Dynamics of the Soap Industry

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AMONG the definitions of "dynamic" in Webster's New Collegiate Dictionary, is the following: "of or pertaining to dynamics; active, as opposed to static." The word intrigues me in connection with the subject of the soap industry and the manifestations of soap use—cleanliness. I would like to stress briefly the history of cleanliness and of soap. not in its chemical aspects, but in its relation to society.

History of Cleanliness

Soap is practically synonymous with cleanliness, and the need or desire for cleanliness is the foundation on which the soap industry is built. The world has not always had soap, nor has it always wanted cleanliness.

John Wesley, founder of Methodism, probably made the most quoted remark about cleanliness when in a sermon on dress about 1750, he said, "Cleanliness is indeed next to Godliness." Francis Bacon, about 150 years earlier, said "Cleanliness of the body was ever deemed to proceed from a due reverence to God." Phineahs ben Yair, one of the great Hebrew fathers of his day, said in 150 A.D., "The doctrines of religion are resolved into carefulness; carefulness into vigorousness; vigorousness into guiltlessness; guiltlessness into abstemiousness; abstemiousness into cleanliness; cleanliness into godliness."

In those early days and among many people bathing was closely related to religious ceremonies or rituals and to pagan beliefs and superstitions. You all know that in India even today bathing in the Ganges is believed to wash away sins as well as physical ailments.

The Egyptians had precepts or laws involving cleanliness in matters of health, the choice and preparation of foods, and the care of children. The Jewish people, likewise, had carefully prescribed practices which would seem to be dictated by a sound concept of the relationship between cleanliness and prevention of disease. Mohammedanism and Brahmanism had ceremonials or practices in which cleansing of the body, hands, or face was a significant feature. The Catholic priest performs a symbolic washing of the hands during mass. Some American Indians and the Zulus of Africa cleansed themselves of dirt before an important tribal council or battle. So bathing and cleanliness are frequently found definitely associated with periods of deep religious and emotional dedication or action. Where hygiene begins and where religion or superstition ends are difficult or impossible to decide.

The rise and fall of the Roman Empire, because of its influence on the political, economic, and cultural world of that day, had much to do with the spread of running water, sanitation, and cleanliness. The Roman aqueducts carrying water to the cities from faraway sources are marvels of conception and execution. Water made possible the big public baths that still remain as tourist sights. The Romans took to bathing in a big way and had hot water, steam rooms, and cold plunges, and prior to the time of soaps they used strigils or skin scrapers to remove the dirt and perspiration in the process of bathing. These baths were not associated with religion but instead were cultural and aesthetic.

The Greeks established bathing as an aesthetic pleasure and practiced it with no relationship to religion. Marriage was surrounded by a ritual of purification including bathing, but the Greeks recognized the bath for its value in enhancing the beauty of the individual through cleanliness and the suppression of unpleasant body odors.

There are descriptions of public baths and of sanitation in Turkey, in Egypt, among the Moors in Spain, and elsewhere. From Rome soaps and bathing were taken, like laws and water systems, to many countries. It must be remembered that at the height of the Roman Empire—about 100 years after the birth of Christ—it encompassed all of Europe as we know it, except Germany. It included the North of Africa and Egypt, Mesopotamia, Turkey, Persia, and the edges of the Black Sea.

Lesser known is the fact that the Byzantine Empire, with its capital at Constantinople, which remained Christian until the 15th Century, preserved the Grecian and Roman culture, including baths, bathing, and sanitation, long after Rome fell to the barbarians in 467 A.D.

After the fall of Rome the force of arms became the most respected law throughout Europe, and the feudal estates developed naturally as economic and mutual protective units. Most requirements were simple, the economy was basically agricultural, and there was little effort to re-establish the culture that had been destroyed.

A report by the United States Public health Service states: "In Europe the fall of Rome marked the beginning of the Long, Dark Ages. Bathing went into an extended eclipse with terrible repercussions. Plague after plague swept over the filthy land in one devastating wave after another, leaving in their wake untold millions of dead."

The Black Death swept over Europe and caused a mortality in some places as high as two-thirds of the entire population. Practically the only public health principles transmitted to later generations were those of isolation and quarantine, and of course these were inadequately carried out.

Gradually, but slowly, concepts of cleanliness and sanitation and of the importance of the bath to public health began to appear. A more general use of soap by the common people spread from country to country.

The Crusades from the 11th to the 13th century brought some of the knowledge and practices of the East to Western Europe. Water systems, public baths, and sanitation were all subjects of interest and novelty to many of the crusaders. An awakening interest in knowledge generally began about this time. Commerce and trade flourished. The trade in rich spices, silks, and ivories brought by caravans from the East further enhanced the desire for knowledge and the awareness of other cultures.

Louis the Fourteenth of France resorted to the use of strong perfume to cover the unpleasant odor of

the body and clothing of his court, and perfumes were early used, generally for the same purpose.

Queen Isabella of Spain, who pawned her jewels so that Columbus could make the voyage which resulted in the discovery of America, is said to have boasted that she had had only two baths in her life—one when she was born and one when she was married, but Henry the Fourth of England is said to have instituted the Order of the Bath in 1399 to prevail on his nobles to wash themselves.

No one knows exactly when soap was first discovered or made. It seems fairly clear that other substances, including water, oils, and abrasive materials were used prior to the time soap was available. As nearly as can be determined, soap proper came into limited use about, or shortly after, the time of Christ.

In the 7th century soap had become sufficiently important in Italy to unite the soap makers into craft guilds. A century later Spain had as many soapmakers as Italy. Toward the end of the 12th, or at the beginning of the 13th century, Marseilles in France, which had made soap as early as the 9th century, became the chief center in Western Europe. Venice in Italy, and later Savonne in France became principal centers of soap manufacture. Soap was made in Bristol, Coventry, and London, England in the 12th century.

