

FOOD RESEARCH INSTITUTE

STANFORD UNIVERSITY, CALIFORNIA

MISCELLANEOUS PUBLICATION No. 3

JANUARY 1926

**COMBINATION IN THE AMERICAN
BREAD-BAKING INDUSTRY**

**WITH SOME OBSERVATIONS ON THE
MERGERS OF 1924-25**

By

CARL L. ALSBERG

Director, Food Research Institute

**Sometime Chief, Bureau of Chemistry
U. S. Department of Agriculture**

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The Food Research Institute was established at Stanford University in 1921, jointly by the University Trustees and the Carnegie Corporation of New York, for research in the production, distribution, and consumption of food.

DIRECTORS

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PREFACE

Monopoly has always been hateful to men. Monopoly in foodstuffs above all things has aroused their bitterest opposition. Any movement presenting the appearance of a trend toward monopoly in food calls forth suspicion at once. In the last few years the commercial baking of bread in the United States has presented such appearances, and suspicion of the movement is now at its height. Since monopoly in bread would affect the public interest, it is of not a little importance to look behind appearances and to determine, if possible, what lies there and what it portends to the public welfare. To such an end this study is devoted.

Changes in the organization of the American baking industry during the last two years have been so rapid as to be bewildering. From week to week, almost from day to day, new combinations, new financing, new organizations have been announced. Hardly had the manuscript of this study gone to press when new combinations were reported. Not a little rewriting after the receipt of printer's proof was necessary. No doubt before the finished product can come from the presses, further developments, which may materially change the picture, will have taken place. The student of the situation yearns for a slow-motion camera so that he may be able to observe and record with more leisure and greater certainty the moves that pass before his mind's eye with so great an acceleration.

For months past, the baking industry has been "news" almost daily. In consequence, this essay exhibits necessarily a few journalistic traits that give it an air of lack of finish and finality. For example, for many a statement no citation can be given, for there is not yet much of a printed or documentary literature about American bakery combinations. Yet the writer knows these statements to be sound, because based either upon personal observation or upon statements to the writer by reliable persons in the industry. These and other deficien-

cies could have been avoided only by withholding publication until such time as the industry of baking bread had come to a condition of repose. Then this study would have been a history, more interesting possibly, more complete, more accurate, more mature doubtless, but doubtless, too, of but academic value. Because the writer hoped that, if made public now, this study may help to mould public opinion, he has had the temerity to deal with a situation still changing daily that, therefore, cannot now be understood in its entirety, and he has been willing to run the risk of being taken to task for defects resulting therefrom.

The writer has enjoyed the benefit of the suggestions and criticisms of Dr. J. S. Davis, Dr. A. E. Taylor, and Dr. H. Working, his colleagues at the Food Research Institute, and of Professors J. B. Canning, Eliot Jones, and E. G. Mears of the Stanford Department of Economics. He desires to record his grateful acknowledgment of their assistance. Without their encouragement this study would not have been completed. He also wishes to acknowledge the assistance of Miss R. D. T. Lee, especially in the preparation of the appendix, and his indebtedness to Dr. W. Eldred, whose material, gathered at the Food Research Institute in connection with an economic study of the baking industry, he has had the privilege of examining. The manuscript by C. B. Robbins, *A Study of the Problem of Par Value and of the State Laws Authorizing the Issue of Shares Without Par Value*, a thesis written under the direction of Professor J. B. Canning, has also been consulted with profit.

C. L. A.

STANFORD UNIVERSITY, CALIFORNIA
FEBRUARY 4, 1926

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COMBINATION IN THE AMERICAN BREAD-BAKING INDUSTRY

I. CHARACTERISTICS OF COMMERCIAL BAKING

The trend of manufacturing, apparently, is to pass from the household and the home into the hands of artisans, thence into shops, and finally into large industrial establishments. Baking has accompanied spinning and weaving along this road, but in the United States it has traveled more slowly and less far than they. Spinning and weaving have almost disappeared from the home; baking has not. Nevertheless, the value to which the product of commercial bakeries has attained is enormous. It is remarkable, therefore, that until very recently the bread-baking industry has failed to exhibit the tendency of other industries—steel, textile, and flour mills, meat-packing houses, sugar refineries—to agglomerate into huge corporate aggregates. There is a very good reason. It is the distribution, character, and size of the units of the industry as these have developed historically. The industry has been, and still is, distributed widely over the entire country, and it has been, and still is, one of relatively small units. These are circumstances that do not favor agglomeration.

The proof that baking is a widely distributed industry of small units is to be found in the recent analysis of the pertinent census data by Kyrk and Davis.¹ The geographical distribution of baking establishments in the United States is practically the same as that of the urban population. While there is a tendency for the baking industry to concentrate somewhat in the larger cities and to develop disproportionately there, it is nevertheless a far-flung industry to be found over the whole length and breadth of the land.

¹H. Kyrk and J. S. Davis, *The American Baking Industry, 1849-1923, as Shown in the Census Reports*, Food Research Institute, *Miscellaneous Publication No. 2*, September 1925.

The proof of the small-scale character of bakeries is also to be found in the study of Kyrk and Davis, in which it is shown that bakeries have increased in size more slowly than the average of manufacturing establishments.¹ In 1919 there were twenty-five thousand units in the baking industries. The average value of the product per establishment, even at the inflated values of 1919, was only \$45,900. Twelve and four-tenths per cent of the bakeries had products valued at less than \$5,000. About 47 per cent had products valued between \$5,000 and \$20,000. Less than 1 per cent of the bakeries had, even in 1919, an output worth more than a million dollars, the size that most modern industrial establishments must attain before they are considered large.

The average number of employees in baking establishments in 1919 was only 6.9, while in all manufacturing industries it was 36. Fifteen and six-tenths per cent of the establishments had no wage earners; the same percentage had more than 5, and 68.7 per cent had from 1 to 5. Only about 3 per cent of the bakeries employed over 20 wage earners. Not only were large manufacturing establishments less numerous in the baking industry than in manufacturing in general, but they were on the whole not as large as the average of large manufacturing establishments.

A concomitant of the relatively small size of the typical bakery is its low capital investment, which is considerably below that of manufacturing establishments in general. Although the figures for capital investment as reported in the census are notoriously defective, for purposes of comparison they may be useful. The total capitalization of the industry in 1919 was reported as \$520,000,000. The average capital reported for baking establishments at that

¹ "As a rule, the term 'establishment' represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment" (*Fourteenth Census of the United States, 1920, 9*).

time was something over \$21,000, while for manufacturing establishments in general it was nearly \$153,600, over seven times as great. The value of the product per dollar of capital investment is correspondingly high in the baking industry. It was \$2.18 in 1919, while in all manufacturing industries it was only \$1.40. The baking industry is evidently one that is not only small-scale, but also one in which the processes are such that the capital requirement is relatively low.

It is obvious then that, whether measured in money value of output per establishment, in number of employees, or in capital invested, the baking industry is, and has been, one of small-scale production. Is this condition permanent, or is there developing any tendency toward large-scale production? Are large plants becoming relatively more numerous, and are the large bakeries growing still larger? Is the industry tending in the direction of combination? Obviously, since wheat furnishes about 25 per cent of the food energy of the American dietary,¹ these are matters of no little interest.

Some of the questions raised above have been answered by Kyrk and Davis. One of their conclusions is as follows:

It may then be stated confidently that although large-scale production is characteristic of the biscuit and cracker branch of the baking industry, and that while there is a clear tendency toward larger-scale production in the other branch, a scale of production far below the average of American industries is now and seems likely to remain characteristic of baking concerns which produce primarily bread and baked goods other than biscuits and crackers.²

This conclusion is based upon the census data. These deal with each individual establishment. They tell us nothing concerning any grouping of establishments under common ownership or management. This point is to be remembered in interpreting the conclusion cited.

One other important point is also to be remembered, the manner in which bread bakers distribute their wares. As compared with many other manufacturing businesses,

¹ Raymond Pearl, *The Nation's Food*, 1920, p. 236.

² *Op. cit.*, 29-36.

a relatively large proportion of the time of those engaged in the business, whether as owner or as employee, is devoted to selling and distributing, rather than to manufacturing. The proportion of the employees of the wholesale baker engaged in selling and distributing is also large as compared with industries like steel, lumber, and textiles, because, though the wholesale baker does not sell over the counter, he delivers direct to the retailer without the intervention of the jobber. Because of the perishable character of bread, he must make deliveries at least daily, through drivers who must also be salesmen. He has a relatively large proportion of his capital tied up in horses and wagons or in motor trucks. It follows that the size of that portion of the average plant of the baking industry which is devoted to manufacturing as such is even smaller than the census figures uninterpreted would seem to indicate. This consideration, however, does not apply to the cracker- and biscuit-manufacturing branch of the industry as a whole. While the National Biscuit Company distributes directly to the retailer through local branch warehouses strategically situated over the country, most cracker bakers distribute through the jobbing trade much after the fashion of the general run of manufacturers. Even those biscuit concerns that deal directly with the retailer require a smaller delivery equipment than bread bakers, because the less perishable nature of their product makes less frequent deliveries more desirable.

As in the manner of distribution, so in many other important particulars do the two branches of the baking industry differ. Unfortunately, until recently the census has made no adequate segregation of the data collected. In most particulars it has lumped the returns for the two branches of the industry together. Were it possible to segregate the data, there is no doubt that the small-scale character of bread-baking would appear even more striking, for the cracker- and biscuit-baking industry operates on far and away the larger scale. This is obvious if one considers that in the neighborhood of 65 per cent of all crackers and biscuits are baked by two companies, the National Biscuit Company and the Loose-Wiles Biscuit

Company. According to the census, the value of the product of the average cracker and biscuit establishment was over one million dollars, that of other baking establishments, less than \$50,000. According to his own investigation, the Secretary of the Biscuit and Cracker Manufacturers' Association found that the total number of plants (including branches) engaged in the industry during 1923 was as follows:¹

National Biscuit Company plants.....	35
Loose-Wiles Biscuit Company plants.....	8
Association members' plants.....	106
Other independent plants.....	75

The number of cracker ovens installed, he classifies thus:

REEL AND CHAIN OVENS

National Biscuit Company.....	250
Loose-Wiles Biscuit Company.....	88
Independents (Association).....	240
Independents (Non-Association).....	120

A number of factors have contributed to making cracker and biscuit baking a relatively large-scale business in the United States much earlier than bread baking. One of these is to be sought primarily in the non-perishable character of biscuits. As early as Colonial times, there grew up a trade in ship biscuits, especially with humid tropical countries like the West Indies. In such countries flour does not keep well and bread baking is difficult because baker's yeast spoils easily. In the statement, published by Tench Cox in 1810, of *Arts and Manufactures of the United States*, "biscuits" appears on the list of manufactures of the United States most frequently exported in that year. Neither bread nor baking is mentioned. Moreover, biscuits and crackers lend themselves more readily than bread to manufacture by machinery and to mass production, in part because they are not necessarily leavened by yeast. Inventors, therefore, turned their attention in the United States as early to cracker ma-

¹ R. T. Stokes, "A Review of the Biscuit Industry for 1924," *The Cracker Baker*, July 1925, p. 34.

chinery as to oven improvement or kneading machines. As long ago as 1813, Jehoshaphat Starr, of Middletown, Middlesex County, Connecticut, was granted a patent for making ship and other bread, while in 1815, William Liddle, of New York, was granted a patent for a biscuit-making machine.¹ Biscuit manufacture has, accordingly, long been a larger-scale industry than bread baking. Partly because of this fact, combination in the biscuit-making industry preceded combination in the bread-baking industry. The National Biscuit Company, formed in 1898 in the great era of trust formations, brought under single control a majority of the American manufacturers of crackers and biscuits, and even now produces more than half the output of crackers, biscuits, and related lines in the whole country.² The nineties saw no considerable combination among bread bakeries.

As stated above, of recent years there has been a tendency for the bread-baking industry to follow in the footsteps of the biscuit-baking industry, in that large and moderately large establishments are slightly more numerous than they were in the past. To what is this due?

There are no doubt a large number of contributing causes. Probably the most important of these is the growing urbanization and industrialization of the country, which furnishes bakers with dense concentrations of customers—a condition suited to the distribution, from one or a few large plants in each densely populated locality, of such a perishable commodity as bread. The accompanying improvement of streets, highways, and automotive trucks is merely a part of the same development.

A second important cause is the beginning of the introduction of machinery. The high-speed mechanical mixer is displacing the journeyman baker in the kneading of the dough. Apparently it not merely operates at a lesser cost, but also does the work more efficiently and more uniformly in that it incorporates more water more thor-

¹ United States Patent Office, *Subject Matter Index of Patents for Inventions from 1790 to 1873 Inclusive*, Washington, 1874, I, 88 and 137.

² R. T. Stokes, "A Review of the Biscuit Industry for 1924," *The Cracker Baker*, July 1925, p. 33.

oughly and evenly into the dough.¹ Machinery has been introduced for mechanically rounding and molding the dough into loaves. Automatic methods of controlling temperature and humidity during fermentation have been developed. New types of ovens, notably revolving and traveling ovens, have been introduced, which reduce labor and fuel costs by operating continuously and, therefore, facilitate mass production. The establishment in bakeries of chemical laboratories facilitating the control of raw materials, of manufacturing processes, and above all of uniformity of quality of product, has no doubt been an important factor in making a larger scale of production possible. Nevertheless, the baking industry today, even in its most modern and larger representatives, is far from having achieved either the size of unit or the universal use of machinery that characterizes the biscuit industry.

The characteristics and conditions of the bread-baking industry, here hurriedly sketched, have determined the late appearance and will probably determine the evolution of combinations.

¹ George S. Ward, "Humanizing the Plant," *Bakers Review*, January 1921, p. 49.

II. THE GROWTH OF COMBINATIONS IN THE BREAD-BAKING INDUSTRY

The period when hardly a good business year passed without the formation of great corporations by merger of numerous minor concerns failed to lure the baker from his modest ways. So long as there were railroads, mines, smelters, lumber and textile mills, steamship lines, and steel plants to merge, promoters, financiers, and captains of industry were hardly likely to trouble themselves with efforts to consolidate a multitude of little businesses. However, in the last few years some of these little businesses became larger, until captains of industry arose among the bakers themselves. It is, therefore, not astonishing that the beginnings of combination tendencies in bread baking apparently synchronize with the period of beginning multiplication of comparatively large units; that today the combination of bakeries by great corporations is actively engaging the interest of bakers, millers, promoters, financiers, legislators, and the general public.

The census reports do not supply the data with the help of which the course of combination may be studied. The earliest material useful in this connection are reports in the trade press and the returns made by bakers to the United States Food Administration. The latter show that in 1917-18 over 800 baking plants were operated by concerns having two or more establishments. This number does not seem great when one considers that there were some 25,000 bakeries in the United States in 1920. These 800 plants did approximately 27 per cent of the entire baking business of the country, as measured by annual volume of sales. Over three-fifths of such concerns had all their plants in the same city; less than one-tenth of these operated more than two plants, however. To what extent they represented the merging¹ of competing estab-

¹ The distinction between consolidation and merger on the one hand and growth and expansion of a single concern on the other is, from some points of view, a superficial one. It does, however, in a general way serve to contrast two types of evolution among bakeries.

lishments, and to what extent they were simply cases of local expansion through additional plant construction, it is of course impossible to say.

Before 1900 there had been some growth and expansion of individual concerns, until single companies operated strings of bakeries, sometimes situated in widely separated communities. However, these concerns, though some were quite large, were not the result of consolidations or mergers. Of these companies the most important for present purposes are the Ward Baking Company of New York, Ward Brothers, Inc., Ward & Ward, the Cushman interests of New York City, the Campbell Baking Company of Kansas City, the Kolb Baking Company of Philadelphia, the Freihofer interests of Philadelphia, the Schulze Baking Company of Chicago, the Nafziger Baking Company of Kansas City, the Livingston Baking Company of Chicago, the Taggart interests of Indiana, the Corby Baking Company of Washington, D.C., the Wagner interests of Detroit, the Stroehmann Baking Company of West Virginia, and others. These companies are important in the consideration of our subject because they formed in many cases the nuclei from which mergers developed, and from their ranks came a considerable number of the new "captains" of the baking industry.

In order that the consolidations which have taken place may be understood, it is necessary that we trace the history of those among these concerns which formed the backbone of the recent consolidations. It is also necessary to trace, so far as information is available, the history of the various combinations, consolidations, and mergers which have taken place to date—in short, to write a brief history of the more important business units of the industry from the standpoint of organization and finance. Such a brief history will be found in the Appendix, to which it has been relegated to avoid breaking the thread of our thought. Here are presented only the outlines of the development as they emerge from the details to be found in the Appendix.

Combination was not the method of growth of the concerns that early developed to appreciable size. They grew

largely by new plant construction, sometimes also by purchase of competitors or of a plant in a new territory they desired to enter. They did not combine until very recently. The earliest consolidations were of bakeries competing in the same market. They were forced by cutthroat competition and questionable trade practices. Sometimes these mergers were voluntary; sometimes they were forced by creditors, usually flour mills or banks, who thought it necessary to stop ruinous competition among bakeries to which they had extended credit. The earliest of these types of consolidation occurred about 1907, and they have continued down to the present. Some of the corporations that grew out of these mergers became strong enough to expand into new territory, either by acquisition of established bakeries or by new construction. They then lost their purely local character.

Soon, however, another type of combination appeared, not at the outset local in character, but aiming to bring under one management bakeries in different cities. Such combinations were usually not the result of pressure of competition, but the expression of the idea that by merger greater efficiency might be achieved. Hence there was a distinct difference in the character of the bakeries combined in such a case as compared with those merged to eliminate keen competition. Where efficiency was sought rather than elimination of competition, the bakeries to be combined were, naturally, selected carefully. Only the more efficient in construction, equipment, operation, and management were invited to enter the combination. Where the object was to reduce competition, both efficient and inefficient concerns had to be taken in. It is characteristic, therefore, of the earliest combinations, and of certain later ones formed under pressure, that they took in a variety of concerns of very different efficiencies; while it is equally characteristic of most of the later ones that they aimed, with varying success, to bring together only the more efficient plants.

The period of forced local and of voluntary combination probably began before 1907 and may be regarded as ending in 1922. The movement which characterized

that period has continued since then, and will no doubt continue for years to come, but it is no longer the characteristic feature of evolution in baking. In the year 1922 announcement was made of the formation of the first holding corporation in baking, the United Bakeries Corporation. This marks a new stage in the evolution of the industry in the United States.

Among the combinations that developed to considerable size during the period 1907-22 are The American Bakery Company of St. Louis, incorporated in 1907, The Shults Bread Company of New York, incorporated in 1910, The Consumers' Bread Company of Kansas City, The City Baking Company of Baltimore, The United Baking Company of Toledo (not to be confused with the United Bakeries Corporation mentioned above), The Flour State Baking Company of St. Paul-Minneapolis, incorporated about 1916, the Washington Bakeries Corporation of Seattle, incorporated in August 1922, Cushman's Sons, Inc., of New York, incorporated in 1914. Most of these were local in character though some expanded ultimately over a wide territory. All were wholesale bakers except Cushman's Sons, Inc., the business of which is to a considerable extent wagon delivery direct to the consumer. It also owns about 40 retail stores in and about New York City.

Among the combinations that from the beginning were non-local may be mentioned the General Baking Company, incorporated in 1911, with plants reaching from Boston to St. Louis in the West and New Orleans in the South; The New England Baking Company, incorporated in 1915, The Massachusetts Baking Company, incorporated in 1917, and the Tri-State Baking Company, incorporated in 1919, and operating principally in Michigan and Ohio.

The General Baking Company, one of the earliest of non-local mergers, is notable as a pioneer in a number of ways. It endeavored to bring together some of the most modern and soundly managed concerns in their respective communities. The former owners acquired large interests in the new company as part payment for their

properties; in almost every case they were retained as managers of the various plants or as officers of the new company.¹ This is a policy that has been followed frequently in subsequent mergers. This company seems also to have been the leader in advertising extensively and even nationally a single brand, "Bond" bread, and herein also it has had followers.

Among the concerns mentioned on page 9 as having grown to considerable size without recourse to combination are some quite as large as any of the combinations of the 1907-22 period. Among the combinations are some that are relatively small. There was nothing in the matter of size that distinguished one group from the other. In those days the industry was classified into retail and wholesale branches. Wholesalers might have been divided into "large" and "small," but the trade press shows no indication of division into "trust" and "independents." All this was changed with the advent of the holding corporation in the form of the United Bakeries Corporation.

The "United" was built around Ward & Ward of Buffalo, Ward Brothers, Inc., of Rochester, and the Campbell Baking Company of Kansas City. Through these companies, or directly, it rapidly acquired other concerns. The details of this expansion are given in the Appendix. By the end of 1923 it controlled over forty bakeries in thirty-five cities and was still expanding. At that time its officers were: Brayton Campbell, president; H. B. Ward, M. L. Marshall, H. D. Tipton, S. F. Macdonald, vice-presidents; G. G. Barber, secretary-treasurer; the foregoing and also W. B. Ward, G. B. Smith, L. S. Kafer, F. G. Stroehmann, J. L. Kirkland, directors. All the vice-presidents were former owners or managers of controlled concerns, and this was true of nearly all the directors as well.

In January 1923 the Standard Bakeries Corporation was incorporated to control a number of concerns, most of which were clients of the W. E. Long Company of Chicago or concerns in which W. E. Long was interested. The W. E. Long Company is a firm of consultants furnishing

¹ *Commercial and Financial Chronicle*, July 22, 1911, XCIII, 232; also June 17, 1911, XCII, 1639.

advice in accountancy, operation, and engineering to the industry. The "Standard" had plants from Hammond, Ind., to Los Angeles.

In December 1923 The Ward Baking Corporation was incorporated in Maryland. This corporation holds mainly the stock of one corporation, the Ward Baking Company of New York. It was formed, apparently, by W. B. Ward to take over this company. W. B. Ward and H. B. Ward are sons of R. B. Ward, who, with his brother George S. Ward, built up the Ward Baking Company, and who was its president until 1915, when his younger brother, George S. Ward, succeeded to that office. W. B. Ward had been treasurer before the retirement of his father. He moved to Buffalo, where, with his brother, he built up Ward & Ward of Buffalo and Ward Brothers, Inc., of Rochester. He remained, however, a director of the Ward Baking Company of New York until 1919. When, through the Ward Baking Corporation, of which he was president, he took over the Ward Baking Company, George S. Ward and his sons disappeared from the management. This company, though not a merger, deserves mention here not merely for its large size but also for the fact that its president, W. B. Ward, was also one of the initiators of the United and a director in it. In November 1923, he resigned from the directorship of the United and also from the presidency, in which he had succeeded Brayton Campbell. G. G. Barber, at that time secretary-treasurer of the United, now president of the Continental Baking Corporation (see next paragraph), has stated that since his resignation W. B. Ward "has had absolutely nothing to do, or say about the policy of the United Baking Corporation." On the same occasion, Mr. Barber stated that W. B. Ward did not sell his stock in the United when he became president of the Ward Baking Corporation, and in May 1925 was still a large stockholder in the Continental Baking Corporation, which, as we shall see, took over control of the United.¹

In November 1924, the Continental Baking Corpora-

¹ Docket No. 1305, Federal Trade Commission, May 14, 1925. (Mimeographed.)

tion was incorporated under the laws of Maryland with an authorized capitalization of \$200,000,000 eight per cent cumulative preferred hundred-dollar par stock, 2,000,000 shares Class A no-par common stock, and 2,000,000 shares Class B no-par common stock. The company was heralded in the press as a \$600,000,000 corporation, which would be a greater capitalization than that of the entire baking industry as given in the census of 1920. This is a statement that is by no means warranted, for it assumes that all the stock authorized would be issued, and it assigned a par value of \$100 to 4,000,000 authorized shares of no par value. As a matter of fact it was soon announced that stock would be issued only as needed,¹ and this announcement appears to have been lived up to.

It was, however, not astonishing that statements like that referred to above were common in the press, for the company's charter indicates that it is a holding corporation authorized to enter not merely the baking business in all its branches, but also flour milling and other lines of foodstuffs manufacturing. Moreover, it is built about the United, itself the largest then existing corporation in the field, and it announced a grandiose national program to cover the country with a network of modern bakeries—a program it began forthwith to carry out either directly or through the principal constituent companies of the United, namely, the Campbell, Ward Brothers, and Ward & Ward companies. The details of the process are to be found in the Appendix. Suffice it to say that as of July 1, 1925, it was reported² as owning and operating 104 plants in 82 cities, and its organization was said to be complete. Its total assets were reported as \$55,000,000, nearly one-fifth being liquid. One of the concerns that had then been absorbed is the Standard described above.

In December 1924 the Purity Bakeries Corporation was incorporated. It acquired the Purity Baking Company and the Tri-State Baking Company as a nucleus. By May

¹ *Bakers Weekly*, November 15, 1924.

² *Northwestern Miller*, July 1, 1925, p. 39.

1925 it was reported as controlling 80 bakeries. Its president is Thomas O'Connor.

Another recent consolidation is the Southern Baking Company, which by May 1925 was reported to be operating 17 units, south of Mason and Dixon's line.

By the early summer of 1925, a state of false equilibrium seems to have been reached. There were in the field two larger combinations of combinations, the "Continental" and the "Purity." There were the smaller combinations, the Southern Baking Company and the General Baking Company. There was the Ward Baking Corporation. There were besides a number of other fair-sized concerns, such as the Smith-Great Western Baking Company (President Bryce B. Smith),¹ built around the Consumers' Baking Company of Kansas City. In addition, a number of companies have been or are being formed by men who were formerly connected with concerns that have lost their identity by merger. Such an example is C. N. Power, formerly president of the Standard. Another is Reed A. Walker, formerly secretary of the Campbell Baking Company, now president of the Manor Baking Company, in which is also interested C. J. Patterson, formerly connected as chief chemist successively with the Campbell, United, and Continental.

In the spring of 1925 the Purity operated plants in Minnesota, Michigan, Missouri, Indiana, Ohio, New Jersey, Illinois, Iowa, Oklahoma, and Texas. It had no plants in such large cities as Chicago, Pittsburgh, Buffalo, Philadelphia, New York, Boston, Baltimore. It had no plants in New England; none in the North Atlantic States, except New Jersey; none in the South Atlantic States; none in the Gulf States, except Texas; none west of Oklahoma.

The Continental has plants in thirty-two states and in the Canadian provinces of Ontario and Quebec. It has avoided most of the states without considerable towns, such as Idaho, Montana, North and South Dakota, Wyoming, Nevada, Arizona, New Mexico, Vermont, and Arkansas. Southern Vermont, however, might be supplied from

¹ *Northwestern Miller*, July 22, 1925, p. 365; also April 25, 1925, p. 350.

its plant at Holyoke, Mass., and some of Arkansas, from its plants at Memphis, Tenn., and Clarksdale, Miss. In a few states with but moderate-sized towns, such as Maine and New Hampshire, it has no plants, and it lacks bakeries in densely populated Rhode Island. However, Rhode Island and many important New England towns, such as Lowell, Haverhill, Portsmouth, Concord, Manchester, Brockton, Taunton, might be reached from one or the other of the Continental's Massachusetts plants.¹ The corporation also lacks plants in the South Atlantic States, North and South Carolina, Georgia, Florida, together with Alabama. In populous Pennsylvania it has but one inconsiderable plant at Norristown, near Philadelphia.

It seemed that the void left by the Continental in the southeast was accounted for by the Southern Baking Company, of which the president, H. D. Tipton, was formerly vice-president of the Shults Baking Company, then a director of the United after it absorbed the Shults Company, then for a time a director of the Continental after it absorbed the United. His leaving the United and the Continental was the result of no quarrel, of no disagreement. It seemed that the weakness of the Continental in such territory as Pittsburgh was compensated for by the strength in that locality of the Ward Baking Corporation, the president of the latter, W. B. Ward, having initiated the United. At any rate, the relations of the Southern, the Ward, and the Continental companies seem friendly enough. Each has its principal offices at Fifth Avenue and Forty-fourth Street, New York City, in the Guaranty Trust Building. It should be noted, however, that the Continental and the Ward Baking Corporation each has plants in a number of the same cities, and in such cities they would seem to be competitors. Examples are Boston, New York, and Chicago. On the other hand, the Continental has apparently no plant in the important

¹ Since the foregoing was written, Moody's Manual for 1925 has appeared and gives the New England Bakery Company as being under the control of the Continental Baking Corporation. The New England Bakery Company has plants in Hartford and New Haven, Conn.; Springfield, Boston, New Bedford, and Lawrence, Mass.

city of Pittsburgh, or indeed anywhere in populous industrial western Pennsylvania where the Ward interests have always been strong, though, to be sure, the Continental might supply some of this territory from its Buffalo, Youngstown, and Wheeling plants.

The next important move came in the fall of 1925. Early in October announcement was made of the formation of the General Baking Corporation of Maryland. About the same time W. B. Ward resigned from the chairmanship and P. H. Helms from the secretary-treasurership of the Ward Baking Company. The latter was named president of the newly formed General Baking Corporation, while G. B. Smith, who had been an officer of the United from the beginning, became president of the Ward Baking Company.¹ P. H. Helms was formerly president of the Hall Baking Company of Buffalo. At the same time, it was reported that W. B. Ward offered \$225 a share for the stock of the General Baking Company, which W. Deininger, president of the General Baking Company, reported as having been accepted by the majority of the shareholders.² Later, P. H. Helms made public the terms upon which the stock of the old General Baking Company could be exchanged for the stock of the new General Baking Corporation;³ and W. Deininger announced that he personally had accepted the offer of exchange for his own stock.⁴

The formation of the new "General" called forth press statements that it was to take control not merely of the old General but also of the Continental, the Ward, and the Southern companies. The Federal Trade Commission made a report on the situation, from which the following are extracts:

William B. Ward, who is largely interested in the Ward Baking Corporation, stated that there was no truth in the press reports. The only thing that has taken place is that he individually has made an offer to purchase common stock of the General Baking Co. for \$225 per share, provided holders of 51 per cent

¹ *Northwestern Miller*, October 7, 1925, p. 331.

² *Idem*.

³ *Bakers Review*, November 1925, p. 53.

⁴ *Northwestern Miller*, October 21, 1925, p. 236.

or more of such stock would deposit same subject to terms of his offer. This stock is to be deposited on or before Oct. 10, 1925, with the Guaranty Trust Co. of New York, which company is to act as depository. This offer was made to and through William Deininger, president of the General Baking Co., on Sept. 29, 1925.

There is being organized under the laws of Maryland a company to be known as the General Baking Corporation, to hold stock acquired as a result of this offer. Further than this Mr. Ward stated no approach had been made or negotiations entered into with any other company either officially or with their individual stockholders. In this connection he added that at this time it was not possible to say what might take place in the future, but that no attempt would be made to acquire the capital stock of any other company. Any other acquisition would be by the purchase of assets.

Mr. Deininger stated that, so far as he knows, the stock of no other company is being acquired, and that the General Baking Company as a corporation is not involved. It is simply an individual transaction between Mr. Ward and individual stockholders of his company. His company is not represented in any manner either as officers or directors of the new General Baking Corporation.

