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# The Climate for Product Improvement[1]

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About 20 years ago, I recall reading a business book by a prominent banker that began with a story. It told of the German economics professor who always began his course with the same question: "What is a foundry for?" He got a variety of answers, but there was only one answer that he accepted as correct. That was: "to make a profit."

Now the profit motive in the soap and detergent business —or any business for that matter—is still certainly basic, but this does not mean that top management can weigh every decision on so simple a scale. It is a bit like saying that the fellow who thinks of nothing but women will get the best wife. We know there are some business men in South America, for example, who can boast of exceptional profit rates—yet their whole country appears on the brink of economic disaster. Instead of making long-term investments, they are building up cash in Swiss banks.

The difference, I think, is that our business leaders here work for profits within a framework of economic rationality dictated by the social climate around them. "Economic rationality" is a pretty vague term. Let me give you an example: it may be economically rational, rather than profitable, for a corporation to contribute to educational funds, or community chests, or to serve box lunches at stockholders meetings, or to loan executives to governmental projects, or even to put a nice lawn out in front of the plant. Although these expenditures are a draw down against profits, they are entirely rational and consistent with sharp cost-cutting programs in production and marketing. The rational way to dress depends upon the climate, and the *economically* rational way for a corporation to act depends on the social climate in which it must operate and prosper. That is: a corporation, particularly a publicly-owned corporation, depends on public favor. Therefore, it must measure up to a reasonable degree to what *is expected of it* by its various publics. If it does not do so, its profitability will not last long. I think the telephone company, which has always been ahead of public expectations so far as product improvement is concerned, is a good example, despite being under a lot of government regulation. The railroads, in recent years at least, have a different image.

Now of course, a company management may not always be happy about the social climate in which it finds itself. It may consider that the public's expectations are extreme or misguided. It may think there is too much sympathy for labor, or too much money being taxed away from it to put astronauts on the moon, or too much frenzy over detergent foam on streams while invisible pollutants underneath the surface are being ignored. But once a business starts saying "We are right, and the public is wrong," it is in danger of putting technical conviction above economic rationality. Public expectations, right or wrong, are as real an influence on profitability as the cost of raw materials or labor.

As you know very well, all personal life consists in a compromise between philosophies: We can try to bend future happenings to our desires; we can modify our desires to the facts of life around us. A corporation is no different: it can work to bring people around to its way of thinking; it can adjust its policies to the exigencies of the social climate. The line between the two, for the corporation, is economic rationality. I have sometimes been asked: "Is the need for 'softer' detergents as critical from a public health standpoint as has been claimed in some of the news stories?" Technically and statistically, the present products might be defensible. From the standpoint of economic rationality in today's social climate, the need for product improvement from the degradability standpoint is clear enough.

Yet in speaking of America's social climate, I hope I have not given the impression that the 60's are just one of those excessively humid periods, designed to make management sweat. The fact is, there are many aspects of public attitudes today that are wonderfully fertile soil for business progress, and particualrly for those working in a consumer industry like cleanliness products. The greatest of these, I have no doubt, is the public's increasing receptivity to change.

If you were to ask "what do the American people expect

[1] Delivered at the 1963 AOCS Short Course by Roy Peet.

most from alert corporate management," I am sure the answer must be: *Something new.* This may be a new product or service, a new way of doing business, a new way of telling its story.

Let me give you an example which, to be frank about it, goes back to my early business experience in the 30's. At that time, there was great public and political concern about technological unemployment. Business was in the dog house on the issue. The defensive arguments all fell flat. It was only the surge of defense demands preceding World War II that staved off drastic and socialistic cure-alls for such unemployment.

More recently, some of the same economic trends involving high unemployment have been troubling us. But in the meantime, something new has been added—it is the concept of automation. Today, a much larger percentage of the population has come around to accept automation as a force for good—a means of expanding production, cutting costs, and increasing the sum of goods and services available to the average family. True, there is sympathy for the displaced miners or railway telegraphers, but no strong political movement to cripple or suspend the trend to this new thing: automation.

