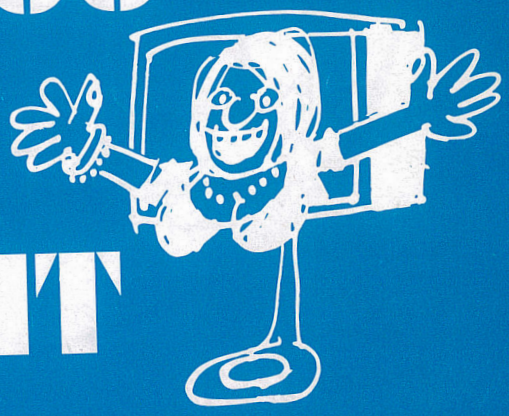
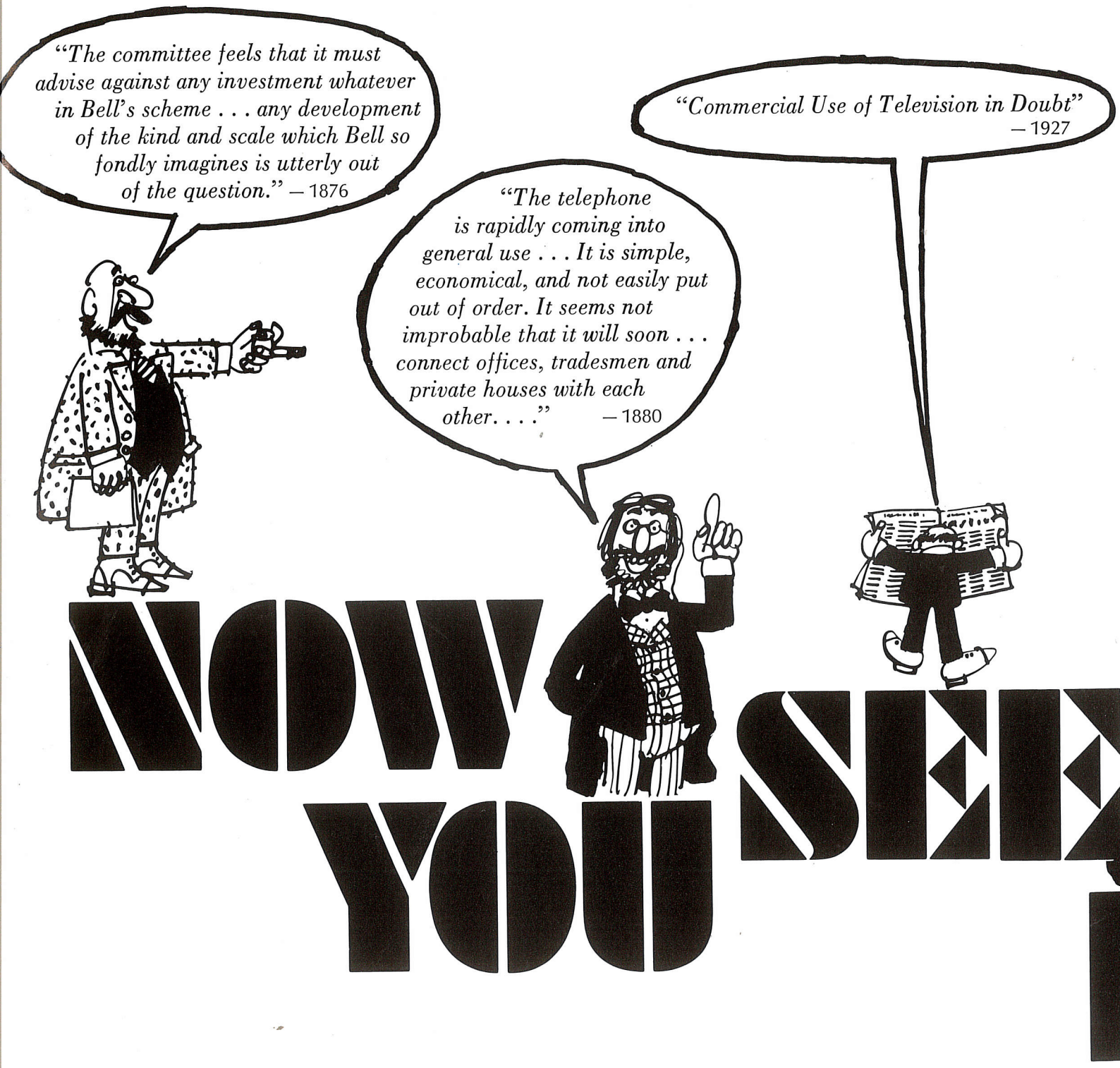
NOW YOU SEE IT

