

English country town in Shakespeare's time when we read that there was a big dung-heap in front of his father's house in Stratford; we are indignant and call it 'barbarous' (which is the opposite of civilized) when we find the paths in the Wiener Wald¹ littered with paper. Dirtiness of any kind seems to us incompatible with civilization. We extend our demand for cleanliness to the human body too. We are astonished to learn of the objectionable smell which emanated from the *Roi Soleil*;² and we shake our heads on the *Isola Bella*³ when we are shown the tiny wash-basin in which Napoleon made his morning toilet. Indeed, we are not surprised by the idea of setting up the use of soap as an actual yardstick of civilization. The same is true of order. It, like cleanliness, applies solely to the works of man. But whereas cleanliness is not to be expected in nature, order, on the contrary, has been imitated from her. [. . .]

Beauty, cleanliness and order obviously occupy a special position among the requirements of civilization. No one will maintain that they are as important for life as control over the forces of nature or as some other factors with which we shall become acquainted. And yet no one would care to put them in the background as trivialities. That civilization is not exclusively taken up with what is useful is already shown by the example of beauty, which we decline to omit from among the interests of civilization. The usefulness of order is quite evident. With regard to cleanliness, we must bear in mind that it is demanded of us by hygiene as well, and we may suspect that even before the days of scientific prophylaxis the connection between the two was not altogether strange to man. Yet utility does not entirely explain these efforts; something else must be at work besides.

[. . .]

[. . .] The development of civilization appears to us as a peculiar process which mankind undergoes, and in which several things strike us as familiar. We may characterize this process with reference to the changes which it brings about in the familiar instinctual dispositions of human beings, to satisfy which is, after all, the economic task of our lives. A few of these instincts are used up in such a manner that something appears in their place which, in an individual, we describe as a character-trait. The most remarkable example of such a process is found in the anal erotism of young human beings. Their original interest in the excretory function, its organs and products, is changed in the course of their growth into a group of traits which are familiar to us as parsimony, a sense of order and cleanliness—qualities which, though valuable and welcome in themselves, may be intensified till they become markedly dominant and produce what is called the anal character. How this happens we do not know, but there is no doubt about the correctness of the finding. Now we have seen that order and cleanliness are important requirements of civilization, although their vital necessity is not very apparent, any more than their suitability as sources of enjoyment. At this point we cannot fail to be struck by the similarity between the process of civilization and the libidinal development of the individual. Other instincts [besides anal erotism] are induced to displace the conditions for their

satisfaction, to lead them into other paths. In most cases this process coincides with that of the *sublimation* (of instinctual aims) with which we are familiar, but in some it can be differentiated from it. Sublimation of instinct is an especially conspicuous feature of cultural development; it is what makes it possible for higher psychical activities, scientific, artistic or ideological, to play such an important part in civilized life. If one were to yield to a first impression, one would say that sublimation is a vicissitude which has been forced upon the instincts entirely by civilization. But it would be wiser to reflect upon this a little longer. In the third place, finally, and this seems the most important of all, it is impossible to overlook the extent to which civilization is built up upon a renunciation of instinct, how much it presupposes precisely the non-satisfaction (by suppression, repression or some other means?) of powerful instincts. This 'cultural frustration' dominates the large field of social relationships between human beings. As we already know, it is the cause of the hostility against which all civilizations have to struggle. It will also make severe demands on our scientific work, and we shall have much to explain here. It is not easy to understand how it can become possible to deprive an instinct of satisfaction. Nor is doing so without danger. If the loss is not compensated for economically, one can be certain that serious disorders will ensue.

[. . .]

N O T E S

1. The woods around Vienna.
2. The "Sun King," Louis XIV of France (1643-1715), who was reputed to have bathed only twice in his life, both times on doctor's orders.
3. An island in Lake Maggiore, Italy.

