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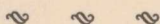


1927 ISSUE

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Vice-President, J. Walter Thompson Company



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Personality and the Choice of Personnel

(III)

Can Psychology Help in the Selection of Personnel?

BY JOHN B. WATSON

Vice-President, J. Walter Thompson Company

(Editor's Note: The two previous articles in this series by Dr. Watson were entitled respectively: "Thinking as Viewed by the Behaviorists"—February issue of the News Bulletin; and "The Behaviorist Looks at Personality"—March News Bulletin. A few copies of these issues are still available and, while they last, will be sent without charge to those writing to the Editor of the News Bulletin, J. Walter Thompson Company, 244 Madison Avenue, New York, N. Y.

For the benefit of those who have not seen the previous articles, it may be explained that the whole series is based in large part upon three lectures delivered by Dr. Watson before the Association of National Advertisers at its last annual convention. These articles, like the lectures, present some sections of particular interest to business executives, from Dr. Watson's various scientific works on behavioristic psychology, developed as a result of his many years as Professor of Psychology and Director of the Psychological Laboratory at Johns Hopkins University.)

IN my last article I brought out the fact that the behaviorist believes that personality (and character is identical with personality) is but the sum of the habits (organization) we have put on from infancy to our present age. In other words, what we can do and say at the moment—what emotional reactions we display—depends solely upon the way we have been organized and trained by our parents, schools and associates, in general by our environment. Of course, we can

still learn new things. We can still have our emotional equipment abridged or changed. But when we learn new things and alter our emotional equipment, we naturally change our personality. After thirty years of age, however, we change relatively very little. Hence, by that age our personalities are pretty firmly moulded.

If this view of personality is correct, there ought to be some way of taking a cross-section of personality—a cross-section of the organization of any individual at the time he presents himself for a job.

Here I should like to run over with you some of the ways personalities are judged. I'll take at first the various hocus pocus devices used by the charlatans.

VARIOUS METHODS USED BY CHARLATANS

On account of the enormous industrial interest in personality there are a great many charlatans at the present time who profess to be able to "read" personality at a glance. They are preying on manufacturers and employment managers generally. Sometimes these fakers have institutes of their own. Many of them advertise, even in some of our better magazines. Chief among them are the so-called "head hunters." There is at least one big institute in New York that takes annually out of industry today a fair size fortune for selecting men on the basis of head measurement. They make a large number of these measurements such as the distance from bottom of chin to mouth, size of mouth, the distance of the nose from the ear, the length of the nose, and the like. I once heard the gentleman at the head of this institute give a lecture before a group of students. At the end of his lecture he told the class that he had made over a quarter of a million judgments and had never made a failure. I arose and asked him if he wouldn't go down with me to Ellis Island and try the relatively simple job of picking out the *feeble-minded* from the *normal* individuals by looking at them and by taking head measurements. The gentleman got extremely angry—red in the face. Declaring that he had not come there to be heckled he left the room abruptly.

As a matter of fact any legitimate psychologist would be

only too glad to avail himself of the services of these head searchers if there were any empirical validity in their method.

Dr. Yepsen of The Training School at Vineland, N. J., where a large number of defective children are housed, writes me in a letter upon this type of fakerism in psychology: "We would like to have a little money to take a series of motion picture photographs to show that it is utterly and absolutely impossible to pick out even the feeble-minded from the normal because we feel it would be a good thing if industry actually knew these facts."

Then we have a specially "gifted" bunch of fakers who claim that they are able to read the personality and character of individuals from photographs. You don't actually have to bring the applicant in front of these gentlemen. All you need to do is to show them a photograph. I once wrote a little editorial for the "News" in Baltimore, bringing out these facts. One of the readers of this article, really quite a scholarly old chap, became immensely irritated and said, "I want you to know I was a college professor a great many years before I got into this type of work. You are all wrong about this. I can't pick individuals out by photographs, but I have three men who *can* do it. I will bet you a thousand dollars they can do it."

I said, "In the first place, I am a college professor and can't bet; in the second place, I haven't got the thousand, being a college professor."

He first agreed to put up a thousand dollars and have the test made under scientific conditions. The conditions were as follows: The psychologist was to be allowed to go to the home of the friendless and pick out half a dozen bums who had been bums since they were five years of age, men with known record. He would go to Sing Sing and pick out persistent criminals from adolescence on. And then he would pick out twelve of the finest men that he could get in science, or in academic, or business life. He was to take them all to the barber shop and trim them up, give them hair cuts, give them shaves, put them all in evening clothes and then photograph them. The gifted person was to pick out the six bums and the six criminals from the twelve very famous men. You

would have to be very, very careful, of course, in such a test that the famous men aren't known, because the newspapers are very active. Under these conditions the advocate of photographic reading backed out of the test. Yet that man goes on selling his service.

There is hardly a city of 100,000 population and over that hasn't a crew of these fellows coming in and "assisting" industry in this way.

There is another group of these fakers advertising also in our best magazines who agree to pick out your man on the basis of hair color, texture of the skin and color of the skin. To dismiss such claims, I need only mention here the fact that in some of our big experimental laboratories we have been trying for years to correlate "general intelligence," special abilities and the like with color of the individual's skin, the texture and color of the hair and the like. All the findings show that there is not the slightest scientific evidence for any of these claims.

I wish I had time here to develop for you the operating methods of various other fakers. Just let me enumerate a few of the different types of fakers. The phrenologist is another rapid personality reader. The bumps on your head, so he says, reveal everything to him; a bump means a development of a certain part of the brain in which a certain capacity or vocation resides. By charting the bumps, therefore, he charts the individual's abilities. Unfortunately, the bumps on the skull have nothing to do with the shape or the size of the brain. Indeed, a bump on the skull may mean a slight constriction of the cranial or brain cavity, because a bump sometimes works both ways—pushed both out and in. The brain as a rule, however, is smooth and is almost floating in a liquid. Besides, we have given up brain "faculties." Phrenology passed out of the interest of scientific men many, many decades ago. Neurology is the science which has taken its place, and neurology does not concern itself with psychological categories.