The first real manufacture of soap in America began in 1608 in Jamestown, Virginia, when the second ship from England brought several German and Polish craftsmen with the knowledge of how to make soap from fat and ashes. Of course, soapmaking was largely a household activity until well into the 19th century. Even today many of us can recall soap being made by our parents or grandparents.

Industrialization

The increase in soapmaking and consumption has largely paralleled industrial progress. The development of modern industry was made possible by the development of power to operate the factories. At first, this was water power with great water wheels operating overhead drive shafts, and belts from them, in turn, operating individual machines.

The discovery and development of the steam engine gave a second great impetus to the development of factories and freed them from the necessity of locating along rivers and streams. More recently, the discovery and utilization of electricity—made by generators driven by water, steam, or the compression engine—further increased the number of factories and likewise broadened their geographical location.

The textile industry was among the first industrial pioneers in utilizing water power to make large-scale factory production possible. The mechanization and lower costs of factory-made textiles, particularly cotton, brought need for soap in both processing the textiles in the factory and in laundering the low-cost, washable clothes which resulted. The large-scale factory production and popular acceptance of plumbing equipment have made washing and cleanliness easier and far more widespread. The central heating in the home today is of fairly recent adoption and, in turn, led to the convenience of having hot water available at the turn of a tap.

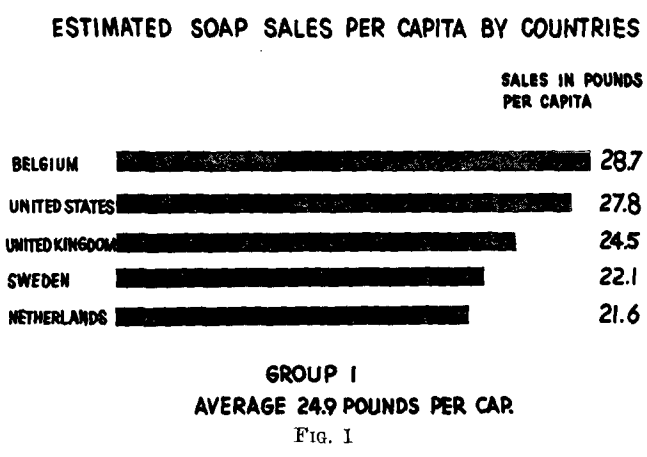

FIG. 1

The development and growth of factory-produced home washing machines have taken much of the drudgery out of keeping things clean. Thus power has permitted the production of those things which have made sanitation and cleanliness easy and at a sufficiently low cost to appeal to people.

The development of factories and factory-made sanitary and plumbing equipment has paralleled the growing realization that cleanliness is desirable from a public health viewpoint. Where originally the rituals of religion and sometimes of superstition dictated some cleanliness practices, the growth of scientific knowledge in the detection and recognition of germs in relation to disease has proven that these early practices were sound and that cleanliness pays in terms of health and even of life.

The epidemics and scourges of the past are largely understood and eliminated or minimized by today's scientific knowledge. Cleanliness plays a big part in breaking the chain portrayed by the vivid and well-publicized statement, "Germs Live from Hand to Mouth!" Dr. Henry Sigerist, professor of the history of medicine at Johns Hopkins University, has said: "Cleanliness became the chief postulate of the hygiene movement of the 19th and 20th centuries. It had to overcome many obstacles, notably the resistance of people who claimed that the frequent use of soap was harmful to the skin."

And thus, in what seems like an orderly and almost preordained pattern, the scientific discovery and realization of the need for cleanliness and sanitation came along together with the development of factories producing the necessary equipment to make cleanliness and sanitation practical in the home.

Consumption Per Capita by Country

The Soap Association has just assembled and tabulated the per capita consumption of soap for the year 1950-1951 by countries. This material is as accurate as possible, but if there is any additional material or any correction we would welcome them. We have secured the data for 30 countries.

Figures 1, 2, and 3 show the per capita consumption by countries ranging from the highest, Belgium with 28.7 pounds to India with 0.4 pound.

It should be realized that pounds of soap per capita may not be an absolute indicator of relative cleanliness. One reason for this is the fact that some soaps

have a greater fat content and more detergency than others. For instance, liquid soap with a high water content weighs a lot but would not have the same detergency as the same weight of pure unbuilt soap. We have used such figures as we could get, but by looking at the fat consumption for soaps in comparison with soap production, we can see that in detergent value the United States would rank ahead of Belgium.

We have divided these 30 countries into 3 groups: those using 20 pounds and over, those using from 10 to 20 pounds, and those using less than 10 pounds. In referring to averages by groups, we have omitted India from the third group. In many cases you will notice a similarity between types of countries in the same group.

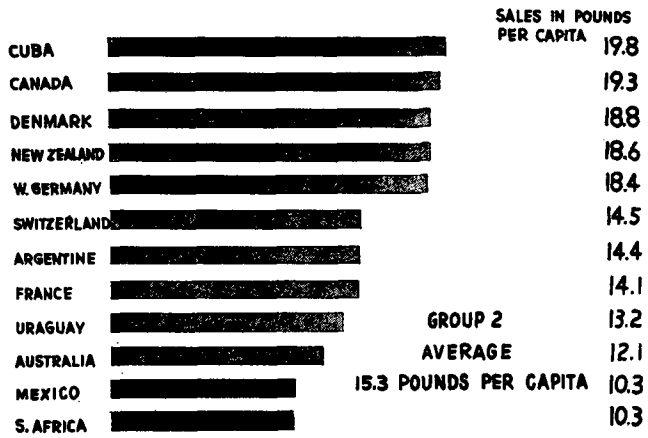

FIG. 2

By and large, the more industrialized countries are in Group 1, showing the higher per capita soap consumption. The basically agricultural countries are in Group 3, showing the lowest per capita soap consumption. We will refer to these three groups in several succeeding charts. Since this material has never before been assembled or presented, we believe it may be of unusual interest.

