

Chapter XIII

ROMANCE OF BABSON'S REPORTS

PROTECTING CAPITAL AND INCOME

UNEXPECTED events are the turning-points in the lives of most people. I have already told of my spiritual conversion in 1890, and of my illness in 1901-02. The next great event which made a lasting impression on me was the panic of 1907. With the exception of a brief depression in 1903-04, general business had been pretty much on the upgrade from the time of my graduation in 1898 until the year 1907. Pig-iron production, crop statistics, banking reserves, check transactions, and every other barometer of business showed an almost continuous advance. Stock prices had climbed from an average of around 30 in 1898 to around 111 in 1906, which means they had about trebled in value. My business friends of those days were partners in Stock Exchange firms and investment houses. Nearly all of these men believed that the United States had entered a period of almost boundless prosperity. None of them saw any clouds in the sky.

Suddenly, on March 6, 1907, there started a crash which finally brought stocks from their high point of 111 to a low point of 60. Much of this drop occurred on two days, March 6th and March 14th. I happened to be in New York that later day, peddling my statistics. A partner of one of the Stock Exchange firms asked me to come on the floor of the Exchange to give him a lift. Although this was against the rules, I did so. On that day I actually saw men turn gray. My thoughts, however, were especially on the hundreds of thousands of thrifty investors throughout the country who saw their savings wiped out. This caused me to make a study of the losses which come through Stock Exchange transactions and foolish investments. I estimated these to be in excess of one and a half billion dollars a year. This was enough for me. Then and there I decided to do something to prevent them.

BOOKS WORTH READING

In addition to these experiences in 1907, I was greatly interested in a book known as *Benner's Prophecies of Future Ups and Downs in Prices*, published in 1884 by Robert Clarke & Company of Cincinnati. This book was presented

to me by B. E. Baker in 1906. Mr. Baker, who was in the leather business, lived in Wellesley Hills. His only son was in my Sunday-school class, which is an additional reason for my feeling under obligations to Sunday schools! On the fly-leaf of this book (which I still have among my valued possessions), appears the following:

There is a time in the price of certain products and commodities,
Which, if taken by men at the advance, leads on to fortune;
But if taken at the decline, leads to bankruptcy and ruin.

Mr. Benner based his prophecies on the average price of pig iron, hogs, and corn. The book was written, however, for business men rather than for investors. I also came in contact with another book, entitled *How Money Is Made in Security Investments*, by Henry Hall, which carried along the same idea but which was written purely for investors. I took the above two books, with other material, to Professor George F. Swain, to whom I have already referred, the head of the civil engineering course at the Massachusetts Institute of Technology. We both concluded that there was something in the idea which these books portrayed. I set my people to work compiling what became the first Babsonchart. It followed Benner in using pig iron, corn, and hogs as a base, but gradually more subjects were added.

BIRTH OF THE BABSONCHART

It was Professor Swain who first drew a "normal line" through these zigzag charts which we had made and through the composite chart which included them all. The Babsonchart started with the same idea which underlay our original Composite Circular. Professor Swain also suggested that Newton's Law of Action and Reaction may apply to economics as it does to physics, chemistry, astronomy, and other fields. At this point Mrs. Babson and I decided to go abroad and see what we could learn about Sir Isaac Newton. I thought I would like to try my hand, at the same time, at selling *Babson's Reports* and the Babsonchart in England and on the Continent. Sometimes it is easier to launch a new thing among strangers than among friends. Besides, these English and European bankers were selling no securities in this country, and hence were looking only for unbiased information. Of this and other trips, however, I will tell in a later chapter.

Briefly, *Babson's Reports* consist of two features: (1) They show *when* to buy and *when* to sell; and (2) *what* to buy and *what* to sell. It is the first of these features for which the Babsonchart is used. The second feature has developed into our Supervised Lists, about which I will write later. There was nothing new about charting the ups and downs of the production or the price of individual commodities or securities. Everyone was doing this. A few of us had

begun to combine different commodities or securities into a composite chart, although I was the first to use this name. Really upon this composite idea the organization was founded. *Our contribution to the analyzing and forecasting of business conditions was in connection with the study of the areas above and below this Normal Line.* Other systems of forecasting considered only the *high* and *low* of the charts, while our system considered the *areas* of the charts.

Based on Newton's Law of Action and Reaction, we assumed that after a depression area, equal in area to the preceding area of prosperity, had developed, another period of prosperity would be due. *In making these studies, we took cognizance primarily of the shape of the areas.* For instance, an area might be deep in intensity and short in duration, or shallow in intensity and long in duration. In both cases the square millimeters should be about equal. In the former case we would forecast a short depression, while in the latter we would forecast a long depression. This was truly a distinct addition to the analysis of business and investment conditions. Our studies greatly helped all forecasting efforts of that day, and the system is now being almost universally used by economists and statisticians.

MY AREA THEORY

I have every reason to believe that this area theory will gradually be extended to cover all the sciences and be used generally in all phases of life. Of course, there are some die-hard critics who still complain because the Normal Line cannot definitely be located until the cycle comes to a close. Furthermore, we must estimate as to when we feel the cycle has come to a close. Our answer to this is that we are merely teaching a principle and that each student is free to make his own charts, draw his own Normal Line, and make his own estimates. The interesting fact is that when ten experts independently, without reference one to another, make such a study and estimate, their results are practically identical. Hence, not only is our fundamental theory correct, but it is of definite practical use. We make no claim that the area theory enables one to foretell the size of the next area of prosperity; but after such an area has developed, we do insist that the following area of depression will approximately be equal *in area*, provided the Normal Line has been properly located.

Another important feature of this area theory is as follows: The ups and downs of each industry always bear a certain relation—although different with industries—to the ups and down of the Babsonchart. For instance, one industry will reach its high point in the early part of an area of prosperity and its low point in the early part of an area of depression. This is true of the stock market. Another industry will reach its high and low points in the middle part of these areas; while other industries will reach their high and low points in the latter part of the areas. This is true of the real estate business.

WHAT LINES MEAN

This Babsonchart was started in 1906-07, and first looked more or less like a snake, consisting only of the outlines of the red and black areas. This outline was and still is a curve of business conditions. The portion of the outline which applies to any one year is made up of twelve dots for said year, or one dot for each month. During the course of each month a preliminary estimate of the month's business is made each week. In determining the location of these dots, over 100,000 statistical compilations have been necessary. The arrow and figures in red at the extreme right of the chart show where business is at the present time, compared with normal. Never mind what others tell you. The real fact as to where business is today, compared with any previous period, is shown by the Babsonchart scale. This chart covers 90 per cent of all the industries in all sections of the country.

The other lines on the chart are self-explanatory. The solid red line made up of vertical red bars, shows the stock market. Each vertical red bar shows the high and low of the market for that month. The solid black line shows the bond market; the dotted black line the commodity market. These lines are also based on carefully-worked-out indices, which, likewise, show actual conditions. A study of the stock line, bond line, and commodity line shows that there is a certain relationship between these lines and the areas, which is very helpful in forecasting. Furthermore, if you would chart your own business, superimposed on the Babsonchart, you would find some definite relationship, which should enable you to anticipate improvement or decline in your business.