The computer and its related control systems are too novel . . . too intriguing even to those who do not understand them, to be threatened by burning like the original Jacquard looms. The development of new and novel products for use by the ordinary consumer has never been as intense and as far-reaching as it is today. It is a key characteristic of our way of life. Economists have their explanations as to why new product development has been so speeded up, and some of them are not entirely happy about it.

Let me go back to history for a minute to a time when thousands of individual small producers were each making, say, candles or soap for local markets—probably using some traditional technique and formula which made all products pretty much alike. Their competition created a market price, the same as for small individual farmers selling cotton or oats. There was no place for marketing strategy; the producer sold at or below this market price, or he did not sell at all.

But now let us switch over to the kind of a business that demands bigness for efficiency—say, the automobile business. You cannot have thousands of producers of identical Fords. Products of the few large producers are deliberately differentiated. The law of supply and demand is modified by the strategy of games involving 2, 3 or 4 players. Price setting and price cutting has to involve the anticipation of retaliation. Under these conditions, competition takes on new dimensions: a quality difference, a service difference, even a difference in package design is injected into the picture, along with price. The aim is to make sales without attracting immediate price retaliation. It takes time for a competitor to discover whether he is actually losing significant business to an innovation. It takes new plans and improvements to combat it. Huge investments, running into the millions, are necessary to launch the new product. Yet it has come to be the economically rational thing to do.

A theory was developed in the 30's that this kind of differentiated competition—strategic competition or promotional competition—was somehow to injure the consumer. And of course, if the product differences were all fictitious and the improvements were all unneeded gadgetry, this could be the case. But mostly, the cirticism came from people who thought they knew better than the public itself what the public ought to want . . . or to be allowed to buy.

I admit to remembering the time where there was no such thing as sliced bread. There was a body of opinion (some in the bakery industry itself) that sliced bread was a fad, that it promoted mold growth, and should be discouraged. I don't know about soap flakes, but there were probably those who thought that the public should go on using the tin chippers that used to be given away as premiums with soap bars.

Even today, there is still a self-appointed group of protectors of the public who would like to see soap products sold in some undifferentiated form in standard, equivalent containers. I am sure you have heard of the Hart Committee hearings on the so-called Truth-in-Packaging Bill where this philosophy received support, on the basis that the customer was being deceived, or least confused, by excessive variety.

Yet, the climate of the general public is to go for innovations . . . at least to give them a trial. Certainly, the soap and detergent industry should have no apologies to make for product differentiations and innovations based on improved formulations, unique packages or new service features, or even colors to match the bathroom. Actually, all this variety has not necessitated price increases for the folks who still prefer to buy the older, staple type of product.

The cleanliness value per dollar being delivered to the housewife today is greater than ever—certainly more than her grandmother received, back in the days when soap bars were the only choice. A simple unadorned soap bar in 1913 sold for 5 cents. That would be 15 cents in terms of today's dollars. However, a day or two ago I spotted on a supermarket shelf a soap bar of the same size, but better quality, selling for 11 cents; i.e., appreciably less than its cost 50 years ago on an adjusted dollar basis. An average American factory employee in 1913 had to work 14 min to buy a cake of soap. Today he can buy it for 4 min work.

What competitive innovation has done is to permit the free choice of paying for increased convenience or appeal if the customer so decides. Like a restaurant menu, you can have the regular lunch, or á la carte. Admittedly, many people have been "traded up" to prefer a detergent tablet, or a cleanser in a plastic container or a deodorant soap. This has been done within the market philosophy of freedom of choice in which the older product remained in the picture until proved obsolescent. And you know very well this involves the freedom for a product to flop, as well as to succeed. Also, we are offering improved per-

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## • *New Products*

APPLIED SCIENCE LABORATORIES, INC., State College, Pa., has announced a method for modifying conventional diatomaceous earth supports which can then be used as adsorbents for gas-solid chromatography. They also state that capillary columns can be modified in a similar manner. Also available are silver nitrate impregnated silica gels for use in thin layer chromatography and column chromatography, useful for reversed phase techniques which allow separations of saturates and unsaturates within a given class of compounds.