Then we have the graphologists, those who would tell us by our handwriting what our potentialities and characters are. The way we dot our i's, cross our t's, whether we leave

our o's open or not, the way we slant our letters, all are definite revealments of personality. Let us not be too hard on them. It is an amusing avocation, this reading of character by signs. Certainly we can get something from the handwriting of an individual—whether he is so extremely careless (or so emotionally disturbed) that he doesn't finish words, whether or not he runs words together, whether or not he misspells, whether or not he fails to keep his lines straight, whether or not he writes hurriedly and so on. In handwriting, of course, we have a definite product left behind by activity, and hence it may give us some kind of cue as to the person's character, just as the tombs of the ancient Egyptians reveal something of the character of their civilization. Several psychologists have been studying this matter carefully and are still studying it. So far, however, the correlations they have found to exist between certain kinds of writing and certain kinds of ability have been very sketchy and very insecurely grounded. One would expect a graphologist at least to tell the handwriting of a man from that of a woman, but even this is a far more difficult task than it is ordinarily considered. In going over a large number of names not long ago, where only initials were given, I thought that a great many of the names were written by men, so we wrote letters to find out. About 80% of the names that, from the handwriting, I judged to be men's names turned out to be the names of women!

PSYCHOLOGICAL METHODS

It is at this point that I would like to call your attention to the fact that psychology has oversold its ability to make selection of personnel for business organizations. Twenty years ago Munsterberg began overselling. For him psychology was destined to solve all of the personnel problems of the manufacturer. A few years later mental tests were touted as a genuine scientific instrument for measuring the calibre of individuals. Mental tests were used in the army. They are largely used in schools and in colleges today in lieu of the old form of examinations. Just to give you a general idea of a mental test let me sketch briefly for you what a 12-year-

old's mental test is. (Taken from "The Stanford Revision of the Binet-Simon Tests as described in Terman's 'The Measure of Intelligence'.")

1. We first give a vocabulary test. We say to the individual, "I want to find out how many words you know—listen and when I say a word you tell me what it means." These words are such words as *skill, ramble, insure, nerve, civil, juggler, regard*, etc. In a vocabulary of 100 words the 12-year-old should be able to define 20 words correctly.

2. We next make him define correctly three out of five abstract words, such as, *pity, revenge, envy, justice*. We start for example and say, "What is 'pity'? What do you mean by 'pity'?"

3. We give him the ball and field test. We draw a circle about $2\frac{1}{2}$ inches in diameter and leave a small gap in the side next to the individual. We say, "Let us suppose that your baseball has been lost in this round field. You have no idea what part of the field it is in. You don't know what direction it came from, how it got there, or with what force it came. All you know is that the ball is lost somewhere in the field. Now, take this pencil and mark out a path to show me how you would hunt for the ball so as to be sure not to miss it. Begin at the gate and show me what path you would take." At 12 years of age the person tested would score a correct answer if he traced with a pencil any one of the following: (a) a spiral, perfect or almost perfect, and beginning either at the gate or at the center of the field, or (b) a series of concentric circles or (c) transverse lines, parallel or almost so, and joined at the ends.

4. We next give the person tested a series of dissected sentences printed in capitals as follows:

FOR THE STARTED AN WE COUNTRY EARLY
AT HOUR.

TO ASKED PAPER MY TEACHER CORRECT I
MY.

A DEFENDS DOG GOOD HIS BRAVELY MASTER.

Two out of the three sentences must be correctly reconstructed within the minute allotted to each.

5. We next read five fables to the youngster—

Hercules and the Wagoner
The Milkmaid and her Plans
The Fox and the Crow
The Farmer and the Stork
The Miller, His Son, and the Donkey

We say to the subject, "You know what a fable is? You have heard fables? A fable, you know, is a little story, and is meant to teach us a lesson. Now I am going to read a fable to you. Listen carefully, and when I am through I will ask you to tell me what lesson the fable teaches us. Ready; listen." After you have read each of the fables in the above order ask, "What lesson does that teach us?" The correct answer to each fable scores two. Half grades are given for partially right answers. At 12 years four points must be earned on this test.

6. The next test is to repeat five digits backwards; such as, 3—1—8—7—9; 6—9—4—8—2; 5—2—9—6—1. At least one of the three must be repeated correctly.

7. On the next test four pictures are shown and you say, "Tell me what this picture is about. What is this a picture of?" The pictures show "Dutch Home," "River Scene," "Post-Office," and "Colonial Home." Three pictures out of four must be satisfactorily interpreted.

8. The last test is the giving of similarities in three things. The objects are grouped as follows:—

- (a) snake, cow, sparrow
- (b) book, teacher, newspaper
- (c) wool, cotton, leather
- (d) knife-blade, penny, piece of wire
- (e) rose, potato, tree

It is equally satisfactory under (a) if the child says, "All are animals"—"All live on land"—"All have blood." It would not be satisfactory if he said "All have legs"—"All are dangerous," etc. At least three out of the above five must be answered satisfactorily.

THE BINET-SIMON AVERAGE ADULT TEST

Similar tests are given the adult.

1. In the vocabulary test for the 12-year-old he must score 65 words instead of 40.

2. In the interpretation of fables (the same as above) he must make a score of 8 instead of 4.

3. He must be able actually to define the difference between such abstract words as—

- (a) laziness and idleness
- (b) evolution and revolution
- (c) poverty and misery
- (d) character and reputation

4. The first new test is the problem of the enclosed boxes. It is as follows: You say, "You see this box; it has two smaller boxes inside of it, and each one of the smaller boxes contains a little tiny box. How many boxes are there altogether, counting the big one?" This is then complicated by making each of the smaller boxes contain two tiny boxes and thirdly, by the larger box containing three smaller boxes each of which contains three tiny boxes. In the fourth variation the large box contains four smaller boxes each containing four tiny boxes. Three out of the four problems must be solved correctly.

5. In the fifth test the adult has to repeat six digits backwards.

6. In the sixth test he is given a code which uses symbols in place of the letters of the alphabet. He has to write out the words in code—"come quickly."

As an alternative to this we may give the following test. We read the adult two sentences one after the other containing 28 syllables. He must repeat them after us without error.

(a) Walter likes very much to go on visits to his grandmother, because she always tells him many funny stories.

(b) Yesterday I saw a pretty little dog in the street. It had curly brown hair, short legs, and a long tail.

He must get one of the two absolutely correct—without a single change of any sort.

In business the Binet-Simon type of test can possibly be used with some advantage as a help in selecting the lower grades of personnel such as, office boys, clerks, filers and the like.

The so-called *general intelligence* tests have been considerably used in commercial work and in college entrance examinations. Here are a few questions taken from one set of tests (Thurstone).

13. Underline the one name in heavy type which makes the truest sentence.

Shoes are made by **Swift & Co.** **Smith & Wesson**
W. L. Douglas **Babbit Co.**

14. Make a perfect sentence of the following. One word on a blank.

The poor baby as if it were sick.