George G. Barber, chairman of the board of directors of the Continental Baking Corporation, and William B. Ward, deny in categorical language that control of either the Continental Baking Corporation or the Ward Baking Corporation has been acquired, nor has any move been made to acquire them by the General Baking Corporation. These companies have not been approached nor have any of their stockholders been approached in connection with any plan for acquiring their capital stock or in any way bringing about a merger or consolidation with the General Baking Corporation. With respect to the Ward Baking Corporation, the president, G. B. Smith, also states, in a letter to the commission, dated Oct. 7, 1925, as follows: "No negotiations have been had or are being held by Ward Baking Corporation with any corporation or company in furtherance of any merger."

H. D. Tipton, president of the Southern Baking Co., in a letter to the commission, dated October 8, 1925, also makes a similar statement with respect to his company.¹

About the end of November, W. Deininger, however, became chairman of the board of the General Baking Corporation.² About the same time it acquired the Smith-

¹ *Northwestern Miller*, October 28, 1925, pp. 334 ff.

² *Ibid.*, November 25, 1925, p. 764.

Great Western Baking Corporation with nine plants, three in Kansas City, Mo., and one each in Wichita, Hutchinson, Kansas City, Kans.; Oklahoma City, Enid, and Tulsa, Okla.¹ B. B. Smith became a vice-president of the larger corporation.²

A review of the chain of events just outlined can leave no doubt in the reader's mind that W. B. Ward has been the driving force behind the greatest of the combinations. Without him they would probably not have come as soon as they did—perhaps not for many years, perhaps not at all, for, as we shall see, no inexorable economic necessity has forced these huge combinations into existence. G. G. Barber attributes the original idea that lies behind these combinations to the late R. B. Ward, but it is the son who is realizing that idea.³ His connection with the organization of the United, of the Ward Baking Corporation, and of the General Baking Corporation is clear. With the Continental he has had no formal connection except as a shareholder. However, the chairman of the board of that company, G. G. Barber, was for many years an employee of concerns controlled by the Ward family, and H. B. Ward, brother of W. B. Ward, is vice-president. Moreover, G. G. Barber has stated that at the time the United was formed, that is, while W. B. Ward was active in the matter, the plan later realized through the Continental had already been formulated. In the words of G. G. Barber, "the only reason for the Continental was because the United was not big enough to do the job."⁴ Therefore, if W. B. Ward initiated the United, it was his idea as exemplified in the United that led ultimately to the formation of the Continental, though he himself did not take part in the promotion of the latter corporation. Its promoter was G. G. Barber, according to his own statement. W. B. Ward was at the time president of the Ward Company. To take part in the promotion of a competing holding company might have led to charges of restraint of trade and interlocking directorate. To such charges W. B. Ward has not laid

¹ *Northwestern Miller*, November 25, 1925, p. 751.

² *Ibid.*, December 2, 1925, p. 877.

³ Federal Trade Commission, *op. cit.*

⁴ *Idem.*

himself open, for he has severed all connections, except as a stockholder, with one company before he became connected with another.

So in the early winter of 1925, the picture presented by the bread-baking industry in the United States is that there are three quite large combinations, the Continental, the Purity, and the General. All three are still expanding. In addition, there are several other smaller, though still large, combinations. There is no evidence of interlocking directorate, though certain of the combinations have some officers that were formerly closely associated with some of the officers of other combinations. Moreover, there is evidence of substantial stock ownership by the same persons in a number of different combinations. Outside of these groups there are a great many large retail and wholesale bakers, some of them concerns of considerable size. An example is Cushman Sons, Inc., a holding corporation doing a large business, in part retail and mainly local to the neighborhood of New York. Thus today more of the country's *commercially baked* bread is produced by large corporations than formerly.

The picture of the bread-baking industry in the fall of 1925 would not be complete without reference to the chain grocers' stores. In many instances these have found it advantageous to sell bread along with groceries, household supplies, and the like. In the beginning they acted purely as retailers. They bought their stocks from local wholesale bakers like any other retailer. However, in many cases they ran into conflict with the local wholesale bakers from whom they derived their supplies, as well as with the retail bakers with whom they competed directly. The immediate causes of this conflict were at least twofold. The chains, being quantity customers of the wholesale baker, demanded corresponding price concessions, which the wholesaler, in the interest of the protection of the other retail grocers, was not disposed to grant. This is a situation not peculiar to bread. It applies to many of the articles the chains handle. The chains, moreover, following their policy of low prices and "cash and carry," at times sold bread below the standard retail

price of the community. This was objected to by the wholesale bakers, and a few firms refused to sell to the chains. The upshot was that some of the chain stores established bakeries of their own and became wholesale bakers, acting as their own retail distributors. In this respect they resemble such a concern as Cushman's Sons, Inc. Many of them sell both their own bread and also, as far as their customers demand, wholesale bakers' bread, especially widely advertised brands. It seems that a chain system able to use, within a limited territory, not less than 10,000 loaves per day can profitably establish its own bakery. In adopting such a policy, such a chain has the advantage that it is comparatively easy to get its bread fresh to the consumer, that it can more easily adjust production to demand, and that it is in a position to use bread as a "leader" to attract trade. At present, the baking of bread by chain grocers' stores is decidedly on the increase. The managers of such concerns seem unperturbed by the formation of great bakery corporations, because, since bread as such is a splendid drawing-card, they are satisfied if their bakery gives them only a moderate return upon their investment. At least in the early days, it was considered by the trade that the quality of bread produced by chain bakeries was often inferior. How far the manufacture of bread by the chains is likely to progress, whether the chains will ultimately bake any considerable percentage of the country's baker's bread, it is as yet impossible to predict. At any rate they are a factor of growing importance in the situation.

Another factor, as yet unimportant, but which may at any time assume importance, is the manufacture of bread by the cracker and biscuit companies. According to the Bureau of the Census,¹ such companies produced in 1923 some 9,300,000 pounds of bread and rolls, valued at \$670,000. These figures apparently refer to bread and rolls made in plants primarily devoted to the manufacture of crackers and biscuits. They do not seem to include bread and rolls made in bread bakeries owned by biscuit

¹ U.S. Department of Commerce, press release, February 24, 1925.

concerns. The National Biscuit Company operated eight such plants in 1923,¹ and its production manager is reported as having stated that in 1923 his company manufactured bread and soft cake to the value of \$6,000,000.² According to Mr. Pirrie of the *Cracker Baker*, it sold \$5,000,000 worth of bread in 1922.³ As the National Biscuit Company has a sales volume well over \$100,000,000 per annum, its bread business is but a small portion of the total. It seems, therefore, that while but little bread is baked in biscuit plants, there is in at least one case ownership of bread bakeries by cracker manufacturers.

Just as cracker and biscuit concerns, with the exception of the National Biscuit Company, produce but little bread and rolls, so the output of biscuits, crackers, and cookies by non-biscuit manufacturers is likewise not very great. During 1923 it was 12,600,000 pounds valued at \$1,850,000.⁴

While the bread production of biscuit companies is not an important factor in the industry, it is always a potential factor. If any of the large new baking mergers should enter the cracker business on any considerable scale, it is easily possible that some of the members of the biscuit industry might deem it necessary to do bread-baking by way of reprisal. In this connection it is worth noting that the National Biscuit Company has a large proportion of the chain stores as customers, since its discount policy favors them.

¹ Federal Trade Commission, *Annual Report*, 1924, p. 126.

² *The Cracker Baker*, July 1925, p. 34.

³ *Ibid.*, p. 35.

⁴ U.S. Department of Commerce, press release, February 11, 1925.

III. THE OUTLOOK FOR EXPANSION OF COMMERCIAL BAKING

In the foregoing sections a picture has been drawn of the present status of commercial baking in the United States. Though composed of many relatively small-scale units, we see baking as an industry with a total output that has been growing faster than that of manufacturing in general. The total volume of commercial baking today is very great. In 1923 its products had a value of 1,123 million dollars. Small-scale as the baking industry is, we note in it the development of a decided tendency toward the grouping of many plants under one management, that is, the formation of combinations in the industry.

To weigh the social advantages or disadvantages of the trend toward combination we must first forecast as accurately as possible not only the direction of the trend of commercial baking in general, but also its magnitude and its probable duration. To such a forecast this section is devoted.

Only prophets, astrologers, soothsayers, and seers evolve prophecy out of their inner consciousness. Ordinary mortals have but one method of forecasting. It is to infer the course of future events from the trend of past events, to chart a curve of the past and to extrapolate it into the future. This is the method we shall pursue, literally, in arriving at some judgment of the future trend of baking.

As above stated, Kyrk and Davis have shown that baking has grown more rapidly than manufacturing industries in general, and that since 1870 the percentage rate of growth has been fairly uniform. At no time during this period was there a decline. Indeed, there is good evidence that even in periods of general business depression commercial baking has continued to grow, though sometimes at a diminished rate. On the other hand, during periods of great general business prosperity, the growth of baking has not been greatly accelerated. Thus the war

had no influence in stimulating baking. Whatever progress the industry made during the war period was not abnormal, due to war demand, but was the normal result of growing urbanization and improved means of transportation. Kyrk and Davis have computed the rate of increase of per capita consumption of all bakery products as corrected for the fluctuating purchasing power of the dollar.¹ Consumption has expanded very rapidly and the trend is still upward, though the rate of increase has declined. This less steep slope of the curve in very recent years is most significant, as we shall see later. The increase in per capita consumption of bakery products is not the expression of a general increase in consumption of these products, for there is no evidence of a per capita increase in the consumption of flour—rather of some decrease.² The conclusion is warranted that the per capita increase in value of bakery products is the expression of the transfer of baking of various kinds from the household to the bakery.

Constancy of per capita consumption is characteristic of many staple foods and sets the industries producing them apart from most other manufacturing. In man's appetite and in his food requirements, Nature has set a limit to the expansion of the consumption of staples.³ The steel industry could look forward to creating an absolute increase in the per capita consumption of its products. Limits are set only by the possible uses of the material and by the people's purchasing power. In bakery products no expansion of this character is possible. The consumption of baker's bread can go up in only four ways: (1) by increase in population, (2) by transfer of baking from the household to the bakery, (3) by changes in food habits, which, as everyone knows, are resisted by a people as a whole with the greatest obstinacy, (4) by changes in the purchasing power of consumers. This general physio-

¹ Kyrk and Davis, *op. cit.*, Chart 6.

² *The Disposition of American Wheat Supplies: A Critical Appraisal of Statistical Procedures*, WHEAT STUDIES OF THE FOOD RESEARCH INSTITUTE, AUGUST 1925, I, 289-326.

³ Cf. A. B. Taylor, "Consumption, Merchandising, and Advertising of Foods," *Harvard Business Review*, April 1924, II, 283.

logical limitation on expansion of consumption, which baking shares with the manufacture of other staple foods, is fundamental in evaluating the future development of the baking industry, as we shall see.

If the curve of per capita consumption of bakery products constructed by Kyrk and Davis be extrapolated into the future, it is found that it reaches a peak in the year 1962. It would be interesting to determine whether or not this hypothetical peak of consumption of baker's goods corresponds to complete cessation of home, restaurant, and hotel production of such goods. To answer this question exactly is not possible. An indirect approach is, however, feasible, based on the ratio of wheat flour used by bakers to that taken by other users. Because of the lack of suitable flour-consumption statistics prior to 1923, such an approach cannot take off farther back than that year. According to the Bureau of the Census, the wheat-flour consumption of the United States in 1923 was about 104 million barrels. Of this amount about 35 million barrels, or approximately one-third, were consumed by commercial bakeries.¹ In addition, these establishments used about 2.8 million barrels of rye and other flours.² This raw material was converted into products valued at over 1,122 million dollars,³ which, according to the calculations of Kyrk and Davis, comes to a per capita quota of nearly seven dollars (\$7.00) of a purchasing power equivalent to that of money in 1913.⁴ If the curve constructed by them correctly expresses the rate of increase of per capita consumption of bakery products, then in 1962, when, according to the curve, such consumption will have reached its peak, per capita expenditure for bakery products should be \$9.46, in terms of the purchasing power of money in 1913. Assuming that in 1962 the present-day proportions of non-wheaten flours are still used, the same number of people as now live in the United States, were they living

¹ *Census of Manufactures, 1923*, "Flour-Mill and Grain-Mill Products and Bread and Other Bakery Products," Washington, 1925, p. 6.

² *Ibid.*, p. 30.

³ *Idem.*

⁴ Kyrk and Davis, *op. cit.*, p. 23.

in 1962, would require the use by commercial bakers of about 47 million barrels of wheat flour as against 35 millions today. Assuming this forecast to be correct, less than 50 per cent of the country's flour is likely to disappear into bakeries at a date as remote as 1962, whatever be the total population and the total flour consumption at that time.

It is to be noted that the curve constructed by Kyrk and Davis showing the trend of increase in per capita consumption of bakery products is based on *all* bakery products—not merely bread. There are no data available which would make it possible to construct an analogous curve for bread alone. This unfortunately introduces certain complications, for the great baking corporations are organized primarily to produce bread or crackers and biscuits. To what extent they will find it profitable to enter the field of cake, pie, and other “sweet goods” production is problematical. Up to the present the commercial baker has been a great deal more successful in displacing home baking of bread than home production of sweet goods. Considering present dietary tastes and the perishability of sweet goods, other than certain types of cakes and cookies, the prospects of a great corporation competing successfully with the housewife and the hotel or restaurant cook in this field seem none too promising today. Should the commercial baker invade this field with greater success than in the past, our curve might easily show a different trend.

There are other considerations that would seem to indicate either that the foregoing curve is not the best fit for the data or that it represents the trend only for the more immediate future. Such considerations cast doubt upon the forecast above. One is that the curve which has been fitted to the data is such that, if it truly represents the future, bakery-products consumption, after reaching its peak about 1962, will thereafter decline. This, in the light of the experience of other countries with a longer past in commercial baking, seems improbable. On the contrary, the history of baking in such countries as France has been that bread and rolls are almost wholly baked

commercially. Possibly something similar will take place ultimately in the United States.

Whatever the ultimate trend, whatever the level to which commercial baking may attain at its zenith, it seems fairly probable that for the next decade or two the present trend will continue to prevail. If this be so, commercial bakers no doubt will increase their business to a material extent at the expense of home baking; but there is no indication that home baking is liable soon to disappear or even to become unimportant. Sellers of bakery stocks not infrequently point to the large volume of home baking as a source of new business, as though this business would migrate from the housewife's kitchen to the bakeshop as fast in the future as it has in the past. As pointed out above, so far as we have a basis for forecasting, a slowing rate of transfer is indicated.

There is other evidence in support of this view, besides the consumption curve of Kyrk and Davis.¹ In 1901 the U.S. Labor Bureau analyzed the budgets of many workingmen's families.² Of these, 79 per cent bought bread, and over 98 per cent bought flour and meal. The average annual consumption of these commodities per family was:³

Of bread.....	252.7 loaves
Of flour and meal.....	680.8 pounds

Bread consumption was reported in loaves; probably most of the loaves bought were one-pound loaves. On this basis, workingmen's families bought roughly two and three-quarters times as much flour and meal as they bought bread. If only one-half the flour and meal bought was used for making bread (a conservative assumption surely), these families would still, on the basis of the quantities reported, have baked nearly two-thirds of their total bread

¹ For the following passages the author has called upon an unpublished manuscript of Dr. Wilfred Eldred, formerly a member of the Food Research Institute staff.

² Commissioner of Labor, *Eighteenth Annual Report, 1908, Cost of Living and Retail Prices of Food*.

³ The average size of family was 5.31 persons.

supply, on the assumption that each pound of flour yielded 1.33 pounds of baked bread.

This survey can be contrasted with a similar one made by the U.S. Bureau of Labor Statistics in 1918-19¹ from which by similar computations it may be deduced that now the consumption of bought bread had increased to 434.2 (of bread, rolls, and buns together to 453.4) pounds, while the consumption of flour had dropped to 304.7 (flour and corn meal together, 374.1). In other words, 63 per cent or 70 per cent of the total bread consumption, depending upon which set of figures be used, was of baker's bread.

This 1918-19 study of the Bureau of Labor Statistics is corroborated by the study made in 1918 by the U.S. Food Administration, of consumers' bread-buying habits in 36 large cities.² Forty-six per cent of the families then reported that they habitually bought their bread, 14 per cent that they used only home-made bread, and the remaining 40 per cent that they bought part and baked part. On the assumption that in this last group one-half of the bread was bought and one-half home-made, the Food Administration estimated that 66 per cent of the bread used by the families in question was baker's bread and 34 per cent home-made.

Comparison of these studies with one another indicates, then, that between 1901 and 1918 the habits of city dwellers very possibly, of workingmen in cities very probably, shifted from the purchase of but a third of their bread to the purchase of about two-thirds.

An important point to note in this comparison is the very rapid rate of increase in urban consumption of baker's bread in the first two decades of the present century. The consumption doubled. A second important point to note is that in cities in 1918-19 only one-third of the consumption was home-baked. It is obvious that the rate of increase of consumption of baker's bread must slow up as the consumption approaches the limiting value

¹ *Monthly Labor Review*, May 1922, XIV, 77-80.

² Cf. *Journal of Home Economics*, December 1918, pp. 561 ff.

of 100 per cent. It follows that in 1919, with only one-third of the consumption home-baked, the rate of increase must have been less than in 1901 with 65 per cent home-baked. And this inference is in harmony with the curve of trend of Kyrk and Davis.

The studies just discussed deal with urban conditions. Concerning rural conditions less information is in print. The most important is a survey made by the *Farm Journal* of Philadelphia in 1922-23 and published in March 1923 under the title "The Consumer Market for Flour." The *Farm Journal* concluded that at least 94 per cent of the farm families of the United States bake their own bread; that the average annual consumption of "strictly country" families is about 690 pounds per family and that such families consume, in the aggregate, over 33,000,000 barrels of flour annually—slightly more than 55 per cent of the total family trade, and within about two millions as much as the entire consumption of all the commercial bakers of the country.

The *Farm Journal* extended to the Food Research Institute the courtesy of lending for analysis and study the reports received from families living in cities and small towns. From these reports a number of interesting facts could be established, of which the most important for present purposes is that the proportion of home baking is much greater in the small towns than in the large cities. Thus 35 per cent of the families canvassed in cities of more than 25,000 population reported that they baked half or more than half of their bread at home. In cities of 5,000 to 25,000 population 49 per cent of the families reported that they baked half or more than half of their bread. In towns having less than 5,000 the proportion was 56 per cent. Furthermore, the *Farm Journal's* survey seems to confirm the results of earlier studies that in the large cities only about one-third of the bread supply is home-made.

Before the *Census of Manufactures of 1923*, the trade was inclined to believe that probably 50 per cent or more of the country's bread came out of bakeshops. It was a rude shock for bakers to learn through the *Census* that

commercial bakers used little more than one-third of all the flour consumed.¹ The *Farm Journal's* survey explains the situation. Bakers apparently got their idea from the conditions obtaining in large cities. The *Farm Journal* shows that large cities and small towns are not comparable in this respect. Evidently the small towns and cities and the rural districts bring down the figure of bakery-products consumption for the country as a whole.

It, then, seems reasonable to infer that inasmuch as consumption of baker's bread in large cities has probably about doubled in the last twenty years or so, this rate of increase cannot be maintained in the future. Consumption of baker's bread must be increasing in cities at a decreasing rate. The increase in rural districts and smaller towns and cities is another matter. There the consumption of baker's bread may be going on at an accelerating rate. It is also obvious that this increase outside of large cities will be greatly influenced by the rate at which urbanization proceeds in the future, and especially by improvements that may take place in methods of distribution—better roads, more economical trucks, denser network of railway lines, both steam and electric, possibly even air freight service.

If such improvements in distribution develop and if urbanization proceeds at a faster rate than heretofore, the trend of our curve may change and commercial bakers may displace the housewife more rapidly than heretofore. Under present conditions, we repeat, the indications are that increased per capita consumption in cities is likely to come less easily than in the past. The greatest opportunities for expansion are in the small towns and in the country, but here great distribution difficulties present themselves. At any rate, it seems clear that in evaluating the outlook for expansion of commercial baking, it cannot be taken for granted that the recent rate of expansion is continuing. On the contrary, it probably is not.

There is, of course, another source of new business be-

¹ The Census figure for bakeshop consumption is somewhat too low because of the exclusion of small shops.

sides home baking. It is growth of population. To get the best forecast of possible expansion of commercial baking, it is necessary to form an estimate of the trend of population growth in the United States, for obviously expansion of commercial baking will be the resultant of two factors: one, already considered, the increase of per capita consumption of bakery products; the other, about to be considered, the growth of population.

Concerning the future growth of our population, there has been a good deal of speculation. Some predictions have been made with a reasonable degree of probability. One of the most discussed of these is that of Raymond Pearl, to the effect that our rate of population increase has already begun to slow up, so that about the year 2100 we shall have reached the peak with a population of about 197 millions.¹

As already pointed out, the per capita consumption curve of Kyrk and Davis indicates that consumption of bakery products, having reached its peak about 1962, will thereafter decline. If this be so, and if Pearl's population forecast be justified, then the country's maximum consumption will come somewhat before 2100. On the other hand, if consumption does not decline, the maximum consumption of bakery products would come at about the year 2100. Since, as already pointed out, the per capita flour consumption is not on the increase, the maximum total flour consumption is not likely to be achieved much before 2100. Assuming the population in 1923 to have been about 111.6 millions² and the per capita flour consumption to be the same in 2100 as in 1923, we arrive at the figure of something over 183 million barrels as the country's flour consumption in 2100, of which, according to present indications, not over one-half is likely to be consumed in commercial bakeries.

Of course these forecasts are mere speculation. They may be quite far from the mark, for one reason or another. They are presented here because the writer be-

¹ R. Pearl, *Studies in Human Biology*, Baltimore, 1924, p. 592.

² *News Bulletin*, National Bureau of Economic Research, June 16, 1924.

lieves that they are roughly of the correct order of magnitude. At any rate, they are built upon a solid foundation of past occurrences and therefore present a safer background for discussion of the future of baking than loose generalities concerning the disappearance of home baking, the country's growth, and the desertion of farms. The writer believes that everything indicates—and everything, of course, may be wrong—that commercial bread baking will not in the next few decades entirely supplant home baking; that, before long, increase in population will bring more new business to the baker than disappearance of home baking; that the supplanting of home baking is likely to go on at a decreasing rate, as compared with the two decades just passed; and, finally, that commercial baking has a long way to go before its possibilities of expansion disappear.

Every forecast, even the calculation of the orbits of celestial bodies, is a prophecy, and every prophecy is uncertain because new conditions unallowed for in the forecast may intervene. Since our forecast is a combination of two separate forecasts—Pearl's forecast of population growth and the extrapolation of Kyrk and Davis' curve of increase of per capita consumption of bakery products—there are two sets of conditions that may intervene and quite upset our speculations. These two sets of conditions are rather analogous to the "probable error" of the mathematicians, and, like it, need to be stated. Without such statements, sound appraisal of the value of our forecast is not attainable.

The population forecast is based, of course, on the assumptions that our population statistics are correct, and that Pearl's mathematical treatment of the statistics is sound. In either case some measure of error is possible. Pearl's forecast is, furthermore, also conditioned on the non-occurrence of revolutionary social or economic changes. As Pearl himself puts it, it assumes that "no fundamentally new factor or forces influencing rate of population growth different from those which have operated during the known historical period of this popula-

tion's growth shall come into play."¹ Incidentally, it may be stated that there is no reason to believe that our change of policy in regard to immigration is likely to change one way or the other our future rate of population growth. According to Pearl: "Normal, non-catastrophic migratory movements, as we shall see, have no appreciable effect on population growth."²

The conditions that might operate to make the course of events differ from the forecast of rate of increase of consumption of bakery products are quite numerous. They are, for the most part, social or economic changes that must follow in the train of increasing population. We shall proceed to discuss some of these conditions.

As the rate of population increase slows up, it must be accompanied by a lowering of the birth-rate. It will also be accompanied by a lengthening of the average duration of life, as exemplified by a falling death-rate. The upshot must be an ultimate material change in the age distribution of the population. It will contain smaller percentages of infants and larger percentages of aged. Now the food habits and requirements of infants, children, adults, and aged people are different. Infants consume no bread; the aged less than the young. It follows that, as the population increases and its age distribution changes, material changes in the per capita consumption of bakery products must result.

Such changes in distribution of our population will have an inevitable effect upon the proportion of marriages. As with growing population there will be a larger proportion of mature persons, the proportions of married people and therefore of housewives will tend to increase. The more housewives—the more home baking—the less consumption, proportionately, of bakery products.

However, there are economic factors that may tend to influence the proportion of married persons in the opposite direction. If, with increasing population, there is a shift, up or down, in our standards of living, the fre-

¹ R. Pearl, *op. cit.*, p. 587.

² *Ibid.*, p. 587.

quency of marriages cannot but be affected. Just what the net result in either case will be, it is difficult to say. In any event, the consumption of bakery products will not remain uninfluenced.

However, marriage frequency is by no means the most important social condition likely to be altered by the economic changes that will follow in the train of growing population. More important is the consideration that bread may not maintain its present position in the diet of Americans. As a people we are engaged in diversifying our diet—perhaps in consequence of a steadily rising standard of living. We have been consuming more fruits and more vegetables, for example, and have been correspondingly reducing the consumption of some other more staple foods. If we can reach our population peak without halting the rise in living standards that has been going on, bread may easily become a less important element of the national diet than now. If, on the contrary, pressure of population causes a gradual lowering of our standards of living, the result is likely to be an increase, for a time, in our per capita bread consumption, since bread is one of the cheaper foods. If the lowering of our standards of living should go very far, the result is likely to be the substitution of still cheaper foods for bread, foods such as maize and other coarse grains. Should population pressure ever reduce us to the condition of China, it is quite certain that per capita consumption would be reduced to a very small quantity indeed. However, since no one can say with certainty what our standard of living is likely to be in the more remote future, it is idle to pursue further such speculations as this.

Connected with standards of living are certain other factors that undoubtedly will influence bread consumption in the future. With increasing standards of living, with increasing industrialization, with the invention of new labor-saving devices, a steadily smaller portion of our population will live by the sweat of the brow. Less and less hard manual labor will be necessary. Now hard manual labor requires food fuel. The food requirements of a laborer may be a thousand calories or thereabouts

greater per diem than the requirements of a white-collar worker. Bread is primarily a fuel food. Therefore the changes which are in progress in the direction of diminishing the amount of hard manual labor that has to be done and also of increasing the proportion of white-collar workers in our population will of necessity reduce the per capita fuel-food requirement of the nation, and in consequence the per capita bread consumption.

If our standard of living goes up, more and more of our population will be adequately clothed, adequately housed in dwellings adequately heated. Persons who, through adequate clothing and housing, are kept from being chilled, require less fuel foods. On the other hand, in the course of time, fuels may become so expensive as to cause the abandonment of home baking much earlier than present data indicate. This should lead to increase in consumption of bakery products, unless the high cost of fuel leads to the abandonment of home cooking as a whole and to living in hotels, to eating in restaurants, or to the establishment of community kitchens. Indeed, increase in numbers of hotel and restaurant patrons as a factor in the reduction of home baking is commonly given insufficient weight in estimating the possibilities of new business for bakers. It is not impossible that much of this business will go, not to the baker, but to the restaurant keeper. In so far as the restaurant bakes its own bread, the commercial baker can derive no benefit from the abandonment of home baking.

It must be clear to the reader by now that there is a great variety of uncertainties in our forecasts. These forecasts should not be regarded as more than a reasoned guess for the more distant future. For the nearer future, they seem to indicate fairly definitely that the expansion of commercial baking does not promise to be as rapid, in relative terms, as in the past. This expansion will come only in part from the abandonment of home baking. In part, it will come from increase in population.

IV. BAKERY COMBINATIONS AND MASS PRODUCTION

Apparently in every industry there is an optimum size so far as efficiency is concerned. Now the term "optimum size" may be used for two rather different ideas. It may apply to optimum size of an individual plant or it may apply to optimum size of a corporation controlling a number of plants. The two are very different conceptions. The factors that determine the optimum size of an individual plant are partly physical, partly psychological. The factors that determine the optimum size of a corporation operating a number of plants are mainly psychological.

The physical factors that influence the size of a plant may be matters of machinery and process, or they may be matters of market. Let us consider each in turn.

In some industries, the size of the equipment may be increased to very large dimensions. The iron-smelting industry is such a one—the larger the smelting furnace, the greater the economy. The tendency in the iron industry has therefore been to the construction of ever larger units, up to the limit of strength of materials. In other industries in which the size of equipment cannot be increased greatly, the same sort of end is attained by making the process continuous. A good example of this is the cement industry. It is not possible to increase the size of a stationary old-type kiln beyond a certain limit, because of the impossibility of controlling the temperature of all parts of the kiln's charge. The situation has been met by the invention of the rotary kiln which, while it carries a relatively small charge at a given moment, operates continuously, and therefore has a very great 24-hour capacity.

In considering the upper limit of size for machinery—using this term in its broadest sense—it must be kept in mind that the limiting factor, in the case of manufacturing requiring a number of machines in series, is that machine

of the series which has the least optimum capacity. It does a canner of tomatoes little good to install a single tomato-washing machine, capable of handling ten tons per hour, if his can-sealing machines will handle only one ton. His can-sealing is the neck of his production bottle, and he will widen this neck by multiplying his can-sealing units. The commercial baker is in much the position of the tomato canner. The optimum size of ovens, either of the ordinary or of the traveling type, is probably very great; but the size of the individual batches of dough which can be fermented is not. If the batches exceed a certain rather small size, the heat of fermentation cannot be dissipated and the fermentation process becomes irregular. The greater a bakeshop's oven capacity, the more must fermentation units be multiplied. A correspondingly greater number of fermentation troughs must be used, with corresponding increase in floor space and in numbers of persons or mechanical devices for handling the dough. While, therefore, a large bread factory may look forward to great efficiencies and savings in the use of ovens of great capacity, it has no special advantage over smaller establishments so far as the fermentation part of the process is concerned, except in one particular—the control of the temperature and humidity of the dough room. The maintenance of a very definite and constant condition of temperature and humidity is, of course, secured more effectively and cheaply on a large scale than on a small one.

In short, baking is not an industry in which one can—at least under present conditions—gain very much by increasing the size of the appliances except the oven. However, notable advances have been made in the direction of making the process continuous through the development of the traveling oven, and of dividing and molding machines. The introduction of continuous proofers is a step in the same direction. Fermentation experts have experimented much with a view to making the primary fermentation continuous—hitherto without success. A number of procedures have been proposed, but they have always failed of adoption. The most recent of these

is the so-called "no dough time" process. Essentially it consists in using large quantities of yeast and high temperature, so as to shorten the fermentation period and cause the dough to rise and mature rapidly. This is not the place to discuss its technological advantages and disadvantages. It is sufficient here to point out that, if a process of this sort can be perfected and applied to large-scale production, it would prove to be an enormous step forward in making the baking of bread a continuous process. It would tend to bring bread-baking nearer the goal of mass production.

We thus see that, in the present state of the art, the nature of the bread-manufacturing processes and of the available machinery places the small-scale manufacturer in not so very disadvantageous a position, as compared with his larger-scale-manufacturing competitor. So long as the most important step in the bread-making process, fermentation, is of necessity a small-scale operation, the large-scale manufacturer can achieve mass production only by multiplying small units. With the electric motor available to the small-scale manufacturer, there is no reason to believe that multiplying units presents of itself any economies, while there is probably an upper limit beyond which units cannot economically be multiplied in the same plant.