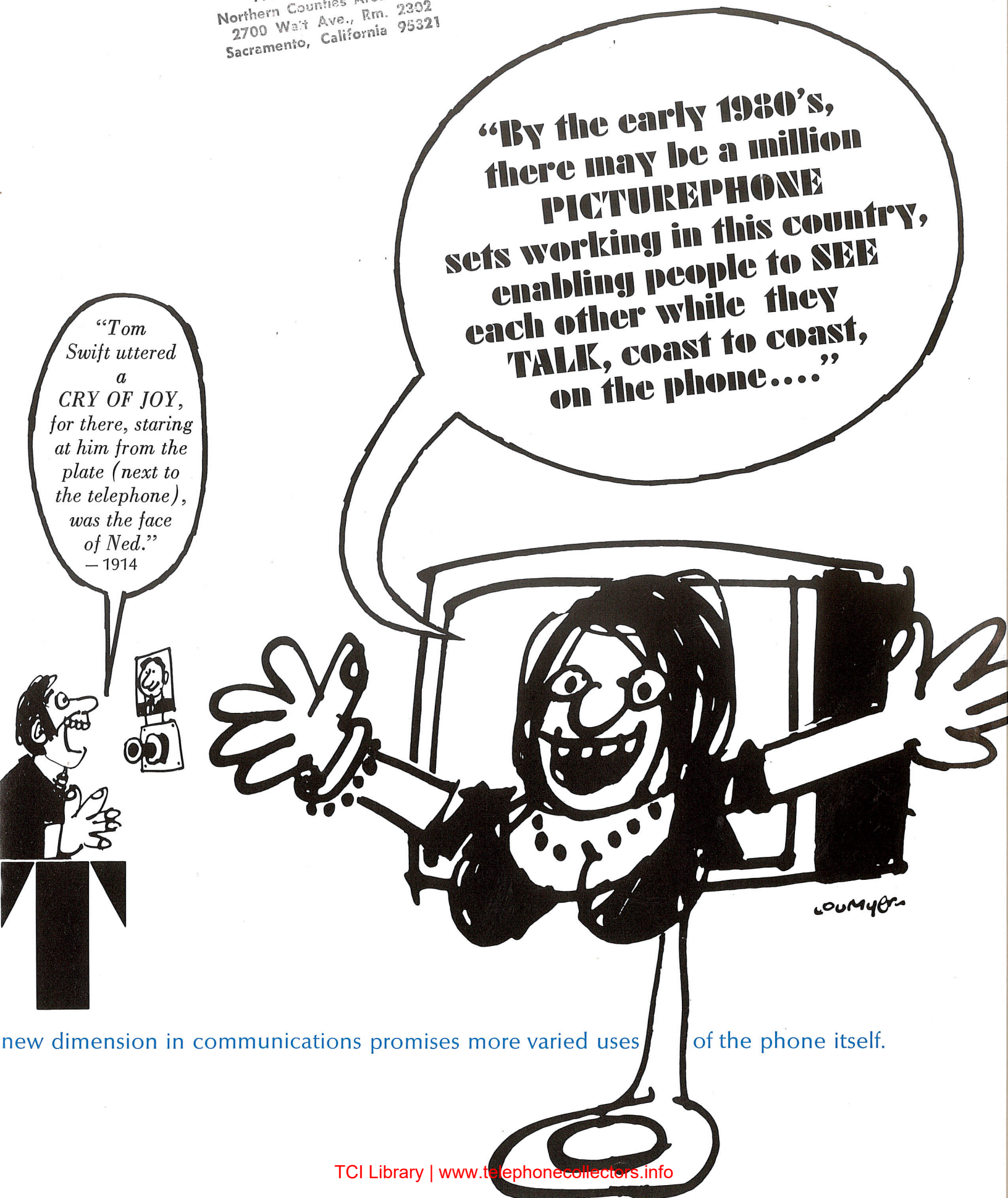


by **B. F. Spinner**
AT&T Marketing and Rate Plans

Reprinted from
BELL
telephone magazine
January/February 1969



See-while-you-talk Picturephone® service is on the brink of expansion. This



new dimension in communications promises more varied uses of the phone itself.