15. Underline the one word in heavy type which makes the truest sentence.

Blanche Sweet is known as a **writer** **singer**
suffragist **movie actress**

The behaviorist does not admit that there is any such thing as "general intelligence." He claims that what the regular psychologists are doing when they give "mental" tests is simply to take a random sampling, *largely of the verbal organization*, of the individual tested. However useful these may be as far as they go, they are not adequate as the complete basis for the selection of personnel.

In the first place they tell us nothing of the special vocational abilities of the individual tested. They tell us nothing of his manual equipment (what he can do with his hands, legs, body, etc.). The psychologists themselves admit this. To offset it, they have devised many so-called special performance tests. In the army, for example, an experimental testing ground was set up for testing automobile and truck drivers, for the selection of night scouts, for the securing of positive military intelligence, for telegraphers, typists, stenographers and a host of others. It is possible to devise special performance tests for carpentry, woodworking, metal working and many other types of vocation.

Unfortunately there are many vocations in life in which no form of testing is applicable. Who would attempt today to pick out by any form of general intelligence or special performance tests a good business executive—a good newspaper man—the proper material to make an advertising man—a good department store buyer—literary material of the first order—and a host of others which we need not mention here?

My general point of view on psychological tests is that while they may help us to separate the sheep from the goats,

they will not tell us much about the flock of sheep left from which to make our individual selections.

I have a still more fundamental criticism of the mental tests in industry. It seems to be the general experience that men and women fail in their jobs, not from lack of intelligence—the manufacturer expects to have to train his individuals—but because of faulty emotional organization. They are surly, easy to anger, easy to weep, have their feelings hurt. They are shy, sensitive, afraid to tackle new jobs. They are lazy, don't want to have to work overtime, don't want to be crowded with work in emergencies. They lack neatness in their work. They don't take responsibility. They are enthusiastic for the time being but the glamor of the job wears off soon. They are always "hard-done-by." They never get enough for their work, and the like. In other words, the emotional part of our equipment is just as important as the manual and the verbal part of our equipment. So far no mental test has been devised which will tell whether or not a man is a liar—whether or not he has the guts to stick to his job in the face of considerable problems—whether he is a persistent worker or a shirker—whether he is a clock-watcher or a buck-passer—whether he is able to work in cooperation with other individuals and the like. I personally believe that more people fall down from these so-called emotional factors than from lack of "intelligence" or lack of special ability.

COMMON SENSE METHODS

Whether or not I would use general intelligence and special abilities' tests in the selection of personnel would depend upon a good many circumstances. Even though I used them for the first preliminary selection of individuals to be further observed, I would always want to use what I call "common-sense methods."

PERSONAL INSPECTION

In the first place, I gather something—not a great deal—in my first personal interview with the applicant. I could observe whether or not his personal habits were of the generally accepted kind—whether his nails were clean—his face

washed—whether his linen was both frayed and dirty—whether his clothes were unpressed—whether his shoes were blacked—whether he had any command of the English language at all. There is an impression going the rounds that an applicant should be able to look you in the eye. Some employment managers try to bore into the applicant with their own eyes to see whether the poor fellow can stand up to it. This is just an old wives' tale. I wouldn't want him to look me "squarely in the eye" any longer or any oftener than good manners would call for.

EDUCATIONAL RECORD

In the second place I like to study the educational chart of the individual. I gather considerable information from this—did the applicant for whatever position finish his grade school or did he drop out at 12 or 14 years of age where the great mass of our young Americans drop out? Did he finish his high school and his college work? Naturally, he doesn't have to be a college graduate in order to be a good man. But if he started college and dropped out at the end of one or two years, I certainly want to discover whether it was absolutely necessary for him to drop out. If he dropped out because he didn't have the guts to finish or because he got into difficulties with his studies, I wouldn't, as a rule, want to consider him. I would rather pin my hopes to a fellow who, even under great economic pressure, finished his college work.

In spite of the numerous exceptions to the rule, the college bred man does seem to last longer in business and to get along in business better with other people than the non-college graduate.

SCRUTINIZING THE APPLICANT'S PAST VOCATIONAL RECORD

The next thing the behaviorist looks at in this common-sense way is the length of time the applicant stayed in his various positions and the yearly increases he received in his earnings. The boy or man who has changed his job 20 times by the time he is 30 without definite improvement with each change will probably change it 20 times more before he is 45.

If I owned a flourishing commercial business I should not want to employ a man for a responsible position at the age of 30 who had not earned or was not earning at least \$5000 per year. I should definitely expect such a man to be earning still less at the age of 40. Again there are many exceptions to this rule. Few men in academic positions or semi-academic positions make any such sum.

HIS SPORTS AND SPARE TIME RECORD

I like to chart informally the sports and spare time record of applicants. I believe that a study of this record is quite revealing. We know that outdoor activity leads to physical fitness, to keenness in competition, to steadiness in coordination. We know, too, that a man who can compete with other individuals can also work with other individuals.

STUDYING THE EMOTIONAL MAKE-UP OF THE INDIVIDUAL

Studying the emotional make-up of the individual is most important. Unfortunately, it is difficult to get anything like an objective record of a man's emotional make-up until you have had him under observation for a considerable length of time in the situation or job in which you want him to function. Close observation of the individual for six weeks gives a very good picture of how he stands up under pressure, of his honesty, of his neatness, of the persistency of his work habits, of his sensitiveness, vindictiveness, whether he is over-bearing, seclusive, cocky, whether he takes criticism unkindly. Most of us carry along a lot of our infantile emotional organization. Observation under pressure will show their presence. I am frankly afraid of the man who carries over too much of this bad emotional equipment from infancy.

SUMMARY

I think we can gather from this study of personality first, that industry has no ready-made tool the exclusive use of which will enable it to select and promote its personnel with any degree of surety. Unquestionably where psychologists have come into organizations which have to select yearly a large number of individuals, their intelligence and perform-

ance tests have been helpful. The performance tests should be built for the particular industry in which they are to be applied. Under these conditions the psychologist must be allowed considerable time to study the general features of the business, the different types of operations, the different levels and types of personnel demands, and the general situation and social conditions surrounding the plant.