LOCATING THE NORMAL LINE

After a cycle is completed, we draw a line through the cycle to make the area below equal the preceding area above. Thus, D— equals D, E— equals E, F— equals F, etc., up through the last completed cycle. In doing this we follow Newton's Law of Action and Reaction. *After a line is once drawn for a single cycle showing the completion of a cycle, it should be drawn for all time.* The extreme right of this line gives an axis for a line or arm for the following cycle. Thus, this projected arm is shown as a dotted line in connection with the last cycle. When we believe the cycle is completed, we move this dotted line up or down *on the axis* to make the areas balance. Then we consider the cycle as fixed, and the dotted line is made a solid line and remains fixed. We then go ahead with a new dotted line from the new axis, developing the next cycle.

These arms form what is known as the Normal Line, or the X-Y Line, as it is called in mathematics. The areas *above* this Normal Line are made black and are known as areas of prosperity. The areas *below* the Normal Line are made red and are known as periods of depression. When one refers to business

being "below normal," he means that the last point at the right, representing the current index of business, is registering below this normal line. As stated above, the Law of Action and Reaction is assumed in making the areas equal in order to fix the Normal Line; *but the Normal Line is always carried along in the same general direction. This enables business men and investors very closely to forecast how long a period of depression will last. By this trial-and-error method one continually approaches a closer and closer forecast, until the dotted line can finally be changed to a permanent line.*

HOW TO FORECAST

Based on this same Law of Action and Reaction, one may assume safely that a period of abnormal depression always follows a period of abnormal prosperity. Contrariwise, that after an abnormal depression the country will again enter a period of prosperity and a black area will again appear above this Normal Line. Remember, however (which is very important), that it is the *areas* which tend to balance, rather than the high or low points. *This means that the steeper the decline and the deeper the area, the shorter will be its duration and the more rapid will be its rebound, and vice versa.* Thus, the Babsonchart not only shows where business is at the present time, but it also gives a good hunch as to what portion of the cycle a country is in at any given time—whether the early portion, the middle, or the last. I believe that the Babsonchart is of primary importance to the successful operation of a business and investment policy. I also believe that some day it will be adopted by the federal government for flattening the business cycle. Periods of depression can be eliminated only by retarding abnormal booms. This in turn can be accomplished only by varying the expansion and contraction of credit inversely in accordance with the Babsonchart or some similar measure.

The Babsonchart checks with every business cycle since records have been available. It was especially evident in the case of the 1925-35 cycle, the movements of which our organization clearly and definitely forecasted. This is not any random statement on my part. Readers may refer to the files of any newspaper in late 1929 or early 1930 for evidence. The Babsonchart, as above stated, is used as a basis for determining *when* to buy and *when* to sell. Briefly, we advise investing one's money, a portion at a time, during an area of depression, and then gradually liquidating during an area of prosperity, both as shown by the Babsonchart. Of course, under this system, one does not buy all his securities at the lowest price or sell all at the highest price; but he should secure a good profit. Furthermore, he is justified in this profit, as he renders a real service. For every additional person following this Babsonchart, the next boom is less reckless and the succeeding depression less severe.

WHAT TO BUY

The next question is *what* to purchase. For this we rely primarily on the law of averages, which Sir Isaac Newton also discussed in his writings. The law of averages is one of the most interesting of laws. Many comprehensive experiments, ranging all the way from the shaking up of beans in a bottle to the sex of children, have been carried on in connection therewith. Over a period of years in a normal community, for instance, the births of boys and girls are almost identical. Insurance of all kinds is based on the law of averages, as well as commercial gambling games. This law seems to be infallible; it is the only basis for safe investing. Therefore, the first step is to diversify. One should diversify as to communities, as to industries, and as to corporations. People can pick winners by luck, but not through judgment. There are too many indeterminate factors to forecast correctly what the outcome of any one company, corporation, or even industry, will be.

It is just as safe to bet on a horse race or a roulette wheel as to follow any stock market tip. A tip from an elevator boy is usually as good as one from a railroad president. This was clearly brought home to me early in life. A friend of my father's, John Kendrick, became the executive head of one of the great railroads of the West, the Northern Pacific. Before this railroad was reorganized, my father owned some of the six-per-cent bonds, for which he received some three-per-cent bonds, some preferred stock, and some common stock in the reorganization. When I was once on a business trip to Minneapolis, my father asked me to call on Mr. Kendrick and ask him, as a friend, what he would do about these securities of his railroad. Mr. Kendrick replied: "Tell your father that the bonds should be perfectly good, and that the preferred stock may come through all right, but the common stock is not worth the paper upon which it is printed." Within a year this common stock sold at \$1,000 a share!

IMPORTANCE OF DIVERSIFICATION

While I was writing my book, *Business Barometers*, in 1907, one of my closest friends, Herbert E. Smith of Gloucester, said he had a little money to invest and asked me to recommend something for him to buy. This was while I was writing a special chapter on "Diversification," in which I recorded the price range of ten stocks over a long period of years. I therefore suggested to my friend Herbert that he buy these ten stocks. He thought this would be too much trouble, and urged me to pick out one of the ten. This I finally consented to do. In the course of a couple of years the ten showed an average profit of fifty per cent, but the one stock which I selected—Northern Pacific preferred—sold at no higher price than when I recommended it.

Just one more recent story. To help out the building of a hotel in Florida,

I purchased a bond thereon at par. It was treated on my books purely as a contribution. I offered it, at fifty cents on the dollar, to the president of the Business Statistics Organization, Mr. L. D. Peavey, the day after I purchased it. Mr. Peavey gave me the laugh and refused it. Preferring not then to be known as a holder of hotel securities, I finally gave the bond away. It was paid, principal and interest, at the worst time of the depression, due perhaps to the fact that the owner of the hotel, who held a large insurance policy, was killed in an automobile accident! One should also diversify between stocks and bonds and real estate. My personal program is to place about one-third in real estate and real estate mortgages, about one-third in corporation and municipal bonds, and about one-third in common stocks. This should be varied according to different individual temperaments, responsibilities, ages, etc., but is a good general rule from which to start.

SELECTION AND SUPERVISION

If one purchases for permanent investment, marketability is not an important factor. When, however, one buys with the idea of later selling at a profit, the question of marketability is important. For such purposes, one should buy very active securities, with a very broad market. Otherwise, when one attempts to sell, he will find so many other people likewise desiring to sell that the prices crumble away. This usually means that one should purchase securities of the large companies; that is, the securities of the leading two companies in each industry. On the other hand, it should always clearly be kept in mind that the leading company today will not be the leading company twenty years hence. Each period of prosperity (or, rather, each period of depression) usually develops new leaders in each industry.