Who would have believed in 1876 that there would be 109 million telephones in the United States in 1969? Or in 1927, who would have thought there would be nearly 75 million television sets in American homes?

Likewise, how many people would speculate today that there will be more than a million Picturephone® sets in use in the early 1980s? But that's just what some prognosticators are saying. Few forms of communications have captured the public's imagination as readily as "see-while-you-talk" telephone service.

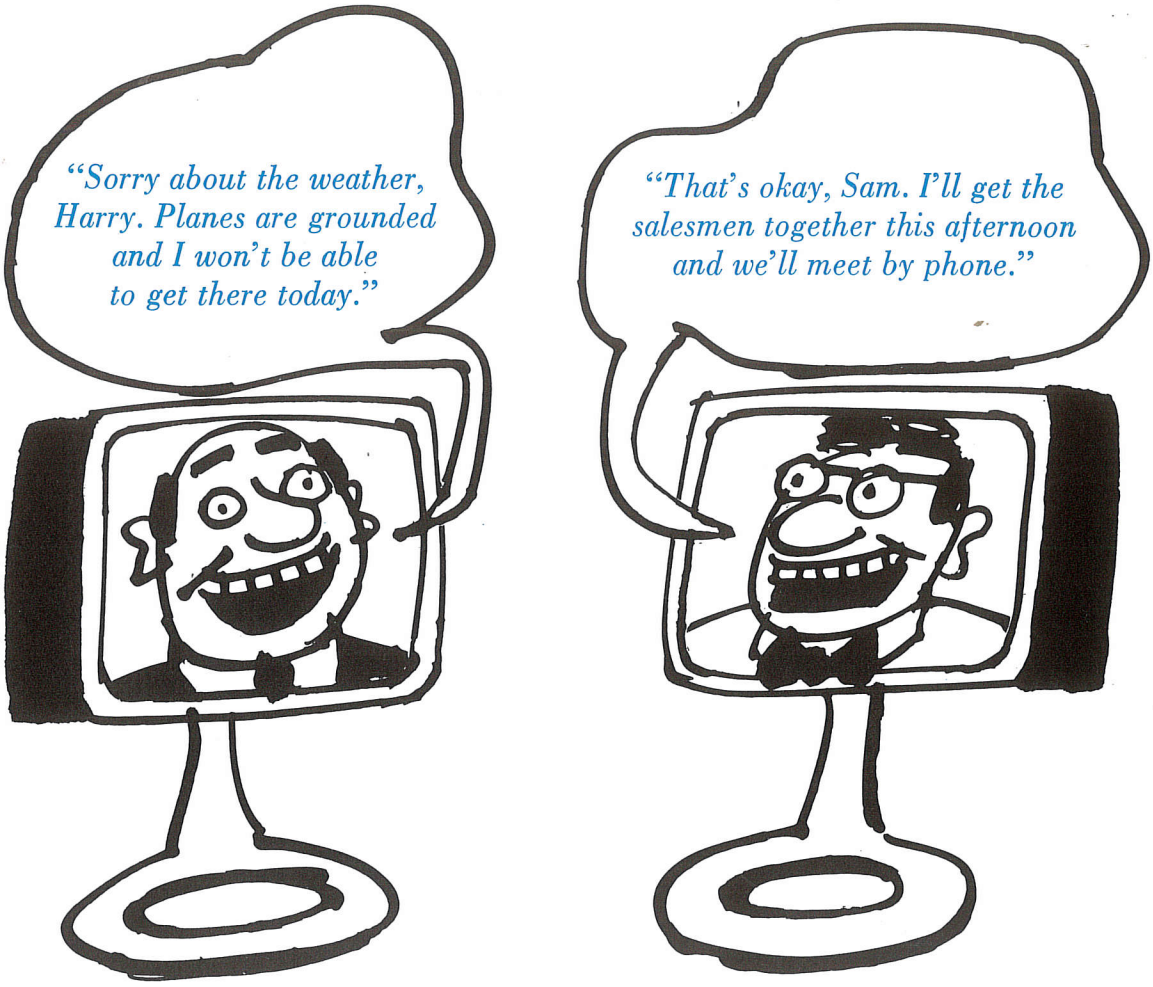
Although a general offering of Picturephone service is still a few years off, results of a product trial just getting underway and a market survey now being taken should provide some of the answers as to where and when the service will be introduced.