That there is such a limit is indicated by comparing the value of product and the value added by manufacture per wage-earner in baking establishments of different sizes. Such data have been brought together in Table 1. They show that the value of product per wage-earner does not increase with the size of the establishment, while the value added per wage-earner by manufacture increases but slightly. If, in constructing the table, the figures for 1909 had been used rather than the figures for 1919, the same points would have been brought out even more strikingly, for in 1909 the value added per wage-earner by manufacture was actually less in the larger than in the smaller establishments.

It may be objected that the figures are not comparable with one another because in the smallest bakeries there

are so few wage-earners that much of the work must be done by the owners. This objection is well founded; but even if all bakeries with product worth less than \$20,000 be eliminated, the conclusion is still warranted.

It may be objected that the condition made manifest in the table is brought about by the inclusion as wage-earners of the bread salesmen who drive the bread delivery wagons, whereas in other industries selling is done by salaried employees. This, however, merely means that,

TABLE 1.—BREAD AND OTHER BAKERY PRODUCTS, 1919*

Value of product groups	Number of establishments	Value of product (thousands)	Value added by manufacture (thousands)	Total number of wage-earners	Value of product per wage-earner	Value added by manufacture per wage-earner
Under \$5,000.....	3,107	\$ 9,220	\$ 3,426	1,115	\$8,269	\$3,073
\$5,000—\$20,000.....	11,848	136,299	50,331	16,423	8,299	3,065
\$20,000—\$100,000....	8,734	339,746	115,746	41,488	8,189	2,790
\$100,000—\$500,000...	1,091	219,689	75,954	25,633	8,571	2,963
\$500,000—\$1,000,000..	175	123,871	49,773	15,363	8,063	3,240
\$1,000,000 and over..	140	323,071	143,427	41,570	7,772	3,450

* Census of 1920, VIII, 92 f.

TABLE 2.—FLOUR-MILL AND GRISTMILL PRODUCTS, 1919*

Value of product groups	Number of establishments	Value of product (thousands)	Value added by manufacture (thousands)	Total number of wage-earners	Value of product per wage-earner	Value added by manufacture per wage-earner
Under \$5,000.....	1,499	\$ 4,025	\$ 807	186	\$21,640	\$4,339
\$5,000—\$20,000.....	3,080	36,393	6,736	1,659	21,937	4,060
\$20,000—\$100,000....	4,151	189,255	30,386	7,380	25,644	4,117
\$100,000—\$500,000...	1,331	275,539	37,340	8,062	34,177	4,632
\$500,000—\$1,000,000..	249	172,691	21,363	4,042	42,724	5,285
\$1,000,000 and over..	393	1,374,532	156,622	24,152	56,912	6,485

* Census of 1920, VIII, 94 f.

with increasing size, costs of marketing rise disproportionately—one of the handicaps of large size not peculiar to the baking industry.

There seems to be no escape from the conclusion that in baking there is today no material increase in productivity of labor with increase in size of factory, such as is

so important in large-scale industry, flour milling, for example. Table 2 gives statistics of flour milling analogous to those given for baking in Table 1. It appears that in this industry, in contrast with baking, the larger the establishment, the more wage-earners employed in it, the greater is the value of product per wage-earner and the greater the value added to the product per wage-earner.

The difference between the two types of industry is so striking as to demand an explanation. The most plausible one is that, in flour milling, capacity can be increased by increasing the size and number of machines and appliances without correspondingly increasing the number of attendants upon the machinery. This is possible not merely because of the extremely simple character of the manufacturing processes, but especially because raw and finished material can be handled in bulk. In baking neither is the case. In other words, much is to be gained in labor efficiency by large-scale production where the size of machines can be increased or machines can be made to replace hand labor. Little is to be gained where large-scale production is to be achieved only by multiplying units, each unit requiring about the same amount of attendance when used singly, as when many are used "in battery," as for example, in the men's clothing industry or in slaughtering and meat packing. Nothing is to be gained by increasing the size of sewing machines, and a hundred machines require one hundred times as many operators as one machine. Animals have to be slaughtered, and to a large extent converted into products, singly.

Even if it be true that the gain in economy by making a bakery very large is but slight as compared with what has been achieved in other industries, there are, nevertheless, certain advantages to be reaped by a great corporation with ample capital at its disposal. Bakeries of today—even those of considerable size—differ greatly in efficiency of construction and equipment. Many of the large plants are far from efficient. There is a perfectly good reason for this. The census data, above given, show that, except for biscuit and cracker establishments, the

larger-sized bakeries are hardly a generation old. This means that many of them are still owned by the original founders of the business. It means, further, that these businesses have grown very fast and that the owners have not had, or have not been able to secure, the capital for modernization. No doubt, many of the plants which a consolidation would have to take over are of this class. Much could no doubt be gained in efficiency by modernizing such plants, by supplying efficient delivery equipment, and the like. A great corporation would be in a position to do all this. Whether it would be able in the majority of cases to improve on owner-management is an open question.

Whatever may be the physical limitation of economic size placed upon a plant by machines and processes, there is a limit placed upon the size of the plant by the character of the product and the nature of the market. Bread is a perishable product. The type of loaf now manufactured must be placed in the hands of the consumer in twelve hours or less from the time it leaves the oven. Otherwise the consumer will reject it as old or stale.¹ This at once limits the size of a plant to the quantity that can be marketed within a shipping radius of twelve hours. The quantity that can be marketed within this radius depends upon cost of transportation. This in turn will depend upon the density of the population about the bakery, the quality of the highways, their grades, the density of the surrounding railroad network, and the like. There is no prospect, in the light of present-day knowledge, that the bread industry can be centralized as the steel industry, for example, has been. The difficulties of distributing so perishable and so bulky a product are too great. Bread manufacturing will remain—at least so far as one's imagination can now reach—a broadcast industry with plants scattered all over the country, and of no very great size, except in the largest cities where density of population is very great. Indeed, there is a belief in the trade that in

¹ Cf. J. S. Davis and W. Eldred, *Stale Bread Loss as a Problem of the Baking Industry*, Food Research Institute, *Miscellaneous Publications No. 1*, February 1923.

certain instances, as in the case of the Ward plant at Columbus, the optimum size has been exceeded. The maximum size of the plants in each location theoretically possible, will be determined by the local density of population and the transportation facilities. It is difficult to picture it otherwise in one's mind's eye, though what the future may bring forth in improvements in transportation, it would be hazardous to guess.

There is, however, reasonable prospect that one factor which limits the present-day shipping radius to a few hours may be modified. It is not impossible that scientific research will find methods to prolong the commercial life of bread. Steps have already been taken in this direction. During the war, the British bakeshops in Switzerland used a method of processing the crust which greatly prolonged the life of the loaf. This permitted the sending of this bread to distant camps of prisoners of war in Germany, where it was consumed in relatively good condition sometimes two or three weeks after being baked. The trade press has recently contained reports of a new process invented by Matti of Switzerland, which, it is claimed, keeps bread fresh a long time. Every hour added to the life of the loaf before it turns stale must widen the marketing radius of a bread factory, or reduce its peak load in manufacture. A given plant may be enlarged to meet a larger market, or if no larger market is sought a smaller physical plant more continuously in operation is adequate. In any event, the problem of increasing the life of the loaf is one of the most important the industry has to face. While we know practically nothing concerning the physical and chemical processes that take place in the growing stale of bread¹ and, therefore, cannot as yet attack this problem scientifically, bakeshop practice has taught us not a little in a practical way. It is a fact that the loaves of different bakers of the same locality differ

¹ The best recent discussion of the scientific aspects of the problem is given by A. Maurizio in his book, *Die Nahrungsmittel aus Getreide*, Berlin, 1924. Cf. also the following: R. Whympster, "Colloid Problems in Bread Making," British Association for the Advancement of Science, *Third Report of the Committee on Colloid Chemistry and Its General Application*, London, 1917-1923.

enormously in keeping quality. Therefore, a great baking corporation has in its power, by the employment of the best scientific advice, to produce a loaf of the maximum keeping power in the present state of the art, and thus to gain a decided and legitimate advantage over some of its competitors in marketing its product.¹

We have now discussed the physical factors that limit the optimum size of a bakery. What are the psychological factors? They arise mainly out of difficulties of superintendence. These are greater in baking than in most other industries. This is the consequence of the nature of its manufacturing processes and of its methods of distribution.

The difficulties of superintendence in the plant arise in part from the necessity of handling dough in small batches. The superintendence of multiple small units is of necessity more difficult than the superintendence of a few or of a single large unit. To this must be added difficulties arising out of lack of uniformity in the raw materials, notably flour. Flour is one of the most difficult of all commodities to standardize. No two parcels are ever exactly alike. Even standard brands vary more or less in a single season. Each year, as the new crop of wheat comes to be ground, the character of the flour the baker has to use may change. Hitherto this has not been so serious a matter as it is likely to be in the near future. We have been producing an abundance of fine strong wheat, and in years when our hard wheats were of poor quality we could import from Canada. This is all changing. With the growth of population and the increase of mixed farming, we are producing a surplus of the strong wheats only in the exceptionally good year like 1924. We are still producing a surplus of wheat, but it is soft wheat and durum, not now regarded as desirable for bread making.² As we pass from the export basis to the do-

¹ The importance of stale bread loss is indicated by the report by the census of a large bakery that also operates a feed mill, in this way utilizing the stale and faulty products not sold. Willard L. Thorp, "The Integration of Industrial Operation," *Census Monographs, III*, Washington, 1924, p. 195.

² Cf. C. L. Alsberg, "The Coming Hard Wheat Deficiency," *Baking Technology*, February 1924.

mestic basis and retire as we have done behind a tariff wall,¹ we shall have to bake more and more bread from soft wheats.²

Now it is more difficult to bake good bread from soft wheat than from hard, and different parcels of soft wheat vary more in baking quality than do hard wheats. If all this be true, there is no prospect that the problems of the commercial bakery in the near future will be simplified or that the superintendence of processes will require less skill. It is very much a question whether a hired manager will do all this as efficiently as an owner. Certainly the difficulties of superintendence are greater than in many other branches of manufacturing, steel, for example, where the character of the raw material can be determined with a high degree of accuracy by chemical analysis, and the nature of its treatment follows from such knowledge. Baking is still much of an art.

These difficulties are illuminated by the experience of the General Baking Company. This corporation conceived the idea that a brand of bread might be advertised extensively. It developed a formula and a process of production for a good standard loaf, advertised this loaf widely, and then licensed bakers, in localities in which it was not itself operating, to make this bread and profit by the publicity that was given the brand through advertising. The scheme did not work and the licenses had to be withdrawn. The main reason was that licensed bakers either could not or would not produce a uniform loaf up to standard. Now, of course, what could not be accomplished through licensed independent bakers may perhaps be accomplished in widely separated plants that are centrally owned and controlled. The case of the General Baking Company is here cited merely as an illustration of the difficulties of plant superintendence in bread manufacturing.

However, to control from a distant center the opera-

¹ The present tariff on wheat is 42 cents a bushel. The possibility that some day it may be changed is not considered.

² Cf. "The Dispensability of a Wheat Surplus in the United States," WHEAT STUDIES OF THE FOOD RESEARCH INSTITUTE, March 1925.

tions of widely scattered plants, using flour of varying character and catering to a trade with varying tastes, is by no means a simple matter. There must be limits to the extent to which this is feasible. The United Bakeries Corporation organized a subsidiary, the United Bakeries Service Corporation, for this purpose, and placed in charge one of the ablest chemists in the industry. He soon resigned.

There are other difficulties of superintendence as well. The large commercial bakery is most unusual among industries in that it must market its product to many individual customers taking small quantities of its output at frequent intervals. Each large bakery delivers small quantities of its product at least once a day—often several times a day—to scores of small retail grocers, hotels, and restaurants. It is as though a steel mill had to deliver within a radius of a few miles a billet or two of steel to hundreds of customers once or twice a day. The delivery of bread is, for a large bakery, one of its most difficult problems; and the cost of distribution is one of the most important elements in the price of bread at retail. Because of the very complexity of the problem, a large corporation may introduce, as we shall see later, material economies in distribution. Here it is sufficient to point out that in the individual bakery the complexities of distribution introduce difficulties of superintendence which are not ordinarily encountered by large corporations producing an imperishable product that may be marketed in bulk or at any rate in carload lots.

This system of distribution introduces another difficulty of the baking industry not encountered in most other industries. It is the manner of sales of its product. Sales in carload lots are impossible. Sale of the entire output by a small centralized sales force is impossible. Marketing through jobbers or other distributors has not been found practicable except in the biscuit industry. A central sales force for a group of widely separated but centrally-owned bakeries is impossible. Each bakery must market its own product. It must make hundreds of daily individual sales as well as deliveries. The method

most commonly used is not to employ separate delivery and sales forces. The driver who distributes a wagon- or truck-load is also the salesman. This means that the bakery's salesman must be willing to do the labor of driving a delivery truck. Hence no high-salaried, highly trained, star commercial travelers can be employed. The bakery's salesmen must be recruited very largely from the class of unskilled labor. This introduces a very complex personnel, labor, and sales problem which certainly adds to the difficulties of superintendence.

We see, then, that the difficulties of superintendence of the individual bakery are great and in the main such as cannot, for the most part, be handled by a large central organization. Superintendence must remain very largely local. It therefore contributes to setting a limit to the size of the individual bakery, a size which we have seen is also limited by other factors arising out of the methods of manufacture and the difficulties of distribution. A great baking corporation cannot manufacture in one place for wide distribution. It must have many plants. It must leave many matters to the individual judgment and initiative of each plant manager. Each plant manager must be a production superintendent, a personnel manager, a sales manager, and a chief shipping-clerk. Only in exceptional cases can the bakery be large enough to warrant the employment of competent well-paid assistants to the plant manager for each of these functions. It is a question whether hired managers with all of these responsibilities can be found and retained for each of a chain of bakeries, who will do the work as effectively as the owners of the bakeries the competition of which has to be met.

If it is true that there is a limit to the size of bakeries, it follows that the baking industry is, and must remain for a long time to come, one of many units widely scattered. It follows further that a great bakery merger has not the prospects of economizing by shutting down inefficient plants and centralizing production—one of the chief economies aimed at in most of the other great industrial mergers. The inefficient plants must be made efficient. They cannot be scrapped unless new plants are built in

their places. This statement must of course be qualified. There may be cities in which the combination may have too many bakeries. Some of these it may be possible to shut down; but no general shutting down of plants all over the country can occur. The benefits that can accrue to a great merger from this source are small in comparison with what has taken place in the past in other industries.¹

¹ Evidence in support of these statements is to be found in the distribution of the plants of some of the more successful larger baking companies. The General Baking Company has plants in both Boston and Providence, cities but one hour apart. The Freihofer Company operates two plants in Philadelphia, and one each in Chester, Wilmington, Allentown, Trenton, and Atlantic City. Note how close these plants are together—Philadelphia, Chester, and Wilmington being all on the same lines of both the Pennsylvania and the Baltimore and Ohio Railroad, Philadelphia and Wilmington being separated by a thirty-minute train ride, with Chester in between.

V. BAKERY COMBINATIONS AND CENTRALIZATION OF MANAGEMENT

In the foregoing section a distinction was drawn between the optimum size of a manufacturing plant and the optimum size of a corporation owning and operating a series of plants, each of which may or may not be of optimum size. We have seen that the optimum and, indeed, in many cases, the maximum size of the individual bakery is not very great. It is next in order to ask what, if any, are the limitations upon the size of a corporation operating a chain of bakeries.

It is obvious that the larger an organization, the greater must be the delegation of authority to employees. In this respect, of course, a great baking corporation is in no wise different from a great steel or a great textile concern. However, the disadvantages of corporation-management as compared with owner-management are especially great in the baking industry, because, as we have seen, though buying can be centralized, manufacturing, selling, and distribution cannot be in anywhere near the same degree as in many other branches of industry. Therefore a large amount of authority must be delegated to men at a distance from the central management. This is a serious matter for a great baking corporation, because, as has been pointed out, it is almost certain to have to face keen local competition from many small and moderate-sized bakers. It is because of this situation, no doubt, that the great baking mergers have followed the policy of retaining in their employ many of the former owners of absorbed plants and of having them own large blocks of stock. Indeed, in at least one instance a bakery has been bought in order to acquire the services of its owner. This policy will no doubt prove fully justified. The Continental is endeavoring to meet the difficulties of centralizing management by grouping plants in geographic units with but a few plants in each, and giving to each group a central superintendence, usually under the direction of one of the

former owners of one of the plants of the group. It would seem that these great bakery combinations should offer a perhaps ideal opportunity to try out in America the *tantièmes* system of remunerating important corporation officials so widely practiced on the continent of Europe. Such officials receive a good basic salary and, in addition, a stated percentage of profits.¹ This plan is in some ways a better method of enlisting the self-interest of officials than stock ownership. Stock ownership presents the very great temptation to officials to administer the affairs of a corporation in such a manner that dishonorable gains may be made either by themselves or by others through trading on the market. If officials are debarred from owning stock or trading in it and are rewarded by a stated percentage of the profits, their self-interest may be enlisted as effectively as by stock ownership, and they will present an obstacle to unscrupulous majority stockholders who may desire to manipulate the affairs of the corporation to the disadvantage of the minority.

It is pertinent in this connection to point out that there are forces working in the opposite direction, which arise from the size and relative permanency of a corporation. In the course of time it acquires a certain momentum, a certain size, a certain *esprit de corps*, if its employment policy has been wise and just, which in some measure takes the place of the stimulus of ownership. Even the stimulus of ownership may in some degree be imparted to employees by facilitating the acquisition of stock by them; and this may be made particularly effective in the case of managers and other important officers. There is no reason why the attitude of employees, given a far-seeing employment policy, should not in some measure approach the attitude of army officers to "The Service"; and such an attitude may go some distance in replacing the stimulus of ownership. It helps to keep the more competent young men from going out into independent undertakings. It helps to recruit the abler young men

¹ F. W. Taussig and W. S. Barker, "American Corporations and Their Executives," *Quarterly Journal of Economics*, XL, 1.

who are ordinarily too ambitious to look forward to a life career as an employee.

The point that it is desired to make here is that a great baking corporation will meet the same handicaps in recruiting and retaining its personnel that any other great corporation meets. In the case of a great baking corporation, these handicaps are more serious than in some other branches of industry because the nature of the business demands placing much responsibility on the various plant managers, and because the danger of losing capable men is great. The superintendent of a steel mill cannot very well resign in order to establish a mill of his own. It requires too much capital. A bakery superintendent can. It requires only a few thousand dollars.

Since the baking industry is one of many units widely scattered, it follows that selling and distribution cannot be greatly centralized, as has been pointed out. According to Seager,¹ it is in selling that the greatest economies are made by combinations. Much of this advantage a great bakery merger must forego. The farflung nature of the industry will also influence the character and effectiveness of advertising. The ordinary form of national advertising misses the mark and will be wasteful, for much of the rural population which is reached by such advertising cannot secure the great corporation's bread even if it wants it. The value of national advertising to a bakery merger will depend to a large degree upon the geographic distribution of its plants. It is an open question whether national advertising can be made more effective or done more economically than the local advertising of a local concern.

There are other disadvantages under which great corporations labor. One is the necessity of installing a complex system of checks and counterchecks, of bookkeeping and accounting, which, as it occurs in that greatest of all businesses, Government, is known as red tape. This tends to increase overhead, to slow up action, to postpone deci-

¹ H. R. Seager, "Government Regulation of Big Business in the Future," *Annals of the American Academy of Political and Social Science*, 1912, p. 244.

sions, to delay the meeting of emergencies, to kill individual initiative. All this a great bakery corporation will have to experience in common with other great corporations. It is likely to prove especially serious in the baking industries for the reasons repeatedly mentioned, the great number of separate producing units and the wide freedom that must be left the individual manager of these units. In proportion as these managers have the desired characteristics of initiative and drive, they will chafe under the restrictions of the control of the central headquarters. Concrete and specific incidents of this kind might be cited in illustration.

On the other hand, one of the great advantages of a cost-keeping system for a centrally-controlled chain of plants is the possibility of comparing the efficiency of different plants with one another. If one plant is found to excel, it is possible to learn why, and to introduce corresponding improvements into all the other plants. It is, moreover, possible with such a system to institute comparisons between different plant managers and thereby introduce a spirit of emulation among them that is invaluable in building up an *esprit de corps*. The single independent plant has no such means of checking up on its own efficiency. It can only judge by whether or not its competitors are underselling it. Even when there is underselling, the independent plant manager cannot be certain whether his competitor is doing so because he is able to produce more efficiently or is selling nearer to or below the cost of production. In baking, advantage secured by a consolidation over an independent in this regard is especially pronounced, because bakers, by and large, perhaps even more than other manufacturers, have often only vague knowledge of their costs. Moreover, their establishments are often too small to warrant the expense of an adequate cost system. Even the test of underselling on the part of competitors is not so valuable as in certain other industries because of the comparatively inelastic nature of bread prices, concerning which more will be said later. So important is the opportunity of comparing costs in different plants that one of the keenest observers in the

baking field today regards it as one of the principal advantages of the bakery chain over the independent.¹ The need for help of this kind has been so great that it has brought forth a special type of consultant, of which the W. E. Long Company of Chicago is an example. This company, because it has a string of clients, is able to furnish each the peculiar service his special situation requires.

Not only does centralization of management permit comparison of costs, it permits pooling of purchase of raw materials. In this regard, no doubt great economies can be introduced. Bakers generally purchase small amounts of materials. Large bakers rarely carry or contract for more than two or three months' supply of flour, while small bakers purchase from week to week. A large corporation with a skilful purchasing department, and financially strong enough to tie up considerable capital in raw materials, can no doubt secure its materials for less than its smaller, less skilful, financially weaker competitors. However, any large independent can buy perhaps almost as advantageously. Signs are not wanting that such concentrated buying has been on the increase in recent years. The *Northwestern Miller* states categorically that great baking corporations have bought flour below the cost of production. Of course, such a practice cannot last. It will ultimately kill the goose that lays the golden egg by driving into bankruptcy those millers who sell below cost, for the sharp competition in flour milling will not permit them for long to recoup losses on sales to great corporations by exacting excessive profits from others, principally small bakers and householders. The final result would be that the great baking corporations would have to purchase from the great milling corporations who are as strong financially and at least as well managed as themselves, or else mill their own flour.

Even if great baking corporations cannot hope for long to purchase below cost, they can hope to buy for less on

¹ John M. Hartley, "Is It a Trust—Yet?", *Bakers Weekly*, September 26, 1924, p. 43.

the average than their weaker competitors. They will as a rule be better credit risks. They will have the advantage of quantity buying. They will have the advantage of dealing directly with the producer and to some extent eliminating the middleman. It may even be urged that, through the employment of experts, they will be able to take advantage of fluctuations in the flour market. The trade believes that this was actually done when wheat prices dropped precipitously in the post-war deflation period. However, this is a doubtful advantage, a questionable policy, for it makes of the baker a speculator in raw materials. If its experts go wrong in forecasting the trend of the flour market, even a great baking corporation may become seriously embarrassed. There are several examples of great corporations having gone to the wall for this reason in times of violent price fluctuations. A notable instance in recent times is the American Cotton Oil Corporation, a \$40,000,000 concern, which liquidated and went out of existence. Some of its competitors, such as the Southern Cotton Oil Company and the Procter & Gamble Company, did not fare much better. Flour millers long since learned their lesson. So far as they are able, they insure their operations by hedging in the wheat market. Those millers suffer most from fluctuation in their raw material, wheat, who will not or cannot hedge.

It is very doubtful, therefore, whether a great baking corporation does well to expect to profit by taking advantage of fluctuations in the wheat market. If it does, it is a speculator rather than a manufacturer. It will do well to eschew problematical speculative gains and to limit its operations to straight manufacturing and merchandising by insuring its operations. It may do this in a number of ways. Several are obvious. It may hedge its flour purchases for future delivery by future sales of wheat and flour. It may do its own insurance by setting aside an insurance fund out of its profits in years of low cost of raw material to be drawn upon in years of high cost. This is quite feasible in the baking industry, because, as we shall see, the price of bread does not fluctuate parallel with the price of flour. Finally, a baking corporation may

contract for its annual supply of flour each year as soon as the quality and general price level for that crop become apparent, leaving it to the millers to protect themselves against fluctuation in wheat prices. It may do the same with other raw materials, such as sugars, shortening, salt, and yeast. Under present circumstances, the last plan is not feasible, since the larger mills are not in a position usually to contract far ahead because of the difficulty of securing adequate supplies of special grades of wheat for specified kinds of flour.

It is then an illusion to believe that a great corporation can go on decade after decade, with safety, taking advantage of the market. Sooner or later it will "come a cropper." Sooner or later it will have to abandon such a policy. Such a policy must be rejected as a permanent source of advantage over its competitors.

Even so, the great corporation retains very notable advantages in purchasing due to its good credit standing, the large volume of the orders it places, the skill of its purchasing force, and above all, its expert examination of deliveries.

In the baking business, the testing of materials is especially important, because, as already pointed out, the principal raw material is so variable and so difficult to standardize. It is not yet practicable to buy flour on specification as one would buy steel or coal. The small baker, not equipped with an expert flour and baking chemist, is ever in doubt as to whether or not delivery is up to sample or mill guarantee on which he purchased. He can tell little about a flour except to note how it performs when he actually bakes it. If it behaves badly, he can never be certain whether the fault is the flour's or whether something has gone wrong in his bakeshop. From this uncertainty flow endless troubles and disputes between buyers and sellers of flour. It is astonishing how many large wholesale bakers are without competent technical advice, have no laboratories, employ no chemists or other trained experts. They are, so far as flour quality is concerned, very largely at the mercy of the flour mill or the flour jobber. All this the great corporation with trained

experts in charge of a centralized purchasing department can avoid. It can be sure it gets what it purchases.

There is further a still greater advantage growing out of centralized control of purchases. The baker who is in a position through his experts to know what is offered for delivery is able to control to a notable degree the quality of his raw material. He is able to make it more nearly uniform than many of his competitors can. In this way he will minimize one of the greatest sources of difficulty in manufacture. In consequence, manufacturing processes can be standardized to a greater degree and the product rendered more uniform. This in itself is a tremendous advantage. It means, however, control by the technologist in the central laboratory of the operations of plants at great distances—a very difficult matter.

The employment of an adequate central technical staff might lead to other important economies. The necessity for using softer flours than are now commonly used, and the difficulties in doing so, have been pointed out. The variability in our wheat supply produces great variability in price of different sorts of wheat and of the flours made from them. With a competent technical staff, the great corporation should be able to make good bread out of a very great range of flours. It could pick out in any given year, or in any given locality, the particular flour which, considering price and yield, is the most profitable for it. In other words, it should be able to adapt itself to the conditions prevailing at any given moment in any given flour market. In this it would have a great advantage over its competitors without technical staffs.

Another possible efficiency of the same type is improvement in bread yields. The poundage of bread that it is theoretically possible to get from a barrel of flour varies with the kind of flour, soft-wheat flours yielding less and hard-wheat flours yielding more, because the latter absorb and retain more water in the process of doughing. Since flours vary so much, it is impossible to give an ideal yield value. However, for an average strong flour, such as is commonly used by bakers, a yield of well above 270 pounds of bread to the barrel of 196 pounds of flour

should not be a difficult performance. If skim milk be used for doughing instead of water, an appreciably higher figure is easily attainable. Now it is certain that the average bread yields of the country are nothing like this figure. Analysis of the statements made by bakers in 1917-18 in applying to the U.S. Food Administration for licenses indicates a calculated bread yield of certainly not in excess of 255 pounds to the barrel. Most certainly neither bias nor wilful misstatement has made these figures too low. There was assuredly no reason for the baker to understate the average output of his plant. In other words, during 1917-18 bakers were averaging at least 15 pounds less of bread per barrel than skilful baking would have made possible.¹ Conditions have changed materially since that time, due to the wider use of the mechanically driven high-speed mixer which incorporates water into the dough more perfectly than hand-kneading. However, reliable authorities in the baking industry have assured the writer that, despite the introduction of kneading machines, the average bread yields of the country are still relatively low. They are probably not in excess of 265 pounds per barrel—probably appreciably less. It is obvious, then, that an efficiently run bakery such as a great corporation would operate, might have an advantage in bread yield over many of its competitors of at least from five to ten pounds per barrel—no mean handicap.

A corollary to the scanty bread yields secured by the industry as a whole is the inferior quality of much of the bread produced. Many bakeries produce inferior bread as compared with home-baked bread. It is probably true that the more skilfully operated bakeries produce bread of as good quality as the better home-baked. It is generally believed by the baking trade, however, that much commercial bread is by no means of such quality or type as to offer an inducement, on the score of quality alone,

¹This does not mean that there was a wastage of 20 pounds. It merely means that the public was consuming bread with less water in it and presumably not so well risen.

to substitute it for home-baked bread. Moreover, in many of the less skilfully operated bakeries the product is not standard and invariable in quality. It is very apt to vary more or less from time to time and for a variety of causes. Undoubtedly, the poor or uncertain quality of much of the commercially baked bread has delayed the supplanting of home-baked bread by baker's bread. A great baking corporation should be able to standardize its product better than the average run of small bakers can, and should also be able to produce bread of superior quality. If it succeeds in doing both, it should be able to get more than its share of the new business that is coming to the industry through growth of population and the supplanting of home baking.

On the other hand, there are dangers in overstandardization. Not a few successful bakers have assured the writer that consumers get tired of the same kind of bread with the same flavor, that they have found it paid from time to time to change somewhat their formula. It is hard to judge how much importance should be attached to such statements. They may be unimportant. It is perhaps worth while, nevertheless, to make a record of them here as an index that style and taste, as already suggested, enter into the situation. Certainly taste in bread varies among our different population groups, requiring a great bakery chain to manufacture different types of products in its plants in different regions and to make a variety of products in certain of its plants located where there is a mixed population. One of the most successful bakers, George S. Ward, stated with pride in 1916 that his company produced sixty kinds of baked goods. No doubt many of these were sweet goods, yet the statement shows that a bakery chain can hardly hope to attain a high degree of standardization of its products so that in all its plants only the same few standard simple products are turned out. To the extent that consumers prevent taste-standardization upon a few products, a bakery corporation is handicapped as compared with such an industry as iron and steel, for example.

Central control should also introduce improvements

in distribution through scientific study of the conditions obtaining in the territory of each bakery. Little is known concerning the costs of distribution in different territories, concerning the relative efficiency, under different conditions, of horse-drawn wagons, of light and heavy gasoline trucks, of electric vehicles. There is almost no literature on the subject except that issued by those who have delivery equipment to sell. Most bakers have had to rely on sales talk of manufacturers. A great corporation is in position to study carefully each of its bakeries, to experiment and to adopt in each case that type of delivery equipment which is best suited to the peculiarities of the situation. In the purchase of such equipment, its great size and financial strength will of course give it notable advantages. It can also introduce other efficiencies by routing its delivery teams logically—as is by no means now always the practice. It can perhaps even extend its business considerably to a distance by establishing distributing branches at distant points to which bread may be sent by fast trains in carload lots. In this way, it should be possible to reach small towns, villages, and, indeed, a portion of the rural population.

In short, the principal advantages of centralization of management will come from pooling of purchases, from better technical control of manufacturing operations, from the possibility of comparing a large number of plants. Against these must be balanced the danger that a large number of plant managers each as big as the nearly independent character of his position demands cannot be secured. There must further be thrown into the balance the increased overhead resulting from closer supervision that delegation of authority of necessity entails. Finally it must not be forgotten that many of the advantages may be enjoyed to an appreciable degree by an independent baker with a plant or a small group of plants of optimum size. Whether, in the long run, the advantages of centralized management will prove to outweigh its disadvantages only time can tell.

