PICTOGRAPHS TODAY AND TOMORROW

By RUDOLF MODLEY

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Pictorial statistics are still fairly new to the United States. Introduced from Austria in the early '30's, they have become generally accepted in the last few years. Before describing new applications and developments of the method, it might be well to summarize shortly its origin and the basic rules on which its success depends.

While movable type, photography, and other forms of graphic expression originated as technical inventions, the social significance of which was not fully realized at the time, pictographs grew consciously out of the need for a method to interpret social events. They were created under the guidance of Dr. Otto Neurath to make the population of Vienna understand the social and economic problems it was facing when the World War left the city with a terrific infant mortality, appalling housing conditions, and an inflation that was sweeping away the basis for normal budgeting. To get the cooperation of the whole population in reconstructing the tax system, in building new houses, in creating new welfare and health administration, a new medium was needed. Pictorial statistics were created: having been developed for a definite purpose, their effectiveness could easily be judged by their effect on the people. Charts which were too complicated were unsuccessful, and the constant tests which every presentation had to undergo may explain the rapid progress of the method towards simplicity. Within a few years, the method had been developed from awkward and clumsy drawings to the present simple and clear-cut charts.

Soon after the first exhibits in the new method had been displayed in Vienna's City Hall, the "Vienna method" was adopted internationally. The first charts from Dr. Neurath's Social Museum to appear in America were reproduced in the



FIGURE 1

Survey Graphic in 1932, and in 1934 the first pictographs following the "Vienna method" were produced in the United States. What are the characteristics of a correct pictograph? Below are listed three of the basic principles which generally hold true, although much of the method is still in flux.

Basic Principles

Pictorial statistics developed from an analysis of the shortcomings of conventional graphs. The most serious shortcoming of the conventional graphs is that, to the average citizen, one of them looks like any other one. A chart showing the growth in beer consumption may look exactly like one showing government expenditures. There is something wrong with a "graphic" method in which this may happen, and it is no wonder that the public had built up a resentment against such repetitions and monotony. To remedy this situation, pictorial statistics turned to the ancient picture languages to get its first principle: to use self-explanatory pictorial symbols as units in making charts. As in early American, Chinese, or Egyptian drawings, a picture of a cow again stands for a cow and a drawing of a man for a man. The intricacy of modern life makes it often difficult to devise symbols which make a quick direct connection with the object of discussion. But no matter how difficult the process of finding and designing telling symbols

may be, they must always carry the message. See Figure 1.

There is nothing new about the use of symbols. At some time you must have seen pictures of an enormous Russian soldier and a little American soldier with a caption that the Soviet Union has, let us say, ten times as many soldiers as the United States. Two things are wrong with a presentation of this kind. First of all, there are *more* Russian soldiers, not *bigger* ones. Secondly, the eye cannot judge irregular shapes with any degree of correctness, and often it is not possible to establish whether the artist in making his drawings increased the height, the area, or the volume of the American ten times to get the size of the Russian. The defects of these early pictorial presentations led to the second rule: to show changes in quantity by changing the number of symbols—not their size, area or volume. Thus, in our case, we would show ten Russians vs. one American. See Figure 2.

For the greatest effectiveness, to these two principles must be added a third: simplicity. Simplicity means elimination of all unnecessary statistical details from the source mate-

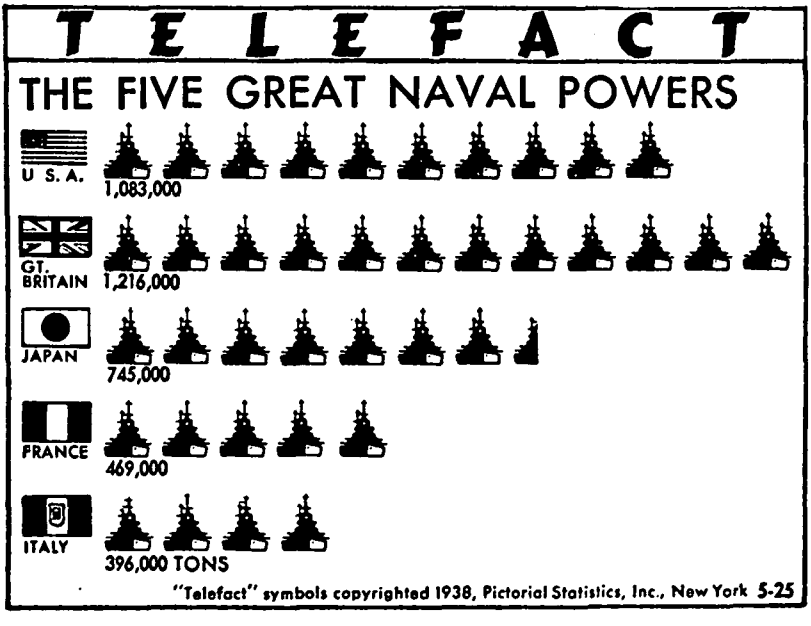

FIGURE 2

rial. But it means more: simplicity in the design of the symbol and simplicity in the layout of the whole chart, so that its message is not encumbered by any detail.

Only when these three principles are applied together do charts become easily understandable and attractive to large groups of people.

Communicating Pictographs

In Europe, pictographs were used most frequently in exhibits. The Social Museum of Vienna, furnished completely in the pictograph technique, was the center of the method. Only rarely did pictographs find their way into newspapers, and the few books illustrated by pictographs were limited to a small audience. While, therefore, the method had a considerable influence in spreading social and economic facts, it depended for this effect largely on the political organizations of democratic Vienna which sent many thousands of study groups to the Museum where on the one hand they learned their facts, and on the other hand taught the Museum staff how to make effective exhibits.