Figure 4 shows soap consumption vs. infant mortality, and this is expressed in terms of deaths per thousand live babies and does not include stillborn

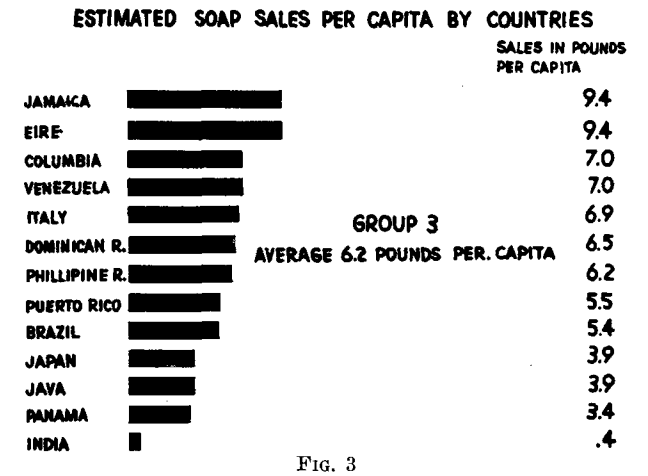

FIG. 3

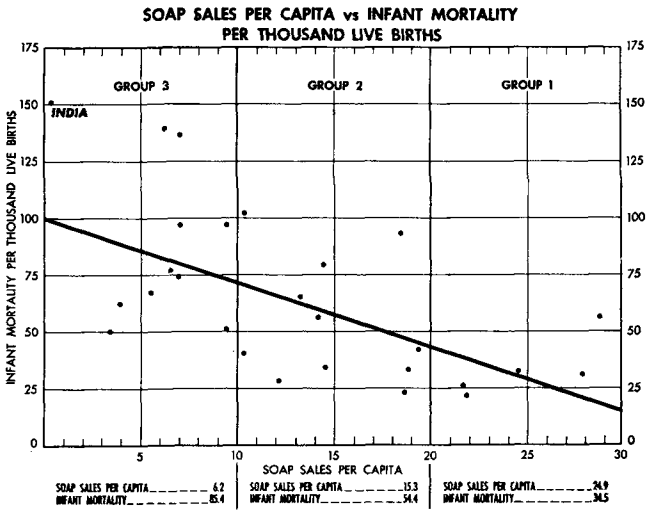

FIG. 4

babies. This is a "scatter chart" or, more technically, a "regression chart." Each dot represents one country, and its position indicates both its per capita soap consumption and its infant mortality. The chart is made up with higher infant mortality at the top and higher soap consumption at the right. The left hand group, with the lowest soap consumption, averages infant mortality of 85.4, the middle group 54.4, and the right hand group, with the highest soap consumption, averages 34.5 so that the higher soap consumption and lower infant mortality go along hand-in-hand.

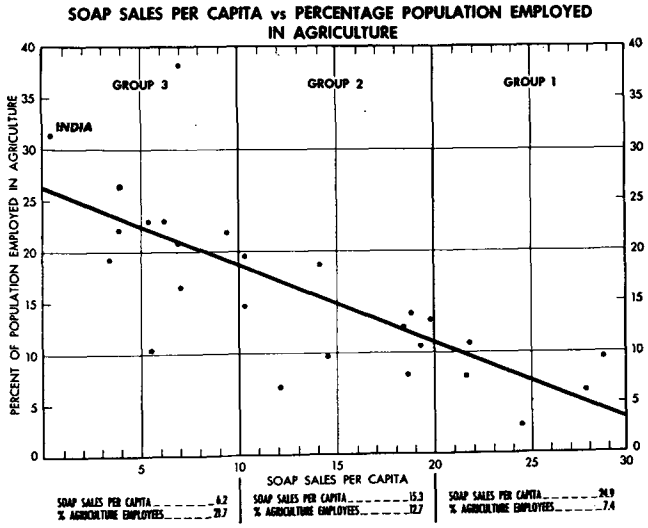

FIG. 5

The purpose of this chart on infant mortality is certainly not to prove that the use of soap is the total answer to health and length of life. Diet and public health programs and precautions have been proven of paramount importance in improving infant mortality rates. Health authorities agree however that cleanliness is desirable and is an essential part of such public health programs.

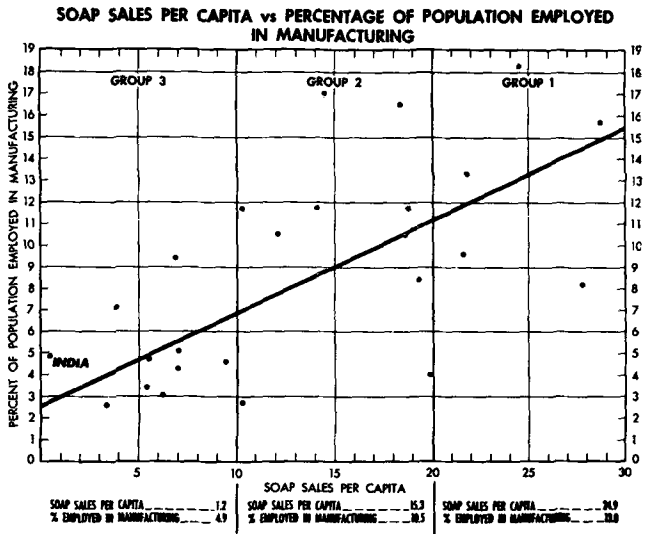

FIG. 6

Figure 5 shows soap consumption vs. agricultural employment with the percentage of population employed in agriculture increasing, going up the chart, and the consumption of soap increasing to the right. In the left hand group, with the lowest soap consumption, we have an average of 21.7% of the people employed in agriculture; in the middle group 12.7%; and in the right hand group, showing the highest soap consumption, 7.4%. Thus the higher the percentage of people employed in agriculture, the lower soap consumption seems to be.