Another important factor to be considered is selection and supervision. That famous railroad-builder, E. H. Harriman, once said to me that *management* either could make a fine railroad system out of streaks of rust, or could ruin the best railroad system. Management is fundamentally a question of character, which, of course, includes integrity, industry, judgment, and courage. Usually, the second generation never has the courage of the founders. Hence it is usually well to purchase into a corporation which has been made a success by the first generation, when this first generation is still living. One can usually make money by selling his company's stock between the death and the funeral of any great captain of industry. For any investor to attempt to select and supervise his own securities is about as foolish as for him to attempt to fill his own teeth or handle his own law case.

SECRETS OF SUPERVISION

To supervise properly a list of securities, an organization should have correspondents in all sections of the country and in all lines of industry. A tremen-

dous number of newspapers, trade magazines, and other publications should be read daily, while the company reports, as issued, should be analyzed with great care. It is absolutely foolish for any investor to attempt to do this for himself. We who pose as experts make mistakes enough as it is. Briefly, we attempt to consider the following twelve rules in selecting and supervising securities, with special attention to the integrity, health, experience, and courage of the management:

A. Invest in an industry which is

- (1) rendering a needed service or making a useful product either better or at lower cost than are competitors.
- (2) not being exploited, which means one should buy *before* the group gets publicity, or wait until *after the publicity subsides*.
- (3) a "coming" rather than a "going" industry; always preferring those of a "repeat" nature.

B. Invest in a company which

- (1) is honestly, economically, and efficiently managed, where the officers have large stock-holdings and are not interested in too many outside things.
- (2) has once either been reorganized or has been thoroughly scared.
- (3) is reducing its *percentage* of indebtedness. (Do not buy into a receivership, even if your special issue is a "triple A.")

C. Invest in a note, bond, or stock which

- (1) is well secured, by *both* assets and earnings. Tangible assets value is very important in view of pending socialistic legislation.
- (2) has a reasonable market and is not handicapped by threatening maturities.
- (3) is fairly priced, considering what the *Babsonchart* indicates with respect to the future prospects.

D. Following an investment control program which works thus:

- (1) When bonds and stocks advance above the purchase price, such advance should be followed up with stop-loss orders. Practically, this means complete immunity from losses on such issues and the benefit of maximum profits. Try to follow the plan which lets profits run, but absolutely avoids any losses on issues which ever show a profit. Every supervised list should have a method of control so as to take these profits systematically. As loans are completed only when they are paid, so investments are completed only when they are sold.
- (2) When purchasing a bond or stock, try to decide on a price below which, when reached, you should sell. That is, at the time of purchase, determine maximum loss. For instance, if the bond or stock is bought at par, one may decide to limit the allowable loss to four points. Hence, if the bid price should touch ninety-six, a sale would automatically take place. By operating on this system, one is no longer under the perpetual shadow and menace of staggering and disastrous losses. On the assumption that some losses are inevitable, one must take profits in order to balance losses.

- (3) Regularly and thoroughly keep in touch with fundamental economic conditions and underlying price movements in the various groups of bonds, stocks, and commodities. The reason why many investors get into trouble is that they delude themselves with the false idea that the good or bad times will last forever.

CHARACTER IS ABOVE ALL

My associates naturally find it difficult to stick to all these rules under all circumstances. These rules, however, are a goal at which every honest investment adviser should shoot. Clients are infinitely better off by their guides aiming high. All the above may seem very complicated to a reader, but it really is simple. To review: *Babson's Reports* consist of merely two features—namely, *when* to buy or sell, and *what* to buy or sell. The first should be determined by the Babsonchart, and the second should be determined by the above simple rules. No system of charts, or series of rules, or forms of legislation will insure security of principal or income, or, in fact, of anything else. Security comes as a result of character, intelligence, and courage. Statistical organizations can supply the tools, but the workman must do the carving. To think that tools make experts in any line of endeavor is a great mistake. Nothing can take the place of character, judgment, and courage. On these qualities the security of capital and income, the security of health and efficiency, and the security of life and property, depend. Eternal vigilance is today the price of liberty, as it was in 1776, and in every other year before or since. There is no royal road to wealth, any more than to health or happiness. Hence the great importance of teaching young people to fight intolerance, dishonesty, intemperance, injustice, and luxury.

To develop in the youth of today a courageous spirit, to fight for what is worth while, is the great need of the hour. Otherwise America will get into the condition that China was in when it built its great wall, which became one of the seven wonders of the world. You remember the story. China became rich and cultured. Its only worry was the barbarians of the north. To protect the country against them, it built this great wall, some sixteen hundred miles long, sixty feet wide, and forty feet high. Over one hundred years were required to complete this wall. Hundreds of thousands of men lost their lives in the process. Was the wall ever used? No! When the barbarians of the north finally came down to the wall, they merely bribed the gate-keepers and walked peacefully through the gates and ransacked China. This should be a keen lesson to parents who are depending upon trustees to provide for their children and grandchildren. It would be far better to invest a greater proportion of your money in the *training* of your children and grandchildren. Both capital and income would then be much more secure.

Chapter XIV

A SECOND VENTURE

PROTECTING HEALTH AND EFFICIENCY

ALTHOUGH my work up to this time had been primarily for Stock Exchange firms, investment houses, and individual investors, yet a small clientele of manufacturing concerns and merchants was rapidly developing. I secured statistics in Washington—especially at the Department of Commerce and the Bureau of Labor Statistics—which I sold to manufacturers and other business men. Gradually this work grew into a definite Business Service entirely apart from our Investment Service. This Business Service covers commodities, sales opportunities, and labor conditions. In connection with these business studies, I was astounded by the tremendous loss in money, time, energy, and ideas through needless sickness on the part of both executives and employes. The greater portion of this loss apparently started with common “colds.”

I became interested in the Efficiency Society, which used to hold annual meetings at the Lake Placid Club in the Adirondack Mountains. These were the days when the “Taylor System” was so much in vogue. Men were being taught to lay bricks by a tick of the clock, and to learn dancing by blue-prints. I believed in that work and still do. My statistics, however, showed that for every hour and dollar that was being lost through unnecessary “motions,” ten dollars were being lost through unnecessary sickness. An impartial estimate showed that “colds” and other contagious sickness among workers were largely due to uncleanness, poor ventilation, and faulty first-aid. These ills caused an annual loss to American consumers of about one and a half billion dollars a year. This loss, moreover, had a far more human meaning, with much greater ramifications, than all loss through investments.

FORMING A TRUST

The more I studied money, stocks, bonds, and other so-called “securities,” the less I thought of them. I spent my evenings reading history. Although it is evident that the world as a whole has slowly been improving, yet it is also evident that abnormal prosperity in any one nation develops luxury which, in turn,

undermines health and efficiency in that nation. Statistics show that health is not only a great factor in the development of the efficiency and happiness of each individual, but also of the business cycle. I therefore hunted about to discover some company which had been a real force in developing America's public welfare. My first thought was to invest in some one of the leading pharmaceutical companies. Although most of these are controlled by splendid groups of men, yet we found that very few of them took their own medicine.