1932

Earnest Elmo Calkins, "What Consumer Engineering Really Is"

Earnest Elmo Calkins (1868-1964), head of the New York advertising firm Calkins and Holden, was probably the single most prominent American advertiser of the 1920s and 1930s. He and his partner Ralph Holden billed their firm

as a "modern" ad agency, emphasizing the importance of good design in print advertisements, packaging, and promotional materials. Calkins wrote extensively about advertising and product design, and promoted "artificial obsolescence" as an answer both to the economic woes of the Great Depression and to the question of how to increase Americans' standard of living (artificial obsolescence, of course, was a strategy that came under fire in subsequent years for being wasteful and environmentally irresponsible). In these excerpts from the introduction to *Consumer Engineering*, a book written by industrial designers Roy Sheldon and Egmont Arens, Calkins argues in favor of this "new business science," whose task was to ensure that Americans consumed as many products as the factories could make.

Excerpted from Earnest Elmo Calkins, "What Consumer Engineering Really Is," the introduction to *Consumer Engineering*, by Roy Sheldon and Egmont Arens (Copyright ©1932 by Harper and Brothers; copyright © renewed 1952 by Roy Sheldon and Egmont Arens); 1, 4-8, 13-14. Reprinted by permission of Harper-Collins Publishers, Inc.

The newest business tool to receive a definite name is what has come to be known as consumer engineering. Briefly it is shaping a product to fit more exactly consumers' needs or tastes, but in its widest sense it includes any plan which stimulates the consumption of goods.

[...]

This was the situation in 1929. The making and selling of goods had reached a maximum pitch of efficiency. We were riding on a high wave of prosperity. Suddenly the nation received a shock. The collapse of the stock market stunned everybody. It paralyzed the spirit of free spending that had prevailed for several years.

Many stopped buying while still able financially to continue, and many are still able but restrained by fear and misplaced thrift. The sudden cessation of buying slowed up the entire industrial machine. Retail storekeepers curtailed orders to factories. Factories cut down production, reduced wages, laid off men, still further reducing the number of customers for goods. In a comparatively short time, with all the resources of the country still intact, we had depression. There were no longer enough buyers for the large quantities of goods we had learned to make and distribute so abundantly.

[...]

Strange as it may seem, a definite program for adapting goods to the needs and desires of the people who buy them is a comparatively new thing. In the early days the manufacturer decided what he would make, what color or design,

how large the unit of quantity, every detail. There it was. The consumer could make it or leave it. Goods were not intelligently adapted to their markets even in those days, and certainly have not been coordinated with the changing habits of the people. The revolution in everyday living in the years since the war has been amazing. The manufacturers of some goods have kept pace with it, but the majority have ignored it. Take so simple a matter as the hunger for color and design in old familiar standardized articles that has arisen no one knows how. Note how successfully a few manufacturers have catered to this budding sense of beauty and made their products newly acceptable. It is going on all around you. Heaters, bathtubs, linoleums, kitchen ware, fountain pens, and typewriters. If you could put them beside the ugly counterparts of yesterday you would be astonished at the improvement. Sensing this growing demand for better taste in machine-made products is one of the earlier and simpler forms of consumer engineering.

[...]

Obsolescence is another device for stimulating consumption. The element of style is a consideration in buying many things. Clothes go out of style and are replaced long before they are worn out. That principle extends to other products—motor-cars, bathrooms, radios, foods, refrigerators, furniture. People are persuaded to abandon the old and buy the new to be up-to-date, to have the right and correct thing. Does there seem to be a sad waste in the process? Not at all. Wearing things out does not produce prosperity, but buying things does. Thrift in the industrial society in which we now live consists of keeping all the factories busy. Any plan which increases the consumption of goods is justifiable if we believe that prosperity is a desirable thing. If we do not, we can turn back the page to earlier and more primitive times when people got along with little and made everything last as long as possible. We have built up a complicated industrial machine and we must go on with it, or throw it into reverse and go backward.

"In the light of all the facts, which seem inescapable," says Robert P. Scripps, editorial director of the Scripps-Howard newspapers, "this conclusion seems inevitable: that unless we are going to break up the machines, put the scientists in jail, and generally try to make our clocks run in reverse, the only balance to increase potential per-capita production can be increased per-capita spending, or leisure, or a combination of both."

[...]