The product trial involves some 40 new "Mod II" Picturephone sets that have been installed in the New York and Pittsburgh offices of the Westinghouse Electric Corporation. The trial is designed to test the feasibility of a new intercity transmission system and several new features that have been incorporated into the new Picturephone sets.

Consisting of interviews with business customers of all sizes, the market study seeks to find answers to such questions as how Picturephone service will be used, what rate levels will be acceptable to customers, what types of customers will most likely find a need for it, and how fast facilities will have to be added to the communications network to handle the growth of the service.

These questions are only an indication of the problems the Bell System faces in developing Picturephone service.

The acid test will be the actual introduction of service. For how can the public be exposed to Picturephone service unless it is offered on a commercial basis? And just how commercial *is* the service? Its introduction, however gradual, on a nationwide scale



is not like distributing a new item to a few hundred supermarkets to test its sales appeal. Billions of dollars may eventually be at stake. How should they be spent, and where? Which of hundreds of switching centers in America's cities should be equipped for Picturephone service? Just how much capital will be needed, and how shall it be obtained?

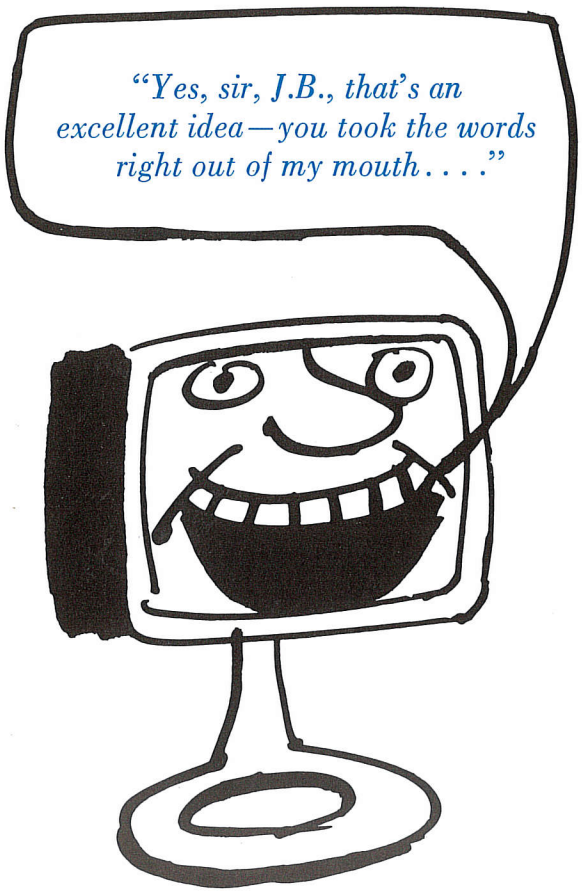
Finding the right answers to such questions will make the difference between successfully introducing a new and useful service to the public, and producing a costly error.

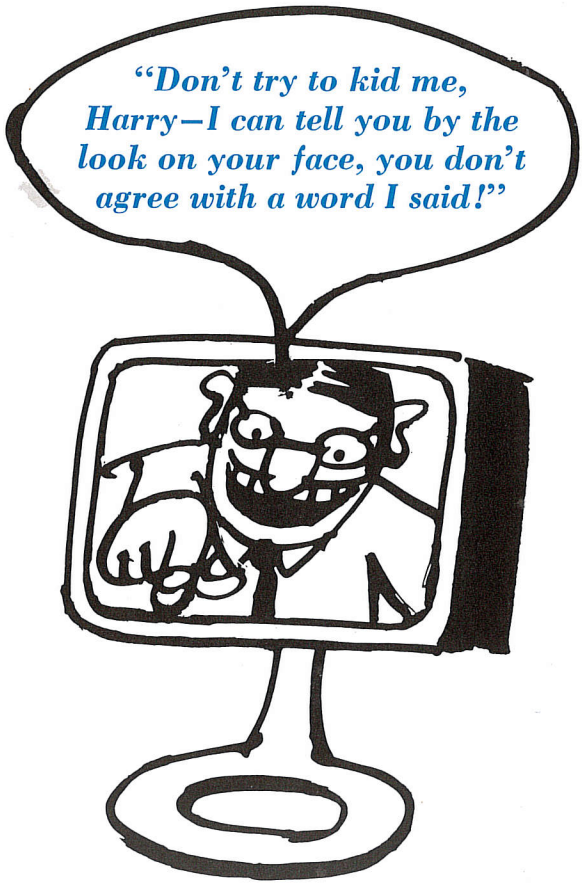
The two current studies are merely the latest in a long series of steps dating back to the initial public demonstration of Picturephone service at the New York World's Fair in 1964. In June of that year, regular commercial service was introduced between Picturephone centers in New York, Chicago and Washington, D.C. Although useful from a technical standpoint, the three-city hook-up has provided limited measurement of the usefulness to customers of Picturephone service since individuals have to make arrangements in advance and then go to the Picturephone centers to complete their calls.