Americans don't have to go anywhere to find their pictographs. They come to them through many different sources. In the early days when pictographs were introduced to the United States, the Federal government and education and welfare organizations prepared booklets and posters in the new technique. In 1937 commercial organizations began to make extensive use of the technique. Trade associations, public relations counsel, and large corporations now present their story pictorially. To make certain that the technique becomes thoroughly familiar to every American, a concentrated effort is being made to reach not only the adult city dweller, but also the young and the rural population. Reprints of charts are made available at cost to schools and the production of pictographs by children is encouraged by furnishing (below cost) instructions and sheets with different symbols to any student or teacher. Numerous textbooks on subjects as varied as history, geography, and biology have been extensively illustrated by pictograph technique. While it is thus assured that the coming generation will be used to the method, another effort has been made to have pictographs penetrate even into remote areas by means of a syndicated newspaper feature called *Telefact,* which presents a fact of social or economic importance each day.

New Fields of Usefulness

While, therefore, it seems that the widest acceptance of the method in its present form is assured, large

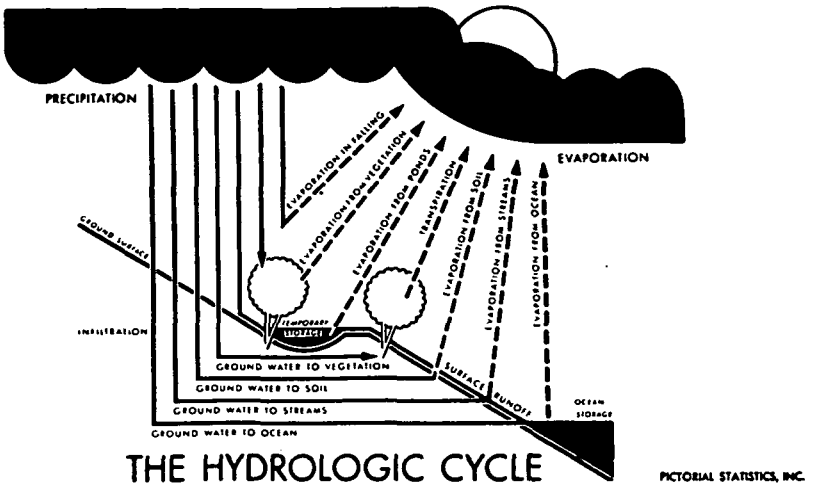

FIGURE 3

This Pictograph, Made Originally for a Publication of the Federal Government, Conveys Much More Information Than Could Be Given in Words in the Same Space

new fields open themselves for new applications of this technique. I think the most promising one is animation. While charts in books and magazines necessarily have to be still, the motion picture opens the possibility of combining feature films with animated films giving the social implications of individual events. Thus a news feature showing the launching of a battleship in Germany might be followed by an animated statistical short showing the increase of the German fighting fleet and its comparative standing in the world. In a similar way educational and industrial films could be prepared. The first experimental film in this field, called *The G-Man on the Milk Trail,* dramatized the results of an investigation in milk-consumption habits, a subject which hardly lends itself to any other motion picture technique.

In another part of the photographic field, considerable progress may be expected soon. Experiments have been under way with photographs of three-dimensional models of symbols. Thus different numbers of specially prepared dolls and streamlined toys are photographed, and the shadow effects give a feeling of large quantities which the greatly

stylized drawings lack. While the three-dimensional models as such may well be used still or in motion for exhibits and displays, the photographs present new possibilities for fact presentation, especially in photographic magazines.

Of all the new developments of the technique, pictorial diagrams are furthest advanced. While it is hard to give an exact definition of what pictorial diagrams are, it is easy to tell them when one encounters one. It applies the same rules of simplicity and abstractions which the pictograph shows, but it is not based on statistics. Each one of these diagrams requires an individual analysis of the case, and it is impossible to prescribe any rigid rules for them. The accompanying examples may explain better how they look and what they do than any words can. See Figures 3 and 4.

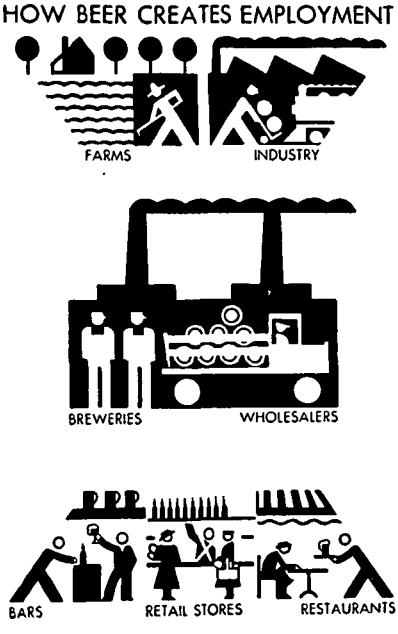

FIGURE 4

The pictograph technique opens up new possibilities of influencing and shaping public opinion. It makes possible the presentation of factual material in simple terms and to an audience which is much larger than any yet reached by factual information. By following a set of simple and basic rules pictorial statistics tend to become a new medium of communication. Being still fairly new, they will be used and abused in the near future as any other effective new medium is. There should, however, be no question that even after the newness wears off, they will remain a permanent and valuable contribution to education.