VOLAND CORP., New Rochelle, N. Y., is now offering two new direct reading analytical laboratory balances, the Model 620-D and Model 320-D, designed to be sensitive, quick-weighing, and rugged—eliminating the need for weights below one gram. The models are identical, except that 620-D has a concentric arc arrestment while 320-D is equipped with a straight fall-away arrestment.

PERKIN-ELMER CORP., INSTRUMENT MARKETING DIV., Norwalk, Conn., is now producing a high performance instrument for infrared spectral analysis to cover, on one continuous chart record, the spectrum from 4000 to 250 $cm^{-1}$, 2.5 to 40 microns, designated the Model 521 Grating Infrared Spectrophotometer.

DISTILLATION PRODUCTS INDUSTRIES, Div. of Eastman Kodak Co., Rochester, N.Y., has discovered a new way to synthesize beta-carotene, the orange pigment found widely in the vegetable and animal kingdoms. It also provides a source of vitamin A in diets. This was the work of A. J. Chehak, C. D. Robeson (1947), and M. H. Stern. The procedure was described at an American Chemical Meeting, Sept. 11, 1963.

CARLE INSTRUMENTS, INC., Anaheim, Calif., now has available a new Micro-Thermal Conductivity Detector System for use in small column gas chromatography. It is sensitive to all types of samples including fixed gases, and claims to be particularly useful for analyzing samples containing large quantities of oxygen.

SHARPLES CORP., Philadelphia, Pa., announced a new high capacity centrifuge featuring modular design which permits it to perform a number of different separation jobs simply by adding or removing interchangeable parts. Called the Model DH-5 Nozljector®, it is the latest design and addition to their line of continuous discharge centrifuges.

SAVANT INSTRUMENTS, INC., Hicksville, N.Y., is now producing a compact gas chromatograph designed for the analysis of fatty solids, lipids, steroids, hydrocarbons and similar type compounds. Model 620 is a sensitive bench instrument, featuring interchangeable ionization, cross section, and electron capture detectors.

FISHER SCIENTIFIC CO., Pittsburgh, Pa., has announced they are the exclusive North American source for an exceptionally closely-controlled new viscometer bath, the TV-40, made for Fisher by P. M. Tamson of the Netherlands. It was designed to provide extremely close temperature control required for high-precision kinematic viscosity measurements, over the working range 0-230C.

GALLARD-SCHLESINGER CHEMICAL MFG. CORP., Garden City, L.I., N.Y., have announced they are now the U.S. distributors for Sicapent,® a novel drying agent which incorporates all the effectiveness of current available materials with safety of application. Due to its unusual drying properties, it can be used to special advantage in all cases where even minute traces of moisture have to be eliminated.

CARL ZEISS, INC., New York, N.Y., now have available a recording spectrophotometer especially well suited for applications in medicine and biology. The RPQ 20 A is a double beam instrument which can make continuous measurements of extinction, transmittance and energy (flame photometry and fluorescence measurements). It is of simplified construction, with no moving optical parts, and extremely stable voltage.

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formance or convenience within the framework of intercommodity competition. Certainly, we have nothing to apologize for in aiming to concentrate more discretionary spending on cleanliness aids—as against other convenience or luxury goods.

The proper climate for product improvement is one in which: 1) the public is receptive to trying something new, 2) the producer has full freedom to give it a trial, and 3) the competitive pressures are there to keep the producer trying. This is our situation today.

Now there may be some of you in the research and development end of the business who question whether the pressures for novelty are going beyond the bounds of economic rationality. I have heard supermarket people, pressed for shelf-space, make this criticism, too. Sometimes, let us grant, the "new, amazing" features are tenuous or artificial. Certainly, if a sales feature is created by semantics on Madison Avenue, rather than as an outgrowth of laboratory research, the producer knows he is skating on thin ice. The fact is that this situation is largely self-correcting. It is reflected in the high failure rate of such artificialities. Right here is the climate for product improvement, so far as research and development men are concerned, that should work up a sweat for those in the laboratory. The researcher who smiles condescendingly at a "silly" soap commercial is really reflecting on a weakness in his own area of activity. The real improvement drives out the phony improvement every time. The introduction of stainless-steel razor blades by a company of modest size is a case in point.