Figure 6 may be considered the reverse of this in that it shows soap consumption vs. employment in manufacturing. The percentage of people employed in manufacturing increases as you go toward the top of the chart. Soap consumption increases as you go to the right. In the left hand group the percentage of employment in manufacturing averages 4.9%; in the middle group 10.5%; and in the right hand group 13.0%; so that as more people are employed in manufacturing, the tendency is to use a greater quantity of soap. This says statistically somewhat the same thing we mentioned earlier about the increase of soap consumption as the world became industrialized.

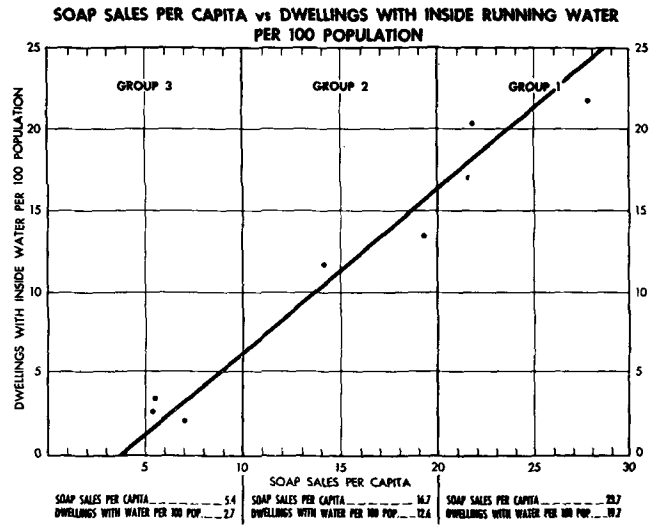

FIG. 7

Figure 7 shows soap consumption vs. dwellings with inside running water per hundred population. Probably no one ever heard of such a term before, but since we had statistics from eight countries on dwellings with inside running water, we thought we would lay it out in the same sort of chart and see the correlation with soap consumption. It is striking to see how soap consumption goes up (to the right) as the dwellings with inside running water go up.

Aggressive Marketing

It has been said that success in the soap industry depends on two things: the soundness of raw material purchasing, particularly fats and oils, and able marketing or selling.

To this, certainly a third element, product quality or service, must be added. Then we have included purchasing, research, manufacturing, selling, and advertising. The only major department omitted is finance. We have to know costs, keep accounts, pay bills, borrow money, pay interest, make up periodic statements, etc., so success really depends on excellence in every phase of a company's operation, with good management and teamwork essential to drive toward the ultimate objective of company profit.

Coming back to product quality or service, it is not enough that a manufacturer wants to enter a field or to get increased tonnage. He must serve first in order to profit. This service may be in lower price, in quicker delivery, in better performance in use, in greater convenience, or in some other manner. But the manufacturer should be clear how he will serve and be honest with himself about it. If he is not serving better in some way, there is no real reason for people to change to his product, and they can be mighty stubborn and hard-hearted about it. The truth of this observation can be proven by many tragic product case histories in the industry and by some outstanding product successes.

The market in this industry in tonnage probably runs about 16 to 18% of the total for industrial products, that is, products sold to and consumed by industrial buyers and the balance of 82 to 84% to household consumers. About 5% of the industry tonnage is liquid and 95% non-liquid.

The industrial tonnage is sold principally on a direct basis, although in many cases wholesalers serve a definite and valuable purpose. There is no actual breakdown of industrial tonnage by end-use. A rough estimate for the year 1951 is:

End-Use	%
Laundry and dry cleaning	30
Textiles	18
Sanitation and food processing	15
Industrial plant equipment and other maintenance	13
Synthetic rubber and military	11
Metal cleaning, plaster board, etc	6
Miscellaneous, other	7

There has been a revolution in the marketing of household soap in the last 25 or 30 years because in the early part of this century practically all sales for the household field were made through wholesale chan-

nels and from wholesalers to retailers and from retailers to consumers.

The growth of chain stores and the development of cooperative purchasing organizations serving retail stores has changed this picture drastically. Many soap organizations employ a fairly comprehensive sales force for the areas in which they operate. Advertising and sales promotion are intensely competitive and aggressive. Sampling, couponing, one-cent sales, combination sales, contests, and premium offers are all used to promote sales by brands.

Magazines, newspapers, radio, television, farm papers, car cards, and outdoor posters are used as advertising media carrying brand name advertising. Soap promotional work in schools, home economics groups, and women's clubs are additional methods of brand promotion. Some people look at these activities and reason that soap could be sold cheaper if the advertising and sales promotion of the industry were eliminated. This is so pat and smooth that it sounds logical, but no greater fallacy ever existed.

We have seen the broad changes in the industry by type of product and the improvements made in soap products, all with the end-result of serving the consumer better. Growth in the industry by brands has been due to this one fundamental fact.

The manufacturer has spent time and money to make a better product and, thus having made it, he expects and hopes to capitalize by getting volume from the consumer on which he can make a profit. The way he gets volume is to make people aware of the product he has developed, and he does this by advertising and by sales promotion. The brand name carries his reputation. He must develop it, must make it known, must create a desire for it.

