, practices, and abilities in the chain systems have yet to be tempered in the long, hot fires of extended and vigorous competition.

Office Management.—The number of people in clerical occupations is distinctly on the increase. The United States Census showed that from

1910 to 1920, of all men engaged in gainful occupations, male clerical workers increased from 3.8 to 5.1 per cent; among women, the increase was from 7.3 to 16.7 per cent. In Ohio, the percentage of males listed as clerical workers was 5.6 per cent in 1914 as against 6.8 per cent in 1926; of women, 17.6 per cent in 1914 and 26.2 per cent in 1926. These figures can indicate only a part of the growth of clerical service, since there has been, also, during these periods a great increase in the sale of mechanical office equipment[80] which has increased the output per worker.

The development of clerical service has not been accompanied by a similar growth in the status of clerical management. Frequently office management is not found to be a separate operating function at all, and seldom are its duties clearly defined. The title "office manager" is not common; of 145 members of the national association, only 55 are listed in the roster of 1926 as having that title. Office management can be found as a side line of the treasurer or assistant treasurer, the controller, chief accountant, secretary, production or sales manager, and even the purchasing agent. It is not, therefore, surprising that its co-ordination with other departments is seldom found to be well effected, in spite of the importance of its work in cost control and in a variety of other ways to both factory and selling departments.

In the limited way in which conditions allow it to operate, the National Association of Office Managers has been persistent in cultivating better management methods. A decade ago, in discussions and business literature, a standardization or simplification of forms held a prominent place. Work in this direction still continues, but has been elaborated to cover a wider field of standardization and to include lay-out of office, routing of work, salary classification,[81] standard instruction, and job analysis. The exchange of information on many detailed parts of office management goes on with considerable vitality.

The rapid introduction of office machinery has brought to office management a new problem, and has created, within the traditional office workers, a group comparable to those on light factory processes; in fact, measured production and payment by results have already been established in a small way among them.

IV. SUMMARY

The art of management, in almost all its aspects and activities, turned a corner in 1921. During the up-swing with which the century started, sheer power and drive could win almost every time over finesse. At the turn of the tide, amid the confused cross-currents, more depended upon skillful understandings of the whole situation and nice adjustment of

[80] Two books which are no less than encyclopedias have recently been issued, listing office mechanisms.

[81] See article by M. A. Bills in *Journal of Personnel Research*, March, 1923.

means to the immediate environment. The art of management to-day is in large part the progressive adjustment and integration of conflicting needs, conflicting influences, and conflicting purposes.

All managers, however, did not turn the corner in 1921. A reorganization of thought has had first to be brought about. Under the new charter, to manage is not a vested right but the exercise of a special skill which, through temperament or through training, some have and some have not. An English article expresses it strongly:

> Nothing is more characteristic of modern business than the way in which control based on power and ownership is giving place to authority based on knowledge, qualifications, and skill. Management is no longer a preserve of the owners of capital, nor is it an hereditary right. Men of ability, without capital or family ties to assist them, are breaking into the hereditary ranks. Industrial conditions are in their favor . . . The leveling forces of Nature have been at work, producing the average except in cases where systematic selection has been exercised. But the average man is not equal to the strain of a day when conditions are uncertain, when business is growing more complex, and when nothing but competent administration can enable a firm to survive.[82]

To cope with the growing complexities, the manager type, through slow processes akin to natural selection, is changing. More men are being brought within managerial responsibilities, and the co-ordinated group, each member of which has his own share in the total of responsibilities, is replacing the absolute "big boss." To release and utilize all the creative and managerial abilities which any of their members may possess or develop is the definite goal of organization. There is to-day not only more production per man, more wages per man, and more horse power per man, but more management per man as well.

Reinforcing all the other influences which are pressing toward higher-grade management is the present prevailing doctrine of high wages. Management is the planning and directing of human efforts, and the more one has to pay for these efforts, the more worth while is high-grade direction. So long, then, as that doctrine prevails, it will continue to be a powerful influence toward progress in management. There are as yet no signs of its weakening.

The foundations of experience upon which management is built are broadening. No matter how rich it may be, the experience of one man or even of one company is seldom broad enough for to-day. Associations, periodicals, committees, luncheons are all antennae through which companies become sensitive to current progress. To no small degree it is co-operative thinking which is to be credited with the present state of American prosperity. Freer and freer exchange of information, constantly improving lines of communication, are keeping the body of the American business army marching behind its pioneers.

[82] In *Industrial Peace and Administration*, August, 1928, Oxford, England.

The speed at which changes have taken place and taken effect has varied as widely as human nature varies, and has varied, also, with the differences in the pressure of necessity. As a result, the present situation in the business world is more "spotty" than it perhaps has ever been. Within industries and among industries, there is a wide spread in methods of management. To the "prevailing practices," noted in this chapter, all sorts of exceptions can be found; in the directions of trend there is much more uniformity.

Business has, of course, always benefited from discovery, but it has mostly taken discovery where it found it—as a gift. It is now more often the case that, by research, discovery is specifically provided for and so accelerated. Business research does more than invite discovery; it gives to operating management a chance to base its decisions upon fact; and research and the habits of mind it engenders are extending beyond the applied physical sciences into the fields where conditions are determined chiefly by human desires, impulses, and frailties; into industrial psychology, labor management, marketing, sales management, merchandising, advertising.

Applied to general management, these habits of mind demand that long range plans be made, that jams and emergencies be avoided, and progress itself be scheduled. In a few companies there can be found now the germ of what is likely some day to be a full-fledged and functionalized Department of the Future, which will know how to forecast and to make provisions, within limits, and will know how to estimate those limits.

Finally, such mental habits will bring into business management an appreciation of the principle of balance, which centuries of military experience have taught the general staffs of all nations. A factory too good with relation to its selling force can be a source of weakness and is always a source of internal strain; a company or a community can devote itself to invention which reduces cost too much as compared with the degree to which it devotes itself to invention which increases consumption.

Any step in any direction of progress has so far brought with it an increased complexity; our economic mechanism is now intricate and delicate. During the last generation we have many times found that it pays to get men of better than average intelligence as operators of intricate machines, and to institute careful methods of training for them. We are seeing now more and more clearly that management—the continuous adjustment and steering of our business machinery—demands also its special intelligence and its careful and continuing training.