Nevertheless, the Picturephone service in those locations has given some indications of its widespread potential. Late last year, for example, a group of deaf people in New York were able to "talk" with deaf individuals in both Washington and Chicago.

A product trial of an earlier version of the Picturephone set at Union Carbide Corporation offices in New York and Chicago, in addition to being a new experience for the users, produced some valuable information for the Bell System. Review of the trial showed that the primary reason for the importance attached to Picturephone service was that "it gets results which we cannot get via the telephone." For Union Carbide, Picturephone service became valuable as a method of communication which uniquely bridges the gap between a face-to-face meeting and a conventional telephone call.

Although Picturephone service gained in the esteem of its users as they became accustomed to it,





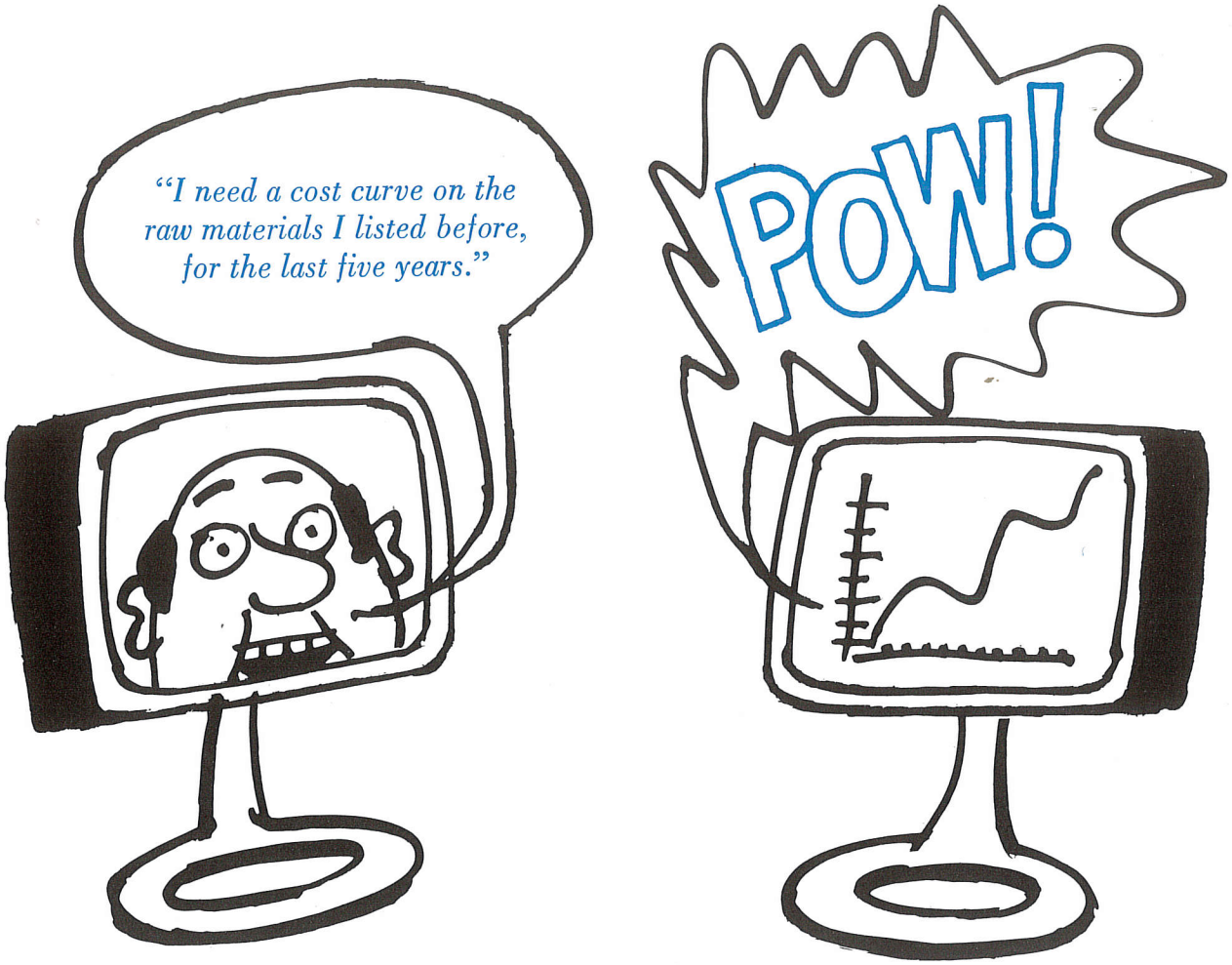
the trial, as does any experiment, indicated the need for certain improvements. These have been incorporated in the Mod II Picturephone set, to the customer's advantage. For instance, the new screen is wider to permit more side-to-side movement and less difficulty staying "on camera." The camera lens is now directly over the screen to give better eye-to-eye contact, and variable focus permits the user to lean back in his chair, move close to the screen, or even walk as far as 20 feet away from the set. The Mod I user had difficulty referring to a small chart or object. Now the Mod II has a "graphic mode" which bends the camera focus downward to the desk top immediately in front of the set.