VI. BAKERY COMBINATIONS AND MONOPOLY

Monopoly or the prospect of monopoly, it is generally conceded, is the circumstance most favorable to the formation and survival of great industrial combinations. Control of at least 70-80 per cent of the entire output of a commodity is necessary, economists have held, to reap the benefits of monopoly. When this is attained, prices may be controlled by regulating the supply through restriction of production.¹ If it be true, as has been pointed out earlier, that the history of commercial baking during the last few years has been characterized by a tendency toward larger establishments and, since the war, toward the formation of great corporations through merger of smaller concerns, it becomes a matter of public interest whether or not the persistence of this trend is likely to lead sooner or later to monopoly. It is, therefore, important to consider what competition the great bakery corporations are likely to have to face.

Now baking is one of the few industries left in which industrial and household production still compete with one another. Bakers in general, be they large or small, have to face not merely the competition of one another, but also that of the housewife. Let us appraise, so far as we can, the severity of both kinds of competition.

The publicity agents of some of the larger baking corporations make much of this competition with the intent of showing the impossibility of creating a baking trust. It is true, of course, that so long as women bake as much as they do, there can be no general bread monopoly. However, to argue from this fact that the housewife's competition is an important factor in controlling price and in preventing the baker from taking an unduly large profit, is not justifiable. Two reasons may be advanced why this argument is unsound. One is that housewives who are

¹ Cf. Elliot Jones, *The Trust Problem in the United States*, Macmillan, New York, 1921, pp. 1 ff.

equipped to bake are by no means evenly distributed over the land. In the large cities among factory workers and apartment dwellers are numbers who are not equipped to bake, even though they may be possessed of the skill. Their competition amounts to little. They could meet exorbitant bread prices only by restriction of consumption. The second reason is that many women using baker's bread, though they are equipped and trained to bake, will resort to baking only if the price of bread becomes exorbitant, for the money cost of bread is but a small item in the cost of living. Indeed the evidence is by no means clear that money can be saved by home baking.¹ It is unjustifiable, therefore, to speak of the competition of the housewife as though it is certain to prevent unreasonably high prices. It must be remembered that, since bread is so small an element in the cost of living, a price which would give the baker an outrageous profit might not necessarily be high enough to induce the housewife to bake at home or to reduce consumption. This is due not merely to the fact above stated, that bread is not a principal element in America in the cost of living, but also to the fact that the baker has a twenty-four hour turnover in bread. An increase in profit of a mere fraction of a cent a loaf is multiplied some three hundred times a year till it amounts to a considerable sum. For the housewife who pays it, it is correspondingly spread over the year till the burden may be hardly noticed. For all these reasons the competition of the housewife is not on a par with the competition of bakers with one another. It is their competition, rather than that of housewives, that affects bread prices.

It is obvious that the number of concerns in any industry greatly affects the competition in that industry. Now the less capital is required, the easier it is to start new enterprises, and the greater, in consequence, the num-

¹ Annabelle Marsh, "The Comparative Cost of Homemade and Baker's Bread"; Lena C. Frechling and Mary R. Betz, "The Comparative Cost of Home Prepared and Commercially Prepared Foods"; Mary B. van Arsdale and Day Munroe, "Some Other Experiments on the Comparative Cost of Homemade and Baker's Bread." *Journal of Home Economics*, 1916, VIII, 40, 133, 380.

ber of competing concerns. Baking, as we have seen, is an industry of low capital requirements. According to the census, there were some 25,000 bakeries in the United States in 1919. This means that anyone who can bake bread can get into the business with but a few thousand dollars of capital. It means, further, the keenest sort of competition for a great bakery corporation. There is little prospect that this will change in the near future. A great bakery corporation will therefore—at any rate for many years to come—be faced with the prospect of the competition of many small and moderate-sized bakeries with owner-management. It is true that many of these will be inefficient, but in many cases this inefficiency is counteracted in some measure by the lower overhead, by the willingness of an owner-manager to be satisfied with low entrepreneur returns if he gets a better labor wage, by the exploitation of the owner's family, by the closer touch of owner-management with consumer demand, by the fact that the retail baker sells direct to the consumer and therefore has the leeway of the retailer's margin for his operations, and, finally, that in many cases he has no delivery problem, since he often operates on a cash-and-carry basis. Moreover, the small baker often produces a complete line of bakery products: bread of several kinds, rye as well as wheat, rolls of several kinds, cookies, cakes, pies, pastries, etc. These serve to attract custom to his doors, and the profit is greater upon sweet goods than upon bread. Many a retail baker with an established reputation for his sweet goods can afford to sell bread at a very low profit. Unless conditions change greatly, the great baking corporation will always have to face such competition. The small baker may continue to be in many cases inefficient. He may fail in many cases, but there is every evidence that there will be others to step into the shoes of those who drop out. Moreover, some small bakers will be successful, will grow, will become moderately large-sized bakers, and in some cases, very large ones, competing with the great corporations more or less on their own terms.

There is another consequence of the low capital in-

vestment necessary to enter the baking business. It is that in many localities, especially in the larger towns, it favors an excess of physical production capacity. There are probably too many bakeries in very many localities, just as there are too many retail grocery stores or too many flour mills. It is not possible to give figures for the whole country, for we have no data on the total possible bread production of all the bakeries of the country if they were operated to full capacity. However, the excess capacity is perfectly well known for certain places, Los Angeles for example. A few of the larger baking companies there have sufficient capacity to supply the whole city, were there no distribution problem. Yet there are 500 commercial bakers in Los Angeles. To be sure, a part of this excess capacity is due to the fact that in baking, as in other forms of manufacturing, the demand is variable. There are periods of peak loads for the plant and periods of light loads. That part of the excess capacity necessary to meet the peak load may make for excessive competition, but such excess-production capacity cannot conceivably account for such a state of affairs as exists in Los Angeles and probably elsewhere. It is therefore a difficult task for a combination to attempt to control the equipment for production in any such locality. There it cannot avoid severe competition.

Furthermore, the perishability of bread and the narrow radius within which it may be marketed are obstacles to monopoly.¹ When the price of an imperishable commodity sags in consequence of oversupply, it may be stored instead of thrown on the market. Bread cannot be stored, because it grows stale. It must be sold as it is produced. Therefore, to limit supply, no other course is open than to limit manufacturing. Now the ordinary trust, producing imperishables and supplying them to a wide territory from a few factories, may limit supply either by shutting down some of its plants completely or by operat-

¹ How narrow is the radius of distribution is indicated by the fact that the Continental Baking Corporation in taking over plants required the owners of the plants to agree to refrain from entering the baking business within a distance of only fifty miles (*Federal Trade Commission, op. cit.*).

ing all or some of them part time. Usually the first alternative is the more economical, since a plant operated to less than capacity has almost the same overhead as when operated to full capacity. This alternative is not open to a baking corporation, except perhaps in the cities where it owns several plants. Because bread is so perishable, a plant in one city will not, as a rule, be able to fill a gap in supply in another city created by the shutting down of a bakery in the latter. To shut down plants in localities in which a combination is the main source of supply would affect the situation only locally. It would create localized bread famines which public opinion would not tolerate—even until the trust's competitors could step into the breach. A bread trust would be compelled to operate some plants in each locality at least part time—not ordinarily a profitable policy, even if thereby supply might be controlled to some extent.

From what has just been written, it follows that a hypothetical bread trust would face a different sort of competition in each locality, the competition of the local bakers. It follows that such a corporation's power to fix prices depends not upon the percentage it controls of the bread output of the whole country, but upon the percentage it controls in each locality. To say, then, that a given concern controls the baking of 15 per cent of the country's commercial bread production has not the same significance as to say that the U.S. Steel Corporation controls such and such a percentage of the steel output of the United States.

A baking company controlling 15 per cent of the country's bread manufacture may have this control very unevenly distributed. It might, for example, control 80 per cent in one city, 20 in another, and no portion in a third. It is not impossible that a bakery corporation might for a time secure a local monopoly. It might have the power to fix prices at least temporarily in the first city; it would not be able to do so in the other two. If it maintained a price in the first city higher than in the other two, explanations would be demanded by the public and by legislators. Comparisons would be made. The com-

pany would at once be in "hot water." It would not be permitted to go on, aside from any check through price cutting by competitors. And this brings out clearly that control of great baking corporations will be difficult except through local police power. Such control by the Federal Government could not easily be exercised except through the provisions of the Constitution authorizing the Federal Government to impose and collect taxes or to control interstate commerce. To tax bread is of course not to be thought of. To exercise control through jurisdiction over interstate commerce would be ineffective because only an insignificant portion of the country's bread production passes into interstate commerce. It would not be impossible, or, indeed, a very great hardship, for a great bakery chain to adjust its operations so as to avoid engaging in interstate commerce altogether. The Federal Trade Commission actually encountered this difficulty in a significant case. The Ward Baking Company sent its wagons loaded with bread from one of its bakeries into a neighboring state, where it was sold. The Commission alleged that this sale was in violation of the statute administered by it. The court held, in effect, that there was no violation of federal law since, while driving bread wagons across a state line may have been interstate commerce, the local sale in the other state was not.¹

Even though monopoly seems to be improbable if not impossible under existing conditions, nevertheless, the formation of great bakery combinations, baking a considerable proportion of the country's bread, is potentially a serious matter, especially to other bakers and to millers. Therefore, whether or not such a corporation can expand or even maintain its present proportion of the country's bread production is a matter of real concern.

An attempt at an answer to these questions can be made only in the light of the experience of other corporations. Examination of the history of certain "trusts" does not hold out prospects of great expansion, even though

¹ *Ward Baking Co. vs. Federal Trade Commission*, No. 90, *Federal Trade Commission Decisions*, July 1, 1919, to June 31, 1920, II, 550. (Reviewing Order of Commission, 1 F.T.C. 538.)

these, in many cases, had for a time a monopoly position, an advantage which no bakery consolidation now enjoys.

The American Sugar Refining Company, when it was formed in 1892, produced 98 per cent of the country's output of cane sugar—the output of beet sugar was negligible. As beet-sugar production grew, its position became weaker. In 1910, it was reported as producing but 42.14 per cent of the country's sugar, though, of course, the tonnage it was producing had greatly increased. In 1919, it produced but 27.02 per cent.¹ This is an extreme case, but even the great U.S. Steel Corporation has had a history similar in kind though not in degree.² Where great corporations have more nearly maintained their relative position, they have done so with the help of some form of monopolistic control—a method not yet open to bakers. Baking depends upon no patented machinery or processes. Even a huge baking corporation can have no monopoly over raw materials or power. As we have seen, it cannot even carry consolidation of plants as far as any of the trusts considered above—at any rate under present conditions. There is little reason to assume, therefore, that the great baking corporations, however much they may grow with the general growth of the country and with the gradual reduction of home baking, will succeed in maintaining their relative position in the industry any more successfully than the U.S. Steel Corporation. Quite the contrary. The nature of the baking industry is such, and the competition in it is such, as we have seen, as to make the task of a combination in maintaining its relative position more difficult than in most other industries.

¹ Cf. E. Jones, *op. cit.*, pp. 106 ff.

² *Ibid.*, p. 215.

VII. THE OUTLOOK FOR THE SUCCESS OF BAKERY COMBINATIONS

In the preceding sections, the foundations have been laid for the appraisal of the outlook for success of combination in the baking industry. Such an appraisal is of general interest because, if ultimately successful, a gigantic baking merger may prove to have a profound influence upon the country's economic structure. If consolidation of bakeries can be carried out successfully, we may well be on the threshold of an era of industrial fusion involving branches of manufacturing that, hitherto, have been relatively immune. Because of the small scale of the units involved, the combination of bakeries presents novel features not commonly encountered in consolidation of manufactories. The question whether or not merger in a small-scale industry can be made to succeed is, therefore, a subject of peculiar theoretical interest to economists and students of business administration.

The reaching of a sound conclusion in our inquiry is facilitated by visualizing the factors which experience has shown to be the most important in making for the success of great consolidations in industry. Most of these may be grouped under one or another of the following six heads:

1. Monopoly
2. Raw materials few, simple, and uniform in supply and quality; cost of raw materials the major factor in cost of production
3. Mass production
4. Product simple, uniform, standardized, relatively unaffected by style or fashions
5. Mass distribution
6. Large capital requirement

The preceding sections of this study have given us the basis to determine to what extent baking possesses these six groups of characteristics.

We have learned that it is not likely to enjoy monopoly, and, therefore, lacks the greatest and most potent of the favorable factors enumerated above.

We have learned that baking possesses in a high degree the second factor in so far as its raw materials are few and simple. However, it cannot profit to the fullest extent, because the principal raw material, flour, is uniform neither in supply nor in quality. Therefore, processes cannot be so easily standardized, and a uniform product cannot be turned out as easily as if the raw materials were not merely few and simple but also uniform in supply and quality. Moreover, though the cost of raw materials in bread baking fluctuates around 70 per cent of the expenses disbursed by bakery establishments, this is materially less than in industries in which combinations have played an important rôle, as, for example, smelting, sugar refining, slaughtering and meat packing, petroleum refining, and iron and steel blast furnaces.

We have seen that mass production for wide distribution is not possible in baking. We have seen that bread baking is an industry of which the principal product, bread, though simple, is difficult to standardize, because the chief raw material varies from season to season, and also because the process of manufacture is in part biological. Biological processes, especially fermentations, are notoriously difficult to control. Furthermore, its products are difficult to standardize because demand is much influenced by taste and sentimental considerations, which differ in different parts of the country and among different groups of people in the same community. If a product for any reason is difficult to turn out of uniform quality, or if, indeed, uniformity is a disadvantage or at least not regularly an advantage, as in the case of the oriental type of rug, it is not suitable for production on a large scale. If the demand for it is materially influenced by whims of style, it is not ideally suited for production by great combinations. Possibly the failure of the wall-paper trust may be attributed to the rôle style and taste play in marketing wall coverings.

We have seen that in bread baking, mass distribution is impossible, because it is an industry that for the most part must combine production with distribution to the retailer, since its product is perishable. It operates through thousands of retailers, and—even more important—bread is so perishable that it must be delivered daily. Obviously a product that is sold in large lots or units is more suitable for a great combination. Customers will be few, salesmanship will be simpler, less will depend upon the personal relations of buyer and seller. Thus steel rails or locomotives conform notably to these specifications more than, say, vacuum sweepers. Thus we see that combinations were earlier formed among producers of certain raw or semi-finished materials which are consumed by a limited number of manufacturers, than among producers of finished goods that are not further manufactured before distribution to the ultimate consumer. Furthermore, a product that is not easily marketed except locally, either because of its character (e.g., newspapers) or its perishability (e.g., ice cream), presents limitations to handling by a great combination.

We have seen that the capital requirement for the individual plant in the baking industry is small and that, in consequence, new competition is easy.

In short, in no particular is the baking of bread characterized by full possession of any of the six groups of traits above enumerated as favorable to the success of combinations. The merging of many bakeries cannot be accompanied by the shutting down of all but a few of the most efficient. This form of efficiency which is commonly achieved in industrial mergers can be achieved only to a very limited extent in the baking industry. In certain cities something may be done. Some plants unfavorably located geographically may be closed and others more favorably placed may be built or acquired. However, a general shutting down of small, distant, or inefficient plants is not feasible. The benefits of concentrated large-scale production which are so largely predicated in the ordinary industrial combination can be achieved in the baking industry only to a limited degree.

The combination of many bakeries cannot be accompanied by completely centralized control. Each of the farflung units must be operated to a very large degree independently. The success of the combination will be largely the sum of the successes of the units. Its success or failure will depend to a large extent upon the initiative of the manager. In the bakery, far less than in other factories, can he be made a mere machine for the execution of instructions coming from headquarters.

The combining of many bakeries cannot be accompanied by the centralization of sales, for each unit has its own sales problem and must employ its own salesmen, because the salesman is also the driver of the delivery truck.

The combining of many bakeries cannot be accompanied by the centralization of distribution for the same reason that sales management cannot be centralized.

Granted that many of the economies which are advanced as arguments in favor of the formation of industrial mergers are not to be achieved in the baking industry, or at best, to be achieved in but slight degree, what are the economies that can be achieved—economies which must have been the inducement for the formation of so many mergers in the last two decades, some of which, since the war, have been notable successes?

The economies that may be expected fall into two groups: those that are open to great combinations in general, and those that are peculiar to great combinations of bakeries.

The first group, economies that are not peculiar to consolidation of baking establishments, are the economies that result from centralized skilful purchasing; from the control of adequate financial resources, making it possible to modernize or otherwise render efficient all plants operated; from the employment of an adequate force of highly trained technologists who will standardize or improve to some degree the operations in production and distribution of all plants; from the introduction of an adequate cost system.

The second group, economies possible because of the peculiar characteristics of the baking industry, are such matters as greater uniformity of product, the improvement of its quality, the augmentation of bread yields, the increase of the area of distribution by production of a loaf of better keeping quality and by better organizing of distribution, the production of good bread from flours made from those wheats of which our country produces a surplus—flours which in consequence can be bought to better advantage than those made of wheats of which we produce no surplus; the distribution of risks resulting from the operation of many separate widely scattered plants.

These economies which may be expected to result from consolidation are nearly all of the sort that any high-grade baker with vision, experience, and technical training might himself introduce into his bakery and into his business without any consolidation with other concerns at all, provided his business is of a reasonably large size. Of course, he would probably not be quite as efficient as a great corporation in purchasing, but merely because the volume of his purchases would not be as great. On the other hand, his greater flexibility of operation may enable him to utilize bargain lots to better advantage than his large competitor. Few of the ordinary economies aimed at in great consolidations, such as suppression of competition, centralized large-scale production, centralized large-scale sales management, permanent scrapping of inefficient high-cost units and the transfer of their business to a large-scale central plant, are possible in baking. There remain, then, only very few things an individual large bakery could not do for itself. The principal one is large-volume purchasing.

If this be true, the potential success of a great baking consolidation depends in the main upon its being better managed than its competitors, for it can have few natural advantages over them.

Now the prospects that it will be better managed than its competitors depend naturally upon the efficiency of these competitors. What is the general efficiency of the

average run of American bakers, becomes, then, an important question. If this average is high, the prospects of success for a great baking combine are poor; if the average is low, the prospects are better. Those who have made a study of American bakeshops and factories will, the writer believes, agree unanimously that the general average of manufacturing efficiency is low indeed. However, opinions and personal impressions are uncertain. It is not safe to reason from them. Are there no objective facts upon which a judgment as to the efficiency of American bakers as a class may be based? There are a few such sets of facts, though not many.

Perhaps the most significant of them is the low bread yields of American bakers, adequately discussed above. Another is to be seen in the considerable losses to bakers which arise from the return of stale loaves.¹ Still another is that the average baker purchases flour, not upon specification and analysis, but upon personal judgment and experience; and also that he pays such high premiums for strong flours. That many bakeries are ill-equipped and badly laid out is another contributing factor toward inefficiency already discussed.

Another index of inefficiency on the part of many bakers is the varying quality of bread over the country and even in a given locality. This is a fact that any discriminating person is able to establish for himself if he takes the trouble to pay some attention to the matter. It is very generally known among housewives. If all bakers made uniformly excellent bread, the range of variation in bread quality the country over would not be so great as it actually is.

Still another index of inefficiency is the scarcity of technical training in the industry. The average baker has learned his trade like a carpenter or a bricklayer, by sticking around a bakeshop and learning from men whose only training has been in the school of experience, whose work is done by rule-of-thumb methods. Such training is no longer adequate to run a great bread factory. One

¹ J. S. Davis and Wilfred Eldred, *op. cit.*

might just as well intrust to a carpenter the construction of a great office building or to a stone-cutter the construction of a great dam. Until very recently, there have been few schools for the training of bakers in the United States. The establishment of such a school by the bakers themselves¹ and its success is the surest testimony to the need of better trained men in the industry.

There is then good reason to believe that a great baking corporation has ample scope for meeting competition and for proving successful by better management than its average competitors. In other words, the prospects for probable success, so far as the operating side of the business is concerned, are good in spite of the absence of many of the advantages ordinarily coming to combinations. They are good because of the low average of efficiency of the bakers of the country with whom the great corporation would have to compete. They are good, however, only so long as the average efficiency of the bakers of the country remains low.

Now the prospects of success, since they depend almost solely upon good management, are tied up with the character of the men who will be responsible for that management. In the case of most of the recent combinations, these are men who had been successful in the industry. For the most part they have been associated long and successfully with baking. Indeed in selecting plants to absorb, it is obvious that the United and its successor, the Continental, had in mind securing the services of bakery owners of conspicuous ability. It is, therefore, reasonable to assume that, so long as the men now in charge remain at the helm, the management will be able. It may even be able enough to overcome in part some of the handicaps, above enumerated, that are the result of the peculiar nature of the baking business. There remain two important questions to ask about the managements. One is:

¹ The American Institute of Baking, which was established and is maintained by the American Bakers' Association, has as one of its major functions the operation of such a school. The school opened its doors to students in 1922. The Institute is located at 1135 Fullerton Avenue, Chicago.

How expensive are they? The other is: How long will they last?

The present managers of the bakery chains are for the most part the organizers of the combinations, or else plant owners who voluntarily agreed to the absorption of their properties. Now the organizers are usually indispensable to the success of mergers. They, therefore, are commonly paid beyond the social worth of their services.¹ Nothing is known concerning the salary rolls of any of the recent bakery mergers. However, their organizers would be less than human if they have not arranged very substantial remuneration for themselves.

How long the present management is likely to last depends upon the age of the men and upon their ability to work harmoniously together. While naturally there are some elderly men connected with some of the present combinations, the majority are still in their prime. The survival of present managements depends, therefore, in the main, upon whether the individuals can continue to work together harmoniously. That is of course a question that can only be tested by actual trial. One can, however, reach some general notion of the probability of the management holding together from consideration of the past history of the men. Most of them have made their mark as independent bakers. For years, most of them have been used to controlling their own destinies; many of them are old enough to be set in their ways. This does not augur well for harmony. Now lack of harmony is a most serious matter in the baking industry, because the capital required to enter it is so small. Any director or general superintendent, or indeed any superintendent of a single bakery, who may resign, would be able to start a competitive bakery of his own. Signs of discord are not lacking. In its short history, the Standard had a revolution in its directorate, if we may judge by changes of personnel. There are instances of the resignation of directors to start new independent bakery enterprises.

All in all, considering the possibilities of lack of har-

¹ Arthur Raffalovich, *Trusts, Cartels et Syndicats*, Paris, 1903, p. 375.

mony and the inclusion in the managements of some who are no longer young, it is not unlikely that there may be a considerable turnover in some of the managements in the next decade. Hence, it becomes important to consider what sort of men are likely to replace any portion of the management that may soon retire. It is a question whether the average of ability will be as high, for the new men are almost certain to be corporation employees who have worked up, not practical bakers who by their natural ability have fought their way up from the bottom. As in the course of time ownership inevitably becomes separated from management, we may look to see a different type of corporation employee in charge. Already it is true that an increasing proportion of the officials of the larger companies have graduated not from the bakeshop but from the sales or accounting staffs. This is likely to be true in even larger measure in the future. Such success as may be achieved will depend more and more upon the managerial ability and training in management of such men, and especially of men trained in schools of business administration rather than of baking technology. The growing numbers of men of ability without private means who are schooling themselves to be managers for others are more and more bound to supersede the owner-manager. Skill in investment, in technology, in administrative control, demand such different types of ability as are rarely to be found combined in the same person.

We have now come to the end of our analysis of the factors that are likely to influence the future development of commercial baking. We have reached the conclusion that there is much room for future expansion. We have reached the further conclusion that monopoly is extremely unlikely, that in baking but few of the economies and efficiencies expected of consolidation can be achieved. Nevertheless it is evident that bakery combinations are likely to be a success for a time, because of the low average efficiency of the industry as a whole. Since the average of efficiency of the industry is bound to rise, it seems unlikely that the great combination will long maintain whatever advantages of this kind it has at the outset. Few of

the economies and efficiencies possible to a great merger are unattainable for an independent baker with a plant or a number of plants close to the optimum size. Many such concerns now exist. Many more will arise. Their size will vary with the managerial ability of their owners. The writer inclines to the view that the ultimate fate of the baking industry lies in their hands and not in those of the small retailers or the great combinations. In addition, the signs indicate that chain grocery stores will also play an important rôle. Whether the great combinations will survive after initial successes or ultimately break up into smaller, less unwieldy units remains to be seen. Probably a decade or two hence, when some sort of general equilibrium will have been reached, it will be found that the momentum of their great size keeps the combinations together, though their profits be only a modest normal and much less than that of many of their smaller independent competitors.

VIII. BAKERY COMBINATIONS AND THE INVESTOR

In the preceding chapters the baking industry has been considered objectively without regard to its bearing on the public interest or the social value of the developments that have been taking place and are likely to take place in it. The basis has been laid for consideration of such values.

At least three points of view are possible: that of the investor in bakery securities; that of the producer of raw materials for the baker; that of the user of the baker's products, the general public. A large concern may be very successful in making large profits because it introduces efficiencies and economies, or because it is able to exact great profits either by beating down the price of raw materials or by holding up the price of the finished goods, or both. In one case, all parties benefit; in the other, only the owners of the large concern benefit. The interests of investors, of producers of raw materials, and of consumers may therefore be very different. Yet consideration of each is essential for a proper assay of the social value of bakery mergers. Therefore, in this section the point of view of the investor will be discussed; in subsequent sections, those of the other parties interested.

In discussing the point of view of the investor, the writer does not propose to go into details of balance sheets, of valuations, of accounting methods. Even if this were possible without access to the books of the various combinations, it would probably yield little of importance for the appraisal of their social value. The writer has limited himself to consideration of general characteristics and long-time trends which, in spite of their great importance, are so often ignored by sellers of securities.

Furthermore, as already stated, the writer does not propose to discuss, in more than a general way, the details of the financing of bakery combinations. If the earnings of a manufacturing plant in a particular year are, let us

say, 50 per cent of the cost of the plant and the capital outlay, if the standard of living and the development of society promise a continuance of the earnings, the owners will endeavor in one form or another to issue shares to capitalize the concern at such a figure that the predicted earnings will represent what may be termed a normal rate of dividend. If, now, the ultimate outcome gives to these shares a substantial and enduring value, this means that the promoters correctly foresaw developments, quite as though a mine were to be capitalized at far beyond the capital invested, in the expectation—later proved correct—that the ore deposits were large enough later to justify the capitalization that was not initially based on ore in sight or geologically demonstrable. In the history of American industry during the past fifty years are many illustrations of concerns that profited in precisely this manner by such developments of society, enriching the original holders of these shares or other bona fide investors. On the other hand, we also possess numerous illustrations of concerns whose eventual outcome in goods and services was not sufficient to justify the initial capitalization, leading to heavy losses by "innocent" purchasers.

If, now, in the contemplation of any particular industrial consolidation, it is to be assumed as a possibility that the original organizers and promoters expect to dispose of their holdings to the general public prior to the definitive test of development, leaving the general public to take the entire risk of the capitalization, we face a straight case of stock-jobbing.

In a scientific discussion of any industrial consolidation, it is necessarily assumed as the basis of argument that the consolidation has the *bona fide* intention of capitalizing either efficiencies in operation or reasonable developments in the standard of living and the growth of population. A scientific discussion cannot consider what may be hidden in the minds of promoters. It can but assume that if there be capitalization in excess of investment, such excess represents merely capitalization of future expectations, as such expectations are judged by

the promoters. This is a necessary assumption underlying this study and hence the problem is viewed from the standpoint of the possibility of the efficiencies to be obtained through combination.

Certain features of baking—already pointed out—should appeal at once to the investor. It is one of the least hazardous, one of the least speculative of all our industries, as evidenced by the steady, even growth of the industry, undisturbed by booms, by panics, or even by war. There have been few violent fluctuations in its prosperity. This is due not merely to the steadiness of demand, but in great part also to the very rapid turnover in the industry which makes it unnecessary to carry large inventories. Thus losses—and also gains—from rapid fluctuation in price of raw material are small. Moreover, the sales are made on a cash basis so that there is almost no credit risk. For these reasons, the amount of working capital is relatively small. Freedom from fluctuation is not purchased at the expense of growth. What the rate of growth of the industry is likely to be has been pointed out. There is no indication that the saturation point will be reached for a long time to come, a consideration of great importance to such investors as institutions, which are concerned with long-time trends. Even if, as seems likely, great baking combinations should fail to capture their percentage of new business, they might nevertheless operate profitably.

The points that may well make investors hesitate are that there is little prospect of substantial monopolistic profits; that only a few of the economies possible in other fields are possible to baking combinations, namely, centralized purchasing, standardization, improvement of product, financial strength, power to employ the best technical experts; and, finally, that but few of the efficiencies and economies that a great combination can introduce are beyond the power of a competing baker operating a moderately large-sized business. Investors should also realize that a great baking company shares with other great corporations certain inefficiencies that come from size as such, namely, repression of individual initiative, weakness

of self-interest in management, difficulties in superintendence because of the small-scale character and geographically scattered nature of baking. A baking concern will have keen competition to meet from independents. In short, in the main, the probable success of a great baking corporation depends upon its being better managed than its competitors. The investor must, therefore, largely reach his decision on the basis of his estimate of the management, present and prospective.

Assuming that he reaches the conclusion that the management is able and is likely to remain so, he will next ask: Is the capitalization sound, or is it such that to expect the management, however able, to earn dividends upon that capitalization is to expect the impossible? This requires some examination into the manner in which some of the recent baking mergers have been financed.

Now it is a curious fact that inquiry last winter among some of the great banking houses in New York uncovered little information concerning the manner of financing the greatest of the baking mergers. Many houses had little information on the subject and indeed showed little interest. Most of them stated that financing was either insignificant in amount or else was not done by the customary agencies in New York. The trade asserted that some of it had been done privately in Pittsburgh. The mention of Pittsburgh is significant in view of the fact that that city was the starting-point for one of the largest baking companies, the Ward Baking Company, now controlled by W. B. Ward, one of the leading spirits of the whole merger movement. Little financing was necessary, it was stated by members of the trade, because so many of the owners of the plants absorbed were elderly men who were anxious to let go and retire. This meant, so it was said, that no excessive prices had to be paid either for goodwill or for physical assets. Moreover, it was asserted that very little cash was demanded by sellers of bakeries, because of the provisions of the income tax law. Many of the bakeries absorbed were owned by individuals, by families, or by co-partnerships, and were often capitalized at very low figures. Usually the owners of such bakeries preferred to

take the major portion of the purchase price in stock of the absorbing corporation, thus avoiding for the time the payment of surtaxes and taxes on capital gains. With the announced policy of the national administration to reduce taxes as rapidly as feasible, this course is natural, since it holds out the prospect of ultimate reduction in tax payments if these can be deferred. All the evidence it has been possible to unearth tends to corroborate these statements.

It is further stated that the bulk of the actual money required was furnished by the men in the business themselves and by their business associates out of the large profits of the post-war years. That these profits must have been very large is indicated not merely by the course of bread prices, to be discussed later, but also by the fact that in the period 1921-23 the cost of materials declined, chiefly because of the decline in the cost of flour, while the value added by manufacture increased by about 10 per cent.¹ This 10 per cent must have been absorbed by owners or by labor or shared between them, since the value of money did not depreciate in this period and none of the other expenses of doing business seem to have changed materially.