In our type of economy anyone can go into the soap business if he wishes to do so. If he thinks that he can produce a satisfactory product and sell it at a lower price than that of his competitors, he can attempt to do this. If he thinks he can produce a satisfactory product and eliminate all or part of the advertising and sales promotion expense, and still keep his volume up and his costs down, he is at liberty to make the attempt.

There are some successful businesses in the soap industry operating on this basis today, and there certainly is a place for such operation in the nature of things and under the laws of our land. Particularly in the industrial field, where the number of customers may be relatively small and close personal contacts maintained, this type of business may flourish. On the other hand, if a manufacturer figures that he can profit best by the use of extensive advertising and sales promotion methods, he likewise is free to do so and rises and falls by the soundness of his operation. There is room in-between for anyone who wants to do some of each.

I can recall many instances of manufacturers losing very large sums of money on one brand or another because somewhere along the line they have erred. There are many other cases of manufacturers spending large sums of money on products which initially showed losses but eventually sold huge volumes and made handsome profits. This is the nature of our set-up in this country, and if by any means we change this, eliminate the gamble and try to get everything all nicely regulated and planned out, presumably to save the consumer money, growth in this industry and country will stop. We will have lost the thing that has made this country great. We will have lost the driving force which has impelled us to the top of the heap.

Progressive Industry

The soap industry has progressed because it has always been aware that its fundamental customer is the ultimate user and has keyed its various activities in research, advertising, and selling to this great market, comprising every man, woman, and child in the country. It is probably due to the training the industry has had in keeping close to the needs of people generally that it has been able to serve the country in ways other than by direct sales.

Fat Salvage. Typical of such service was the Fat Salvage Campaign conducted as a joint enterprise by the government and industry in World War II. When it became apparent that, due to the loss of the Philippines to Japan, we would be cut off from one of our very important sources of oils used in the production of soap as well as in many other ways, the government called a joint meeting of those interested in the subject. It was proposed to try to reclaim used fats which otherwise would go down the drain or out with the garbage and thus be lost to the country. The soap industry played a leading role in the financing and management of this campaign. The total tonnage of fats salvaged from the beginning of 1942 through September 1948 (shortly after which the campaign closed) was 924,210,000 pounds. Of this total 187,173,000 pounds came from the military forces, but the great bulk, 737,037,000 pounds, came from the civilian economy.

It may be recalled that the housewife was actually paid for this fat and that the price varied from time to time from 5c up as high as 15c per pound.

Using an average of 8c a pound, the housewife was paid a total of $59,000,000 for these salvaged fats. Most of them were turned in at the local meat dealer in 1-lb. cans. Putting all of the fat in 1-lb. cans and lining them up touching each other, the cans would stretch 43,795 miles, or 14½ times the distance from New York to San Francisco. The total tonnage would fill the cargo space of 47 ships the size of the Queen Elizabeth.

It is difficult to find ways to express nearly a billion pounds of fats or a billion of anything else in terms that make it comprehensible. For the most part, salvaged fat accounted for about 10% of the inedible fats that were produced in the regular way. The renderers, the meat dealers, newspapers, radio stations, magazines, and many other groups participated with the government and the soap industry in this campaign. A total cash expenditure of $7,900,000 was raised and spent for the activity. This does not include the great quantity of radio time and the advertising space devoted to the campaign out of the regular advertising effort of various soap companies. It was recognized as one of the successful campaigns of the war and was praised by Secretary of Agriculture, Charles F. Brannan, in these words: "We feel that fat salvage, based upon principles of conservation and thrift has made a major contribution to our national economy."

Soap Conservation Campaign. During the war the shortage of fats made necessary a restriction on the production of soap and other products. Rationing of soap was seriously considered and had been adopted in other countries. However many inequities in soap rationing, no matter how conducted, were evident. Some people do their laundry at home; others send it out to a commercial laundry. Water hardness varies greatly by communities and even by great areas of the country. More soap is required in hard water areas than in soft water areas for the same amount of detergency, but no rationing program could ever equalize such a difference.

People with children, and particularly small children, have entirely different soap problems from those of others. There are differences between apartment life and life in a house. For all of these reasons the soap industry urged that the normal method of distribution carried on by the industry should be followed even in a period of soap shortage and that, while not perfect, it would more nearly distribute soap to the areas and to the people as needed than would a rationing program.

This plan was adopted and, as a part of its sincere effort to serve the people of the country, the soap industry conducted an aggressive campaign urging the conservation of soap to avoid its waste or needless use. This was marketing in reverse, but in any event it is well agreed that the whole program was reasonably satisfactory and far better than rationing could possibly have been.

Statistical Services. The soap industry, through the Association, carries on a regular program of assembling and distributing statistical data of general interest to many people, both within and outside of the soap industry. There are six major categories of activity in statistical services:

1. The Association conducts a voluntary sales census of participating members on a quarterly basis and distributes information both in pounds and dollars to many government agencies and officials, to the press generally, to other industries, who are interested in the subject, and to any member who desires it (whether he contributes his figures or not). The only other authentic source of such information is the Census of Manufacturers conducted by the Bureau of the Census of the U. S. Department of Commerce in some years. When it is realized that for the last 18 years this government census information is available only for the four years 1935, 1937, 1939, and 1947, it can be appreciated why the quarterly sales census conducted by the Association is of great value to the government as well as to the industry. This material is also available from the Association on an annual basis.

2. Fats and oils are the basic raw materials of soap manufacture and the statistical data on their production, consumption, imports, exports, and stocks are assembled and published by the government. This material comes in many reports and at different times so that the statistical service of the Association lies largely in assembling this material in one handy and usable form. This likewise has a large circulation in the government and among soap manufacturers.

3. Statistical data on glycerin is likewise assembled and published by the government and reorganized and republished by the Association in a compact and easily usable form. This material is published monthly, quarterly, and annually.