Mrs. Babson's training as a nurse had always made her rather shy of medicine. She believed that cleanliness, inside and out, plenty of fresh air and sleep, with a sensible diet, were the best foundation for health and efficiency. I agreed to this, provided one "subscribed to *Babson's Reports*," and hence eliminated worry! Finally this led us to start our own concern, which we named the American Public Welfare Trust. This Trust purchased an interest in companies which had been pioneers for cleanliness. In addition, it is interested in marketing basic hygienic supplies, such as iodine, mineral oil, and products which are universally accepted by all leading physicians and used in the first-aid rooms of factories and stores.

WHY WE GET SICK

It is important to keep in good physical condition and thus have a natural resistance against diseases of all kinds. Nature's plan probably was that there should be no diseases, but that we finally should die from "the clock ceasing to tick." Unfortunately, we do not keep up a proper resistance to disease, and so are subject to infections of all kinds. These infections run from simple skin diseases, which are treated from the surface, to those infections which get into our internal organs and require surgical operations. The most common and perhaps most dangerous of all infections start from the common cold. The question of immediate concern, however, is how we become infected. On sober thought, all must agree that nine-tenths of our infections come through the careless handling of food by ourselves or others, or through contaminated air or water.

Cleanliness in the kitchen and a careful washing of the family's hands, before eating a meal, are essential to health. People, of course, have been taught to wash for generations; but our grandparents and parents, after washing their hands, wiped them on a common towel. Thus they undid much of the good which the washing of the hands had accomplished. This developed the use of paper towels in public places, factories, stores, and homes. I do not suggest that paper towels should take the place of the cloth towel in bathrooms except in the case of sickness. But only paper towels should be allowed in the kitchen, and, in fact, on the first floor. Children, especially, should be taught to use paper towels. This idea is not original with us. However, we are convinced that in

furthering this idea we are helping to blaze a trail for *health* security, as in previous efforts we had blazed a trail for *income* security.

IMPORTANT HOLDINGS

The American Public Welfare Trust had far-reaching plans. It indirectly was interested in a huge tract of timber land in Nova Scotia, and in one of the best ground-wood plants in the world. The latter is located at Sheet Harbor, a little town about seventy miles northeast of Halifax. The company cut its own timber from its own lands and ground it into pulp. This pulp it brought in its own chartered steamers from Sheet Harbor into the Hudson River at New York City and up to Albany. With the ground wood is mixed sulphite, which comes from Europe, and the result is very strong, absorbent, and soft products. From the "A.P.W." factory in Albany these products are distributed all over the United States, and to all parts of the world.

Ever since, the A.P.W. Products Company has been trying to develop in the hearts of salesmen of hygienic products the spirit of the sanitary engineer and missionary. We have been impressing upon them that they are not only commodity salesmen but are responsible for the health of the United States. Whenever an epidemic occurs in any part of the country, I believe some salesman is to blame for allowing such an epidemic to occur. Our motto is: "Keep clean, both outside and inside." If everyone would follow this motto, probably four-fifths of the country's sickness would be eliminated. The company uses the trade name, "A.P.W.," and we shall always do our best to protect and strengthen it. We are striving through this company to protect health and efficiency, as we strive, through *Babson's Reports*, to protect capital and income.

DANGERS FROM "COLDS"

In my collection of statistics on diseases, I have developed a list of thirty-nine dangerous or painful illnesses which may originate from common colds, which, in turn, originate from careless infections. These are as follows:

Aches	Constipation
Adenoids	Cramps
Ague	Earache
Asthma	Fatigue
Backache	Fever
Biliousness	Grippe
Bowel difficulties	Headaches
Bronchitis	Hysteria
Catarrh	Influenza
Chills	Infantile paralysis
Circulation troubles	Lumbago
Congestion	Lumbarmyalgia

Mastoids	Quinsy
Meningitis	Rheumatism
Nervousness	Sciatica
Neuralgia	Stiff neck
Neuritis	Throat troubles
Neurasthenia	Tonsillitis
Pneumonia	Tuberculosis
Pleurisy	

In addition to this list, scores of other diseases may be readily traced to uncleanliness. In this connection, readers may be interested in the following ten rules for health which the A.P.W. Products Company distributes:

1. Avoid getting fatigued after work or school is over. Worry and nervous strain are a basic cause of colds and more serious troubles. Get eight to ten hours' sleep daily and devote a definite time each day to quiet devotion.
2. Keep clean. Wash your hands before every meal, and always wipe them with a fresh paper towel. Keep fingers away from nose and mouth.
3. Practice deep-breathing exercises and drink eight glasses of water each day. Sleep, study, work, and play in well-ventilated rooms.
4. Avoid overeating, especially of sweets and starches. Do not eat or drink anything handled by others.
5. Have regular good bowel movements each day. Every Saturday night watch your weight.
6. Take plenty of exercise, indoors and outdoors, in the sunshine, when practical. Be cheerful and thankful.
7. So far as possible keep away from crowds and do not take children to movies, etc., or on trains or street cars.
8. Develop the skin to resist variations in temperature by means of cold baths, massage, and vigorous rubbing with paper towels.
9. Adapt clothing to the temperature of the day. Do not vary clothing next to the body, but have wraps of various weights.
10. If colds still persist, it may be worth while to try prophylactic vaccine, electric massage, or vitamins; or, still better, consult your family physician.

B. S. O. PRINCIPLES

Business Statistics Organization, Inc., is both a management and operating corporation, which holds stock in various companies such as *Babson's Reports*, Inc., which protects capital and income; the "A.P.W." Company, which protects health and efficiency; and the Gamewell Company, which protects life and property. The Business Statistics Organization devotes its energy to supervision in the study of fields and processes, and in general advisory work in connection with sales and advertising. Each of these groups has its own individual management. They also have valuable trade-marks.

Let me say that a trade-mark is of greater value than real estate, machinery, or even money itself. Legislation may be passed to break up agreements in restraint of trade, but no legislation can destroy the monopoly of a trade-mark which based on a good product at a low price. On the other hand, any concern which attempts to rely alone on a trade-mark loses out very quickly. For the value of a trade-mark to continue, the superiority of the product and the reasonableness of the price must be protected. Most of all, the entire manufacturing and selling organization must be permeated with the desire to render service. Those who thoroughly believe in their work usually succeed. This is one reason why a small business will develop to great proportions under an enthusiastic founder who goes out into the world with the spirit of a missionary.

"REPEAT" VS. "EQUIPMENT" STOCKS

There is one feature about this hygienic business which would appeal to my father—namely, the *repeat* feature. You remember that he always advised me to get into a line of work which has this *repeat* feature. *Babson's Reports* surely have it, as they operate wholly on a subscription basis. The same is true of paper products which, like electricity or oil or food, are constantly being consumed. My father would not as heartily approve of our investment in the Gamewell Company, to which I will refer in the next chapter. However, even repeat industries have their disadvantage. There are too many people who believe the same as my father did! Consequently, although repeat industries are theoretically most profitable, yet for this very reason they are the most overcrowded of all industries. As a result, competition in such industries is severe, and one might succeed even better in an equipment industry.