And this opens up the question of capitalization. Since, apparently, in the combinations recently formed or now forming, the manufacturers themselves are the organizers, there do not seem to be any promoters' profits, as this term is ordinarily employed. Perhaps it is more correct to say that such profits, if any, are going to the owners of the concerns involved. This is, however, no guarantee against overcapitalization, for the tobacco trust was similarly formed; yet it was greatly overcapitalized. But little is known concerning the financial basis of absorption, except for the absorption of the United Baking Corporation by the Continental (see Appendix, p. 144). Inasmuch as the various combinations under discussion have been formed not as the result of distress but at a time when, as shown above, the baking business was unusually

¹ Cf. Kyrk and Davis, *op. cit.*, p. 19.

profitable, it is altogether unlikely that owners of bakeries have let them go to the combination at low prices. Furthermore, since it is the avowed policy of most of those behind these combinations to absorb only the better plants with the better managements, it is fairly certain that the combinations have had to pay at least all the plants were worth as managed by their owners. This probably means that much has had to be paid for management, for goodwill, and the like. Finally it is most significant that the recent huge combinations have occurred in the course of a prolonged boom in the stock market, extending from the summer of 1924. In short, nearly all the factors are present which would make for more or less overcapitalization.

It is, therefore, not astonishing that everything indicates that the owners of absorbed bakeries have sold on a basis which gave them preferred stock of the merger corporation, or preferred and common stock with par value, to the full value of their business and, in addition, a considerable amount of no-par common stock representing their hope of material speculative gain from the transaction.

This surmise is supported by the fact that in April 1925 the total net assets of the Continental Baking Corporation (including goodwill, patents, and formulae to the extent of \$9.4+ millions) were \$51,668,491 after deducting all liabilities and reserves (but not capital stock).¹ At that time there had been issued preferred stock with a par value of \$48,708,700. The two figures are strikingly close together. Had those who turned their plants into the merger placed any but a speculative value on the no-par common shares they received in part payment, then the sum total of the \$100-par preferred shares issued would probably have been very materially less than the total assets. While this reasoning is not proof, it points strongly to the probability that the owners of these merged plants took preferred stock for their assets and no-par stock for

¹ Report of President Barber, May 4, 1925.

their hopes.¹ This surmise is further strengthened by the basis for exchange of stock of the United Bakeries Corporation for that of the Continental Baking Corporation. Exchange was made on the following basis:

One share United preferred (par \$100) for 1 share Continental preferred (par \$100) plus 1 share no-par "B." One share United no-par common for 1 share Continental no-par "A" plus 2 shares no-par "B."

In interpreting these figures, one must remember that the United was itself a merger, probably financed on a basis comparable to that of the Continental.

The Purity presents a slightly different picture. As of December 31, 1924, the total net assets (including goodwill, trade-marks, and organization expenses to the extent of \$2.1+ millions) were \$5,861,874.77 after deduction of all liabilities and reserves (but not capital stock). The par value of the preferred stock and Class A stock of a par value of \$25 then outstanding was \$4,102,333. There were then also outstanding something over 115 thousand no-par Class B shares. These figures point to financing analogous to that of the Continental but somewhat more conservative.

Since many of the bakery combinations have issued only one class of par-value stock, the preferred, and since they are incorporated for the most part in states without "stated capital" requirement, the question whether or not there has been introduction of "water" does not arise. "Watering" has to do only with the false pretense that the assets given for capital issues are of a value as great as that of the par of the stock issued. Hence "watering" cannot occur in connection with no-par issues if no "stated capital" is falsely set out. However, since any kind of share is merely a contract with a corporation for the right to participate in profits, if any, under certain specified conditions and, in addition, to participate in the distri-

¹ Cf. also statement by G. G. Barber to Federal Trade Commission: "None of the money used to purchase the company came from any other source than the sale of stock by the Continental Baking Corporation. There is no borrowed money in there."

bution of the corporation's assets in the event of dissolution, the issuance of considerable numbers of no-par shares is not a matter of indifference to stockholders. The larger the number of shares of a given class, the smaller for each share the fraction of the profits in which that class of shares is entitled to participate. The effect upon the investor may be as bad as sometimes in the old style of "watering." This is particularly evident when for any reason the public has come to expect a definite rate of dividend upon a stock. Experience shows that when more stock of the same class is issued, especially when in the form of a stock dividend, the market value of the stock usually drops less than the increase in number of shares would seem to warrant,¹ even after giving due weight to the better borrowing power that may result from such distribution. No-par stocks have been on the market for so short a time the public is no doubt even less well informed in regard to them than it is in regard to issues of stated par value. Now the issuance of some of the baking stocks has been characterized by a feature which has probably an influence upon the public mind similar to that of a statement to the effect that the normal rate of dividends upon a stock is thus and so. This is the manner of stating the conditions under which dividends may be paid. Thus according to the charter of the Continental Baking Corporation, its no-par "A" stock is non-cumulative and preferred as to dividends to the extent of \$8.00 a share over "B" stock and thereafter participates in further dividends equally with "B" stock. Such a statement, even if made in perfect good faith, cannot fail to have a psychological effect upon the public, though it refers to a no-par stock.

If a corporation has no "stated capital," there can be, strictly speaking, no "capitalization." There is merely a bargain that preferred shares shall have a certain dividend per year when, as, and if earned and declared and no more. Distributable surplus in excess of preferred

¹ James C. Bonbright, *Railroad Capitalization, A Study of the Principles of Regulation of Railroad Securities*, New York, 1920, pp. 57, 128 f.

dividends may be apportioned to the other classes of stock according to a specified plan. No-par shares are not in capital stock at all, but are merely a flexible device for sharing surplus as distributed. Now, if it be true of a company without stated capital that the par value of all the preferred stock outstanding is about equal to the value of the great bulk of its assets, then the corporation has to earn net profits of more than 8 per cent on the value of its assets before there can be anything for the no-par classes of stock, since 8 per cent is the usual dividend rate on preferred baking stock. The one important thing that concerns the investor in no-par shares is absolute earning power rather than assets. So long as the no-par shares are held by insiders who have received them as a bonus in turning over properties to the holding corporation, it is quite immaterial how much of this stock is issued. But once it is in the hands of the public, which must be for the greater part ignorant of its income probabilities, it is another matter. There are two other factors that the investor, in cases like those under consideration, must keep in mind. One is that, if a property be exchanged for par-value stocks, there is some basis for determining whether or not the property has been acquired upon a fair valuation. In the case of no-par stock, there is no such basis, unless it be the very fluctuating market value of the no-par shares. The second factor is that, in the case of some of the baking mergers, as indeed in the case of many other recent incorporations, only the no-par stock has voting power. From this is likely to come, in the long run, a divorce of ownership and management. One group is likely ultimately to own the great bulk of the property because it holds bonds or preferred stock; another controls management. As control costs little and involves little risk, there is danger that "the conduct of the business may be dominated by the idea of raising or lowering the price of its mass of speculative stock on the exchanges."¹ If large volumes of shares whether par or no-par are outstanding, the temptation to

¹ L. H. Haney, *op. cit.*, p. 354.

take such a course will be great. Even if no such manipulation is practiced, the pressure of the owners of such stock upon the management to pay dividends may well lead to unsound business methods. In this connection it is of interest to note that in the case of the Continental all of the 200,000 shares of no-par "B" common authorized had been issued early in its history, while even today only a fraction of the preferred and "A" common shares authorized have been issued. While there is now no indication that the managements of the bakery mergers are following such policies and while they may never do so in the future, nevertheless the possibility is one the prudent investor will want to take into consideration.

In considering it he will want to evaluate the temptation and the pressure to which the management is likely to be subjected in the future. Such pressure and temptation will be inversely proportional to the liberality with which the no-par stocks have been distributed in payment for properties or organization expenses.

If the capitalization has been on the basis of the earnings of the post-war years with their unusually large profits, and under the stimulus of a prolonged boom of the stock market, the distribution of stock of no-par value may have been quite excessive. The decline of wheat prices in 1920-21, and the conditions which kept them low for two or three years more, were most unusual. Wheat and flour prices have already risen substantially from the abnormally low levels which prevailed during the period of exceptional bakery profits.¹ It may require another such drop as took place in 1920-21 to make possible a repetition of the great profits of the bakers during the post-war period.

The history of the General Baking Company, one of the strongest concerns, is significant. Organized in 1911, it was 19½ per cent in arrears on its preferred dividends by 1918 and had never paid any dividends on its common stock. It commenced paying off these arrears in 1920 and

¹ See WHEAT STUDIES OF THE FOOD RESEARCH INSTITUTE, December 1924, November 1925.

in 1921 paid 20 per cent in preferred stock in lieu of the arrears on the preferred. In that year, ten years after incorporation, it paid its initial dividend on the common. About January 1922, a largely increased number of no-par shares both preferred and common were issued in exchange for the old shares. On these much more numerous shares \$2.00 quarterly was paid. In addition, in 1922, \$1.00 was paid on the common and a 200 per cent stock dividend was distributed. Till 1924 dividends of \$1.00 quarterly were paid on all this common. In January 1924, \$1.50 a share was paid. Certainly the record of the General was very different before and after the war. Its record was duplicated by a number of other merger concerns; whereas no doubt many non-merger concerns with owner-management like Ward's were most successful before the war, to judge by their expansion. Unfortunately their financial records are not available to the writer.

The writer is well aware that a dividend record is not necessarily an index of profits. Much of the profits may be sunk in new construction, improvements, and expansion; and the General apparently used some profits for this purpose. Nevertheless, when a new concern is for nearly ten years to any material degree in arrears on its cumulative preferred stock, the inference is warranted that it is not a brilliant success. It may be urged that the change in the General's prosperity was due not to war conditions but to better management. Better management there may have been, but in that event we must attribute similar war and post-war increases of profits earned by numbers of other companies to better management. Are we to assume that the managements of a number of concerns all suddenly became better during the war? The post-war profits came largely from the wide margin between flour prices and bread prices.

In view of the impossibility of reaching very definite conclusions concerning the character of the financing of many of the bakery mergers, no definite opinion can be formed concerning future management policies. If financing has been conservative and if one of the objects of the organizers has been to secure efficiency rather than to

unload stock upon the public, then the management will probably feel free to pursue a long-time policy assuring permanence of operations and profits over a period of years. If the reverse is the case, the management will be under constant pressure to earn dividends on a large number of shares without having any very great advantage over its *more efficient* competitors to help it do so.

In other words, the issues of these great bakery corporations present nothing intrinsically different from the issues of many other great manufacturing corporations, to the investor who looks behind the unusual profits of the post-war years and looks forward at the long-time trend. In either case, he is investing in management, in men. In the case of the great baking mergers the present managements seem able. How long they will remain so cannot be told. How long they will be given a free hand by shareholders cannot be appraised. If share control passes out of the hands of the present holders, management may be expected to change.

The principal advantages which the bakery industry possesses, in comparison with many other industries, are its prospect of steady growth, its relative independence of general business conditions, the certainty that the demand for its products will vary only moderately in boom times and panics, and its ability to meet for some time to come increasing demand without heavy additional capital investment. Against these must be balanced the growing efficiency of the competition which it will have to continue to meet indefinitely, as well as the possibility that under stimulus of post-war profits and of the recent stock-market boom there has been gross overcapitalization.

IX. BAKERY COMBINATIONS AND PRODUCERS OF RAW MATERIALS

The principal raw-material purveyors to bakeries are flour millers. To understand the probable effect of combination of bakeries upon milling, the situation needs to be viewed against the broad background of the development and present situation in flour milling. American flour milling is an overextended industry.¹ During the past two decades the geographical relations of the industry have been shifting. The developments of agriculture—as expressed in the regional expansion of wheat growing up to the beginning of the century, the relatively stationary position until the opening of the war, the abnormal expansion during and directly after the war and the subsequent contraction, and the relations of Canadian wheat supply to Lake Erie milling—have thrown wheat growing and wheat milling out of alignment. This has been aided by regional developments in growth of population and by the railway rate structure. This malalignment between wheat growing and wheat milling finds expression in part in the distorted relation between mill capacity and mill outturn. Practically speaking, flour production is rarely over 60 per cent of mill capacity. This does not mean that in the different regions the several mills operate at the same relation of outturn to capacity—quite the contrary; in some regions and with some mill groupings the outturn is much higher, while in other regions and with other mill groupings the outturn is much lower. This finds expression in the fact that milling companies find it competitively necessary to erect new mills at one point, while existing mills at another point can operate only at partial capacity. Competition between the flours of different wheat areas and between different milling groups thus continues to lead to expansion at the time when the industry as a whole is clearly suffering from overexpansion.

¹ *The Dispensability of a Wheat Surplus in the United States*, WHEAT STUDIES OF THE FOOD RESEARCH INSTITUTE, I, 138.

In this overextension of flour milling are two groups of mills: (1) those economically or regionally inefficient; and (2) those technically inefficient. Obsolescence in flour mills may be due, therefore, to developments that have placed a technically competent mill at an insuperable economic disadvantage; or it may be due to new developments in milling construction and practices that have made older installations operatively inefficient. There is at present evidence that milling companies are attempting to maintain operations in both types of obsolete mills, seeking through enlarged outturn, aided by high pressure merchandising, to overcome the difficulties of their situations. With due consideration of our growth in population, including an increased per capita consumption of wheat flour, and with full allowance for the possibilities of the export market, it still seems inevitable that the next decade will witness an extensive wiping out of technically obsolete or economically inefficient flour mills. In part, we may anticipate this to be accomplished by farsighted administration; in part, it will be accomplished by retirement, possibly with insolvency. Competition between milling companies is, therefore, not merely for the purpose of living well, but in part for the purpose of living at all.

During the past two decades, and especially since the war, the margin between mill price of wheat and mill price of flour has been growing wider. This has been the result of increase in manufacturing costs (particularly the result of direct and indirect elevation of labor charges), increase in costs of merchandising and distribution, and general increase in overhead, the various factors varying from region to region and from mill to mill. Developments in transportation and credit have the effect of forcing more and more upon the mills the responsibilities and burdens of distribution. With continued sharpening of consumers' specifications of flour, the mills face an increasing burden in securing premium wheats to maintain qualities. The uncertainty in regard to premiums, and the erratic price fluctuations on the grain exchanges have much reduced the protection possible through hedging.

Since the burden of carrying stocks is being imposed more and more on the mills, mills have been tempted into uneconomic selling arrangements with long-deferred delivery commitments. These developments accentuate the necessity for writing down the capital investment in flour milling and also probably the advance of the inevitable time of writing it down.

Broadly considered, there are five levels of mill price of flour in the United States, varying from region to region and from mill to mill and reflecting the relative strength or weakness of the mill against the trading positions of the flour buyers. The mills make the prices of flour in accordance with the bargaining power of flour buyers, and mill price of flour tends to be high or low inversely with this bargaining power. Probably the lowest level of mill price of flour is that for the export market, which is in large part really a dumping market and, in any event, is subject to intense competition with the flours of other countries suffering similarly from over-extension of flour milling. The next higher level of prices is probably that of large bakeries, which during the last five years have shown themselves in position to drive hard bargains with flour mills, enabling them to a considerable extent to purchase flour at or actually below cost of production as correctly appraised by sound accounting, sometimes with such conditions of payment as actually to represent a carrying of the bakery by the mill. The next level of mill price is the market of public eating-places, which possess considerable bargaining power, partly by virtue of the volume of use and partly because they are in position either to buy flour and make their wheaten goods or purchase the finished goods from bakeries. The next level of flour price is that of the small neighborhood baker. Finally, we have the largest market, that of household consumption, whose mill price of flour is highest, partly because the retail grocer has a low bargaining power and partly because household preferences for flour are more or less pronounced.

It is very probable that both with successful and unsuccessful milling concerns, from the standpoint of

net profits for the year, flour for household consumption carries the burden of the trade, and in effect the household pays a higher price because the export market and large bakers pay a lower price; or, to put it bluntly, millers yield to hard price bargains in the export market and with large bakeries, even to the extent of positive losses, because they are still in position to recoup these by securing high prices from purchasers for household consumption. Now, with the development of surfaced roads and the consequent facilitation of delivery of bread, bakers' bread expands at the expense of home baking. The expanding volume of sales for bakery use accentuates the difficulties of the mills, since with larger purchases bakeries drive continuously harder bargains for flour; and household consumption, as it declines in relative importance, suffices less and less to bear the burden of maintaining mill profits.

Finally, a general survey of the operations of flour mills over the United States leads to the inference that at present such profits as do accrue to the industry as a whole, varying from region to region and from mill to mill, are more and more the expression of what may be termed accessory operations: the manufacture of special animal feeds of one kind or another; the specialization of breakfast cereals, pancake flours, or other particular products; the merchandising of wheat, quite after the manner of a cash grain merchant, for which mills in certain localities possess particular qualifications; and the profits of speculation, these being, in some areas where hedging is not practiced, the results of shrewd advance purchases of wheat on a rising market, with hand-to-mouth purchases on a falling market, and in other parts of the country, where hedging is practiced, the results of spreading operations and the superior use of price developments in the futures markets. In addition, some flour mills are developing food products outside of wheat. It is probably not wide of the truth to remark as a broad proposition that, viewing the industry as a whole, these accessory forms of income perhaps contribute to dividends as much as, or possibly more than, the returns of

flour sales, despite the fact that the manufacture of flour is the prime purpose of the industry.

This broad background must be kept in mind when one approaches the scrutiny of a large merger of bread bakers. Such a merger represents a concentration of bargaining power against the mills as well as a concentration of selling power, where the bread made from flour exacted from the mills at a low price displaces household bread baked from the flour of the same mills. Even if a particular combination produces only 10 or 15 per cent of the bakeshop bread of the country, its significance is greatly intensified when one considers the totality of circumstances concerned. The baking combinations are not the cause of the overextension of milling and the difficult position in which that industry now stands, but they are in a position to take oppressive advantage of it.

The question that next arises is: What proportion of the country's flour is used by large bread-baking corporations, and what proportion of the country's bread is produced by them? In 1923 the flour production in the United States, according to the Bureau of the Census, was 113 million barrels, exclusive of the output of very small mills; the *Northwestern Miller* estimates the total production of all mills as 120 million barrels, of which 15 million were exported.¹ The census report for 1923 shows a consumption of 34,964,075 barrels of wheat flour and 2.8 million barrels of rye and other flours by the entire baking industry.² Of this, about 4 million barrels is consumed in the form of biscuits, crackers, and cookie cakes. About 30 million barrels of wheat flour, therefore, less than one-third of the annual consumption of flour in the United States, was in 1923 consumed by bread bakers. This would not include rye and other flours.

What portion of these 30 million barrels is used by the large concerns? Unfortunately it is not possible to arrive at any close estimate. George G. Barber, then president

¹ U.S. Department of Commerce, press release, February 11, 1925; *Northwestern Miller*, February 25, 1925, p. 763.

² The figure is somewhat too low, since the outturn of plants of an annual value of less than \$5,000 was not included.

of the Continental Baking Corporation, announced on January 1, 1925, that his company expected to use 3,000,000 barrels per annum. Since that time it has acquired additional plants, so that this figure is today probably too low. In 1923 it was reported that Ward had a flour consumption of 1,300,000 barrels.¹ The General Baking Company's consumption must be of the same order of magnitude. The Purity Baking Company has announced that it expects to use over 1 million barrels per annum.² These concerns, the Continental, the Ward, the General Baking Company, and the Purity, together with the Southern and Cushman's—by no means all the larger concerns—must, therefore, require more than 7 million barrels per annum.

The *Northwestern Miller* recently put the requirements of concentrated buyers at from 8 to 10 per cent of the total production, equivalent to 9,600,000–12,000,000 barrels. Now the National Biscuit Company takes about 2,000,000 barrels, and the Loose-Wiles Biscuit Company, about 500,000 barrels per annum. Therefore, it seems probable that the few large bread-baking combinations enumerated above, together with the two largest biscuit companies, probably take over 10 million barrels. In addition, there are a considerable number of fair-sized baking companies and cracker and cake concerns, not mentioned above, that might be classed as concentrated buyers. There are also a fair number of chain grocers' systems which fall in this class. Finally, there are a few retail bakers' co-operative purchasing associations. It would, therefore, seem that the estimate of a maximum of 12 million barrels as the quota of concentrated buyers is quite conservative. It would also seem that at least one-third of the flour required by the entire bread-baking industry is baked into bread by a few—probably less than a dozen—very large baking corporations.

In view of the present status of the milling industry, such a degree of "consolidated" buying is by no means unimportant. The recent mergers seem likely to increase

¹ *Bakers Review*, June 1923, p. 64.

² *Northwestern Miller*, July 22, 1925, p. 356.

the pressure upon millers and to hasten the process of scrapping obsolete, uneconomic, and otherwise redundant mills, and to encourage some measure of combination in the milling industry.

Nevertheless, consolidation in the baking industry gives no promise of going so far as it went, for instance, in the steel industry twenty-five years ago. For this reason the flour millers are in a position quite unlike that of owners of coal and iron-ore mines when they were confronted by the formation of the United States Steel Corporation. Consolidation in steel led to the survival of only a few large users of iron ores and coking coals. Since our laws do not permit selling syndicates or pools, but two outcomes were possible. Either the coal-mining and the iron-mining companies had to form a few huge mergers, legal under our laws and strong enough to fight the steel combinations successfully in their attempts to beat down the price of coal and of iron ore, respectively; or the iron and coal mines had to be merged with the steel companies. It is common knowledge that the latter has taken place. The alternatives of the milling industry are not likely to be so limited.

Furthermore, the milling business has some characteristics that enable the miller to resist the pressure of consolidated buying more effectively than might be supposed. Milling is a broadcast industry to be found all over the land, though it is by no means as evenly distributed as baking. The causes for its wide distribution are that flour is a bulky commodity which is consumed everywhere and that more or less wheat is produced everywhere except in some of the Southern and New England states. The industry is, indeed, more or less concentrated in the states producing good bread wheats or in railway centers close to such wheat territory. Despite this concentration, the local mill¹ of a size sufficient to operate efficiently and located strategically as to sources of wheat and distribution of flour is likely to continue to

¹ Somewhere between 16 and 20 per cent of the American wheat crop is ground in the county in which it is grown.

exist for no one may guess how long. If it is located in or near good wheat country, it has the advantage of low transportation charges to the mill of at least a portion of its raw material. It has a local market for its mill-feed and flour, on which it again has the advantage of lower transportation charges over the larger mill at a distance.

Of recent years, because of improvement of highways and of motor transport, this factor has become increasingly important in the situation. According to our freight-rate system, the local rate from a great freight terminal is high. The total freight rate is made up of two parts, the through rate from the large railway center where the shipment originates to another railway center near the destination plus the local rate from this nearby railway center to the destination. As a rule, this local rate is relatively high. It may be the greater portion of the total rate, though the local haul be many hundreds of miles less than the long through haul. It thus comes about that some goods are coming to be distributed more cheaply locally by motor truck over the highways than by local freight. In some cases the great mills located close to the wheat regions at some strategic railway center are losing some of the advantage they formerly had over local mills. Indeed the relatively high local freight rate and the relatively low cost of motor truck transportation are having a profound effect on the manner of doing business of the country and small-town storekeeper. Since deliveries from the jobber or wholesale grocer by motor truck are sure and frequent, he buys in small lots, avoids tying up much capital in stock, and turns his stock over much more frequently. The wholesale grocer's truck leaves with a miscellaneous load of flour, canned goods, coffee, sugar, a few sacks or a few cases of each, to be distributed widely to retail grocers about the neighborhood. In this kind of trade through local or nearby wholesalers, the local mill with cheap motor transportation in small lots has an advantage over the great mill at a distance which must ship in carload lots and pay the through plus the local freight rate. Finally the local mill, wherever there is a demand for mill-feed, has a similar advantage in market-

ing feed over the great mill at a distance. In short, in many industries producing bulky goods on which the freight is high, the motor truck operating on a paved highway is giving the local manufacturing plant a new lease of life and will no doubt continue to do so as long as our present method of computing freight rates persists.

There are certain other features of the milling business that play an important rôle in the situation. There is a certain seasonal character to the demand. For the household and family trade the demand reaches its peak in the fall and early winter. This is by far the most important demand. It alone is capable of keeping mills busy from some time in August to well after Thanksgiving Day. No industry in which a considerable number of plants are assured of four or five months' full-time operation can be wholly at the mercy of one group of its customers. Finally we must remember that once before the milling industry was subjected to a time of concentrated buying. This came with the organization of the National Biscuit Company, which controlled, when it was formed, the greater part of the output of biscuits and crackers. It was freely predicted that the result would be the ruin of the soft wheat millers. They are, however, today still doing business despite the fact that the National Biscuit Company and the Loose-Wiles Company together bake about 65 per cent of the crackers and biscuits consumed.¹ Nor has there been vertical integration.

While there is little probability that consolidated buying of flour is likely to force a milling trust into existence at any early date, it must, nevertheless, have a profound effect upon the merchandising of flour. Bakery consolidations are bound to deal directly with millers, shunting out more or less the middleman. This has been the general history of consolidations in the past. The flour brokers and jobbers are likely to feel the effect in a narrowing of their spheres of operation.

A baking combination possesses several offensive and

¹ Cf. *Northwestern Miller*, July 22, 1925, p. 345; *The Cracker Baker*, July 1925, p. 34.

defensive alternatives in buying flour. It may systematically pick up left-over lots of mills after their regular business is done. It may contract over a period to absorb the difference between current business and capacity output of mills. It may contract to take the entire output of mills, as Ford used to contract to take the entire output of companies making certain accessories. It may solicit bids for current deliveries at a fixed price or at a price relating to the nearest option, with agreed differentials. It may, finally, purchase flour mills—i.e., undertake vertical integration.

Such integration, if it comes at all, is most likely to be the result of a deliberate policy on the part of the managements of the mergers. Are these managements likely to choose deliberately to integrate? Some of them have declared publicly that such is not their intention. It does not seem to the writer that to integrate would be sound business policy, for the simple reason that the wheat crop varies so greatly in quantity and quality in any given section from year to year. Since modern mills cannot be put on wheels and moved from place to place, the type and quality of flour a given mill grinding wheat from a given area must produce varies from season to season. If a great baking corporation had its own mills, it would have to use the output of those mills. Its raw material would vary from season to season, and thus difficulties would be introduced in standardizing the final bakery product. On the other hand, if a bakery concern is free to buy its flour where it pleases, it may shift its source of supply from year to year, according to the quantity and quality of the crop in each wheat region. It will thus be able to secure a more uniform raw material—a vitally important matter in its manufacturing operations. It will be better able to buy different flours and blend them to the end of supplying its plants with a flour as uniform year in and year out as may be. If it owned its own mills, it would not have so free a choice.

Moreover, if it owned its own mills, it could not so readily save on cross freights. If it buys its flour, the saving of cross freights by properly distributing its pur-

chases for each of its widely separated plants may result in a real economy. Because of the variability of the wheat harvest and because of the wide scattering over the country of its bakeries, a great baking concern, if it attempted to mill all or most of the flour it uses, would have to operate many mills, each so located as to supply a small near-by group of its bakeries. This would again introduce fresh difficulties of superintendence.

Now the minimum size of a flour mill for efficient operation is large compared with the flour consumption of a single bakeshop. Hence, it would be difficult—probably impossible—to adjust the size of the different mills so that the output of each would just meet the requirements of the group of bakeries tributary to it, and no more. The mill would probably from time to time produce a surplus, and this would have to be sold. The company's mills, therefore, would have to be in the flour-merchandising business more or less. It is obvious that one cannot do merchandising successfully, if one is in and out of the market intermittently.

In any event, the company's mills would have to market much of their product in the usual way, for high-grade bread flour is only one of the products of a mill. It produces at the same time considerable quantities of clear flours and also mill-feeds. Now the merchandising of mill-feeds presents problems quite different from those of merchandising flour. It is often combined with the marketing of other feeds. For the clear flours there is only a limited market in the United States. To market them, a milling company has to create export outlets. Any lack of success in the disposal of mill-feed and clear flours increases the cost of production of high-grade flours. It will thus be seen that the merchandising of a mill's products is a complex and highly specialized business. It may be doubted that a baking corporation, however great or strong, would do well to attempt it.

It is worthy of note that the Bureau of the Census in 1919 found not a single instance of vertical integration involving a flour mill and a bakery. Indeed it found

vertical integration uncommon in the food industries generally.

The processes of manufacture of food products are not readily adaptable to specialization and therefore to integration. Of the 22 instances given, less than one-half can be considered as purely in this industry group. The markets are so standardized, the raw material so scattered, and the length of the process so short that the development of combinations in this industry has followed other lines, rather than the manufacture of successive products.¹

Since 1919 the situation may have changed somewhat. There may now be instances of bakeries controlling flour mills.² Certainly the reverse has occurred. Flour brokers have been known to control or be interested in bakeries as an outlet for flour. Flour mills have at times had to take over bakeries to which credit had been extended imprudently.

It is, however, possible that a bakery chain might find it profitable to mill a portion—probably a small portion—of its flour requirements under very special conditions. For example, if the corporation had large bakeries in the principal cities of the North and Middle Atlantic States, it might find it wise to operate a mill at Buffalo, or some other city in that general region. Such a milling center as Buffalo is a sluice through which pour streams of wheat from all the more important producing sections of the United States and Canada. A mill located there has a great variety of wheats to choose from, and a bakery corporation probably could mill economically a larger variety of standardized flours there than elsewhere. However, this would not be the principal advantage. It could achieve more or less standardized raw material without mill ownership at all by judicious purchases of flour and mixing or blending. Or, still better, it might buy from a few mills specified kinds of flours, leaving to the miller the worry of finding the wheat from which to mill them. The advantage of a mill at Buffalo would be a different one. The miller's difficulty in keeping up the quality of

¹ W. L. Thorp, *op. cit.*, p. 240.

² *Northwestern Miller*, January 4, 1922, p. 606.

bread flours is the scarcity in certain years of strong wheats. Now through Buffalo flows much of our strong wheat and much of Canada's. If a baking corporation had a mill at Buffalo with adequate storage bins, it might early in the season cull out the choice parcels of wheat as they arrive and assure itself a supply of very strong flour to blend through the year with the less good flours it would buy. It could use such a mill as a sort of fly-wheel, ensuring it greater control over the uniformity of its raw material. Such a mill would be of value, of course, only to bakeries in the East. It would be of little service to a string of bakeries in the Middle West or on the Pacific Coast. Whether a locality could be found in the Middle West which suits the purposes of a bakery chain as well as Buffalo, is doubtful. If any, it would be Kansas City, not Minneapolis. It is thus obvious that, except possibly for the purpose described in this paragraph, there is little to be gained for a bakery chain in undertaking milling. So long as the milling industry has excess capacity and consists of many independent units, it is wiser to let millers compete with one another for a bakery chain's business, than for the bakery chain, as a miller, to compete with millers.

It may be objected that such vertical integration has occurred in the United Kingdom and that, therefore, it is likely that a similar course is to be followed in the United States. However, perhaps the most prominent vertical integration in Great Britain is co-operative and not commercial. Moreover, conditions in the United States and in the United Kingdom are quite different. In Great Britain every large port of entry is a sort of Buffalo into which come cargoes of every kind of wheat from the ends of the earth. No such port is far distant from the consuming centers. A bakery or restaurant chain in Great Britain could, therefore, operate a mill without having to overcome difficulties such as would obtain in the greater part of the United States.