4. The production of polyalcohols, other than glycerin, is likewise taken from government data and republished by the Association on a monthly and annual basis.

5. The Bureau of Labor publishes average weekly hours and earnings by various industries monthly and annually. The Association gathers from this weekly earnings in four categories: all manufacturing industries, durable manufacturing industries, non-durable manufacturing industries, and the soap industry. In turn, the information is sent to various interested people.

6. More recently a report of selected general economic data has been published by the Association on a monthly basis. This material likewise is taken from government sources and condensed.

Cleanliness Promotion. Perhaps in no single direction does the industry, as an industry, do a better job or a more worthwhile job than in the general promotion of cleanliness. Cleanliness promotion is carried on under the name of the Cleanliness Bureau of the Soap Association. This Bureau is engaged in educating people to the social and health benefits of being soap-and-water clean; in teaching them how to achieve cleanliness quickly and easily; and in reminding them of new or unusual ways in which cleanliness can serve them in their daily lives.

It must be obvious that when this sort of educational work goes on, and when these reminders cause soap to be used oftener and to be used in new ways, this work must be helping in some degree towards improving the general standard of living.

In the space allotted I can discuss only a very limited selection from the thousands of clippings, articles, and other examples of this work.

Cleanliness in Schools

In discussing the need for and the benefit of cleanliness, it is quickly apparent that the schools of the country offer an unusual opportunity to teach cleanliness practices. In line with this thought the Association employed Elmo Roper to conduct a survey of the elementary schools in the state of Ohio to determine primarily the availability of cleanliness facilities, and secondly to learn something about teaching practices in respect to cleanliness.

Some of the pertinent data from this survey are:

1. 99% of the schools have hand-washing facilities.

2. 93% of the schools do have soap although 12% show there is usually not enough to last throughout the day. 53% of the schools use liquid soap, 35% cake, and 7% powdered.

3. 89% of the schools have individual paper towels, 7% roller paper towels, and 3% roller cotton towels.

4. 76% of the schools have hot water.

5. The average number of pupils per wash basin is 46, but in this case we see a trend by town size as this averages 55 in towns of over 100,000 population, 46 in towns from 2,500 to 100,000; and 41 in towns of 2,500 or less, including rural areas.

We asked whether the teachers felt that hand washing facilities were adequate. Only 45% of them felt that such was the case. This would indicate that a great many teachers feel that the situation should be improved in terms of a sufficient supply of soap or in facilities adequate for the number of students. The subject of teaching practices is complicated, but it was clearly indicated that more and better aids to teaching cleanliness practices would be highly desirable and would be welcome.

Consumer Publicity

A few typical examples of the preparation and use of publicity material on soap and cleanliness, keyed either to the home or to industry will be described.

The Cleanliness Bureau actually prepared and distributed in 1951: 321 different major stories, 345

different radio items, and 481 different monthly clip sheet items. Newspaper and feature syndicates released 160 Cleanliness Bureau stories, and they led to some 58 articles in national magazines; also some 200 house organs requested special articles, and we believe most of these were published. This is in addition to writing and publishing a pamphlet on baths and distributing a home-care pamphlet published in 1950.

One way we reach women is through the syndicated columns and press association releases which have wide distribution among newspapers and radio and television outlets of all sizes throughout the country. For example, Gaile Dugas of the NEA Syndicate distributes to 900 of these outlets. Dozens of nationally known names used at the head of such columns syndicated by Associated Press, United Press, King Features, Bell, McClure, McNaught, and many others, are all valuable business properties. They assume responsibility for sponsoring soap and cleanliness advice because they know their jobs and obviously believe readers are interested in soap and cleanliness messages.

Timely items geared to fashion, season, and personalities are thus picked up by hundreds of daily and Sunday newspapers, large, medium, and small. These syndicated articles cover every imaginable phase of soap-and-water cleanliness. In the course of a year they cover every use of soap in the home; and we believe that practical, how-to-do-it women's interest publicity offers the best way to influence the bathing and cleanliness habits of their men-folk and children.

Let me tell you how a typical news release, planned around a local incident, using a personality well-known in the news, was prepared for national use. Probably all of you have heard of Vincent Impellitteri. When he was elected mayor of New York, his wife quit her secretarial job and became New York City's first lady. Our Cleanliness Bureau thought there was a story here about how she adjusted her grooming habits and schedule to her own role. An interview was arranged and produced a newsworthy story and direct quotes. Let me give you a few words she used so that you can see what I mean by the words "direct quotes": "When I first became a lady of leisure, I tried all the fancy creams, thinking maybe I owed myself a luxury. But they didn't seem to work. I guess I'm just the soap-and-water type."

Now those words, her own words, immediately struck editors everywhere as being wonderful material for a headline, and we see "Soap and Water Kid in Mansion" as the headline in countless clippings appearing later in newspapers all over the country. As another example of something interesting to say about this interesting lady, which was tied up with soap-and-water cleanliness, "she still washes her short blonde hair in the shower twice a week . . . . worries about Vince's overworking, and scrubs her face—'so hard you'd think it would wipe off'—with soap."

What she said was news, not just in New York, but all over the country, with the catchy headline, "Soap-and-Water Kid." The finished story was sent by International News Service over their wires to all of their subscribing papers. The result was a potent testimonial for soap and water which made newspaper headlines and often front pages.

Many subject fields are covered by our cleanliness educational work through print, radio, and television. These include such basic soap-and-water topics as bathing, beauty, child care and training, dishwashing, fashion, food handling, grooming, health, home decoration, household care, and washing and ironing.

People who are clean of body are more likely to use clean towels. wear clean clothes, and live in clean homes, so we encourage personal cleanliness from cradle to grave. Children who learn to enjoy bathing will bathe often. Teen-agers, both girls and boys, face special cleanliness problems. Older people benefit especially from good grooming.