We have seen in a comparatively short time a complete reversal of much of the garnered economic wisdom of the centuries. Many of the old copy-book maxims have been scrapped. We have learned that prosperity lies in spending, not in saving. For years we thought that low-cost labor increased the profits of manufacture. Now we know that highly paid labor produces greater profits, and the highly paid laborers furnish the customers. The increased profits come from increased production made possible by increased consumption. With his wages

and his dividends the workman buys more goods, products of his own and other factories, a cooperative arrangement of the highest potential significance. *Any interruption of this perfect balance is the concern of the whole industry, for it means that the supply of consumers is threatened.* We engineered an adequate supply of goods. We can engineer an adequate supply of customers. Unemployment means underconsumption, and underconsumption means the consumer is not buying. The cause may be that the goods are obsolete, or merely that the consumer has no money, but it is the duty of the consumer engineer to find the cause and remedy it. "Overproduction," says Henry Ford, "means something out of date."

[. . .]

Consumer engineering is the new business science. Some would call it Direction of Distribution, but that does not go far enough. I prefer the term that suggests the scientific approach. Distribution once meant merely getting the goods stocked in the retail store. Today our thinking has advanced to that point where by distribution we mean actually in the hands of the consumers. But even that is too static for this rapid-paced age. Are the consumers consuming them fast enough? Goods fall into two classes, those we use, such as motor-cars or safety razors, and those we use *up*, such as toothpaste or soda biscuit. Consumer engineering must see to it that we use *up* the kind of goods we now merely use. Would any change in the goods or the habits of people speed up their consumption? Can they be displaced by newer models? Can artificial obsolescence be created? Consumer engineering does not end until we can consume all we can make.

[. . .]

1934

Alfred H. Barr, Jr. and Philip Johnson, *Machine Art*

The American art historian Alfred H. Barr, Jr. (1902-1981) was the director of the Museum of Modern Art, New York, from its founding in 1929 to his retirement in 1967. Few other curators have had so profound an influence on—or so powerful a hand in shaping the direction of—the history of art. In the groundbreaking 1934 show, *Machine Art*, Philip Johnson (1906-), the curator of the Department of Architecture, exhibited functional industrial products such as ball bearings, springs, and propellers alongside "machine age" decorative arts. The purpose of the exhibition was apparently to foster what Barr called in the foreword an "appreciation of their beauty in the platonic sense."

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Technical and Material Beauty.

In addition to perfection of shape and rhythm, beauty of surface is an important aesthetic quality of machine art at its best. Perfection of surface is, of course, made possible by the refinement of modern materials and the precision of machine manufacture. A watch spring is beautiful not only for its spiral shape but also for its bright steel surface and its delicately exact execution.

Machine art, devoid as it should be of surface ornament, must depend upon the sensuous beauty of porcelain, enamel, celluloid, glass of all colors, copper, aluminum, brass and steel. The circles and spheres of a ball bearing (No. 50) are greatly enhanced by the contrasting surfaces of brushed steel races, shining polished steel balls, and brass carriers.

Visual Complexity.

The beauty in machine art as in all art varies in relation but not in proportion to its complexity. A watch crystal, perfect though it may be, is too simple a form to hold our visual interest for long. A printing press, on the other hand, is too complicated an arrangement of shapes for the human eye to enjoy aesthetically. Moderately simple machine compositions such as the door of a wall safe (No. 91) or the microscope (No. 314) or our classical example, the ball bearing (No. 50) prove more satisfactory.

Function.

A knowledge of function may be of considerable importance in the visual enjoyment of machine art, though Plato might have considered such knowledge an impurity. Mechanical function and utilitarian function—"how it works" and "what it does"—are distinct problems, the former requiring in many cases a certain understanding of mechanics, the latter, of practical use. Whoever understands the dynamics of pitch in propeller blades (No. 41) or the distribution of forces in a ball bearing (No. 50) so that he can participate imaginatively in the action of mechanical functions is likely to find that this knowledge enhances the beauty of the objects. In the same way, using or understanding the use of, the calipers (No. 294), the retort (No. 394), or the rotary floor polisher (No. 71) is likely to increase their aesthetic value.

Fortunately the functional beauty of most of the objects is not obscure and