To summarize the views expressed, it does not seem to the writer that vertical integration in the wheat industry would be wise, except possibly to a very limited degree.

Whether or not the bakery combinations will take the same view is another question altogether. It seems probable, further, that the coming into existence of such large buyers is likely to intensify competition among mills and to speed up the elimination of the less efficient—possibly ultimately the aggrandizement of the largest and strongest milling companies.

Bakers use other commodities besides flour. The most important of these are yeast, sugar, milk, both dried and condensed, and delivery equipment. Even though yeast amounts to about 4 per cent of the cost of the raw materials for bread, it is very much to be doubted that a bakery chain would do well to produce its own yeast. Its manufacture is a difficult and highly technical matter, involving the production of alcohol as a by-product. Moreover, yeast is extremely perishable and could not be manufactured in a single central plant for shipment to all the bakeries of the chain at a distance. The case of the production of dried milk and especially of condensed milk is another matter. This is a relatively small-scale operation. There may be localities in the dairy sections where there are branch bakeries, and the two enterprises might be conducted advantageously under the same management. The census shows two cases of the production of bread and butter by the same concern.¹

That a bakery chain would do well to build its own delivery equipment is doubtful in view of the fact that it is so widely believed that the automotive industry is approaching the saturation point. The fact that the Wards are interested in the Ward Electric Vehicle Company is not to be taken as a forerunner of other similar connections, though what may eventuate in the future no man may predict. Nor are there at present indications that bakery chain managers are thinking of making their own bakeshop machinery. If there were in baking such vitally important patented machines as in shoemaking or cigarette-making, a bakery concern would do well to acquire control of their manufacture. Before the advent of such

¹ W. L. Thorp, *op. cit.*, p. 226.

patents, it is doubtful if a bakery chain would derive any advantage from bakeshop machinery manufacture.

Let us now consider the possible effect on the wheat farmer. As long as the bakery chains do not integrate, and as long as they continue to produce no preponderance of the country's bread, the effect cannot be great. Consolidated buyers at present use the flour from not more than 55-60 million bushels. Unless the bakery chains become millers and then act in concert, it is hard to see how the wheat farmer can be affected materially.

On the other hand, if the result of consolidation of bakeries is merely to intensify their bargaining power in the purchase of flour, little benefit can accrue to the wheat grower. But if consolidation of bakeries leads to modification in shop practice to make the best use of the varying characteristics of the wheat crop, by varieties, regions, and years, wheat growers will probably benefit through an improvement in the weighted average return on the crop. If the bakery chains use, as well they might, weaker flours than are now commonly used by bread bakers, the position of the growers of different types of wheat may be shifted materially. These possibilities and their implications have been treated above. It is necessary here merely to point out that, should such wider use of soft wheats eventuate, the demand for strong wheat would correspondingly fall—and with it, the premium. Should the bakery chains take advantage of this economy which is open to them, they would by such a course lessen the demand for strong wheat and correspondingly reduce the premium. However, what would be the hard-wheat farmer's loss would be the soft-wheat farmer's gain. In the long run the net result would be to stimulate mixed farming in the hard-wheat belt, undoubtedly to the advantage of the country. In addition the demand in the United States for Canadian wheat would be reduced.

In short, the writer does not believe that vertical integration in the breadstuffs industries is in the line of present trend of developments, nor does he believe that it promises notable profits, or constitutes a danger to the wheat producer in the near future.

X. BAKERY COMBINATIONS AND THE PUBLIC

We have looked at the formation of bakery combinations from the viewpoints of the investor, of the wheat farmer, and of the flour miller. Each of these represents interests of a special group or class. Let us now take the point of view of no one class, no single group—the point of view of all of us, the social point of view.

Under our existing competitive system of organization of society, the social value of any new enterprise may be intangible, or it may be material. It is intangible when it makes for improvement in aesthetic, intellectual, or related standards of living. It is material when it leads to greater efficiency in production and, therefore, to an increase in the sum total of wealth. The two are, of course, sometimes interdependent, but for present purposes only the tangible, material social benefits need be considered.

If the organization of a great corporation leads to the release of managerial talent, of labor and of capital which can be and will be turned to other forms of productive work, the social gain may be great. However, the formation of combinations in baking seems likely to release but little managerial talent, or labor, or capital, because there can be so little concentration of production, of distribution, of management. Very probably such release as may occur will be counterbalanced by the greater accounting and other central control personnel required. There is then little prospect that social benefits of this kind will arise from the formation of bakery combinations.

But there is another way in which managerial talent, labor, and capital might be released and diverted to other productive uses. This could take place as the result of vertical integration. The case of a bakery operated by a grocery chain is a case of vertical integration. In many instances, such integration no doubt results in release of capital, of labor, and of managerial talent. However, as we have seen, there is little prospect under existing circumstances that great bakery combinations will be able

to achieve vertical integration involving flour mills on one side and retail stores on the other. Even without such integration, some measure of release—not great but appreciable—is likely to result. As pointed out, the flour broker and jobber is likely to suffer a reduction of volume of business. There may also be some direct purchase of dairy and miscellaneous products. Very probably some middlemen may be forced into other occupations. No doubt some measure of economy may result. On the other hand, it should be remembered that the middleman performs an economic service. His elimination does not dispense with the need for the service. It must be done by some other agency—in the case under discussion, either by the miller or the great bakery combine. It does not necessarily follow that either will perform it with an economic saving. It may further be pointed out that the elimination of some flour jobbers which may result from the merging of bakeries is likely to be a secondary effect of the attempt to beat down flour prices through “concentrated buying.” Beating down price represents no social benefit, since the producers lose what the purchaser gains. That the miller may be able to recoup his loss at the expense of the housewife does not alter the case. The practice of beating down prices, persistently employed, will tend to discourage the production of the article and thus tend to diminish national wealth.¹

That the technique of production should progress rather than stand still is tremendously important to the modern social structure, industrially organized as it is. If the formation of great corporations leads over a long period of time to the speedy adoption of technical improvements, it effects an unquestioned social benefit. Now one of the advantages possessed by a great manufacturing corporation over its lesser competitors is standardization of equipment, of processes, and of product. Such an initial advantage, however, may become a disadvantage in the long run, since in such a standardized organization any change whatever is a serious matter. It necessitates

¹ Cf. E. Jones, *op. cit.*, p. 501.

radical and far-reaching readjustments. It may mean the scrapping of equipment representing a very large investment. It is an open question whether most great corporations will adopt new processes and install new equipment as readily as a small concern, given equally able management in both cases. However, once a great corporation has decided to make a change, it is able to finance it, while many a small concern, though recognizing the advisability of a change, may be financially unable to undertake it. Technical readjustment in the baking industry because of the relatively small proportion of "sunk costs" should more speedily become economical than like changes in many other industries. In the case of the baking industry, in which, as already pointed out, the average of efficiency is low, it seems probable that the formation of great combinations will in the immediate future greatly hasten the adoption, by bakers in general, of better methods and more effective equipment. During their early history the combinations are likely to have abundant capital available with which to modernize those of the merged plants that require it. While it is probable that the efficiency of a great bakery consolidation will never as a whole achieve that of the most efficient owner-managed bakeries, nevertheless, it should operate with materially greater efficiency than the *present average* of its competitors. A well-managed bakery chain might set up in each community in which it operates a standard of efficiency and of bread quality which its competitors must reach and which some of them will no doubt far exceed. Those unwilling or unable to modernize will go under. The ultimate result will be a new equilibrium of the industry at a higher average level of efficiency. No doubt the same result would be achieved ultimately whether or not bakery mergers are formed. The coming into existence of combinations is likely to hasten the day when such a general higher level of efficiency is reached. Whether this higher level would be attained a year or a decade later in the absence of combinations, no one can say. It may be that the large independent companies that have been developing would bring about the improvement just as soon if

there never were combinations. That the improvement is already in full tide any salesman of bakery machinery can testify. What branch of the industry is more responsible must remain an open question. To the extent that the great combination forces efficiency upon the industry, it confers a benefit upon society.

Once the higher general average of efficiency has been reached, will the existence of great bakery corporations favor or handicap the climbing of the industry to higher and higher levels of effectiveness? After the initial stimulus to advance, will the great baking corporations be a factor in the continuing progress of the industry, or will they be a handicap? Now progress depends upon the application of scientific research and of inventiveness to technological problems. On the whole, it is probably true that domination over a branch of industry of a great corporation is a brake on inventiveness. Inventors hesitate to turn their ingenuity into fields in which their inventions can be sold only to some great corporation. Possibly this has had something to do with the establishment by certain great corporations of elaborate scientific research organizations. Whether these compensate the public for the loss of individual initiative is an open question. On the other hand, there is little prospect that in baking such a situation will arise, since it is unlikely that moderate-sized concerns will become negligible factors. It is improbable, therefore, that great bakery corporations will have much, or, indeed, any influence one way or the other on the activity of individual inventors, since no inventor is likely to be deterred because there is but one possible purchaser for his invention.

On the other hand, while the existence of a great bakery chain is not likely to encourage or deter individual inventors, it may perform a socially valuable service in the direction of stimulating scientific research. It could do so in a variety of ways. The old Ward company, for example, maintained a number of fellowships at the Mellon Institute¹ at Pittsburgh. It also maintained extensive re-

¹ The Mellon Institute is an organization for industrial chemical research, conceived and founded by Robert Kennedy Duncan and connected with the University of Pittsburgh.

search laboratories of its own. A great bakery chain might follow the example of the General Electric Company in this country, or that of such a concern as the Carlsberg Brewery in Copenhagen, which, in the establishment of the Carlsberg Laboratory on an independent basis, has contributed more than any other single agency to the advancement of the fermentation industries, of which baking, of course, is one.

If there is a group of industries which lags behind in scientific development, it is the food industry as a whole. Sugar refining and brewing are perhaps the most notable exceptions. Adequate scientific research is as much needed in the baking industry as in any other. Except at the American Institute of Baking, very little is being done in this field by the industry itself. The Ward Baking Company did formerly carry on a certain amount of research, as noted above. With the passage of control of the company into other hands, its research staff was reduced. What the ultimate policy will be is not known. The Fleischmann Yeast Company had a considerable staff of well-trained scientists. Little is known concerning the character of their baking work, for practically no scientific publications, except patents, emanate from the Fleischmann Company's laboratories. Herein it follows common custom to which the General Electric Company forms a remarkable exception. With the death of Julius Fleischmann, the policy seems to be becoming less liberal, at least to judge by the recent reduction of the scientific staff. All in all, too little basic research is being done in America by the members of the breadstuffs industry.

If a great baking corporation saw fit to organize a first-class research division, it might perform a great service to the country as well as raise its own efficiency. There is still a vast amount to be learned about wheat, about milling, about flour, about yeast and fermentation, about baking, shortenings, bread quality and yields, the growing stale of bread, etc. Research in these fields, however impractical it may seem in the beginning, is bound to lead to practical results in the end, which must mean immense competitive superiority. Even if a great baking corpora-

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tion with an adequate research staff were to follow custom and keep its scientific work secret, the results would become known ultimately. Under modern conditions, a trade secret cannot be kept for long. Such a company usually feels itself amply rewarded if it retains an advantage for a period of years only. There is as yet no sign that the managers of the recent great bakery combinations are making plans to develop research in their organizations. Some of them seem to be following an opposite tendency. At least changes in the United Bakeries Service Corporation, the laboratory division of the Continental, do not indicate that there is to be expansion of basic research. It has hitherto been generally true in America that this phase of large enterprises has usually appeared long after large size has been attained and, in general, only after the control has passed from promoter-owner control to hired-officer control. The great baking combinations now give no signs of proving exceptions.

The cause of these unprogressive tendencies is to be sought apparently in the lack of understanding on the part of the American business man as to the meaning and significance of this much-abused word, "research." The gathering of any mass of information not very easily accessible he is likely to call research. The survey of the sales possibilities in a new market, the compilation of a list of prospects, he may regard as research. That research is more fundamental than this, that it usually means adding to the sum total of human knowledge, he often does not realize. And so he usually does without what should be the most important constructive department of his organization. If the managements of great bakery chains rose above such a shortsighted point of view, they might perform a great social service, for in no industry is scientific control of production processes more important than in baking, and no industry faces a future in which more depends upon the solution of scientific problems.

Of these problems, perhaps the most important are presented by our variable wheat supply. We produce principally two types of wheat—one strong, from which

good bread is made by rule-of-thumb methods; the other weak, from which good bread is made only by skilful scientific operation. Occasionally, in unusual years, there is a very short crop of the weaker wheats, and then there may be abnormal price relations between the two sorts. However, in normal years, we no longer produce a surplus of the strong wheats, and in such years we no longer export them. In fact, with increase of population, we face a shortage of strong wheats. Less than half our present production is strong, and the early possibilities for expanding the hard-wheat acreage or hard-wheat yields are slight. With increasing population, the per capita production of strong hard wheat must sink faster than that of soft.

The bakers of the country have, therefore, to face one of two possible courses. They may insist on continuing to bake bread only from strong wheat, thereby boosting the premiums on such wheat until the price rises to so high a level that wheat spills into the country over any tariff dam that we can erect. This happened in 1923-24 over a tariff dam of 30 cents. It is likely to happen again in 1925-26 with a tariff of 42 cents, because of the short crop. The one result over a period of years that is certain is that the price of bread would become excessive.

The alternative course is that the bakers of the country learn to bake bread from weaker wheats. This is the plan that is vastly more in the country's interest. It is the only policy that in the long run is economically sound for all concerned. To accomplish this with speed and dispatch, a great baking corporation skilfully and scientifically managed can contribute greatly. If it employs its great resources and its scientific organization to that end, it will do much for the welfare of the country, meanwhile benefiting itself immensely. For the present, however, there is no sign that any one of the recent bakery mergers has a research program of such scope or magnitude.

In the preceding paragraphs is presented a review of most of the social benefits which it has been claimed accrue from the development of great industrial combinations in so far as they apply to baking. It has been shown

that, owing to the small scale of bread production, many of the social benefits assumed to result from combination in industry cannot occur in the baking industry. The remaining benefits either involve accelerating developments already in progress, or else they are such as are not unattainable by moderate-sized independent bakers. They are not conditioned on the existence of great combinations. In short, about the only general social benefit that is likely to come from the establishment of great bakery mergers is a temporary acceleration of the rate of technical progress, the result of sharpened competition; but there is also the possibility, as yet apparently unappreciated, of substantial advancement of technological research.

If there are no notable social benefits to come from the establishments of combinations, are any anti-social results likely? There are, of course, those persons whose political philosophy is such that they hold any very large aggregation in industry to be anti-social, since of necessity its existence involves the suppression in greater or lesser degree of individual initiative and enterprise. The discussion of such a position lies without the scope of this study. Here only more concrete and more tangible possibilities can be dealt with. We must ask, Are any concrete anti-social possibilities involved in the formation of bakery mergers?

The most conspicuous anti-social possibilities involve labor relations and bread prices. One of the arguments advanced in favor of the formation of certain combinations in the past has been more satisfactory relations with labor. In too many instances this meant, if one looked at the solid realities behind the generalities, that the great combination holds a stronger position in bargaining with labor, in other words, has a better chance to keep down or beat down wages. Whatever this may mean to investors, it is certainly not a social benefit. In the case of great bakery mergers, it is doubtful whether considerations of labor relations have figured in their formation, for it is hard to see how their bargaining position with reference to labor is improved over that of reasonably

large-sized independents. However, so far as combinations may hasten the introduction of machinery they will tend to substitute unskilled for skilled labor. Just as the crowding out of inefficient bakeries is hard on the individual owner, so the substitution of unskilled for skilled labor may prove hard or even cruel to the individual skilled laborer who has to seek other employment. To society as a whole in the long run it may prove a gain. To develop a skilled laborer, some years of apprenticeship are required, during which the individual is only to a limited extent a creator of wealth. These years represent a loss to society. When through the substitution of unskilled for skilled labor such loss is done away with, society gains correspondingly. With monopoly unlikely, with concentration of production impossible, no notable advantage in dealing with labor seems likely to come to bakeries through consolidation. There is no evidence that labor policies will be changed or that anti-social results will come from this source.

As for the price of bread, the situation is rather complex. Despite the improbability of monopolistic control of the bread supply, is a great bakery combination likely to control price by other than purely monopolistic methods?

For the present the largest milling companies hesitate to contract long ahead to deliver any very considerable volume of flour. The reasons have been stated. The situation may change. Let us assume for the sake of argument that it will. A great baking corporation with the financial resources to contract for its flour a long time ahead—say, a whole crop year—may well find that because of rising wheat prices its flour under contract is costing it considerably less than flour is costing its small competitors. These competitors will be faced with the prospects of losses. They will desire to raise the price of bread. With a great corporation in the field producing a large percentage of the output in a given city, it is obvious that bread prices cannot be raised by the small producers unless the great corporation also raises prices. Now the small baker may be justified, because of rising costs, in raising prices as his only recourse against loss, when the great corporation

faces no loss but can go on without price change and still make reasonable dividends, because it has long-time flour contracts. The great corporation directors will be faced with this dilemma: if they refuse to raise prices, many small bakers will be ruined, and they will be charged with attempts to stifle competition, as other trusts with greater justice than in the case here assumed have been charged in the past. If they raise prices, they will be charged with profiteering—and with justice.

Let us consider the reverse condition: the large baking company has contracted for its flour for a crop year, and later flour prices fall. Smaller concerns that have not contracted for flour will have the advantage. They may see fit to lower prices. However, the human thing for most of them to do is either not to lower prices at all or else to lower them only somewhat—not proportionately to the drop in price of raw materials. The large corporation will face losses, or at least reduced profits. Owing to its large output, it may be able to resist price reductions, just as in the case assumed above it may deem it good policy to resist price advances. It may elect to use its great organization and its financial strength to stabilize bread prices in a given locality, resisting reduction in times of falling prices and increase in times of rising prices, salting away some of its profits in one period to be applied to losses in another.

The situations outlined in the preceding paragraphs are not wholly imaginary. For example, with the post-war deflation and the great drop in flour prices, Mr. Winn Campbell, the executive head of a large baking corporation operating a chain of large bakeries in the southwest, lowered prices. His competitors, many of them good-sized concerns, did not desire to do so. There is always, very naturally, reluctance to lower prices, and the readjustment of bread prices to flour prices almost always, as we shall see later, shows a great lag. The result was a bread war.¹ Mr. Campbell was charged with "unethical" conduct

¹ Cf. *Northwestern Miller*, February 22, 1922, p. 815. Interesting data on the elimination of small bakers in the course of this bread war are to be found in the *Northwestern Miller* for April 12, 1922, p. 152, and April 26, 1922, p. 367.

and resigned from the trade association in which he held office. Whether or not this resignation was voluntary, no outsider, of course, is able to say.

Finally, a baking company might hedge by trading in futures, and then fix bread-selling prices to follow, at discrete intervals, the spot price of flour or materials cost. Whether this could be done successfully could be determined only by trial. Some statistical study would have to be given the problem. Such a study would have to deal with the correlation of wheat and flour prices in relation to bread costs and prices. A sound hedging policy would have to be founded on the regressions of these relations. Or a baking company might contract with mills for flour at a sliding scale of prices based on the price of the nearest wheat future. If mills could be found willing to contract on this basis, a baking corporation's hedging operations would be much simplified.

What policy great bakery chains will elect to pursue, only the future can decide. The point it is desired to make here is that fixing a national price for bread as the price for steel has been made, based on the price at Pittsburgh plus freight, is impossible at present. Because bread must of necessity be manufactured and marketed locally, costs of production will vary from locality to locality with the price of flour and other raw materials, the price of labor, rents, the costs of distribution, etc. A great baking corporation cannot, like a great steel corporation, make one price for the entire country. It must make a price for each locality in which it does business. Similarly, the competition it has to consider in making such a price is the competition of local bakers. It follows that such a corporation's ability to fix prices depends not upon the ratio the volume of its business bears to the total volume of the country's business, but upon the ratio in each locality to the total output of that locality. The net result in a given locality where there is a great bread corporation may well be to stabilize prices. The small concerns will have a tendency to follow the lead of the big ones. It has worked out so in many other industries, and signs of solidarity among wholesale bakers are by no means wanting.

Whether the final result will be a mean increase of bread costs to the consumer over a period of years it is, of course, impossible to foresee. On the other hand, there is likely to be sharpened competition, which, by eliminating high-cost producers, may result in reduction of average bread prices as the result of the formation of bakery mergers, even though there seems to be no greater possibility of permanent lower-cost production by merged bakeries than is possible for any independent operating on the moderate scale that in bread baking seems to be the optimum.

In order that the bread price situation may be comprehended, some discussion of the course of bread prices is necessary.¹ In 1914, bread prices rose faster than flour prices. In 1915, the relative retail prices of the two commodities were about the same. From 1916 to 1920, inclusive, however, the retail price of flour rose to a higher point relatively than that of bread. From 1920 to 1923, inclusive, flour declined greatly, while bread declined only in 1921 when its relative price was nearly the same as that of flour. In 1922 and 1923, despite falling flour prices, bread prices remained unchanged. Bread prices, it is clear, fluctuate less sharply than flour prices.² Moreover, while bread prices follow flour prices in a general way, there is a good deal of lag. During 1914, 1915, and 1916, they rose practically as fast as flour; during the war years they rose less rapidly than flour; while during the post-war years up to and including 1923 they fell, on the whole, much less rapidly. In 1922 and 1923, when flour prices continued to fall, bread prices at retail remained unchanged at the 1921 level. This is in part merely an illustration of the very human general phenomenon that merchants as a rule are prone to raise prices more promptly than to lower them.

Several facts may be presented in explanation of the post-war course of bread prices—aside from the general

¹ This discussion is based on data to be found in *Bulletin No. 296* of the U.S. Bureau of Labor Statistics, *Wholesale Prices 1890-1920*, and in *Bulletin No. 366*, of the same bureau, *Retail Prices 1913 to December 1923*.

² Cf. E. G. Mears: "Wheat, Wheat Flour, and Bread Composite Prices," *The Economic Journal*, (1923), XXXIII, 39.

psychological law that it is natural for a merchant to charge "all the traffic will bear." The most important of these, is that flour is not the only element of cost in the retail price of bread. Flour was but 35 per cent of the cost of bread to the ultimate consumer in 1913 and but 28 per cent in 1923.¹ It is, therefore, obvious that one cannot expect the price of bread at all times to fluctuate exactly with the price of flour. It is conceivable that high flour prices may occur now and then in periods of low levels of other costs, and vice versa. However, the period under discussion was not such a one.

Another interesting circumstance that tends to make bread prices lag behind prices in general is the nature of our coinage. We have no coin less than a cent. It follows that if the cost of production rises a fraction of a cent, but sufficiently to wipe out or materially reduce profits, the price at retail must rise a whole cent or the consumer must buy two or more loaves at a time.² Even if the baker raises the price to the retailer a fraction of a cent, the grocer usually raises it a whole cent. The retailer's margin in 1913 was 20.55 per cent, and in 1923 it was 22.22 per cent.³ This does not seem like a large margin for a retail sale. When one considers, however, that the retailer's investment in bread is only a few dollars, and that he turns it over every twenty-four hours, the profit on bread sales seems ample. When one considers further that the retailer in many localities⁴ takes no risk whatever, because the baker takes back stale loaves, the retailer's profits seem very large indeed.

Now the baker can meet the difficulty of variations in price of production by varying the weight of the loaf, keeping the price constant. There are two difficulties in pursuing this course. One is that in certain states there are legal enactments requiring bakers to sell only standard loaves of unvarying weight—usually a pound, a pound

¹ Henry C. Wallace, *The Wheat Situation, A Report to the President*, Washington, 1923.

² S. S. Langendorf, in *Northwestern Miller*, July 22, 1925, p. 355.

³ H. C. Wallace, *op. cit.*

⁴ Certain states have enacted laws prohibiting the return of stale bread.

and a half, and two pounds. The reason for this legislation is that it is possible for a baker to vary the volume of a loaf without correspondingly increasing its weight. He can puff up a light-weight loaf to give it an appearance similar to that of an appreciably heavier loaf. The average person is much influenced by appearances, and will, when given a choice, usually take the larger loaf even if it be lighter and contain correspondingly less nutriment. It is claimed that this has led to extensive fraud upon the consumer.¹ To prevent such fraud is the purpose of laws permitting the sale of standard-weight loaves only, which have been passed in the states of California, Indiana, Montana, Nebraska, North Dakota, Ohio, Oregon, South Dakota (with certain exceptions), Texas, Washington, Wisconsin, and the District of Columbia.²

Even where there is no such legislation, there is difficulty in changing the size of a loaf, especially in the larger bread factories making use to the utmost of automatic or semi-automatic machinery. A bakery that makes frequent changes in the size of its loaf must keep on hand a large number of different sizes of bread pans. This necessitates not merely a very considerable increase in investment, but also a material increase in storage space. These are less important matters to a small baker than to a large one.

The baking of bread, moreover, presents one peculiarity that renders a change in size of loaf a manufacturing difficulty. The yeast plant, which by its life processes brings about the leavening of dough, generates heat as all living things do. Therefore, during fermentation the dough grows warmer. The rate at which a lump of dough will warm up depends first upon the quantity of yeast present as well as upon the degree of its activity, and secondly upon the size of the lump. As everyone knows,

¹ Cf. Report of Thirteenth Annual Conference on Weights and Measures of the United States, *Department of Commerce, Bureau of Standards, Miscellaneous Publications No. 43*, pp. 115, 174, 188; Report of Fourteenth Conference, *ibid.* No. 48, pp. 24-44, 72-78, 80-81, 83-87, 131; Report of Fifteenth Conference, *ibid.* No. 51, pp. 78-93; and Report of Sixteenth Conference, *ibid.* No. 55, pp. 98-118.

² *H.R. 4533*, 68th Congress, First Session, January 3, 1924, introduced by Mr. Brand of Ohio; *S. 3778*, 68th Congress, Second Session, December 30, 1924, introduced by Mr. Capper.

large warm objects cool more slowly than small ones because their surface is smaller in proportion to their bulk and they therefore lose less heat proportionately. For this reason, a large lump of dough warms up faster and gets warmer than a small one. This has another consequence: the warmer the dough, the faster the yeast works—one might say the yeast becomes feverish. This means that after the original dough batch has been divided into the pieces that are to be baked, the rate of fermentation depends, among many factors, in part upon their size. Now the smooth operation of a bakery and the production of a uniformly satisfactory product depends in part upon uniformity in fermentation. This requires that conditions in the bakery be carefully controlled with regard to amount of yeast used, temperature of flour and water, temperature and humidity of fermentation room, temperature and humidity of proofer, fermentation time, etc. In a smoothly running bakery all these conditions are carefully adjusted to one another. This is especially true of the size and rate of operation of each of the series of machines. To change the size of the loaf means to throw all this delicate adjustment out of gear. It means that till all parts of the process and the manner of operating the machines have been readjusted to one another, a good deal of time and a good deal of experimentation may be necessary. In the meantime the output of the factory may fall off in quality. It is obvious that the larger the bakery, the more machinery employed, the greater the difficulties of superintendence, the more serious is the change. This is presumably one of the reasons why in certain states the largest baking companies have not objected to the enactment of standard-loaf bread laws, whereas some of the small bakers have been strongly opposed. All these technical difficulties reinforce the natural dislike to change, especially if the change is in the direction of lowering profit.

Now if we had a smaller coin than one cent, undoubtedly all these difficulties of adjusting price and weight would be simplified. However, this is not the place to argue the advantages and disadvantages of coins of very

small denomination, or of standard-loaf laws, or of fixed bread prices with variable loaf-weight.¹ These questions are referred to here merely as they bear on the price policy of bakers. Before leaving the subject, however, one further factor in the price situation must be pointed out. Bakers do not ordinarily carry large inventories of raw materials and never of finished goods. The result is that bakers do not profit greatly from increase in value of inventories in periods of inflation, nor do they suffer as a rule in periods of deflation from the writing-off of inventory values. In consequence, they are in a position to adjust prices rapidly. They are all more or less in the same boat. In other industries some concerns usually have large inventories at the beginning of inflation and are therefore under no stringent pressure to raise prices. Some of their competitors may have small inventories and would like to write up prices soon, but are prevented by the hesitation of the firms with large inventories. In periods of deflation, conditions are reversed. The result may be quite a material lag behind prices warranted by replacement values. As bakers carry small inventories, their tendency is naturally to adjust prices quickly on a rising market to costs, and this is quite sound. On the other hand, having accustomed the public to high bread prices it is but human for bakers, when deflation comes, to put down prices less promptly than they raised them. In this they are abetted by the difficulties of adjusting coinage, also price and weight of loaf, discussed above.

In this connection, too, it is worth while to note that certain possibilities of profit result from the daily turnover. A very slight increase (or decrease) in the profit made per loaf may mean enormous increase (or decrease) in the profits of a baker, because it is repeated more than 300 times per annum. An increase in profit of a small fraction of a cent per loaf would have such a result. In view of the conditions above outlined, coinage, small expense of bread in the diet, etc., exorbitant profits might be

¹ For a discussion of the objections to a fixed bread price from the standpoint of the baker, see *Northwestern Miller*, February 22, 1922, p. 815.

made in baking, competition permitting. To make exorbitant profits in other goods means changing the price in a way the consumer must notice. In the case of bread, the changes in price have to come in jumps of a cent a loaf, whereas profits will change very enormously by small fractions of a cent a loaf. The changes in price, and indeed the outlay for bread, are so small an element in the family budget that little resistance arises on the part of the general consuming public. Only competition among bakers themselves protects it from paying tribute of this kind.

At any rate, we see that the conditions in the baking business are such as to strengthen the natural human tendency to resist reduction in prices on the part of the seller in times of general fall of prices and favor early increase in prices in times of rising prices. This is a state of affairs of which a great corporation might take advantage, within the limits permitted by local competition, to the disadvantage of the public. But it is also a state of affairs that would enable a corporation, should it elect so to do, to stabilize prices to the advantage of the public and also of itself. At present, in a given locality, not merely may the price of bread vary from time to time, but in the same city the price of bread at retail, as indeed the price of many other commodities of general use, varies from retailer to retailer apparently without much reference to quality, service rendered, and the like.¹ Which of the two policies a great corporation will elect to pursue, it is of course impossible to foresee—not even the present directors can know what they may do under stress of circumstances in the future, or what their successors in office may do. One thing seems extremely probable: they will always have to face competition and will be less free to fix prices at will than the large trusts. Moreover, they are closer to the consuming public than most great manufacturing corporations and therefore more under pressure of public opinion and more subject to adverse legislation.

¹ M. B. Van Arsdale and D. Monroe, "Some Other Experiments on the Comparative Cost of Home-Made and Baker's Bread," *Journal of Home Economics*, 1916, VIII, 380.

For all these reasons, it would be good policy to stabilize bread prices on a basis of reasonable rather than excessive profits. This is the way to meet competition most effectively, to encourage consumption, and also to gain the sympathy of the consuming public, which means more to a baker than to a steel producer. The baker has but one buffer—the retail grocer—between himself and the ultimate consumer. The ironmaster has many links, for he sells to other manufacturers who produce special types of steel. These sell to other manufacturers who make special steel articles of use. Many of these—screws, nails, sheets, wire, bars, etc.—go to other manufacturers and to builders before they become the final article of use.