Even on the basis of diversification, the Babson Organization was glad later to become interested in the Gamewell Company, which is purely an equipment company. We believe in diversification, even to the extent of including an *equipment* industry with *repeat* industries. I surely have learned that nothing in this world has all the advantages or all the disadvantages. There is good and bad in everything. Although we should endeavor to select those things which apparently have the most good and the least bad, yet progress and ultimate success depend on mixing them all together. Certainly this is evident in connection with nature and life in all forms. It is the balanced life that is the healthy and happy life.

TEACHING HEALTH

Our immediate interest is to get everyone clean-conscious, and especially to get hygienic products into factories, stores, schools, and all public places. It is surprising how careless people are about keeping clean. We fail not only to wash our hands, but we are continually attempting to use a towel which others have used. Because hands look clean is no reason that they are clean. The most

dangerous of germs may be found on the most "immaculate" of hands. This is why physicians so thoroughly scrub their hands before performing surgical operations, and then in addition wear sterilized rubber gloves.

Our grandparents accidentally discovered the importance of cleanliness when they preserved their fruit and vegetables. Although a jar looked perfectly clean, they found from experience that the fruit or vegetables would keep only when they boiled the jars. This great discovery was made by Pasteur, but its application has been confined thus far largely to the treatment of disease and not to its prevention. The great field of preventive medicine is as yet unscathed. It is where the electrical industry was when Franklin flew his kite, or where the statistical industry was when I heard that famous lecture by Booker T. Washington. Surely America's public welfare depends upon a conscious realization of the importance of cleanliness, both outside and inside.

Parents, school-teachers, and preachers might well give more time to teaching youth how to keep well. I have in mind proper diet, deep breathing, sufficient exercise and sleep, as well as cleanliness.¹ But the necessity of fighting for cleanliness is basic. Cleanliness is not natural; it does not come of itself. Cleanliness can be secured only by constant struggle. This means that eternal vigilance is the secret of *health* security, as well as *financial* security. The same persistent and courageous spirit developed in youth will bring about both health security and financial security.

¹In connection with this subject of health protection, I give this little talk to children whenever the opportunity offers: We get sick by being in a run-down condition, when a "bug gets us." This bug is so very small that it is impossible to see it even with a microscope. We may get it from a doorknob, or from books or toys handled by some sick children, or from shaking hands, or in a dozen other ways. Money is very dirty and carries lots of these bad bugs. Hence the great importance of washing your hands before going to the table or handling food of any kind, and of wiping them on a fresh paper towel. You also should avoid sticking your fingers into your mouth, nose, eyes, or elsewhere. This is why your mother works so hard to break your little brother or sister from sucking its thumb. This also explains why your mother wants you to keep your bowels open. Some bugs are bound to get into you, anyway, however careful you are, and you should get rid of them just as quickly as possible by going to the bathroom at least twice a day.

In addition to keeping clean outside and inside, you should also be careful about what you eat, because in our blood are millions of little "white policemen," who try to protect us when we are careless and do not wash our hands. Just as soon as any bad bugs get to working on our throat or nose, or inside of our body, these little white policemen run to the spot and try to kill the bad bugs which are starting in to give us a sore throat, or a cold, or something very much worse. This means that we should be very good to these little white policemen and feed them what they like to eat. Now what do they like? First, they like plenty of chance to sleep. And as they can sleep only when you are sleeping, this means that you should have a lot of sleep. They like fresh air and sunshine. This means that you should stay out in the fresh air and sunshine as much as possible. But most of all these little white policemen love fruits and green vegetables, especially spinach! They are just crazy over green vegetables. Therefore, to keep these little white policemen happy and strong, you should eat lots of green vegetables.

But there are some things these little white policemen just hate. They hate candy and sugar; they hate cake and pies; they despise tobacco and beer; while they do not like very well tea, coffee, or too much ice cream. In short, your health depends primarily on keeping these little white policemen strong and happy, which means keeping clean inside and outside, giving them good fresh air and sunshine, and feeding them only on the things they like.

SAVING OTHERS SAVES US

I suppose this interest in cleanliness was partly the result of my tubercular sickness of some years before. Next to fresh air, good food, and plenty of rest, the physicians impressed upon Mrs. Babson and me the importance of cleanliness. Sputum was carefully destroyed. The bedclothes, and everything that I touched, were methodically sterilized. We could not buy paper towels in those days, but Mrs. Babson cut up wrapping paper and made her own paper towels. It may honestly be said that our interest in hygiene was directly the result of her hospital training and my illness. I have come to believe that sickness has an educational, and even an economic function. First, it gives us a chance to think; and, secondly, it should force us to correct our mistakes. Certainly all illness is the result of mistakes, either of ourselves or of others. As the pain in our tooth is the signal that the tooth needs treatment, so sickness of all kinds is a warning that we are not leading a proper life. We may then look upon illness as a blessing, even if the blessing is in disguise.

I forecast the day when hospitals, and especially physicians, will have educational departments. Not only should people be taught why they become sick and how to avoid future illness, but they should become enthusiastic missionaries for healthy communities. I say this because the health of each of us is directly related to the health of all of us. This is a fundamental fact that we try to impress upon all connected with our hygienic work, from the man who first cuts the tree in the forests of Nova Scotia to the boy who delivers the package to the ultimate consumer. Yet it is difficult to get this point of view into the mind of the average person. It is not merely a question of selfishness, as selfishness itself should interest one in protecting others. It is sheer ignorance and dumbness. Only by saving others can we save ourselves.

HEALTH AND SUCCESS

Let me also add a word about the relation between health and efficiency. This relationship is very close and intricate. We blame people for being lazy and dumb, when their health is really at the bottom of all their trouble. I have known a great many prominent people in my life—presidents of the United States, great scientists and inventors, captains of industry, wealthy bankers, famous preachers, physicians, lawyers, and merchants. Of course, there have been exceptions, as in the case of the late Charles Steinmetz, of the General Electric Company, who was a frail hunchback; but ninety per cent of these successful men inherited strong physiques. They had good digestions, strong nervous systems, and were able to out-work their competitors. In few cases have the second generations had the physical stamina of their fathers.

Lack of physical reserve on the part of the second and third generations has

been a factor in the deterioration of the businesses which they have inherited. Our own experiments have been in connection more with the efficiency of workmen, clerks, and other employes. It is noticeable that some are ambitious to get ahead, while others are sluggish and drag behind. Studies show that physical condition is also an important factor in determining the direction in which even the mill hand or office boy operates. Just now every manufacturer is seeking labor-saving machinery and is looking upon such machinery as holding the answer to his problems. The day is coming, however, when employers, and the community in general, will take a far greater interest in the health of workers. Great advances are ahead of us through increasing production by developing healthy workers.

HEALTH AND BUSINESS

In closing this chapter, let me say a word about the relation between the health of a community and the business cycle.