In the second place I think we can lay it down as established that there is not one grain of truth in the claims that the head-hunters, skin and hair searchers, bump-measurers, and handwriting students can make a proper selection of personnel. Where I think the psychological fakers are doing harm, exclusive of the great economic waste in using them, is in the prevention of the establishment and spread of scientific methods. The business man is made to feel that the selection, placing, and promotion of personnel ought to be done by some kind of prestidigitation or even by the use of miraculous methods. Finally, the psychological fakers disturb the worker himself. I cannot tell you how many times I have had individuals come to me seriously disturbed about their vocations. They were doing well in their work, but some characterologist had informed them that their future lay in grand opera, in diplomatic work or in some field other than the one in which they were working, and they felt that they ought to give up their present jobs in order to go after this unknown, untried and, therefore, roseate future.

In the third place, I think that the conclusions of most manufacturers have been verified. Their own experience has taught them that *there is nothing like daily observations over a period of some months for measuring the capabilities, the ability to learn, and the emotional make-up of applicants*. Many great industries run training schools. I don't believe the psychologists have anything better to offer than these training schools. I ask only one thing: that these training schools be conducted jointly by people who actually know the industry and by psychologists who have had some training in the industry.

Will the Automobile Break Down International Boundaries?

The following paragraph from Henry Ford's "Today and Tomorrow" is one of the most stimulating passages in that stimulating book:

"The effect of cheap and easy transportation is profound. It is not so long ago that a man of moderate means would live and die within a hundred miles of the place where he was born. His mode of living would differ little from that of his father, and indeed of his forefathers. That is still true throughout most of the world today but it is not true in America. One may see standing outside of almost any large building operation workmen's cars bearing the license plates of half a dozen states. Nobody has ever disputed that the best of all education is to be gained from travel, but travel was formerly the prerogative of the well-to-do. Now, everyone can and does travel. Our state boundaries mean nothing—we could not have a war among our states because we have no cloistered states with separate identities and interests. Our Civil War could not be repeated. If Europe had cheap and easy transportation, the present artificial barriers between countries would quickly vanish because they would be an intolerable nuisance."

Can Advertising Effects Be Measured?

A review of the study by Hotchkiss and Franken

BY PAUL T. CHERINGTON

Director of Research, J. Walter Thompson Co.

CHARLES W. ELIOT, former President of Harvard University, used to tell with amusement of an incident in his early days as a teacher of chemistry. A student to whom he one day gave some material and equipment with instructions for an experiment, expressed great concern because he was not told what was to be the result. In fact he could not understand why he should be expected to perform an experiment unless the end were known from the beginning.

This natural human desire to know in advance *exactly* where one is coming out is common to most advertisers, particularly to those who have not had experience in judging advertising causes and effects.

By the use of laboratory methods, Messrs. Hotchkiss and Franken have made a valuable addition to the body of generally available knowledge about advertising effects.*

In the year 1921, the authors of this book undertook a study of 100 items to test the familiarity of approximately 1000 students in 15 colleges with the leading brands in each of these items. The results of this study were published by the Associated Advertising Clubs of the World under the name of the "Leadership of Advertised Brands."

The present study is the result of a similar investigation made in 1925 with approximately the same psychological methods, but modifying the test in certain important particulars. Perhaps the most significant change was the reduction of the number of lines investigated from 100 to 10. This made it possible to concentrate the study in a way that was not feasible with the larger number of items.

*The Measurement of Advertising Effects—by George Burton Hotchkiss and Richard B. Franken. Published by Harper & Brothers, 1927. Price \$4.

The colleges covered by the present test were well scattered through the country, and included institutions of various types. The list was as follows: Smith College, Northampton, Mass.; University of Denver, Denver, Colo.; University of Wisconsin, Madison, Wis.; Wilson College, Chambersburg, Pa.; Barnard College, Columbia University, New York City; University of Texas, Austin, Texas; Harriette Melissa Mills Kindergarten Training School, New York; Harvard University, Cambridge, Mass.; Dartmouth College, Hanover, N. H.; Stanford University, Palo Alto, Calif.; Vassar College, Poughkeepsie, N. Y.; Emory University, Atlanta, Ga.; Milwaukee-Downer College, Milwaukee, Wis.

"In the 1925 test, 1000 subjects were given a list of ten commodities and asked to mention under each one as many manufacturers' names and brands as they could. Space was provided for ten names or brands, and although some subjects inserted more, only the first ten were considered in the tabulations. Naturally few subjects gave ten names or brands under every commodity and some of them were able to name only one or two for some commodities.

"The ten commodities included in the second test were selected from the original list of 100. They were as follows:

- | | |
|-------------------|------------------|
| 1. Tooth paste | 6. Coffee |
| 2. Soap | 7. Cigarettes |
| 3. Hosiery | 8. Fountain pens |
| 4. Typewriters | 9. Hats |
| 5. Breakfast food | 10. Watches |

"Thus the list included necessities, luxuries, and semi-luxuries; it included articles bought frequently and articles bought rarely; it included articles that are sold almost exclusively under manufacturers' brands, or without any brand. All of them are commodities that the subjects might use, and with the exception of cigarettes, typewriters, and possibly coffee, they are all articles which practically every one of the 1000 subjects tested has used or does use.

"On the next day after the subjects had filled out sheet No. 1, they were given a second test to discover what brands of these commodities they actually use now, and had used in the past. The two sheets for each subject were then compared and the data tabulated.

"The chief purpose in comparing the first and second sheets was to find definitely the correlation between familiarity and use of a brand and thus learn to what extent associations are established in the minds of consumers by actual use of a branded commodity. As will be seen later, this correlation is shown very positively. As by-products, many additional facts of even greater importance were discovered. Some of these will be brought out in later chapters of this report."

After the tests were completed, the results thus obtained from the thousand college students were checked by subjecting 200 business people (100 females and 100 males) to the same tests. In the case of practically all of the commodities, the results corresponded remarkably closely with those obtained by the student investigation. One important element in this close correlation doubtless is the fact that the list of ten items includes only commodities with which students and business people might be expected to have approximately equal familiarity.

ADVERTISING AND USE

The authors made an effort in this study to ascertain, so far as it could be done, what relation there was between advertising and actual use as a means for familiarizing students with various commodities.

"It is impossible to make a clear-cut separation between use and advertising as factors in familiarizing the public with names and brands. This fact is evident from what has already been said about articles like tooth paste and typewriters that flaunt the name or brand before the consumer's eyes whenever he uses them. The label or trade mark on the product or package is indeed a form of advertising, and the association between commodity and brand is likely to be due quite as much to the observation of this advertising as to the use of the commodity.

"The same influence is at work to some extent on all persons who are in a position to observe the use of a commodity by others. This is a well recognized condition in the automobile field where the car upon the road is counted as one of the best advertisements for the leading makes. Designers of cars often strive for some distinctiveness in appearance, and manufacturers and dealers even try to get automobile owners

to use tire covers and other accessories bearing the name of the car and perhaps some appropriate slogan.