If more homes are furnished and decorated with washables, if these are washed more often, considerable extra suds tonnage is used. Our publicity points out the convenience, economy, and health benefits of washable homes.

Another group of clippings emphasizes a range of household cleansing suggestions for quilts, pillows, wall covering, upholstering, bedspreads, lamp shades, nursery equipment, soap jelly for cleaning furniture, rugs, slipcovers, and so on. Each is a reminder to the housewife of a place where she can clean and where perhaps she has overlooked cleaning. Reminders that she may have overlooked a chance to use suds and thus encourage her to say,"That's a good idea. I guess I had better clean this or that."

A special project is the publication of consumer pamphlets. Colorful pamphlets on house care and bathing reach right into American homes with reasons, why and how-to's, for soap-and-water cleanliness. "The Bath and You" is being used by gas, electric, and water companies and by schools and youth clubs; and substantial quantities have actually been purchased by several plumbing fixture concerns for promotional distribution.

For the most part the material prepared and sent to newspapers, radio stations, television outlets, and magazines is primarily for women and keyed largely to "How to Do."

In 1951 a limited newspaper checking service on the Cleanliness Bureau material brought in 9,639 filler item clippings, 4,215 syndicated article clippings, and 599 feature story clippings. These 14,453 clippings represent only a fraction of those published by newspapers all over the country. While this is an impressive number, we know that it can be multiplied many times to estimate the total use of our material appearing in newspapers over the country. However our use of these clippings is to a very great extent to determine editorial interest on the various types of articles we prepare and send out. This is how we find that "How to Do" articles have the best pick-up and use other than an unusual feature story which may happen once in a "blue moon."

In another field, sanitation articles point out that good plant facilities for cleanliness, properly used, raise employee productivity and morale through better health and comfort. For example, such an article appeared in *Modern Sanitation*. It was then used as an authority on industrial sanitation, to quote in a newspaper release on the subject, "Cleanliness Cuts Absenteeism." In this way, the relatively small specialized circulation of the magazine was given a "blow-up" to millions of newspaper readers.

Pioneering in Industrial Relations. While the soap industry has progressed in terms of improved products and has benefited from an overall appreciation of the desirability of cleanliness, it has kept faith with its workers. Profit-sharing was introduced by one soap manufacturer in 1887. The Saturday half-holiday, a guarantee of 48 weeks of work per year, life insurance protection for employees, sickness and accident benefits, paid vacations and holidays, and pension plans have all received early consideration and adoption by the soap industry.

The amount of labor required to make 100 pounds of soap is not great, and consequently labor costs are not as high in proportion to total costs as in some other industries. Labor costs probably do not amount to 10% of total factory costs. However the soap industry has reason to be proud of its labor record.

Soap wages held fairly level with "all manufacturing" industries through the war period but have gone above it since then. For 1951 the soap industry shows $77.11 compared to $64.88 for "all manufacturing," $69.70 for the "durable goods" industries, and $58.53 for the "non-durable goods" industries, of which soap is a part. Stated differently, the average weekly pay of a worker in the soap industry in 1951 was nearly one-third higher than that in "non-durable" industries.

A comparison of average weekly earnings in the soap industry with the rise in prices as shown by the general commodity index, so-called cost of living index, shows that the relative increase of average weekly earnings in soap manufacture is about 50% greater than general commodity prices.

It is an interesting fact that the average wage-earner in America today needs to work only about one-third of the number of hours to make sufficient money to buy his family's soap requirements that were necessary in the 1890's. This is with no allowance for the larger families in the earlier period, but with the requirements increased from 20 pounds then to 25 pounds per capita now.

Little Known Uses of Soap

The uses of soap are innumerable and varied. By far its largest market is the home, where its chief uses are as toilet soap and as laundry soap. There are however very many industrial applications, ranging from the use of soap bubbles as a weather research aid to the use of soap films on wire contours for solving difficult mathematical problems of minimal surfaces.

Although most people regard soap simply as a detergent, the fact is that soap functions frequently and advantageously for other than detergent reasons. Because of its wetting and emulsifying powers, as well as its cleansing power, soap has found extensive range in many commercial processes, including those connected with plastics, metal and glass polishers and cleaners, wool production, pharmaceuticals, and road building and maintenance. It has also been used in large quantities as a raw material in producing synthetic rubber. Just a few examples of how industries use soap are as follows:

Animal Husbandry. Plain soap-and-water cleanliness helps control the insect pests and parasitic enemies of herds and cuts down disease among animals. Compound Solution of Cresol, USP, probably the best known disinfectant, is a soap solution of cresol; barn-and-stable sprays have soap in them. Constipation in cattle is often treated by a soap-solution enema. Soap is an aid in treatment of such skin diseases as impetigo and erythema.

Building and Construction. Soap is used as a waterproofing agent in cement, mortar, plaster, and wood; to disperse paraffin in making waterproof compositions for treating concrete; to prepare new bitumen and rubber suspensions used in building blocks from emulsified asphalt or clayey soil.

Inks and Inkmaking. It has been said that "no one auxiliary material contributes more to the production of inks than does common soap."

Insecticides. Soap is used as an emulsifier and wetting agent. It is important as an ingredient in plant protectant sprays, including soap emulsions of insecticides such as pyrethrum, copper sulfate, and arsenites.

Lubricants. In World War II soap speeded up production of shell and cartridge cases, barbed wires, cables, springs, wires, and steel blanks of every kind. It is an important component of heavy-duty greases, piston lubricants, transmission greases, and cooling and lubricating fluids for drilling and metal cutting. It has been added to lubricants for airplanes, pumps, and carburetor valves.