Physicians state that three-fifths of the ills of active-business men are caused by worry, and that four-fifths are caused by worry and fatigue. These either directly develop poisonous toxins or else so reduce our vitality that we are easily subject to infections of various kinds. Headaches, indigestion, neuritis, backaches, and especially that "tired feeling" are due primarily to worry, excitement, becoming angry and getting fatigued. Such troubles, moreover, are especially prevalent during a period of business depression. Charts would show that such troubles increase almost proportionately with the increase in business failures, unemployment, and the other barometers of bad business conditions.

It does little good merely to say to people, "Don't worry." It is difficult for most business men arbitrarily to force thoughts out of their minds without having something else about which to think. This psychological fact gives a more or less economic purpose to concerts, detective stories, golf, baseball games, and other diversions. Some would include even more radical diversions of a questionable nature. If it were not for the economic service which diversions perform, they would not continue to exist. Even their popularity would be lessened somewhat if more wives did not ask their husbands to "listen to a tale of woe" or "dress to go out to dinner" as soon as they get home! Blessed are the men whose wives recognize that they are helping themselves, as well as their husbands, by keeping from them the home worries. Wise is the man who drops his troubles at the doorstep, never taking them into the house. Probably his wife has more troubles than he has already!

Diversions, and even helpful wives, afford only temporary relief. They may keep a business man from breaking down; but they cannot give him something fundamental upon which to build. These diversions may help keep a man from getting neuritis, indigestion, and other ills, but they seldom cure one so affected.

This is because when a man is run down he worries more than he otherwise would. It is a vicious circle. Fear causes worry; worry causes fatigue; fatigue causes more worry; and so on. Such men can recover, both physically and financially, only by reversing the process. Faith must be substituted for fear. Then the circle becomes:—more faith, less worry; less worry, better health; better health, real prosperity. With this thought in mind I purchased in 1951 the property of the Channing Sanatorium which I renamed *Woodland Hill*. This I have since operated for our clients as a place for rest and study.

My purchase of securities in the A.P.W. Products Company took place in 1930. For various reasons I sold out my holdings at a good profit in 1950.

In place thereof the Business Statistics Organization has invested large sums in certain national merchandising companies. We have come to the conclusion that wise and alert merchants with flexible locations, large varieties of goods and lower-bracket labor now have an advantage (especially in combatting inflation) over manufacturers who are tied down to one locality, a few products and a limited labor supply.

This idea was often pointed out to me by my far-sighted father whose sole income was from a store in Gloucester, Massachusetts. This store did a volume of business of only about \$100,000 per year; but it was the best "General Store" in the city. It also should be remembered that this volume would equal \$300,000 at present prices. In a later edition of this book I will add a new chapter on "Merchandising" which should interest readers who operate stores or own merchandising stocks.

Chapter XV

RED FIRE-ALARM BOXES

PROTECTING LIFE AND PROPERTY

I ALWAYS had an emotional nature. An accident of any kind, even to a small animal, would often bring tears to my eyes. The thought of hunting was terribly repulsive to me. If the animal could also be given the use of a gun, then hunting might be a real sport, but with only the man having a gun, it seemed to me little short of common murder. Fires always aroused my emotions; and we certainly had some great old fires in my boyhood days at Gloucester, Massachusetts. Our then main fire protection was that it sometimes rained! There were no fire hydrants. In different parts of the city there were underground cisterns, which were pumped out by a hand fire-engine in case of a conflagration. When the water was exhausted in these underground public cisterns, people formed a line and passed buckets of water, one to another. These buckets were filled in the cisterns of private homes and from wells.

The fire department of my boyhood was wholly voluntary. People were aroused by the ringing of the church bells. It seemed as if these fires usually came at night. I would be stirred tremendously by them. Although my father said little, he also was much interested, having a large store on Main Street and mortgages on properties in various parts of the city. He never believed in owning real estate, and when he died did not own a foot of land or a building. The house in which we lived he gave to my mother shortly after it was built. He did hold, however, many small mortgages, and hence was interested indirectly in real estate. A few years before I was born, almost the entire business section of Gloucester was wiped out. When my father wanted to frighten me, he would take me into his lap and relate the excitement of that winter's day when Main Street burned to the ground.

BOYHOOD FIRES

Whatever the time of day or night a fire broke out, my father would always go. For some reason, which I do not yet understand, he was willing that I should go with him. When, therefore, the fire bells rang in the dark hours of the night, I would immediately get up, dress, and be ready to take my father's

hand as soon as he was dressed. Sometimes we would hitch up the horse to the old buggy, but usually we would walk. Often these fires were large stables, either public or private. As this was before the days of automobiles, the public livery stables, which held the horses for hacks, wagons, and all other conveyances, were an important part of the economic life of every community. Then there was a community of Jews in the city who had clothing stores which were perennially burned. I now assume these fires were deliberately set for insurance purposes. Fires seemed to start periodically in the smaller hotels and boarding-houses, due either to over-heating or to drunken persons smoking in bed, knocking over a lamp, or upsetting a stove. The most that people could do was to get out the furniture and save adjoining property.

I was not the only one who became emotionally excited while one of these fires was going on. There was no system of control at such times. Everyone was running around like a hen with its head cut off. People did the craziest things. They would throw a looking-glass out the window and carefully bring flatirons downstairs. The great event of each fire would be when the walls fell. First there would be a great crash when the roof collapsed; but the falling of the walls was the final crisis. Often some one would get hurt during the crash, and such an accident would make a tremendous impression on me. I remember father once running into a boarding-house and, while bringing out some children, getting his hair scorched in the process. Even today my voice trembles as the thrill and tragedy of those old Gloucester fires come to my mind. I then and there resolved to do everything in my power to prevent these needless catastrophes.

AMERICA'S HUGE LOSSES

After leaving Gloucester, however, these boyhood scenes passed from my mind, although they were awakened by the great Chelsea fire of 1908, and later by the great Salem fire of 1914, both of which I witnessed. In Wellesley, where I lived after 1900, I saw few fires, as it was a sparsely-settled community of conservative people. While in Wellesley I was always overwhelmed by the statistics which continually came across my desk of fire losses for the country as a whole. Most of these seemed largely unnecessary. Every daily paper which came in to me seemed to contain accounts of tragic fires. Finally, I decided to have a study made of the subject of fires. To my great astonishment, the figures showed that some thousands of buildings suffer fire loss in the United States *every day in the year!* These fires destroy hotels, churches, schools, stores, theaters, public garages, factories, farm buildings, and especially homes with children in them.

Statistics show that each year there is destroyed by fire property with a total estimated value of about \$500,000,000. But this is not the worst. In addition,

about 10,000 lives annually are needlessly sacrificed, and about one-third of these unfortunate persons thus burned to death are innocent children. About 17,000 additional are needlessly injured, and this number includes a great many firemen and volunteer workers. Proper fire protection would have saved them all. My figures further showed that every ten years fires destroy nearly \$5,000,000,000 in wealth, or enough to employ 3,000,000 men for one full year at \$1,500 a man. Yet we go on burning up homes and buildings of all kinds.