"Of course, there is some danger, that the process of persuading the buyer of merchandise to act as a "sandwich-man" may prejudice him against the commodity, but where the designating names or other symbols tend to improve rather than mar the appearance of the product, the method can be used with considerable effectiveness.

"As it happens, very few of the commodities in our list present very extensive opportunities for persons outside the family of the user to observe and know what brand is being used. In some cases, however, it is probable that the product or package has helped to advertise the name or brand to non-users.

"Another reason why it is difficult to separate use and advertising is the fact that the original purchase and use is often the result of advertising. Thus advertising may be said to have been indirectly responsible for familiarizing the public with leading brands, although repeated use fixes the association firmly in their minds.

"Prestige follows sales and sales follow prestige. It is not always possible to discover where the process is begun. Nevertheless, close analysis of the data may indicate to what extent advertising has helped to build good-will in advance of actual sales.

"Knowing this, the manufacturer may be better able to decide whether he will use his advertising purely and simply to secure direct sales, or whether he will use some of it for building general good-will regardless of the immediately traceable returns. His decision, of course, will be influenced also by many other factors, such as the commodity field, his position in it, and the policy of his competitors. Even so, it is distinctly useful to know how successful advertising has been in building the prestige of names and brands. . . .

"Another measure of the influence of advertising may be obtained by comparing advertised with unadvertised brands with respect to the correlation between use and first association. The tables on page 62 show the percentage of users of each commodity who mention first the brand they now use. This percentage gives the average for all users. Analyzing more closely, we discover that the users of well advertised brands at or near the head of the list mention that brand first far more frequently than users of little advertised brands far down the list.

"Taking all the commodities together, we find that the user of a well-known listed brand, in the majority of cases (51 per cent), had named that brand first on Sheet 1. It was the strongest association in his mind for that commodity. But only 27 per cent, or about one in four, of those who reported on Sheet 2 that he was using a miscellaneous brand had mentioned that brand first on Sheet 1. They knew what brand they used, but it was the strongest association in the minds of only a small minority. And of course there were many more who did not even know the name of the brand they used."

The general observations drawn by the authors are of greatest value when considered in connection with the concrete results from studying each of the ten classes of commodities.

TOOTH PASTES

In the case of tooth paste, the three leaders in the table of first associations, by the test of 1921, still preserved their leadership in 1925.

Pebeco, which stood third in the list in both years, had increased the number of mentions from 129 to 156. The leader of this group showed a decline from 539 to 456.

One interesting table in connection with the tooth paste results is that showing the number of brands of tooth pastes used by the different students. By far the greatest number reported that they actually used three different brands of tooth pastes, and out of the thousand, over 800 reported that they used either two, three, or four brands.

In the section of the book in which familiarity and use are compared the following paragraph on tooth pastes is found:

"Comparing Pepsodent and Pebeco, we find that the former has converted a larger number of users, but Pebeco seems to have become better known to those who have still to try the brand. This may be due to the greater age of Pebeco's advertising, which may have produced greater cumulative effect, or it may be due to comparatively less emphasis on the trial offer with free sample."

SOME RESULTS CONCERNING SOAP

The returns covering familiarity with soap brands and the actual soaps used, show a marked leadership in the matter

of familiarity. Concerning Woodbury's Facial Soap, which is in a somewhat different class on account of its price, the authors say:

"Woodbury's is a good third in the number of users, as well as in prestige, if we consider the total number of users and the weighted averages. The great majority of users are women.

"The percentage of those who mentioned as their first association the brand they now use, was relatively low—43 per cent of the men and 37 per cent of the women. This was smaller than for tooth paste, which certainly is used no more frequently. However, the tube of tooth paste reminds one of its name whenever it is used, whereas a cake of soap loses all identifying marks except color after a few days' use.

"The women appear to be more fickle in their preferences for soap than the men. Only 128 men named more than three brands they had used, whereas 189 women had used more than three. Nearly 50 per cent of the men had used their present brand of soap three years or more, as compared with less than 40 per cent of the women who reported equally long use.

"The business groups correlate closely with the college groups in their knowledge and use of soap. Palmolive actually received more mention than Ivory from the business men (though not more first mentions) but the difference was too slight to be significant, especially in view of the fact that the two brands were almost equally familiar to college men. What is more significant is that Lifebuoy was a far more familiar name to all business people than to the college groups. This may be due to local advertising and sales effort in New York, or to the fact that the test of business people was made later in 1925, when the extensive advertising of Lifebuoy had had more time to produce its effects."

COFFEE LEADERSHIP

A comparison of advertising familiarity with use in the case of coffee appears first in the section devoted to the general subject of familiarity and use. The returns showed that there were two commodity fields in which the leaders in 1921 failed to hold their leading place in 1925. Concerning the change in coffee leadership, the authors say:

"In coffee, likewise, we find a very decided change with Maxwell House rising from nowhere to a position at the very top of the list. In the process, Arbuckle and Yuban naturally are pushed down. Their decline in prestige is perhaps greater in appearance than in reality, for the earlier test had a larger proportion of subjects in New York and the East, where Yuban is strongest. Maxwell House was well-known in the South in 1921, but its prestige now appears to be national."

The following paragraphs summing up the coffee situation as brought out by the tests are from the specific analysis of the coffee returns:

"The most striking change in the coffee situation, as shown by the figures of the two tests, is the rise in prestige of Maxwell House. Four years ago this brand was practically unknown outside of the South. In 1925 it was mentioned by subjects in all parts of the country, many of whom also said they had used it. In fact, this brand occupied first place in the minds of a larger number of subjects than any other brand.

"The other brands held much the same relative position as in the 1921 tests, with the exception that the name Arbuckle, which was first in 1921 with 126 mentions, had dropped to fifth place in 1925 with only 45 first mentions. Yuban, an Arbuckle advertised brand, was better known to the subjects in the 1925 test than the name Arbuckle itself. Yuban just about held its own, with 93 first mentions in 1925 as compared with 98 in 1921. Its strength, however, appears to be confined to the East, as it has not had national distribution or national advertising.