Granted that the directors of a great baking corporation are public-spirited, far-seeing men who desire to serve the public while making reasonable profits for their stockholders, what prospect is there that they will be prevented from following such a policy by pressure to earn reasonable dividends when earning them is difficult? If such conditions arise, it will be natural for corporation directors with the best intentions in the world to succumb to pressure and to countenance practices not in the public interest. They will probably behave as owner-managers would under similar circumstances, for it is doubtful that it will be possible for directors to indulge in such practices in ways not equally open and more advantageous to owner-managers. To appraise this possibility demands an examination into the question what the probability is that a great baking corporation will, over a period of years, be hard pressed to earn reasonable dividends.

The basis for such an appraisal has been presented in preceding chapters. It is not necessary to go over the same ground here. Suffice it to say that everything points to the continuance of keen competition among bakers, be they great combinations or humble retailers. Everything points further to the absence of very marked advantages for the huge concern over the baker whose plant is large enough to be an efficient unit. The large profits of recent years were exceptional, and were enjoyed by the wholesale baker owning one or a few plants as well as by

combinations. They cannot last. Success, in itself, sets a limit to success in the future by stimulating entrance of new managerial ability and of new capital into the industry. The entrance of new capital, resulting from the listing of bakery stocks on the exchanges, is already at high tide. Thus new competition is springing up, which will ultimately, since monopoly is difficult, reduce profits to normal levels or below them. However profitable the combination may be in the beginning, the indications are it will soon have to struggle, like other non-monopolistic enterprises, for but normal profits. There is little prospect that it can manipulate the price of bread more effectively than bakers have in the past. There is little prospect that it can operate more efficiently over a period of years than many of its competitors. There is little prospect that, whatever the percentage of the country's bread output the combines may control in the beginning, they will be able to improve this position or even maintain it. The consumer has little to fear on this score. Nevertheless an unwise policy on the part of the great bakery corporations may be a serious matter. They may be able in this locality or that to squeeze consumers for a time. They may start bread wars with the object—hopeless, the writer believes—of stifling competition. In this, they can be successful only locally and not for long; they cannot be successful over the country as a whole, even temporarily. The consumer may seem to benefit temporarily by such a bread war, but such a war is wasteful; it is economically wrong. When it is over, someone pays the cost and some of the cost is assessed against the consumer in one way or another. The community as a whole always pays the price of waste. Avoidable waste is an economic crime.

A review of the possibilities for general social benefit from the formation of bakery mergers leads to the conclusion that it is by no means clear that notable social advantage must follow. The most probable benefit is the speeding up, through sharpening competition, of the achievement of greater efficiency by bakers in general—a process of evolution already going on. All the important

forward steps in the industry may come, perhaps not quite so fast, whether or not great combinations are formed. Increased efficiency, progress in the art and science of bread making through research, the use of a wider range of wheats for bread making purposes, all these will come whether or not there are mergers of bread companies. Independent, moderately large wholesalers can do all this quite as effectively. They may possibly not do it all as soon as if faced with the competition of the large concern. On the other hand, there is no certainty that the great concern will speed up progress. The shoe may be quite on the other foot. The larger independents are quite as likely to force efficiency and progress on the combine as the other way around. On the other hand, there seems as little likelihood of results antagonistic to the public interest. There seems to be little danger of monopolistic price control, of objectionable policies toward labor, of serious danger to millers or wheat growers. There may be great disappointment of investors. The attitude of the reader toward the merging of bakeries will depend upon his general attitude toward the formation of great agglomerations in industry; for, whether great bakery combinations are likely to perform such useful services as have been outlined above, or are likely to act according to the code of some of the older trusts, no one can say. Which is the more likely, each reader must decide for himself. The purpose of this essay is to furnish the reader with a sound basis for forming a reasoned judgment.

The writer realizes that this essay will satisfy neither progressives nor conservatives. He has not been able to convince himself that as a matter of national policy combination in the bread-baking industry, honestly financed, should be opposed or yet that it should be encouraged. Whether the changes now going on are episodic merely, or whether they are growth phenomena is hard to tell. Whether the symptoms now exhibited are growing pains or the manifestations of serious disease cannot be diagnosed. Just what the possible performance of large baking combinations can be after they have reached maturity—not merely maximum size—can only be a subject for

speculation. No one, for example, would have been likely to foresee the present-day development of the oil-refining and refined-oils industry from what happened in the old trust days. Any merit this monograph may have lies in the questions asked, in the calling of attention to the many phases that become significant upon a contingency or combination of contingencies, rather than in its conclusions or even its tentative opinions.

APPENDIX

HISTORICAL SKETCH

A brief historical sketch of the different organizations involved is necessary for a more thorough understanding of the factors underlying and contributing to the various mergers that have occurred in the baking industry.¹ Such a sketch, filling out and amplifying the histories of the various concerns mentioned in the main body of this study, is here presented.

I. BAKING CONCERNS WHICH GREW TO LARGE SIZE

Before the era of mergers, certain bakery enterprises grew to very considerable dimensions without absorption of other enterprises. The evolution of some of these is a necessary part of the study of bakery consolidation, for they formed the backbone of the consolidations which came later.

Ward Companies.—One of the most conspicuous of the companies of this type is the Ward Baking Company, which produces cake as well as bread. It had its small beginnings in Pittsburgh in 1878, and expanded by the establishment of plants successively in Boston, Providence, Cleveland, Chicago, New York, Baltimore, Youngstown, Columbus, Syracuse, South Bend, and elsewhere, until it operated nineteen bakeries in thirteen different cities. The founder of the company was R. B. Ward, who merely continued the business begun by his grandfather in 1849 and later carried on by his father. He remained in control of the company until 1915, when he was succeeded by his brother, George S. Ward, who had long been associated with him, and this brother's sons, Walter S. and Ralph B. This branch of the family remained in control until the close of 1923, when the control reverted to R. B. Ward's family. The election in 1923 of R. B. Ward's son, William B. Ward, as president of the Ward Baking Corporation marked the fourth generation of Wards in the business.

This company seems to have expanded by the organization of new subsidiary concerns as it spread into new territory. In 1912 these were consolidated. For this purpose the Ward Baking Company of New York was incorporated in New York State. It took over the following concerns: Ward Corby Company, of New Jersey, operating a Boston plant with thirty ovens, a Providence,

¹ Except where otherwise noted, the material for this Appendix has been gathered mainly from the *Commercial and Financial Chronicle* and *Moody's Manual* (issued variously as *Moody's Manual*, *The Moody Manual Service*, *Poor's and Moody's Manual*, *Poor's Manual*). For the sake of continuity, certain data from the main body of this study have been repeated in the Appendix.

R.I., plant with sixteen ovens, and two Chicago plants with twelve and twenty-four ovens, respectively; the Ward Baking Company, of Pittsburgh (formerly the Ward, Mackey Company), with thirty-two ovens; the Ohio Baking Company, operating a plant with sixteen ovens in Cleveland; the Ward Bread Company, of New York, operating a plant in the Bronx with thirty ovens and one in Brooklyn, also with thirty ovens. The daily consumption of the new company was 2,500 barrels of flour, and its weekly output four million loaves. Its gross business was nearly \$8,000,000. In the same year, it bought out Mangels & Schmidt, of Newark, N.J.

Its authorized capital stock was \$15,000,000 preferred and \$15,000,000 common, par of each \$100. Ten million dollars in 6 per cent gold bonds were authorized, but only four million were issued—dollar for dollar, it was understood, for the old company's stock. Since it was financed almost entirely by insiders, it was practically a family affair. R. B. Ward was president, George S. Ward, vice-president, and W. B. Ward, secretary. The directors of the Ward Bread Company were continued as directors of the new company.

By 1914 it had a new plant under construction at East Orange, N.J. Its gross sales had increased to over \$10,000,000; its bonds outstanding to \$4,744,000.

In 1915 its outstanding bonds amounted to \$5,050,400.

In 1916 it operated fourteen bakeries: one each in New York City, Brooklyn, Newark, N.J., Providence, and Cambridge, Mass.; two in Cleveland; and four in Chicago. Its gross sales were \$13,738,450. It is evident that, of the plants with which the company started, many must have been abandoned, other larger and more modern plants being operated in their stead. There were outstanding \$6,606,900 shares of common stock, \$7,132,200 of preferred, and \$5,695,000 of bonds. R. B. Ward had retired in 1915. George S. Ward became president, J. B. Arthur, vice-president. W. B. Ward, son of R. B. Ward, who moved to Buffalo to begin independent operations there, remained a director. In 1919 he was no longer a director. In 1918 R. B. Ward, son of George S., became second vice-president. Up to 1920 dividends were paid regularly on the preferred shares, but there is no mention of dividends on the common stock. By 1921 the company operated fifteen plants, including a new one at Columbus, Ohio, and in 1922 it acquired holdings in Milwaukee.¹ In 1920, 3 per cent in cash and 20 per cent in stock was paid upon the common stock. In 1921, 6½ per cent was paid.

By 1923 there were outstanding \$9,526,900 common shares and \$8,658,000 preferred. The funded debt was \$5,894,200. On January 2, 1923, the dividend on the common stock was raised to 8 per cent, and extra dividends were paid as follows: January 1, 1922,

¹ *Northwestern Miller*, August 23, 1922, p. 836.

3 per cent; January 2, 1923, 5 per cent. Additional stock dividends on common have been paid as follows: July 1, 1920, 20 per cent; July 1, 1922, 20 per cent; January 2, 1923, 20 per cent. The name of Charles A. Ward, brother of W. B. Ward, and president of the Ward Motor Vehicle Company, appears on the list of directors.

In December 1923, the company was reincorporated in Maryland as the Ward Baking Corporation. The new company had as president, W. B. Ward. Most of the old officials of the Ward Baking Company of New York remained, but George S. Ward and R. B. Ward, respectively president and second vice-president of the old company, have no connection with the new one. Charles A. Ward is a director of the new company. J. M. Barber became one of the two assistant-treasurers of the new company.

In assuming control of the old Ward Baking Company of New York, it is reported that stock was exchanged on the following basis: One share of Ward Baking Company of New York preferred for one share of Ward Baking Corporation preferred and one share "B" common; one share of Ward Baking Company of New York common for two shares of Ward Baking Corporation preferred and one share of "A" common. The "A" and "B" common have no par value, the preferred, a par value of \$100. By February 1924, the newly incorporated Ward Baking Corporation had acquired more than 95 per cent of the stock of the Ward Baking Company of New York, which at that time operated seventeen bakeries, having entered Youngstown, Ohio, Syracuse, N.Y., and South Bend, Ind. The company had an authorized capitalization of \$50,000,000 7 per cent cumulative preferred (with a par value of \$100) and 500,000 shares each of "A" and "B" common stock of no par value. In March 1924 there were outstanding 71,021 Class "A," 500,000 Class "B," and \$27,129,100 of preferred shares. The preferred and Class "A" shares have voting power. Class "B" acquires voting power only after the dividends become available for it, i.e., after payment of the preferred dividends and 8 per cent on Class "A" stock. In April 1924 payments of dividends upon the preferred were begun.

In April 1924, the Research Products Company, a subsidiary of the old company operating in Ohio territory, was sold to the Fleischmann Yeast Company. This concern marketed a flour improver or "yeast-food" under the trade-name of "Arkady," which was covered by patents.

As was noted above, W. B. Ward, son of R. B. Ward, was an officer of the Ward Baking Company of New York from 1905 to 1912. In 1912, however, he left the company, although he remained on the directorate until 1918 or 1919. In the interval between that time and his organization of the Ward Baking Corporation, he, with his brother, developed Ward & Ward, Inc., of Buffalo, and Ward Brothers Company, Inc., of Rochester, N.Y. The latter company operated plants in Rochester, N.Y., Dayton, Ohio, Cincinnati,

Ohio, Gary, Ind., and Chicago, Ill.¹ About February 1922 the United Bakeries Corporation, a holding company, acquired both these companies, W. B. Ward being in 1923 chairman of the board of directors of the holding corporation. He resigned just before organizing the Ward Baking Corporation above mentioned.

During May 1923—that is, after all its stock was held by the United Bakeries Corporation—the Ward Brothers Company, Inc., purchased all the outstanding stock of the Holland Baking Company, with bakeries in Toledo, Columbus, Dayton, and Youngstown, Ohio, and then purchased their properties outright.

Schulze Baking Company.—Another enterprise that, like those of the Ward family, grew to considerable size, is the Schulze Baking Company of Chicago, incorporated in Illinois in 1893, whose specialty was bread. Concerning its early history, little information is available. By 1914 it had plants in Kansas City, in Cincinnati, and in Chicago, where it operated four old plants and one new one. In 1916 it operated but five plants in Chicago, and had also plants in Kansas City and Cincinnati. In 1917 it had outstanding \$1,540,000 shares of common (par \$100) and \$1,210,000 7 per cent cumulative preferred (par \$100) with a bonded indebtedness of \$755,000. It had apparently been paying dividends regularly on the preferred, but not on the common. In 1918 it added a plant at Grand Rapids. By 1920 it had added plants in Peoria and Springfield, Ill., Omaha, Des Moines, and Detroit, and was paying dividends at the rate of 2 per cent on the common stock; this rate was continued until 1922. In 1923 the bonded indebtedness of the Schulze company was \$970,000. In September 1921 the Freihofer interests of Philadelphia had acquired a controlling interest in the company, thus bringing under a single management nearly twenty bakeries scattered between the Atlantic Coast and the Missouri River.² In 1925, however, the Freihofer company was reported to have sold its interests in the Schulze Baking Company to the Purity Bakeries Corporation. Later reports indicate the deal was not consummated.

Freihofer Baking Company.—The Freihofer Baking Company is an old concern. Its early history before incorporation in Pennsylvania in 1912 has not been recorded, nor were records made available till 1923, when it had more than four plants, and had acquired the Schulze Baking Company as stated above.

In 1923 it had outstanding \$1,000,000 common (par \$100) and \$732,500 in 7 per cent cumulative preferred (par \$100). It had no funded debt. In 1924 it seems to have issued \$1,000,000 7 per cent second preferred, perhaps in connection with the absorption of the Schulze Baking Company. It paid dividends on preferred regularly, but dividends on common have not been reported.

¹ *Northwestern Miller*, February 22, 1922, p. 707.

² *Ibid.*, September 28, 1921, p. 1453.

Livingston Baking Company.—Another concern that had small beginnings is the Livingston Baking Company, of Chicago. It was started by Louis Livingston in 1867, and continued by his sons. It was incorporated in 1923 with a capitalization of \$1,000,000, and by 1924 it operated three plants in Chicago with a daily capacity of 150,000 loaves, in addition to a full line of cakes. In 1923 it took over the Grant Baking Company. Toward the end of 1924 it was acquired by the Continental Baking Corporation. Julius M. Livingston, one of the owners, became a vice-president of the absorbing corporation.¹ The consideration is said to have been \$4,000,000—\$2,000,000 of this being cash.²

Campbell Baking Company.—The Campbell Baking Company is another concern that grew from small beginnings to considerable size. Just as the Ward Baking Company of New York was gradually built up through the abilities of the brothers R. B. Ward and George S. Ward, so the Campbell Company was built up through the abilities of the brothers Brayton Campbell and Win Campbell. Few details of its early history are available. It was incorporated in Delaware in 1920, and included nine bakeries, but the earliest financial information recorded is in 1924, when the company was controlled through stock ownership by the United Bakeries Corporation. By that time it operated plants in Des Moines, Sioux City, and Waterloo, Iowa; Wichita, Topeka, and Kansas City, Kans.; Kansas City and St. Joseph, Mo.; Tulsa and Oklahoma City, Okla.; Dallas, Tex.; and Shreveport, La. In 1924 its authorized capitalization was 200,000 shares of no-par common, \$5,000,000 of 8 per cent cumulative preferred "A" stock of \$50 par, and \$5,000,000 cumulative preferred "B" stock of \$50 par. More than 98 per cent of the common stock, which, apparently, alone had voting power, was owned by the United Bakeries Corporation. Apparently, in 1923, preparatory to the taking control by the United Bakeries Corporation, there had been thorough refinancing, including refunding of the debt. What the capitalization was, and the manner of its distribution before 1923, could not be ascertained. In 1925 announcement was made of intention to construct a \$300,000 extension to its Kansas City plant and also to the Dallas plant. The plans were being made by the engineers of the Continental Baking Corporation,³ and a new plant to cost \$250,000 was also planned for Fort Worth, Tex.

Nafziger Baking Company.—Another concern that developed from small beginnings is the Nafziger Baking Company, which operates eight plants in Missouri, Kansas, Iowa, Illinois, Oklahoma, and Texas. About May 1925 the Purity Bakeries Corporation secured stock control of this company.⁴

¹ *Northwestern Miller*, November 19, 1924, p. 728.

² *Ibid.*, October 14, 1925, p. 141.

³ *Ibid.*, May 20, 1925, p. 729.

⁴ *Ibid.*, p. 732.

Other Companies.—Other concerns, each with a large sphere of operations, may be enumerated: The Corby Baking Company, of Washington, D.C., by 1920, had two plants in that city, two in Richmond and one in Alexandria, Va. These were ultimately acquired by the Continental Baking Corporation. In Ohio, the Holler Baking Company, a house-to-house retail distributor serving Pitsburg, Akron, and Toledo, grew to considerable proportions, as did the Holland Bread Company, with plants in Toledo, Dayton, Columbus, and Youngstown. The latter, as stated above, was ultimately absorbed by Ward Brothers, Inc. In West Virginia there was the Stroehmann Baking Company, with plants in Wheeling and Huntington, W.Va., and Ashland, Ky. This firm was ultimately bought by the United Bakeries Corporation.

It is significant of the competitive conditions in the industry that several concerns should have their headquarters in Kansas City.

The National Bread Company was an example of a consolidation formed to control a patent. By this patent, hand-kneading was done away with, and an improved yield of bread per barrel of flour obtained. Its plan was to license subsidiary bakeries to use the patented machines in return for cash or a percentage of the bakeries' stock as payment. The United States Bread Company, of New York, capitalized at \$3,000,000, of which \$1,000,000 was 8 per cent cumulative preferred, and the National Bread Company, of St. Louis, incorporated in 1902, with a capitalization of \$600,000, were the largest licensees. However, with the more general use of baking machinery, the company lost its advantage and two years after incorporation applied for a receiver.

II. COMBINATIONS IN THE BREAD-BAKING INDUSTRY

Having described some of the most important concerns that grew to some size, we may now turn to concerns arising primarily as the result of combination. In Section II of the text it was pointed out that the first combinations occurred as the result of competition, and were often promoted by outsiders. Thus the New York banking house, Ochsner & Company, which had been interested in one of the earliest mergers, that of the American Bakery Company in St. Louis in 1907, became active in encouraging similar mergers. Indeed it went so far as to solicit this sort of business by advertisements in the baking-trade press.

Combinations forced by creditors, at first local, but subsequently expanding, were also taken up in Section II. There were several combinations of this type¹ on the Pacific Coast during the post-war depression when the coast mills were themselves in diffi-

¹ *Northwestern Miller*, August 23, 1922, p. 827; *ibid.*, February 22, 1922, p. 848; *Bakers Review*, August 1922, p. 77.

culties, largely because they had not been able to hedge their wheat.

We also discussed mergers, not necessarily local, where consolidation was occasioned by a desire for greater efficiency. We shall here have to consider examples of the varying types of combinations, calling attention again to the fact that the earliest mergers are characterized by the inclusion of firms of very different efficiencies, and the later by an attempt, at least, to exclude the less efficient plants.

American Pastry and Manufacturing Company.—One of the earliest mergers made under the pressure of competition—strangely, it was in the sweet-goods line—was that of the American Pastry and Manufacturing Company in 1899. It was incorporated in New Jersey with a capitalization of \$1,000,000 of 7 per cent cumulative preferred and \$2,000,000 common, to be controlled by owners of the common as long as dividends were paid in full on the preferred. The consolidation included the American Pie Baking Company, the New England Pie Baking Company, and the Manhattan Pie Baking Company. There was great hesitancy on the part of firms to merge, and the Albau Pie Company, of Brooklyn, and the New York Pie Bakery actually refused to enter the consolidation. The company seems to have continued, with little expansion up to the present time. However, in October 1925 it applied for a receiver, and the properties of the company were to be sold to the New York Pie Baking Company, the same concern that refused merger twenty-six years before.

American Bakery Company.—One of the earliest mergers of this type in the bread-baking line was the formation, in 1907 in St. Louis, of the American Bakery Company, already mentioned. It was the direct result of cut-throat competition and unfair trade practices. Seven concerns were merged, some of them co-partnerships. Of seven plants, two were at once shut down, and in recent years only three have been operated.¹ There is no record that this concern grew materially or much extended its business. It started with an authorized capitalization of \$1,000,000 of 7 per cent cumulative preferred without voting power except on default of dividends, and with \$2,000,000 of common—par value of both \$100. It paid its preferred dividends until July 1916. It resumed their payment in September 1917. By 1920 all deferred dividends as well as regular dividends had been paid, and these have continued regularly since that time.

In March 1911 the shareholders voted to reduce the authorized common stock from \$2,000,000 to \$1,000,000 and the amount outstanding from \$1,889,500 to \$944,750 (par value remaining \$100), in order, it was said, to pave the way for dividends on the common shares. In 1911 the first payments of dividends on the

¹ *Bakers Weekly*, November 8, 1924, p. 54.

common were begun at a rate of 6 per cent per annum. In 1913 dividends on common were reduced to 4 per cent, and in 1915 they were discontinued, to be resumed in 1921 at the rate of 4 per cent, at which they have since continued. The original bonded indebtedness was \$775,000; by 1924 this had been reduced to \$540,000.

In November 1924 the American Bakery Company was acquired by the United Bakeries Corporation. It is reported that the United Bakeries Corporation paid \$75 a share for the common and \$100 for the preferred, gave certain privileges of stock purchase, and assumed the bonded indebtedness.¹

Shults Bread Company.—The Shults Bread Company seems to have had a genesis similar to that of the American Bakery Company. It was incorporated in New York State in 1910 and merged twelve wholesale bread bakeries in and around New York, only one of which had a capacity of over 1,000 barrels of flour per annum. Six were located in Brooklyn, three in New York City, two in Hoboken, and one in Mount Vernon. It authorized only one kind of stock (\$6,000,000, par \$100), \$3,000,000 of 6 per cent bonds subject to a prior lien of \$300,000 and some small real estate mortgages. Its real estate was given a value of \$3,150,000; its horses, equipment, good-will, etc., \$2,000,000 more.

In 1914 it completed two modern bakeries costing \$300,000 each. It had outstanding \$4,954,000 stock, \$290,000 bonds, and real estate mortgages amounting to \$345,000. Its real estate was still valued at the same figure, but equipment, horses, good-will, etc., were valued at \$5,749,362. Perhaps the most significant fact of the report of that year is that Mr. H. D. Tipton appears as a director.

Apparently payment of dividends began at the rate of 2 per cent per annum in December 1912. In June 1916 they were increased to 4 per cent. In December 1917 these were increased to 6 per cent, and in 1918 the dividend rate became 7 per cent. In 1919 the dividend rate was 8 per cent, which has continued. In 1919 a new bakery was built and put in operation on Staten Island.

When this company was formed it bought all the absorbed concerns outright, issuing in exchange its own bonds and common stock. Analysis of the statements of the company indicates that the owners of the concerns probably received bonds in full for their real estate, and stock for their horses, equipment, and good-will. If, as the figures suggest, they received two to three dollars in stock for each dollar's value in horses, equipment, and good-will, they did not fare as badly in the long run as might seem to be indicated from the fact that they received no dividends at all for two years and only 2 per cent for the next four years—

¹ *Northwestern Miller*, November 5, 1924, p. 545.

that is, only at the rate of 1½ per cent in the first six years.* Even so, the company can hardly be said to have made more than a fair record for six years. It should be noted that only in 1917, with the war stabilization of flour prices, did its dividends become such as any manufacturing concern may reasonably expect. We shall encounter this state of affairs again and again as we study the history of individual concerns. Others did not pay dividends on their common stock until the decline of flour prices beginning in 1920. This, too, we shall meet with frequently.

In 1923 the United Bakeries Corporation acquired control of the Shults Bread Company by stock ownership, and H. D. Tipton became president. The purchase price is said to have been approximately \$5,500,000. It was reported that the holder of each share of Shults Bread Company stock was to receive one share of preferred stock and one-half share of common stock of the United besides \$15 in cash.¹ At that time the Shults Company operated twelve plants in the metropolitan district of New York. Just before the absorption in 1922 the real estate was valued at \$3,150,000; the equipment, good-will, etc., at \$6,200,000; and the bonded indebtedness was \$2,400,000. By 1924 H. D. Tipton had left the company.

Other Combinations.—Among other combinations fairly local in character about this time were the Consumers' Bread Company, of Kansas City, and the City Baking Company, of Baltimore. The former extended its operations into some of the thriving newer cities of Kansas and Oklahoma and was absorbed into the Smith-Empire or the Smith-Great Western Baking Company. The Banner Grocers' Baking Company, of Cincinnati, in 1921, consolidated with bakeries in Hamilton and Columbus, Ohio, and was itself absorbed by the Purity Bakeries Corporation.

The United Baking Company, of Toledo, was one of the early mergers organized by H. D. Fallis & Company.² It is not to be confused with the United Bakeries Corporation, the holding corporation repeatedly mentioned above and to be discussed in some detail below.

In 1916 there was incorporated in Minnesota the Flour State Baking Company to consolidate the St. Paul Bread Company, of St. Paul, and the Sanitary Bread Company, of Minneapolis. The former had been founded in 1897, the latter in 1903. In 1921 the Flour State Baking Company entered Duluth. In 1923 it changed its name to the Purity Baking Company, which must not be confused with the Purity Bakeries Corporation into which it was absorbed later. In this year, it operated five plants in the three above-named cities and produced other baked goods besides

¹ *Northwestern Miller*, October 25, 1922, p. 395.

² *Ibid.*, November 19, 1924, p. 723.

bread.¹ It had then outstanding \$1,312,500 of common stock (par \$25) and \$289,000 preferred stock (par \$100). The preferred did not vote except when dividends were in arrears. Its funded debt was \$1,000,000. It paid dividends regularly upon the preferred, but the only mention of dividends on the common is three dollars in 1924.

The Tri-State Baking Company, Inc., was incorporated in New York in 1919 and owns the Greissell Bread Company, of Flint, Mich., the Greissell-Gitzen Company, of Detroit, the Siek Baking Company, of Toledo, the Jackson Baking Company, of Jackson, Mich., the Gartner Baking Company, of Battle Creek, Mich., and the Summitt Baking Company, of Akron, Ohio. It had a funded debt of \$325,000 and outstanding \$630,000 common stock and \$830,000 of 7 per cent cumulative preferred, but paid no dividends whatever for nearly five years. Its sales in 1920 were \$2,121,489, but in 1921 only \$1,203,620. In the latter year it earned \$6.30 per share on preferred and *nil* on the common; and, in 1922, \$6.10 and *nil*, respectively. In 1923, \$18.76 had been earned per share of preferred stock and \$17.40 per share of common. In this year L. S. Cushman of New York became a member of the board of directors. The first dividend of 3½ per cent was declared in December 1924. This company was ultimately absorbed by the Purity Bakeries Corporation.

In August 1922 the California Baking Company was formed in San Francisco by consolidation of the California Baking Company, the Holsum Baking Company, the A.B.C. Baking Company, and the Golden State Baking Company, to manufacture bread and pastry. The authorized capitalization was \$400,000 of 7 per cent cumulative par \$100 preferred and \$750,000 common. Dividends of 7 per cent per annum on the preferred were begun in January 1923 and have been paid regularly, but no dividends have ever been paid on the common.²

In April 1922 the Golden Sheaf Bakery, of Berkeley, and the Remar Baking Company, of Oakland, merged as the Golden Sheaf-Remar Company with a capital of \$1,000,000;³ and also in the spring the Washington Bakeries Corporation was formed in Seattle⁴ by the merger of the Seattle Baking Company, Western Bakeries, Inc., and the National Baking Company, which was owned by the Skinner and Eddy Corporation shipbuilding interests. The old National Baking Company's plant was turned into a pastry and health-bread shop.⁵ This company's authorized capitalization was \$3,000,000. The objects of this consolidation were

¹ *Bakers Weekly*, September 24, 1923, p. 41.

² *Walker's Manual*, 1923, 1924, 1925.

³ *Bakers Review*, August 1922, p. 85.

⁴ *Ibid.*, p. 77.

⁵ *Northwestern Miller*, April 26, 1922, p. 382.

stated to be reduction of overhead, elimination of ruinous competition, and prevention of sales below cost. Production capacity was stated to be above consumption requirements. Mr. Thomsen, president of the Centennial Milling Company, was one of the incorporators. About May 1925 this concern was acquired by the Continental Baking Corporation. Its capacity was then given as 50,000 loaves per week.¹

About the same time (February 1922) three bakeries were merged in Tacoma, Wash., two plants being shut down.²

Cushman Sons, Inc.—Local combinations were not wholly confined to wholesale bakeries. The incorporation in New York in 1914 of Cushman Sons, Inc., was a local combination of mostly retail businesses comprising forty stores in and around New York City, and its business was to a considerable extent wagon delivery direct to the consumer. It brought under one ownership the following concerns: S. Cushman Sons, Inc.; Cushman Globe Company; Cushman Bread Company; N. A. Cushman Company, of White Plains, N.Y.; Herschmann, Bleier, Edelstein Company, of Rockaway, L.I. There were authorized \$4,000,000 common stock (par \$100) and \$2,000,000 of 7 per cent cumulative preferred stock (par \$100). The bonded indebtedness was insignificant, and in later years there was none. There were outstanding \$3,158,000 common stock and \$1,044,400 preferred. L. J. Kolb, whose name appears in connection with the Kolb Bakeries, of Philadelphia, and the General Baking Company, was a director until 1918. It should be noted that the formation of this corporation, strictly speaking, represents, in the main, a reorganization of the Cushman interests, rather than a merger involving wholly independent concerns. It presents a case in some respects analogous to that of the formation of the Ward Baking Company of New York in 1912.

Cushman Sons, Inc., began payment of regular dividends on the preferred in June 1915 and has continued them. In December 1916, 1 per cent was paid on the common; in 1917 the dividend rate was 3 per cent, and from 1918 onward it became 4 per cent.

The company produces a full line of bakery goods, including cake and other sweet goods. By 1922 it owned six plants, one of which had been erected in Brooklyn in 1920.

Toward the end of 1922 a readjustment of the capitalization was decided upon. In January 1923 the following plan was approved: Issuance of 40,000 shares of \$8 cumulative no-par preferred and 200,000 shares no-par common, of which 22,560 preferred and 90,240 common were issued to replace the outstanding \$100-par common in the ratio of three-fourths of one new preferred and three new common shares for each \$100 common. The 7 per cent preferred stock was at the same time in-

¹ *Northwestern Miller*, May 13, 1925, p. 640.

² *Ibid.*, February 8, 1922, p. 394.

creased to \$3,000,000. Dividends continued on the 7 per cent preferred and were commenced on the 8 per cent preferred. Initial quarterly dividends of 75 cents a share on the no-par common stock were paid in December 1923, and March 1924, and thereafter quarterly.

In 1924 dividends were continued on both classes of preferred stock. The privilege of subscribing to 8,000 shares of 7 per cent cumulative preferred to be issued was also given.

For the first quarter of 1925 Cushman Sons, Inc., reported a net income of \$181,943 or after preferred dividends, \$1.10 on 95,240 no-par common shares as compared with \$1.70 a share for the corresponding period of 1924. Surplus was \$33,349.