Mining. Soap has many important uses in connection with drilling, mining, and ore treatment as well as oil production and metallurgy. It is an aid in preventing water seepage into oil wells, in recovering oil from depleted sands, in increasing the productivity of wells, and in the flotation system for concentrating ores.

Paints. Soap is used in the preparation of paint pigments, blackout and luminescent paints, and especially emulsion paints.

Rubber. Without soap and its miscelles the production of synthetic rubber during World War II would not have been adequate, and the winning of that war was contingent upon large quantities of synthetic rubber. Soap is used in making foamed rubber products, in the molding of rubber articles, in preparing sponge rubber floors, in reclaiming rubber, and in keeping the butadiene and styrene in emulsion during polymerization processes for making synthetic rubber.

Washing Fruits and Vegetables. Soap is used to remove insecticides, bugs, and organic debris. Before being processed in frozen juice concentrate, about 30,000,000 boxes of Florida oranges (practically half the total annual Florida orange production) receive two soap-and-water baths.

Quite often an entirely new class of soap product is developed to meet a specific need. A case in point are the indicator soaps which first become prominent during the "last" war and are still used in munitions plants. Most people would be surprised and possibly quite shocked to find their soaped skin turning a brilliant red or a bright yellow-orange, but many employees accept such a phenomenon as a matter of course in connection with shell loading at ordnance plants. The presence of the unnatural color is merely a signal, a warning that some explosive residue, either T.N.T. or "tetryl," still remains on the body. The worker just scrubs a bit longer until the color disap-

pears and then steps from the shower room, confident that he is free of the contaminating explosive. This convenient phenomenon is the direct result of using an indicator soap, made to government specifications, and containing about 10% of potassium sulfate. This compound reacts with T.N.T. to produce the yellow-orange color, and with the tetryl to form the red.

Essential to Health

The value of cleanliness in the prevention of the spread of disease is so well known that there is no reason to dwell on it. The early discovery of the nature of germs by Pasteur, the application of cleanliness principles to the war-wounded in the Crimea by Florence Nightingale, the reduction in epidemics following sound public health practices as fostered and promoted by public health officials, all speak eloquently on the subject.

The essence of the health value of cleanliness of the hands, face, and body has been clearly stated in a publication, "Making and Keeping Americans Well," by the National Education Association in 1943. Michale M. Davis and Bernhard J. Stern wrote: "Cleanliness of hands helps to check the possible spread of disease germs which enter the body through the nose and mouth. Moreover bodily cleanliness affords a measure of protection against vermin and against skin diseases which are promoted by an accumulation of secretions and debris on the skin."

Whether soap destroys living organisms on the skin or whether they are removed along with the dirt, grease, and soil makes no material difference. For the most part people who have studied the subject seem to agree that some of both actions take place. The net result is so favorable that soap and cleanliness are in the front line of the constant war on disease.

A poster issued by the New York City Department of Health cautions parents that "Cleanliness is of extreme importance in the fight against polio in children." Tens of thousands of these posters and hundreds of thousands of similar pamphlets were distributed throughout the city during the epidemic of 1950. In fact, this Health Department campaign to educate parents was instrumental in getting the Board of Education to provide soap and towels to the New York City schools.

The current "Polio Pledge" sponsored throughout the country by the National Foundation for Infantile Paralysis asks parents to promise: "I will remember to teach my children to scrub their hands before putting food into their mouths." To judge from numerous representative newspaper clippings their message is making considerable impression.

The National Tuberculosis Association's pamphlet, "How to Kill TB Germs," closes with the advice that "Soap and water are cheap. Use them to protect against tuberculosis." And their pamphlet for school children shows a cake of soap to induce them that "It's best to wash hands with soap and water."

In the official government pamphlet, "What You Should Know About Biological Warfare," there are listed six survival secrets. The first of these is headed: "Keep Yourself and Your Home Clean." The same pamphlet also lists four keys to household safety. One of these states that "Germs don't like clean houses." Another advises: "Wash your hands properly before eating or drinking; see that the children do too." The whole subject of soap and cleanliness and their relation to health is a long and fascinating one. It is only mentioned in passing since it is one of the dynamic aspects of the product.

Morale

The use of soap and water is so common that just to mention the "lift" given by a soap-and-water bath or by even cleaning the hands and face brings radiant, positive agreement.

Specific instances of the therapeutic or psychological value of soap and water are commonplace. One interesting story appeared in the newspaper not too long ago and illustrates the point: "It seems that the Episcopal Mission Society in New York City finances a haven for young children who, for one reason or another, must be separated from their parents. Naturally these youngsters are going through a trying emotional adjustment. They need all the feeling of security and warmth and love they can get. And do you know how the Mission Home helps to keep their little spirits up? With a bath every night before bedtime, with clean pajamas every night, fresh sheets every night, and a complete outfit of fresh clean clothes every single morning. That may sound like a lot of laundry, and it is. But the home has found out that it pays in human dividends like nothing else." Many stories have appeared telling about the morale values of bathing among the troops in Korea.

Summary

This has been a review of the dynamics of the soap industry. We have seen the growth of cleanliness and of a recognition of the part cleanliness plays in health and morale. We have traced the increase of industrialization which has brought low-priced plumbing equipment, hot water in the home, and washing machines within the reach of all. Each has made life better, healthier, easier, and each has increased the consumption of soap.

It is fitting that an industry which makes a product so basic to the health and well-being of the people should be an aggressive, competitive, and enlightened industry.

We are proud of the fact that the soap industry has played its part for the welfare of the country as a whole and is ever alert to serve the public better. I hope those of you who are already working in the industry will derive as much pleasure from it as I have; and to those who have taken this course only because of an outside interest in the subject of soap, let me just say, "Come on in, the water is fine!"