"The following table shows the changes in prestige that have occurred in the past four years:

COMPARATIVE TABLE OF FIRST ASSOCIATIONS

	1925			1921		
	Males	Females	Total	Males	Females	Total
Maxwell House.....	87	55	142	15	1	16
White House.....	33	90	123	36	64	100
George Washington.....	19	43	62	31	24	55
Yuban.....	51	42	93	53	45	98
Arbuckle.....	28	17	45	100	26	126
Chase & Sanborn.....	26	22	48	14	21	35
Hotel Astor.....	11	20	31	44	12	56
M. J. B.....	27	14	41	8	12	20
Hills Bros.....	17	7	24	2	34	36

"It would seem, therefore, that the increase in the familiarity of the public with Maxwell House Coffee is traceable directly or indirectly to advertising. The advertising for Maxwell House has been very extensive in national publications, as may be seen from the following figures:

	1921	1922	1923	1924
Maxwell House.....	19,955	16,200	231,150	276,894

"No other brand has had anything like this amount of national advertising, although several brands have had considerable local advertising in the sections where they are distributed.

"Of course the advertising of Maxwell House has been accompanied by other forms of sales effort which have succeeded in converting many people to a trial of Maxwell House Coffee. Nevertheless, the number of first mentions received by Maxwell House is far in excess of the number of people among those tested who have ever used it. It is fairly certain that the increase in public familiarity of Maxwell House which has put it first in the list of prestige could not have been accomplished without extensive advertising.

"Marketing experts have been inclined to emphasize the importance of having a name or brand that is easy to remember. Few of the commodities in our list present much evidence to support the idea that a 'good name' gives any special advantage. In coffee, however, it seems quite possible that White House and George Washington may have been recalled by the subjects more easily than some other names. Maxwell House, on the other hand, can scarcely have profited much from previous associations of the name. Yuban has the shortest name in the list and one that is theoretically ideal for memory value, but it does not appear to have been a controlling factor in establishing the brand firmly in the public mind. Unquestionably a poor name is a handicap, but we are hardly justified in concluding that the initial choice of a good name carries a manufacturer very far toward his objective when he seeks to build prestige."

WATCHES

In the discussion on the relation between advertising and use the following figures are given about watch brands:

	Users	Mentions by Non-users	Total Mentions	Non-users who do not Mention	Prestige Ratio	Per cent Non-users Mention
Elgin.....	395	417	812	188	2.0	.69
Ingersoll.....	428	364	792	208	1.9	.63
Waltham.....	218	372	590	410	2.3	.47
Hamilton.....	62	385	447	553	7.2	.41
Gruen.....	33	272	305	695	9.2	.30
Illinois.....	20	68	88	912	4.4	.07

"The most interesting fact that stands out in these figures is the very large number of persons who are familiar with the names Hamilton and Gruen for watches, although they have never used them (and, in view of the small percentage of users, have had little opportunity to observe the use of them). There are more non-users of Hamilton that mention Hamilton than non-users of Waltham that mention Waltham.

"Seven times as many mention Hamilton as have ever used this make; nine times as many mention Gruen as have used this make. These high prestige ratios must be attributed to advertising. The amount expended by Hamilton has not been large, as advertising appropriations are measured nowadays, but it has been used consistently and effectively for many years. Gruen expenditures have been larger, but their advertising history does not cover so long a period. However, as the figures show, it has appeared long enough to make an impression on over 30 per cent of the college students.*

"Some other advertising campaigns for watches have appeared recently, but we find no indication that they had succeeded in making much impression at the time this test was made."

The section summarizing the watch returns says:

"Comparison of the results of the two tests indicates that Elgin, which was revealed as the leader in prestige in 1921, has widened considerably its margin of leadership. This may be due partly to a somewhat different geographical distribution of the subjects, which in the 1925 test were drawn more largely from the West and South than they were in 1921. In the East and particularly in New England, Elgin maintained only a small margin of leadership over Waltham, as it did in 1921.

"Taking the country as a whole, however—and the distribution of subjects in 1925 was fairly representative—Elgin is decidedly more familiar to the public than Waltham and its

*This is perhaps more striking in view of the fact that Gruen Watches have always been emphasized as a hand-craft product.

proportion of first mentions seems to indicate a distinctly higher prestige. Waltham, in fact, received fewer first mentions in 1925 than did Ingersoll, which ranked third in the 1921 test. Hamilton maintained its position as a good fourth and Gruen made a striking advance, although it did not get above fifth place.

"All these figures tend to confirm the belief that although use of a watch is a most important factor in familiarizing persons with the name of a brand, advertising exercises a definite influence. This is decidedly reflected in prestige, for the brands that have not received regular and consistent advertising received first mention by fewer persons than actually use them. This prestige is unquestionably of considerable sales value with an article of such high price and infrequent purchase as a watch. The 34 persons, for example, that put down Gruen as their first association, even though they do not carry one now and never had one, certainly must have respect and admiration for this name, and they are particularly good prospects for a later purchase. In the same way other watches that have decided prestige will undoubtedly be able to cash in upon this at some future time."

THE CEREAL PREFERENCES

The study of breakfast foods shows that the ready prepared cereals lead both in familiarity and in use, but the weighted scores covering the number of times each brand was mentioned put Cream of Wheat third in the entire list and away ahead of any other cereals requiring cooking.

(Editor's Note: The products of clients of the J. Walter Thompson Company mentioned in these excerpts—which cover five out of the ten classes of products investigated—are: Pebeco Tooth Paste, Woodbury's Facial Soap, Maxwell House Coffee, Gruen Watches, Cream of Wheat.)

Will Head Subcommittee on Census of Distribution

Mr. Paul T. Cherington, Director of Research of the J. Walter Thompson Company has been appointed Chairman of the Subcommittee on The Census of Distribution, organized by The Chamber of Commerce of the United States of America.

This subcommittee was appointed by the National Committee on Collection of Business Figures, the Chairman of which is Mr. Owen D. Young, Chairman of the Board, General Electric Company. This larger committee was a result of the Distribution Conference held in Washington a little over a year ago.

Mr. Cherington takes the subcommittee chairmanship in place of Mr. Malcolm C. Rorty, Vice President of the International Telephone and Telegraph Company, whose resignation is due to his departure on an extended trip to South America.

Under direction of the subcommittee a Distribution Census of the City of Baltimore has been conducted and is about ready for publication. Similar work is now in progress in other parts of the country, formal announcement of which will be made within a few weeks.

Other members of this subcommittee are: Professor Melvin T. Copeland, Harvard Graduate School of Business Administration; Mr. John Matthews, Jr., Asst. Director, Bureau of Foreign and Domestic Commerce; Mr. Henry Dennison, President Dennison Manufacturing Company; Mr. Frank M. Surface, Chief Division of Domestic Commerce; Mr. W. M. Stewart, Director, Bureau of the Census, United States Department of Commerce.