For the research men present who work in the soap and detergent industry, I would like to add one further thought: there is certainly every reason to be proud of a vocation

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# Glycerine Production Up

*Production*: For the month of August, crude glycerine production (including synthetic) was stated at 25.1 million lb. For the month of July, crude production was adjusted upwards from 19.8 million lb to 21.3 million lb. Reflecting this adjustment, August crude production is up 3.8 million lb from the July level, and up 4.4 million lb from August a year ago. The refined production figure for July was also changed—from 20.0 million lb to 21.5 million lb.

*Stocks*: At the end of August producers' crude and refined glycerine stocks totalled 39.8 million lb. While the July crude stocks figure stands unchanged at the 21.2 million lb originally published, the refined stocks figure was revised downwards from 25.8 million lb to 20.8 million lb, thus bringing total stocks to 42.0 million lb. Total producers' inventories on August 31st were down 2.2 million lb from the revised July level, and down 19.5 million lb from August last year. The total stocks figure for the end of August is the lowest recorded within about the last three and one half years.

AUGUST
(million lb)
Preliminary

| Glycerine 100% Basis | Factory Production | | Producers' Stocks | |
|---|---|---|---|---|
| | Aug. 1963 | % Change from July 1963 | End of Aug. 1963 | % Change from July 1963 |
| Crude | 25.1* | +17.8 | 20.7 | −2.4 |
| Refined, all grades | 25.9 | +20.5 | 19.1 | −8.2 |
| | | | 39.8 | −5.2 |

* Includes synthetic glycerine.

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dealing directly or indirectly with improving consumer cleanliness formulations. Sometimes, you get the impression that reasearchers feel they have less status than the fields of ethical drugs or rocket fuels or nutrition. The whole area of biodegradability, of which we shall hear more tomorrow, is a striking example of real public service via the route of legitimate, economically rational product improvement.

But even when this particular problem has been solved and the research reports filed away, I think you can say to yourself: This is the right field for me. Because nowhere is the climate for creativity any better, and this is the propitious time and place to put my skills to work. In summary, here are some of the reasons why:

1. Today's consumers are innovation minded.
2. Economic rationality demands differentiated products, constantly improved.
3. There is a dwindling life-cycle for even the well-established items in a product line.
4. Fictitious product exclusivity or sales features show too high a failure rate.
5. New family formation by young people will be on the upswing throughout the 60's. This means less habitual buying.
6. More discretionary spending for convenience and status items lies ahead.
7. Personal and household habit patterns are being upgraded by greater high school and college attendance—even by integration.
8. Drastic changes are taking place in the materials with which soap and detergent products are used—the textiles, home furnishings, appliances.
9. The social cliamate is leading to a greater concern for any secondary effects of our products in use and after use.
10. As a preventive to governmental regulation, more research, particularly open research to appear in scientific publications, is to be expected.
11. Consumer research and analysis, using computer techniques, will help what's wanted and speed up accurate evaluation, lowering the failure rate.
12. If we are to have rising standards of living throughout the world outside of the U.S.A., cleanliness products will continue to be a major field of development for export and foreign plants.

There is one trend, so far as production is concerned, which appears to run contrary to the idea of continuing faster turnover of new and improved products. This is the fact that the economics of automation appear to require greater uniformity and standardization of products produced in longer runs. The machine tool industry has pointed to the answer to this problem. Fast-changing adaptability is being built into the machines. The one-purpose unit is being supplanted by the machine than can alter its output from one shaped part to another at the touch of a button or under preset automatic control. This, it seems to me, is another challenge for those formulating and developing new cleanliness products. How can the demands of fast-moving changes in formulations and design be incorporated in an automated plant? How can a marketing program which recognizes the need for constant introduction of innovations be reconciled with the traditional time schedules of marketing via persistent repetition in mass media?

All in all, it seems to me that the climate is right for product improvement, and the challenge to do so is greater than ever before. This is a challenge to corporation management; but it is an equally great challenge to men like yourselves to whom management looks for real, rather than semantic, product advances. A recent article in the *Saturday Review* estimates that each week, the average supermarket adds about seven new items, and drops about four. It is your creativity and technical judgment that can keep the New Products Boom within the framework of economic rationality.