BELIEF IN INSURANCE

Some have the foolish idea that insurance covers fire losses. It is true that insurance in many instances covers the loss to one individual; but insurance simply means that thousands of other people unite in paying this individual the money. When anything burns, it is a total loss to the country. In fact, it is more than a total loss, because it costs to sell insurance and operate insurance companies almost as much as is paid out each year in fire losses by the insurance companies themselves. I believe heartily in fire insurance as a Christian method of distributing a loss over a large number of people instead of having it fall on some one unfortunate individual. We all, however, should constantly keep in mind the fact that, although we receive a check for a portion or all of our loss, the loss is still actual. The check covering a fire loss really comes not from the insurance company, but from thousands of other people who perhaps cannot so well afford the loss as the one receiving the check. Insurance companies are clearing-houses or collecting agencies.

Another thing which should be remembered is that many careful property-owners pay out as insurance premiums more than they could ever collect if one or more of their buildings should burn. The insurance companies of the United States are well operated and are performing a wonderful service to the people of this country. They should be encouraged and backed up by a better public sentiment and by more effective legislation. In some European countries, for instance, a man is liable to his neighbor if the neighbor's house catches fire from his house. As a result of this and other customs, fire losses, both of property and of individuals, run only about twenty per cent abroad compared with losses in this country. These statistics made a deep impression on me. I finally decided that the Business Statistics Organization should take an interest in the protection of life and property from fire, as it had already taken an interest in the protection of capital and income from ignorant speculation, and in the protection of health and efficiency from contagion and carelessness.

BUYING INTO GAMEWELL

I therefore looked over the field to see what company was the most potent in the prevention of loss of fire and property through fire. My mind at once was

caught by a little red box on a telegraph pole near my home, which had on it the name, "Gamewell." On looking up this company, I found that its headquarters were at Newton Upper Falls, less than four miles from our main office at Wellesley, Massachusetts. I checked the company and found that it was in good financial condition and had been a great money-maker, although it had probably been watered during a recent recapitalization. I told my plans to a friend, Mr. Eben H. Ellison, and gradually we began to acquire an interest in the Gamewell Company. We bought large blocks of stock at private sales from certain potent stockholders, and also bought stock through the Stock Exchange.

I got off on the "wrong foot" with the men who were then directors of the company and later were to become my associates. At the same time that I was making my original purchase, the Gamewell Company was in the process of acquiring the Rockwood Sprinkler Company, of Worcester. It planned to raise the necessary cash by the sale of a six per cent *cumulative* stock. I favored entering the sprinkler field, but did not believe in the method of financing. I have always felt that *cumulative* preferred stocks are neither "hay nor grass" and are harmful to all concerned. They kill the interest in the common stock of a company and are not even good investments. I felt that the new purchase should be financed from cash and the issuing of common stock. I abhorred either direct debts in the form of bonds, or indirect debts in the form of *cumulative* preferred stocks. I even went to the stockholders on this fight, but was licked.

UNLIMITED POSSIBILITIES

Later, however, I was elected to the board of directors, and since then the Business Statistics Organization has been active in the development of the Gamewell Company. I am proud of its record. It started in 1869 as the Gamewell Fire Alarm Telegraph Company, and was reincorporated on May 24, 1924, under its present name. It has a splendid board of directors. This company has installed and now maintains the fire-alarm systems in practically all important communities in the United States. Its work has been excellent and its products have been perfectly and conscientiously manufactured. As I write these words, Gamewell fire-alarm bells are ringing in many cities of the country, preventing a pending disaster.

It gives me a thrill to visualize the arm of protection which we are spreading over this entire country through our little red boxes, our network of wires, and our effective and reliable central stations. Yet no community is today properly covered. "A Box For Every Block" is our slogan. If our sales force and the city fathers could only get my enthusiasm, there soon would be a fire-alarm box on every corner. Many think that the telephone can take the place of the little red box on the corner, but this is impossible. Statistics indicate that one-third of the fires are wickedly set, one-third occur in vacant buildings, and only the balance

occur in homes and occupied buildings from spontaneous combustion, faulty wiring, or other cause. Of this balance, only a portion of such structures would have telephones. It is evident that the telephone would not be used in the case of the two-thirds of the total fires which are either set or occur in vacant buildings. These are discovered only by passers-by, who go to the nearest little red fire-alarm box to send out the alarm. Besides, as most fires start in the basement, the local telephone wires are often burned at the start of the fire.

SPRINKLER SYSTEMS

The work of the Gamewell Company has not been confined to the installation of fire-alarm systems to notify the fire departments and citizens when a fire occurs. An important part of the work in recent years has been in connection with the prevention of fires. On July 1, 1930, the Gamewell Company acquired the business and properties of the Rockwood Sprinkler Company and its subsidiaries. This company was founded in 1906 by an able man named George Rockwood. It has a well-equipped plant at Worcester, Massachusetts, with branches in the leading cities of the country. The sprinkler business originated to protect mills, especially cotton mills, and other mills which carry large inventories. Pipes are strung along the ceilings of these buildings, with heads every few feet. These heads are really valves kept closed by a very soft metal. These usually are set to melt when the temperature rises to about 160 degrees. Thus, when a fire starts in any part of a building, this soft metal in the nearest sprinkler head melts. This opens the valve and allows the water to pour out and extinguish the fire.

From the first, sprinkler systems were a great success. They so reduced fire losses that any concern could greatly cut down its insurance expense by installing sprinkler systems. Gradually the use of sprinklers extended to all kinds of factories, department stores, hotels, hospitals, schools, and other public buildings. Yet even today only about five per cent of the nation's schoolhouses, and their children, are protected by sprinkler systems. Not until that fatal year of 1932, when new building fell off eighty per cent from its previous high, did we give much, if any, thought to equipping existing buildings. Only then did we begin to advise sprinklers to save life. Yet, every day, newspaper clippings come to my desk giving reports of the tragic loss of life in apartment houses, three-deckers, and even individual homes.

CAUSES OF FIRES

Families who live over stores and in two- or three-story buildings are especially subject to fire hazard. When I think how life and property could be saved by "sprinkling" these stores, apartments, and private homes, I feel that I should give every ounce of strength and every moment of time to pushing the sales of

the sprinkler division of the Gamewell Company. The danger from fire in hotels, apartments, and homes is being greatly aggravated today by the increase in the habit of smoking, especially on the part of women and young people. The use of electric heaters in beds is also a serious hazard, although most fires still originate in the basement.

The basement and portions of the first floor of every house should be protected by some automatic system. This should be compulsory in the case of property which is rented to people whose lives are in the hands of indifferent landlords. In this connection, it should be stated that most of the deaths from fire come through smoke suffocation, rather than through actual burning. This smoke suffocation usually occurs before the fire department arrives and often before the alarm is sounded. We are now, however, manufacturing smoke protectors, whereby the smoke itself will send off an alarm. An analysis of all fires shows the chief accidental causes to be as follows. These are listed in accordance with their relative statistical importance:

- Smoking and matches.
- Defective chimneys and flues.
- Stoves, furnaces, and gasoline.
- Electrical wiring and appliances.
- Spontaneous combustion.
- Sparks on roof.
- Lightning.