Other improvements include a zoom lens arrangement, a picture height adjustment, a locking button for self-view, a nearly-360-degree swivel for the set itself, and improved picture quality under ordinary room light.

These changes embodied in the Mod II Picturephone set are being evaluated in the Westinghouse Electric product trial. This trial and the market study will be "go-no-go" indicators that will help Picturephone planners decide whether their product is really workable technically and marketable practically. If the trial and study indicate "no-go," the idea will be shelved, at least for the time being. If the indication is "go," the Bell System will move into a full-scale program to prepare for a standard Picturephone service offering. The latest estimate is that the service may be introduced on a limited scale late next year.

The question of *where* it will be offered initially is about as important as *when*. Picturephone planners assume that the service will commence where there are potentially the most varied uses for it, and where the need is greatest: in large city areas with a high concentration of business customers.

There are several reasons for this assumption. First, there is already an indication that the initial demand will come from the business market. High density telephone areas in large cities contain a broad cross-section of the business community of interest. This is true within the management of one corporation as well as between the managements of dependent or



related corporations. Therefore it is logical to expect an initial demand for the service as an inter-company communications link, within one telephone exchange, with a good deal of auxiliary use as an intercom. As more and more business customers take Picturephone service, it will probably expand to intercity use.

Second, rates will be high compared to telephone rates, and business customers who have a real need for the service will be more likely to subscribe to it than residence customers. Third, downtown areas will more readily conform to the technical restraints imposed by video transmission. And this, finally, suggests a good environment for the rapid development of Picturephone as a part of the telephone network.

Integrating Picturephone service into the nationwide telephone network will mean major additions to the capacity of the network and the expansion of new technology. Long distance Picturephone service will probably involve use of high speed digital transmission systems. This new technique converts voice, video, data or other signals into a stream of coded electrical pulses. Once converted, all signals "look alike" and are interleaved for maximum use of each channel. At the receiving end, the pulses are decoded and converted back to voice and pictures. Since a Picturephone signal requires about six million pulses a second — enough to carry about 100 telephone calls — channels of the future will have to handle hundreds of millions of pulses a second.

The Picturephone set may function as a remote computer display terminal, accommodating about 400 characters of computer output, and small charts or graphs. This capability for computer access — especially among business customers — could rival the use of Picturephone service in face-to-face voice communication.

With all of its intriguing possibilities as a new mode of communication, Picturephone service is envisioned as a natural adjunct to regular telephone service — an evolution of basic telephony. How Picturephone service progresses after its introduction will depend in the final analysis upon the person it is designed for — the customer. □

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