General Baking Company.—Among the first of the combinations formed to achieve efficiency rather than to reduce competition was the General Baking Company, formed in 1911 and originally a consolidation of twenty bread companies with plants in Boston, Providence, New York, Rochester, Buffalo, Newark, Jersey City, Wheeling (W.Va.), Cleveland, Washington, Canton, Toledo, Detroit, St. Louis, and New Orleans. It subsequently extended its operations to New Haven, Philadelphia, Springfield (Mass.), Syracuse, Waterbury (Conn.), Baltimore, Norfolk, Steubenville (Ohio), Brooklyn, Richmond, and Atlanta. The constituent companies entering the original combination were not, for the most part, competitors, though in certain cities more than one plant was acquired. They were carefully selected so as to include some of the most modern and soundly managed concerns in their respective localities. The former owners acquired large interests in the new company as part payment for their properties; in almost every case they were retained as managers of the various plants or as officers of the new company. This company seems to have been the first to advertise extensively and even nationally a single brand of bread.

The authorized capital stock of the General Baking Company was \$10,000,000 common and \$10,000,000 of 7 per cent cumulative preferred shares, par of each \$100. There were outstanding the first year \$3,400,000 of common and \$5,925,000 of preferred. Bonds authorized were \$5,000,000, outstanding \$2,900,000. It had 2,369 employees in 1913.

Within a few months of its incorporation the General Baking Company acquired control of the Kolb Bakery Company, of Philadelphia. This was a company incorporated in New York only a few months after the incorporation of the General Baking Company. It acquired the three plants formerly owned by the Kolb Bakeries, a Pennsylvania corporation. The leading spirits in the formation of the Kolb Bakery Company seem to have been L. J. Kolb and W. H. Collins. The latter was at the time president of the General Baking Company, the former one of its directors. The object of organizing the Kolb Bakery Company, of which L. J.

Kolb became president, seems to have been to arrange the transfer of the Kolb Bakeries to the General Baking Company. The Kolb Bakery Company issued bonds, 7 per cent cumulative preferred and also common stock. Only the common stock apparently had voting power. This the General Baking Company acquired, but no statement has been found concerning the consideration. The General Baking Company guaranteed the interest on the Kolb Company bonds and the dividends on the Kolb Company preferred shares. Whoever held the Kolb Bakery Company preferred shares, was in a very advantageous position aside from any possibly incorporated water, for the General Baking Company could pay no dividends without first paying the dividends on the 7 per cent cumulative preferred Kolb shares. This condition remained unchanged until 1922, when the Kolb concern was merged by the issuance of \$1,758,000 of new General Baking Company preferred, which was exchanged share for share for the Kolb preferred shares.

As already stated, L. J. Kolb was on the directorate, W. H. Collins was president of the General Baking Company, and the directors consisted chiefly of the former owners of the merged companies. A member of the banking firm of Harvey Fisk & Company was also on the board.

The company began paying dividends on its own preferred at the rate of 7 per cent in 1912, but cut it to 4 per cent in 1913, because, it was stated, the money was needed for expansion. By 1918 the unpaid accrued dividends on the preferred amounted to 19½ per cent. In 1919, 7 per cent dividends were resumed on the preferred after the company had raised the prices on its goods. In 1920 a further price advance was planned, and payments on account of accrued dividends were begun, and by the end of that year all accrued dividends on the preferred were paid up by the distribution of 20 per cent of preferred stock. Early in 1921, ten years after incorporation, the first dividends were paid on the common stock at the rate of 7 per cent per annum.

In November 1921 the stockholders voted to increase capital stock from 200,000 shares, 100,000 of which were preferred and 100,000 common, each \$100 par, to 250,000 shares, 100,000 preferred 8 per cent and 150,000 common, both of no par value. Exchange of old stock for new was made on the following basis: One old preferred share for one new preferred share and one new common; one old common share for two new common shares. In the following April a quarterly dividend of two dollars a share was paid on both classes of new stock. At the end of that year the stock issue authorized was increased to 500,000 shares, and there were outstanding 415,734 shares of common and 88,158 of preferred. In December 1922 a 200 per cent stock dividend was declared, and in April 1923 a quarterly dividend of one dollar a share was begun on the increased common and continued till January 1924, when \$1.50 was paid.

The General Baking Company expanded its business as it developed. In 1915 it bought an additional bakery in Rochester, N.Y., to replace one whose lease had expired. In 1916 it began erection of a new bakery in Steubenville, Ohio, and in 1917 it began construction in Wheeling, W.Va. In 1920 it acquired through purchase the property and business of the Dillman Bakery, Inc., in Brooklyn, and in 1922 through exchange of stock the Syracuse Bread Company.¹ In 1923 it absorbed the Dexter Bakeries in Springfield and Waterbury, Connecticut, as well as the S. S. Thompson Baking Company, of New Haven, thus giving the company control of twenty-nine plants in twelve states. Construction was begun on a plant in the Bronx, and plans were made for one in Brooklyn. In April 1924 it acquired the Gardner Bakeries, Inc., which controlled plants in Baltimore, Norfolk, Philadelphia, Newark, Richmond, Washington, and Atlanta, and in the same year it announced plans for building a plant in Pittsburgh,² and in 1925 for constructing a plant in Baltimore to cost \$500,000.³

Grennan Bakeries, Inc.—Consolidations for greater efficiency were not confined to bread concerns. As we have already seen, the Ward Baking Company produces cake as well as breads, while Cushman Sons., Inc., produces a full line of bakery goods. In the Grennan Bakeries, Inc., we have an example of a merger of cake bakeries. The business was established in Detroit in 1914 by Philip H. Grennan as the Grennan Cake Bakeries of Detroit, and consolidated in 1919 as the Grennan Cake Corporation, with the Wilson Pound Cake, Inc., Chicago, Grennan Cake Bakeries, Cleveland, and Grennan Cake Bakeries, of Minneapolis and St. Paul. In 1924 the name was changed to the Grennan Bakeries, Inc., and it was reported to be the largest exclusive cake manufacturer in the world, having forty-three plants and branches and supplying cake, cookies, and fried cakes to 482 cities and towns. The capital stock authorized is 350,000 shares of no-par common, and \$2,000,000 cumulative 7 per cent preferred of \$100 par. There are outstanding 266,000 shares of common and \$394,100 of preferred. Both classes of stock were offered to the public in May 1924. The common was subscribed for at \$10 a share. Dividends have been paid on the preferred, and the first dividend of 25 cents a share was paid on the common. About May 1925 the Purity Bakeries Corporation purchased a substantial stock interest in the company. P. H. Grennan became a director of the Purity Bakeries Corporation. At that time its gross sales were said to amount to \$6,000,000 per annum.⁴

¹ *Bakers Review*, March 1922, p. 87.

² *Bakers Weekly*, November 15, 1924, p. 58.

³ *Northwestern Miller*, April 29, 1925, p. 451.

⁴ *Ibid.*, May 20, 1925, p. 732.

Canada Bread Company, Ltd.—Similar movements took place in Canada. The first of these began when in 1911 the Canada Bread Company, Ltd., was incorporated in Ontario, acquiring the following concerns: Bredin Bread Company, Ltd., Toronto; Geo. Weston (Model Bakery), Toronto; H. C. Tomlin (Toronto Bakery); Stuarts, Ltd., Montreal; W. J. Boyd, Winnipeg. Mark Bredin was made general manager. These companies had been in existence for from twenty to thirty years. Their combined capacity was 850,000 loaves per week. In 1912 six small concerns were bought, four in Winnipeg, and one each in Toronto and Montreal; and by 1913 two more were bought in Montreal and one in Winnipeg. Up to the middle of 1915 the company continued to grow in spite of the war. Though no new purchases were made through the war period, the company operated on a cash basis. In 1920 two additional branches were established, one in Toronto and one in Hamilton, and the Shinn Bread Company, of Ottawa, was acquired in 1923. There were outstanding \$1,064,400 in bonds, which were offered in 1911 at 98½, and which carried a bonus of 25 per cent of common stock. There were authorized \$2,500,000 common shares and \$1,250,000 of 7 per cent non-cumulative preferred shares. Dividends were begun on the preferred in 1912 and continued regularly. On January 1, 1918, 2 per cent was declared on the common stock but none thereafter till April 1924, when 4 per cent was paid. In June 1924 1 per cent was paid. More recent reports are not available. In May 1925 it was announced that the capitalization was to be increased¹ by the issue of 25,000 shares of no-par common stock and the conversion of existing common into "B" preference shares. For each share of old common there were to be given one new common plus one "B" preference. Dividends of 7 per cent were to be paid on the latter and further earnings were to go to the new common up to 7 per cent. Rumors early in 1925 that the Continental was negotiating for the purchase of the Canada Bread Company, Ltd., have not been confirmed.²

New England Bakery Company.—The New England Bakery Company was incorporated in Massachusetts in November 1915, and acquired the following concerns: Mansfield Baking Company, Springfield, Mass.; O.K. Baking Company, Hartford, Conn.; L. L. Gilbert Baking Corporation, New Haven, Conn.; and Louis E. Merry Company, Boston, H. P. Dion Bakery, New Bedford, and Morin Steam Bakery, Lawrence, Massachusetts.

The stockholders of the constituent companies received second preferred and common stock of the new company and cash in full payment for their properties. The former owners, therefore, owned a major part of the stock of the new company and remained with it. There were outstanding \$635,000 shares of

¹ *Northwestern Miller*, June 17, 1925, p. 1277.

² *Ibid.*, January 28, 1925, p. 351.

common, \$500,000 7 per cent cumulative first preferred and \$750,000 of 7 per cent cumulative second preferred. All classes had a par value of \$100 and the right to vote. The first preferred was offered at par with 20 per cent bonus in common stock. Dividends were paid regularly on both classes of preferred stock, but there is no record of any dividends on the common. In 1924 there were outstanding \$570,000 common, \$484,700 first preferred, and \$750,000 second preferred. There never had been any funded debt. Very recently this company has come under the control of the Continental, although as yet no details are available.¹

Massachusetts Baking Company.—In November 1917 the Massachusetts Baking Company was incorporated in Massachusetts to unite under a single ownership the following concerns: Swanson Baking Company, of Fitchburg, and Dietz Baking Company, of Springfield and Holyoke, Massachusetts; Bridgeport Bread Company and Borck & Stevens, of Bridgeport, Chaney Bakery, of Hartford, G. Emmanuelson, of New Haven, and Raymond Brothers, of Waterbury, Connecticut.

There were outstanding \$100,000 common stock; \$500,000 7 per cent cumulative first preferred; \$850,000 of 7 per cent cumulative second preferred, each of \$100 par. All stock has voting privileges. There was no funded debt. J. Travis was president, C. O. Swanson, treasurer, and the names of N. A. Cushman and S. M. Ochsner of New York appear on the directorate. Cushman ceased to be a director before 1919. For 1917, sales were \$1,334,400; for 1923, \$2,641,586. Apparently in 1921 the Blanchard Baking Company, of New Haven, was acquired. Apparently also dividends were paid regularly upon the first preferred stock after a year or two, but there is no mention of dividends on the other classes of stock. About January 1, 1925, the company was acquired by the Continental Baking Corporation.

III. HOLDING CORPORATIONS IN THE BREAD-BAKING INDUSTRY

We have seen thus far that some baking businesses grew to large size through the initiative of individuals. Other large ones were formed by combination under pressure of local competition or of creditors. Still others, not local in character, were formed to achieve the efficiencies which combination and merger are assumed to give. We now come to a further class, the holding corporation, the last type to be formed.

No sharp line can be drawn between the various types of concerns just enumerated. They shade into one another. Businesses built up locally by individuals lost their local character as they grew, and often absorbed other concerns either by purchase or by stock control, thus acquiring to that extent the character of

¹ *Moody's Manual*, 1925.

combinations. Some of these, originally local, not infrequently spread into new territory and absorbed other concerns in one way or another. Non-local combinations sometimes had a similar history. However, until after the war, concerns organized from the outset as purely holding corporations seem to have been the exception in the baking industry.

United Bakeries Corporation.—With the development of large corporations in the baking industry, as described in the preceding pages, the holding corporation appeared. The organization of one of the first of these, known as the United Bakeries Corporation, was announced in February 1922¹ to control Ward & Ward (Buffalo), operating seven plants, Ward Brothers, Inc. (Rochester), and the Campbell Baking Company (Kansas City). This brought nineteen plants under one control. It was announced that this was to be strictly a holding corporation, and that the Ward and the Campbell companies were to operate under the same names and in the same manner as before.² Soon other companies were acquired, sometimes directly, sometimes through either one of the Ward companies or through the Campbell Baking Company.

In February 1922 the Stroehmann Baking Company, with three plants, was controlled. This company was originally incorporated at Wheeling, W. Va., in 1906 with \$50,000 capital stock, and was reincorporated in 1914 with \$300,000 capital stock.³ The absorption of the Holland Baking Company by the Ward Brothers, Inc., has already been mentioned. Other concerns absorbed were the Crescent Bread Company of Utica and New York;⁴ the Memphis Bread Company with bakeries in Memphis, Tenn.; the Crescent Baking Company, of Clarksdale, Miss.;⁵ the Shults Bread Company⁶ in October 1922; the F. O. Stone Baking Company, of Cincinnati, a cake-baking concern, early in 1923;⁷ and, in December 1923, the Atlas Bread Company, one of the largest concerns in Milwaukee.⁸ Thus by the end of 1923 the United controlled over forty bakeries in thirty-five cities with total sales of almost \$32,000,000, and from the profits over a million and a half dollars were available for surplus and dividends after meeting fixed charges and depreciation.⁹

¹ *Northwestern Miller*, February 8, p. 606; February 15, 1922, p. 707; *Bakers' Weekly*, February 4, 1922, p. 57.

² *Northwestern Miller*, February 22, 1922, p. 707.

³ *Ibid.*, March 22, 1922, p. 1279.

⁴ *Bakers Weekly*, May 20, 1922, p. 39.

⁵ *Baker's Review*, August 1922, p. 70.

⁶ *Northwestern Miller*, October 18, 1922, p. 283.

⁷ *Idem.*

⁸ *Ibid.*, March 12, 1924, p. 1216.

⁹ *Annual Report*, United Bakeries Corporation, 1923.

The company had been incorporated in Delaware,¹ September 14, 1921, with the following officers: Brayton Campbell, president; W. B. Ward, M. L. Marshall, H. D. Tipton, S. F. Macdonald, vice-presidents; G. G. Barber, secretary-treasurer; F. E. Holmes, assistant secretary; E. L. Sabin, assistant treasurer; W. L. Hahn, comptroller. The board of directors consisted of W. B. Ward, chairman; Brayton Campbell, H. B. Ward, M. L. Marshall, H. D. Tipton, S. F. Macdonald, G. G. Barber, G. B. Smith, L. S. Kafer, F. G. Stroehmann, J. L. Kirkland.

In 1923 there were outstanding 150,256 shares of no-par common stock, \$11,729,800 of \$100-par preferred stock. In addition, \$293,900 of the preferred stock had been subscribed but not issued. The debt was \$5,218,000 of bonds, \$500,000 of long-term notes, and a mortgage of \$1,106,067.

For 1923 the preferred earned \$10.99 a share, and the common \$2.17 after deducting 8 per cent on the amount of preferred outstanding at close of fiscal year. G. B. Smith had become chairman of the board of directors. Wade D. Holland and Paul J. Stern are new names as members of the board. At this time the authorized capital stock was increased from twenty million to fifty million.

In 1923 or 1924 it organized the United Bakeries Service Corporation, with laboratories in Chicago. This is really the laboratory, control, research, and service department of the United Bakeries Corporation. Through this department, it was intended to exercise scientific control over the technical operations of the various plants, over the purchase of raw materials and the like. Its technical director was C. J. Patterson, an able chemist who early in his career had become chemist for the Ismert-Hincke Milling Company of Kansas City. He was later the technical director for the Campbell Baking Company and a vice-president of that company. He is the inventor of the flour improver, "Panipus," and of other technical inventions applicable to milling and baking. In 1924 he severed his connections with the United

¹ It is of interest that in Delaware any corporation may issue shares of stock (other than stock preferred as to dividends or preferred as to its distributive share of the assets of the corporation or subject to redemption at a fixed price) without any nominal or par value.

Such stock may be issued from time to time for such consideration as may be fixed from time to time by the board of directors, pursuant to authority conferred in the certificate of incorporation, or if the certificate shall not so provide, then by consent of the holders of two-thirds of each class of stock outstanding and entitled to vote, given at a meeting called for that purpose.

The act contains no provision making directors liable for debts until a designated amount of capital has been paid in.

For tax purposes, no-par value shares are held to have a par value of \$100 each. (Section 4-A, General Corporation Law.)

The *Corporation Journal* says of Delaware: "Among the principal reasons for choice of this state are absence of any provision requiring a statement in the certificate of incorporation of an amount of capital with which the corporation would carry on business, which in other states is usually required."

Bakeries Service Corporation and was succeeded by G. C. Robinson.

In 1924 there were outstanding 204,912 shares of common and \$14,870,000 of preferred. Dividends were paid regularly on the preferred stock, but there is no report of dividends on the common. In 1924 the Continental Baking Corporation offered its stock in exchange for that of the United Bakeries Corporation. A large majority of the holders of United stock took advantage of the good terms of the offer and in a short time the control of the United passed to the Continental.

Standard Bakeries Corporation.—In January 1923 the Standard Bakeries Corporation was incorporated in Delaware to control a number of independent concerns, many of which were clients of the W. E. Long Company, of Chicago. The Long Company is a concern that specializes in rendering service to bakers in accounting, in chemical and technological matters, and in engineering and construction. Apparently W. E. Long was the leading spirit in bringing together a number of his clients, as well as concerns in which he himself was interested. These concerns were the Akron Baking Company, of Akron, Ohio; the Jay Burns Company, of Omaha, Neb.; the Denver Bread Company, the Sunville Baking Company and the Purity Bread Company, of Pueblo, Colo.; the Pacific Baking Company, of Los Angeles, Calif.; the Long Beach Baking Company, of Long Beach, Calif.; and the Calumet Baking Company, of Hammond, Ind. Soon after, the Western Bread Company, of Denver, and the Beverly Hills Baking Company, of Los Angeles, were acquired.¹ The combined output was seventy million pounds of bread per annum. It was planned to manage the various bakeries centrally from Chicago, where a laboratory was maintained for testing materials, conducting research work, and standardizing methods of manufacture.

In 1923 there were outstanding 116,607 shares of no-par common stock and \$1,751,000 of 7 per cent cumulative \$100-par preferred which has voting power only when dividends are in arrears. Bonds issued were \$750,000. Dividends have been regularly paid on the preferred. In the first half of 1923 two payments of 37½ cents a share were made upon the common. In October 1923 and January 1924, 25 cents was paid; in April 1924, 31½ cents.

Among the officers were: C. N. Power of Pueblo, president; W. H. Korn of Davenport, M. C. Carpenter of Milwaukee, vice-presidents; H. M. Freer, secretary-treasurer. Directors included those mentioned above and W. E. Long and E. J. Mosser.

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¹ *Northwestern Miller*, January 7, 1925, p. 42.

agement. Of the directors who retired when the Continental Baking Corporation took control, at least one, it should be noted, remained in baking—C. N. Power of Pueblo, Colo., bought plants in Chicago and in Terre Haute and acquired the Marquette Baking Company, of St. Louis. He seems to have begun the accumulation of a string of bakeries.

Continental Baking Corporation.—On November 6, 1924, the Continental Baking Corporation was incorporated in Maryland with an authorized capitalization¹ of \$200,000,000 8 per cent cumulative preferred stock (\$100-par); 2,000,000 shares Class "A" no-par common stock and 2,000,000 shares Class "B" no-par common stock. The preferred stock is non-voting and callable at \$110. The "A" stock is non-cumulative and preferred as to dividends to the extent of \$8 a share over "B" stock and thereafter participates in further dividends equally with "B" stock.

By May 4, 1925, there had actually been issued \$49,276,200 of preferred, 288,554 shares of "A" stock, and 2,000,000 shares of "B" stock. The "A" stock was selling at about 116, the "B" stock at about 26.

Immediately on incorporation, the Continental began to carry out its program of covering the country with a chain of modern bakeries. It acquired the United and the American Bakery Company of St. Louis through the United; it absorbed the Sterns plants in Milwaukee; the Wade-Holland Company, of Ohio; the Livingston plants in Chicago; the Taggart interests of Indiana; Stritzinger at Norristown, Pa.; the Massachusetts Baking Company; the Consumers' Baking Company, of Paterson and Harrison, N.J. (not to be confused with the company of the same name in Kansas City);

¹ In Maryland, any corporation may create one or more classes of stock without any nominal or par value with such preferences, voting powers, restrictions or qualifications thereof not inconsistent with law, as shall be expressed in its charter. Stock without par value which is preferred as to dividends or as to its distributive share of the assets of the corporation upon dissolution may be made subject to redemption at such times and prices as may be determined in its charter. In the case of stock without par value which is preferred as to its distributive share of the assets of the corporation upon dissolution, the amount of such preference shall be stated in the charter.

The charter may provide that shares of stock of any class shall be convertible into shares of stock of any other class upon such terms and conditions as may be therein stated, except that shares of stock without par value shall not be convertible into shares of stock having a par value.

The charter may empower the board of directors to authorize the issuance from time to time of shares of its stocks without par value of any class or securities convertible into shares of its stock without par value of any class, for such consideration as such board of directors may deem advisable.

The statute makes no provision requiring an amount of capital to be stated in the certificate of incorporation.

The act contains no provision making directors liable for debts until a designated amount of capital has been paid in.

For tax purposes, shares without par value are held to have a par value of \$100 each.

(*Business Corporation Law, as amended by chapter 545, Laws of 1920.*)

and the Wagner interests in Detroit. Early in 1925 the acquisition of the Corby interests (Washington, D.C., Alexandria, Va., and Richmond, Va.) by cash purchase of much of the stock,¹ and of the Standard Bakeries Corporation was announced. In April 1925 it acquired the Occident Baking Corporation with plants in Minneapolis and Madison, Wisconsin. The former has the largest plant in Minneapolis with a capacity of 4,000 loaves per hour.² About the same time the Ward Company plant in Los Angeles was acquired. The bread brands of this company were discontinued and its output was limited to cake. It acquired the R. B. Ward Baking Company, Inc., of Santa Barbara, Calif., which in turn acquired the Fisher Baking Company, of Oakland, Calif.³ In May 1925 it was reported as having acquired the Washington Bakeries Corporation, of Seattle, Wash., the Spokane Bakery Company, of Spokane, Wash., the Perfection Bread Company, of Sacramento, Calif.,⁴ the Log Cabin Baking Company, of Portland, Ore., the Ogden (Utah) Baking Company, and the Butter Krust Baking Company, of Salt Lake City, Utah. Through the R. B. Ward Company, Inc., it had also acquired plants in San Diego and Berkeley.⁵

It is a matter of interest to note, at this point, the continuance of the Ward family in the bakery business. W. B. Ward was interested in the California plants just mentioned. Ralph D. Ward, who left the Ward Baking Company of New York in 1923, incorporated in 1924 the Drake Bakeries, Inc., with plants in Brooklyn and Boston. He had previously bought a controlling interest in the company.⁶

It is perhaps needless to follow the various steps by which the Continental perfected its organization. The conditions under which it acquired the United are, however, of special interest. United Bakeries Corporation stock was exchanged for Continental Baking Corporation stock on the following basis:

1 share U.B.C. pfd. = 1 share C.B.C. pfd. + 1 share "B"
1 share U.B.C. com. = 1 share C.B.C. "A" + 2 shares "B"

The Guaranty Trust Company of New York, which has a branch in the same building as the general office of the Continental, was designated as the exchanging agent. The exchange was to be made before November 24, 1924. Practically all the stockholders of the United are said to have made the exchange.

It is interesting to note that, of the companies whose histories have been outlined in this discussion, the Continental is the only company in the United States that has acquired plants in Canada.

¹ *Northwestern Miller*, February 28, 1925, p. 454.

² *Ibid.*, April 22, 1925, p. 323.

³ *Ibid.*, December 24, 1925, p. 845.

⁴ *Ibid.*, May 13, 1925, p. 646.

⁵ *Ibid.*, May 26, 1925, p. 732.

⁶ *Bakers Review*, September 1924, p. 66.

In April 1925 the Northern Bakeries, Ltd., was acquired. It is a Canadian corporation operating ten plants in seven cities. Rumors of purchase of the Canada Bread Company, Ltd., have not been confirmed.

"The Continental Baking Corporation's net earnings for 1924 are estimated at \$4,000,000, including earnings only of the United Bakeries, since no other bakery was added to the system until late in November. The United in 1923 had net earnings of \$1,684,448. Some estimates place the Continental's prospective 1925 earnings at more than \$10,000,000, as the company's plan, it is said, is to add more than forty plants to the combination in this year."¹

As of May 1925, the Continental had 104 plants in eighty-two cities in the United States and Canada, and its organization was said to be complete. It will be noted that, while it followed the plan of merging non-competing concerns, it could not always keep from acquiring several plants in the same territory. For example, in Chicago, it has the plants of the Livingston and the United (Ward Brothers, Inc.) interests as well as the plant of the Standard at Hammond, Ind. The acquiring of some competing plants was no doubt unavoidably incidental to the merging of so many companies. Whether this has resulted in giving the Continental more production capacity in certain localities than it needs, it is impossible except for those on the inside of the management to say.

According to George G. Barber, president, the Continental on January 1, 1925, expected to require per annum 3,000,000 barrels of flour, over 30,000,000 pounds of sugar, over 6,500,000 pounds of eggs, 600,000 pounds of butter, nearly 1,000,000 pounds of shortening, 14,000,000 pounds of milk, 1,250,000 pounds of raisins, paper worth over a million, and shipping containers worth over half a million dollars.²

Purity Bakeries Corporation.—On December 1, 1924, the Purity Bakeries Corporation was incorporated in Delaware. By February 1925 it had acquired 99 per cent of the common stock and 82 per cent of the preferred stock of the Purity Baking Company and 99 per cent of the common stock and 90 per cent of the preferred stock of the Tri-State Baking Company. It was also acquiring all of the common and preferred stocks of the Williams Baking Company. Through the Purity Baking Company, it held the entire capital stock of the Wernig Baking Company and controlling interests in the Banner Grocers' Baking Company, of Cincinnati, and the Grocers' Baking Company, of Indianapolis. It had arranged to purchase a majority of the capital stock of the Nafziger Baking Company. These companies have twenty-two plants, with a twenty-third under construction—three in Minne-

¹ *Northwestern Miller*, February 11, 1925, p. 550.

² *Bakers Weekly*, January 3, 1925, p. 55.

sota, four in Michigan, four in Missouri, five in Ohio, and one each in Indiana, Illinois, Iowa, Oklahoma, and Texas. Thomas O'Connor is the president.

After all these consolidations, there was outstanding \$2,123,458 of 7 per cent cumulative \$100-par preferred stock, \$1,968,875 Class "A" \$25-par stock, and 115,293 shares Class "B" no-par stock. Neither the preferred nor the Class "A" stock has a vote except in case of arrears of dividends.

In May 1925 the Purity Bakeries Corporation took over the Winkleman Baking Company, of Memphis, Tenn. About the same time it purchased a substantial stock interest in the Grennan Bakeries, Inc., the largest exclusive cake bakery in the United States.¹ At that time, it was said that the corporation had acquired about eighty constituent bakeries, and had sold no securities to finance the merger. Some bakeries were acquired for cash, others by an exchange of stock.² At the same time it was reported that the company offered \$900,000 of 7 per cent cumulative preferred stock at 97, and that it would issue 24,000 Class "A" shares at \$45 and 27,000 Class "B" shares at \$38 to pay for the Grennan, Winkleman, and Banner Grocers' interests.³

Southern Baking Company.—Another recent consolidation is the Southern Baking Company, with an authorized capitalization of \$10,000,000 divided into 100,000 shares of \$100-par preferred and 100,000 no-par common. By May 1925 it operated seventeen units mostly south of Baltimore. Among the plants it had acquired, was the bakery of John Cureton in Greenville, S.C., and the Stone Baking Company, whose plant at Atlanta it rebuilt and enlarged, increasing the output to 75,000 loaves per diem.⁴

Pie Bakeries of America, Inc.—New developments in the sweet-goods line appear with the Pie Bakeries of America, Inc., which was formed in Delaware in August 1925, with a capitalization of \$10,000,000 of 7 per cent cumulative preferred of \$100 par, 300,000 shares of "A" common of no par, and 500,000 shares of "B" common of no par. It includes the following: Wagner Pastry Company, Newark; Consumers' Pie and Baking Corporation, Brooklyn; Joehum Brothers, Inc., Long Island City; Littler Pie Company, Chicago; Case and Martin Co., Chicago; Harriss Brothers Pie Company, Inc., Chicago; and New England Pie Company, Detroit.

Canadian Bakeries, Ltd.—A new combination has also taken place in Canada. The Canadian Bakeries, Ltd., of Vancouver (in no way connected with the Canada Bread Company, Ltd.) was incorporated in September 1925, with the following firms: Shelly

¹ *Northwestern Miller*, May 20, 1925, p. 732.

² *Ibid.*, May 13, 1925, pp. 636, 637.

³ *Ibid.*, May 20, 1925, p. 732.

⁴ *Ibid.*, June 24, 1925, p. 1370.

Brothers, Ltd., with plants in Vancouver, Victoria, New Westminster, and Nanaimo; Shelly's Bakery, Ltd., with plants in Calgary and Lethbridge, Alberta; Jackson's Bakery, Ltd., of Calgary; Moose Jaw Bread Company, Ltd., of Moose Jaw; and the Sanitary Bakery, Ltd., of Regina. The capitalization is: First mortgage 6 per cent bonds, \$8,000; 7 per cent first cumulative sinking fund preferred stock, \$1,000,000; 7 per cent cumulative convertible preferred stock, \$1,000,000; "A" common no-par stock, 20,000 shares; "B" common no-par stock, 20,000 shares.

General Baking Corporation.—In September 1925 the General Baking Corporation was formed under the laws of Maryland by W. B. Ward, and authorized to issue 5 million Class "A" no-par shares and 5 million Class "B" no-par shares. Class "A" stock is to be entitled to a non-cumulative annual dividend of \$6 per share and to participation, share and share alike, with Class "B" stock in any further dividend to the extent of \$2 per share per annum and no more. Class "A" stock is non-voting, and in the event of any distribution of assets is entitled to receive \$100 per share before any sums are paid to the holders of Class "B" stock, all the remaining assets being distributable among holders of "B" stock. Subscriptions were invited on the basis of \$100 for "A" stock, subscribers being entitled to receive 2 shares of "B" stock for each share of "A" allotted.¹ The corporation proceeded to acquire the General Baking Company, the basis for exchange being as follows: For one share of the common of the General Baking Company were offered 2 shares of Class "A" and 6 shares of Class "B" of the General Baking Corporation.² Later it acquired the Smith-Great Western Baking Corporation.³ The organization of this company is so recent that authoritative statements concerning details of its organization or its future plans are not yet available.

Frequent mention has been made in the main part of this study of the various biscuit and cracker concerns that were involved in mergers. However, reference to their histories has been omitted in the Appendix, because the study deals primarily with the companies making perishable bakery products.

¹ *Bakers Review*, November 1925; *Northwestern Miller*, October 28, 1925, p. 347.

² *Bakers Review*, November 1925.

³ *Northwestern Miller*, November 25, 1925, p. 751.

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