The first five can easily be prevented by inspection and sprinklers; the last two by slate or treated roofing and lightning rods.

SIGNALS FOR HOSPITALS, SCHOOLS, AND BANKS

On March 1, 1929, the Gamewell Company acquired the outstanding stock of the Holtzer-Cabot Electric Company, which manufactures industrial fire-alarm systems for individual buildings and nurses' call systems for hospitals. In a previous chapter I have related how, when a boy, I installed electric bells in homes and purchased the supplies from the Holtzer-Cabot Electric Company. It is not only a manufacturer of electric supplies, but is installing the call systems in nearly all the leading hospitals and schools of the country. When your friend lies in a hospital bed and presses a button for the nurse, the chances are that this system was furnished and installed by some division of the Gamewell Company. This Holtzer-Cabot Electric Company has since been sold; but some of its work is continued by us.

We install central apparatus in a hospital superintendent's office which records automatically just how long the nurse takes before answering the call, the number of calls made on each individual patient, and other important

confidential information. In addition to this work for hospitals, we install burglar-alarm systems for banks, department stores, and private homes. Thus my work of protecting banks against unreliable salesmen later developed into protecting the entire building, vaults, etc., against fire, burglars, and bandits. This division of the Gamewell Company also manufactures a high-grade motor, which is both exceedingly efficient and quiet. It is used in automatic piano-players, business machines of all kinds, and especially in connection with ventilating systems, air conditioning, and other classes of work where reliability, quietness, and economy of operation are important factors.

IMPORTANCE OF VENTILATION

Space does not permit a discussion of details, but I must say a word about ventilation. From the time that I was stricken with tuberculosis I have been greatly interested in the effect of air on the health and efficiency of individuals. Statistics show that this air must not only be "fresh," but must also be kept in motion. In the last chapter I showed the tremendous loss through common colds. Physicians are coming to believe that the lack of proper ventilation and humidity conditions are a principal cause of the common cold. The air we breathe has a direct effect on the blood, which, in turn, builds up or reduces the resistance of the membranes of the nose, throat, and internal tissues. It is becoming more evident every day that the air we breathe is an important factor, in connection with cleanliness inside and out, in determining our efficiency. Those who doubt this statement should get in touch with Johns Hopkins University, at Baltimore, Maryland, or with the University of California, at Berkeley, California, and secure the official reports on this subject.

Studies which were made at the University of California and published in 1934, explaining the experiments with certain government military men, are exceedingly interesting. Certain men who were subject to "colds" were housed together in one fairly small but especially air-conditioned room. They were then subjected, in divers ways, to contagion from those having a common cold. They were compelled to use common drinking-cups and eating-utensils, and were even subjected to germ inoculation. Yet these men did not catch cold so long as they breathed proper air. When, however, these same men returned to their homes, they would have colds continually, one after the other, throughout the winter. It is further said that these men, when in their homes, would get "colds" by an inoculation diluted 15,000,000 times! The importance of breathing proper air is also forcefully illustrated by this fact: *Whereas food supplies only forty per cent of a man's daily energy, the air he breathes supplies sixty per cent.* Hence you can readily realize my intense interest in this newly-developing feature of protection. My interest was increased when I learned of the great importance of removing the contaminated air and bringing in air

which has been purified either by sunshine or violet rays. Only such air is really "fresh" and free from dangerous germs.

AUTOMOBILE ACCIDENTS

Since the invention of the self-starter for the automobile, which resulted in having it used equally by both sexes of all ages, the loss of life through automobile accidents has increased enormously. The annual accidents in 1909 were less than 5,000, but these later increased to over 1,000,000, most of which would have been avoided by proper and sufficient traffic signals. Hence I was pleased to have the Gamewell Company purchase, on March 10, 1929, the assets of the Harrington-Seaburg Corporation, which is now being operated as the Eagle Signal Corporation. This company is now providing about twenty-five per cent of the street traffic signaling devices of the country. It installed one of the most complicated systems for the famous Loop in Chicago.

The Eagle Signal products are perhaps more expensive than those of some competing companies, but I believe they are the most reliable. Reliability should be the main consideration in purchasing traffic signals. Failure to show a red light at the proper time is a breeder of accidents, and failure to show a green light unnecessarily develops into an awful nuisance. Expense should be of secondary consideration in the selection of a fire-alarm system, a sprinkler system, or coin parking meters of which I was one of the originators. In this connection, readers may be interested in the following list of causes which result in ninety-five per cent of the automobile accidents:

Too fast driving.

Failure to slow down at intersections.

Failure to keep to the right.

Passing the car ahead with view obstructed.

Failure to slow down for pedestrians.

Passing on the right of vehicle ahead.

Parking at dangerous spots and careless backing.

Faulty tires on front wheels.

Driving with one hand with girl in car.

Faulty brakes and careless braking to cause skidding.

Defective vision at twilight or night.

Failure to slow down when passing from one type of road to another.

(Thirty per cent of the accidents are caused by cars being driven too near the outer edge of the highway.)

The total loss from automobile accidents now amounts to \$2,500,000,000 annually. Liquor is a basic cause of most of these accidents.

FUTURE OUTLOOK

It will be seen, therefore, that the interests of the Business Statistics Organization have greatly broadened since the days when I peddled my Composite Circulars and Reports to protect banks and investors. My time has been given more and more to the general problem of national protection of all kinds. A large proportion of our earnings was continually being used to increase our holdings in the Gamewell Company, and, later, insurance companies. We became greatly disturbed with the tremendous handicap to the character, health, and happiness of the American people that results from needless carelessness. When the losses from foolish investments, preventable business failures, unnecessary sickness, fire and automobile accidents are all added together, we find a sum totalling about one-tenth of the total annual income of the United States. So much for another phase of actions and reactions.

Those who are interested in following up these statistics should read the book by Stuart Chase, entitled *The Tragedy of Waste*. The field is certainly enormous, but the harvesters are few. Why it is so difficult to arouse greater public interest in these wicked wastes is beyond my comprehension. Let me add that you, the reader of this book, may be the next one to be bankrupted, infected, burned, or maimed. Whatever our wealth or station, we and our children are safe against financial, contagion, fire, and automobile losses only as the children of all others are likewise safe. This means that it is to our own "selfish" interests to protect every one in the community in which we live against these needless losses of life, limb, and property.

Looking into the future, I believe there will be a great development along these lines in connection with job insurance. If one's house burns down, insurance can be collected which will fully protect the mortgage and often compensate the owner for his loss and trouble. If, however, the mill, factory, or store burns where he is employed, he is automatically thrown out of work perhaps for an indefinite period. Often the plant is not rebuilt in the same city, and usually the opportunity is seized to weed out the older employees. I therefore visualize the time when banks and mortgage companies will make preferential loans to those who are employed in well-protected plants. Many loan companies may refuse to make loans except to families employed in such plants. Already the protective appliances used by a firm are considered by Dun and Bradstreet in rating the firm as a financial risk. This same equipment will some day be considered when rating the employee.