“What Price Progress?”

*How the very life of most big corporations depends on the effectiveness of their research departments is shown in this new book by Hugh Farrell**

A REVIEW BY W. P. TOMLINSON
New York Office

DO you own stock or bonds of any corporation from American Telephone & Telegraph to U. S. Steel? If so, what do you know about their research departments? Unless the scientists are eternally vigilant, your original investment may be wiped out by new developments that are now being carried on with startling rapidity. The chemist is making a new world. It is impossible for the layman to follow the new inventions, synthetic processes, time, labor, and material-saving devices that claim the laboratory as their birth place.

Mr. Farrell points out that we are again falling into second place in research because so many of our industrial leaders are content to buy from Germany patents which have been developed from British beginnings. Vat dyes and the recent war should have taught us the folly of such a course.

As competition becomes more keen, corporations which reduce costs by new processes will grow and those which follow the traditional methods will be forced to the wall. There is hardly a single modern necessity from industrial alcohol to food and transportation, that does not depend on fundamental research for the position it now holds. Petroleum lubricants, which displaced animal oils just in time to make machine development possible, nitrocellulose lacquers, which through their quick drying facilitated the mass production of automobiles, pulp, rayon, paint, dynamite, cement, drugs, canned goods, rubber, sugar, photography, phonographs, radio, railroads, and X-Ray, all are based on chemical research.

At the close of the war, the U. S. Industrial Alcohol Co. found itself with an apparently useless plant on its hands. The British had been using large quantities of acetone in the

*“What Price Progress,” by Hugh Farrell. Published by Putnam, 1926.

manufacture of their high explosive, cordite. The chemist saved both the firm and its stockholders from serious loss by using ethyl acetate in the manufacture of artificial leather and the new quick drying lacquers. And industrial alcohol is used in the making of artificial flowers, rayon, tobacco, photographic films, hats, paper, shoe polish, imitation rubber, tooth paste, fuel, T N T, and numerous other products. Had research been neglected as in many American industries, your stock might have depreciated greatly in value.

The latex sprayed rubber process added in nineteen hundred twenty-five, 1,600,000 pounds to the yield of the Far Eastern Plantations of the U. S. Rubber Company, as a result of which the Plantations paid a handsome dividend to the parent company. In cooperation with renowned botanists, they are now producing rubber trees that yield more per acre and more during the early years of the trees' growth.

Place welding, a recent discovery, saves our railroads \$2000 a mile. The Pennsylvania was the first road to establish a research and testing laboratory. The use of water that prevents the formation of scales in boilers saves the railroads from \$15 to \$30 for each engine run of 600 miles.

Before the war, we depended for all laboratory work on 2000 fine chemicals imported from Germany. It was due to the foresight and generosity of George Eastman that a department of Synthetic Chemistry was established at Rochester which now produces over 1900 fine and rare chemicals for home consumption.

The cracking coil process in the gasoline industry has not only given us the quantity we need but has also reduced the cost to the consumer several hundred percent.

The estimated annual loss of iron and steel through corrosion is 25,000,000 tons—greater than any other industrial waste. Enduro and the silvery looking band on the radiator of your car are rustless products of the research department of United Alloy Steel Co. The chemist is giving us a higher quality of carbon steel and rust will be conquered.

Rayon is the first entirely man-made fibre, one that is independent of the whims of animal and vegetable life. The

chemist has already saved a million dollars a year in the Buffalo Du Pont Rayon Laboratories.

The Bell Telephone Co. has 3500 scientists and technicians who spend all of their time testing and investigating. If you will recall your efforts to talk with a neighbor on the same street twenty-five years ago, you will realize what they have accomplished. Without their research, the wires today in parts of New York would have to be set up on poles two miles high! Humming, "petering out", and the annoying cross-talk have all been eliminated. The loading coil and the vacuum tube developed by Langmuir, at Schenectady, have made long distance as perfect as short.

Although we still lag behind Germany in research, there is very little lacking in the laboratories of the General Electric Company. Steinmetz, Whitney, Langmuir, and Coolidge are national benefactors. Mr. Farrell claims that the ductile tungsten of Coolidge saves the people of this country a billion dollars a year in electric light bills. And how many lives his X-Ray has saved is anyone's guess.

In pure research and fundamental investigation we are still further behind. Too many men are attracted away from the university laboratory to the industrial field, whereas industry cannot advance without new material to work with. New material, in turn, is the product of pure research. We have already some 200,000 combinations of the 80 odd elements, but millions are possible. From the 50 metals, we have made some 1600 alloys, only a small fraction of the total possible. These new discoveries will be the work of pure research. It is on them that technical research must build before further progress is possible.

Mr. Farrell has nothing to say about market research. It has apparently not occurred to him that the success of the industries in which his money is invested depends somewhat on the skill with which their products are presented to the public. With the exception of this one real oversight, his book is well conceived, stimulating, and, appearing as it did, just before "Main Street and Wall Street," very timely.

Clients of the J. Walter Thompson Company

<i>Client</i>	<i>Product</i>
American Exchange Irving Trust Company	BANKING
Aunt Jemima Mills Branch of The Quaker Oats Co.	AUNT JEMIMA PANCAKE FLOUR AUNT JEMIMA BUCKWHEAT FLOUR
Franklin Baker Company	BAKER'S COCONUT
The Bishopric Manufacturing Co.	BISHOPRIC STUCCO, BISHOPRIC STUCCO BASE, BISHOPRIC PLASTER FINISH FOR INTERIORS
The Chas. W. Breneman Company	BRENLIN WINDOW SHADES BRENEMAN SHADE ROLLERS
Buxton, Inc.	BUXTON KEY-TAINERS
The William Carter Company	CARTER'S UNDERWEAR
Cheek-Neal Coffee Company	MAXWELL HOUSE COFFEE MAXWELL HOUSE TEA
Chicago, Burlington & Quincy Railroad	PASSENGER SERVICE BURLINGTON ESCORTED TOURS
The City Baking Company	RICE'S BREAD, RICE'S PIES
J. & J. Colman (U. S. A.), Ltd.	COLMAN'S MUSTARD, SAVORA, ROBINSON'S "PATENT" BARLEY
Corning Glass Works	PYREX OVENWARE, STEUBEN ART GLASS AND OTHER CORNING GLASS PRODUCTS
The Corticelli Silk Company	CORTICELLI SILK FABRICS, SILK HOSIERY, SPOOL SILKS AND IRENE CASTLE CORTICELLI FASHIONS
Cream of Wheat Company	CREAM OF WHEAT
Davey Tree Expert Company, Inc.	DAVEY TREE SURGERY
Dolly Madison Baking Corporation	BREAD
Douglas-Pectin Corporation	CERTO
Douglass Company	DOUGLASS LIGHTER
Dwight Manufacturing Company	DWIGHT ANCHOR SHEETS AND PILLOW CASES
Minot, Hooper & Co., Selling Agents	
Erschine-Danforth Corporation	DANERSK FURNITURE

<i>Client</i>	<i>Product</i>
Exchange Trust Company	BANKING
Felt & Tarrant Mfg. Co.	COMPTOMETERS
The Fleischmann Company	FLEISCHMANN'S YEAST
Foamite-Childs Corporation	FIRE PROTECTION ENGINEERS AND MANUFACTURERS
Fort Worth and Denver City Railway Co.	SUMMER TOURIST SERVICE
The Freihofer Baking Company	BREAD, CAKE
Wm. Freihofer Baking Company	BREAD, CAKE
The Globe-Wernicke Co.,	OFFICE EQUIPMENT
Gruen Watchmakers' Guild	GRUEN GUILD WATCHES
Gulbransen Company	GULBRANSEN PIANOS
Hassler Mfg. Co., Inc.	AUTOMOBILE ACCESSORIES
Richard Hellmann, Inc.	HELLMANN'S MAYONNAISE
The Hoosier Manufacturing Co.	HOOSIER KITCHEN CABINETS
The Hooven & Allison Company	CORDAGE
Horlick's Malted Milk Corporation	HORLICK'S MALTED MILK
Howlett and Hockmeyer Company	WATERSIDE CORDUROY, SUEDE-LIKE
Iron Mountain Company	ZEROZONE ELECTRIC REFRIGERATOR
The Japan Tea Promotion Committee	JAPAN TEA
The Andrew Jergens Co.	WOODBURY'S FACIAL SOAP JERGENS LOTION CASTOLAY
A. & M. Karagheusian, Inc.	HERATI RUGS
Kops Brothers, Inc.	NEMO-FLEX CORSETS, BRASSIERES AND COMBINATIONS
A. C. Krumm & Son	KRUMM'S MACARONI
Lamont, Corliss & Company	
Distributors for:	
(1) O'Sullivan Rubber Co., Inc.	O'SULLIVAN HEELS
(2) Peter Cailler Kohler Swiss Chocolates Company, Inc.	NESTLÉ'S MILK CHOCOLATE PETER'S MILK CHOCOLATE
(3) The Pond's Extract Company	POND'S COLD CREAM POND'S VANISHING CREAM
Langendorf Baking Company	BREAD
Lehn & Fink Products Company	PEBECO TOOTH PASTE

<i>Client</i>	<i>Product</i>
Lever Brothers Company	LUX, LUX TOILET SOAP
Libby, McNeill & Libby	LIBBY'S 100 FOODS
The Linen Thread Company	BARBOUR'S LINEN THREAD
W. H. & A. E. Margerison & Co.	MARTEX TURKISH TOWELS
Melville Shoe Corporation	JOHN WARD SHOES, RIVAL SHOES, THOM McAN SHOES
New England Confectionery Co.	NECCO PURE CANDY
Norfolk-Portsmouth Community Advertising Fund	COMMUNITY ADVERTISING
Northern Pacific Railway Company (Land Department)	MONTANA FARM LANDS
The Norwich Pharmacal Company	UNGUENTINE
The Odorono Company	ODO-RO-NO, CREME ODO-RO-NO
Parker-Regan Corporation	BETTY BRIGHT MOPS
Penick & Ford, Ltd.	BRER RABBIT MOLASSES BRER RABBIT SYRUP PENICK SYRUP, PENICK OIL
Pennsylvania Railroad Company	RAILROAD SERVICE
Phenix Cheese Corporation	"PHILADELPHIA" CREAM CHEESE, PHENIX CHEESE
Pinaud Incorporated	ED. PINAUD EAU DE QUININE, LILAC VEGETAL
Rand McNally & Company	PUBLISHERS AND MAP ENGRAVERS
The Rice-Schmidt Baking Company	RICE'S BREAD
The Richardson Roofing Company Division of The Flintkote Company	RICHARDSON ROOFING AND SUPER GIANT SHINGLES, LOK TOP SHINGLES, VISKALT
Royal Baking Powder Co.	ROYAL BAKING POWDER ROYAL FRUIT FLAVORED GELATIN
F. Schumacher & Co.	DECORATIVE DRAPERY AND UPHOLSTERY FABRICS
Seth Thomas Clock Co.	SETH THOMAS CLOCKS
Simmons Company	SIMMONS METAL BEDS, MATTRESSES, SPRINGS, CRIBS AND METAL FURNITURE
Sonora Phonograph Company	SONORA PHONOGRAPHS, SONORA RADIOS, RADIO SPEAKERS
Stanley Insulating Company	STANLEY VACUUM BOTTLES
J. P. Stevens & Company	PEACE DALE YARNS

<i>Client</i>	<i>Product</i>
S. W. Straus & Company Pacific Coast Division	INVESTMENT BONDS
Sun-Maid Raisin Growers of California	SUN-MAID RAISINS
Swift & Company	SWIFT'S PREMIUM HAM, PREMIUM BACON, "SILVERLEAF" LARD, BROOKFIELD FARM PRODUCTS, SUNBRITE CLEANSER, RED STEER FERTILIZERS, VIGORO, EDUCATIONAL ADVERTISING
U. S. Gutta Percha Paint Co.	BARRELED SUNLIGHT (THE RICE PROCESS WHITE)
U. S. Industrial Alcohol Co.	PYRO AND OTHER ALCOHOL PRODUCTS
United States Rubber Company	"U. S." RUBBER FOOTWEAR, KEDS, "U. S." RAYNSTERS, NAUGAHYDE, "U.S." JAR RUBBERS
The Wadsworth Watch Case Co.	WADSWORTH WATCH CASES WADSWORTH BELT BUCKLES WADSWORTH WATCH BANDS
William R. Warner & Co., Inc.	FORMAMINT SLOAN'S LINIMENT STACOMB
Northam Warren Corporation	CUTEX MANICURE SPECIALTIES
The Welch Grape Juice Company	WELCH'S GRAPE JUICE, GRAPELADE AND GRAPE JELLY

J. WALTER THOMPSON COMPANY

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