

THE MIRACLE OF LITHOGRAPHY



30 YEARS OF POLYGRAPHIC

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In 30 years of progress

Polygraphic and offset
have grown up together

POLYGRAPHIC COMPANY OF AMERICA

310 East Forty - Fifth Street, New York 17, N. Y.

Murray Hill 4-1200



◀ Here are the elements of color lithography: four blobs of ink, four rollers, four proofs from single-color plates. Each plate prints a pattern of tiny dots which, superimposed on each other, make the four-color picture on this page.



played a significant role in the development of the process and especially in raising the standards of the highest quality offset work. Indeed the two stories are so closely related that it would be impossible to tell the one without the other.

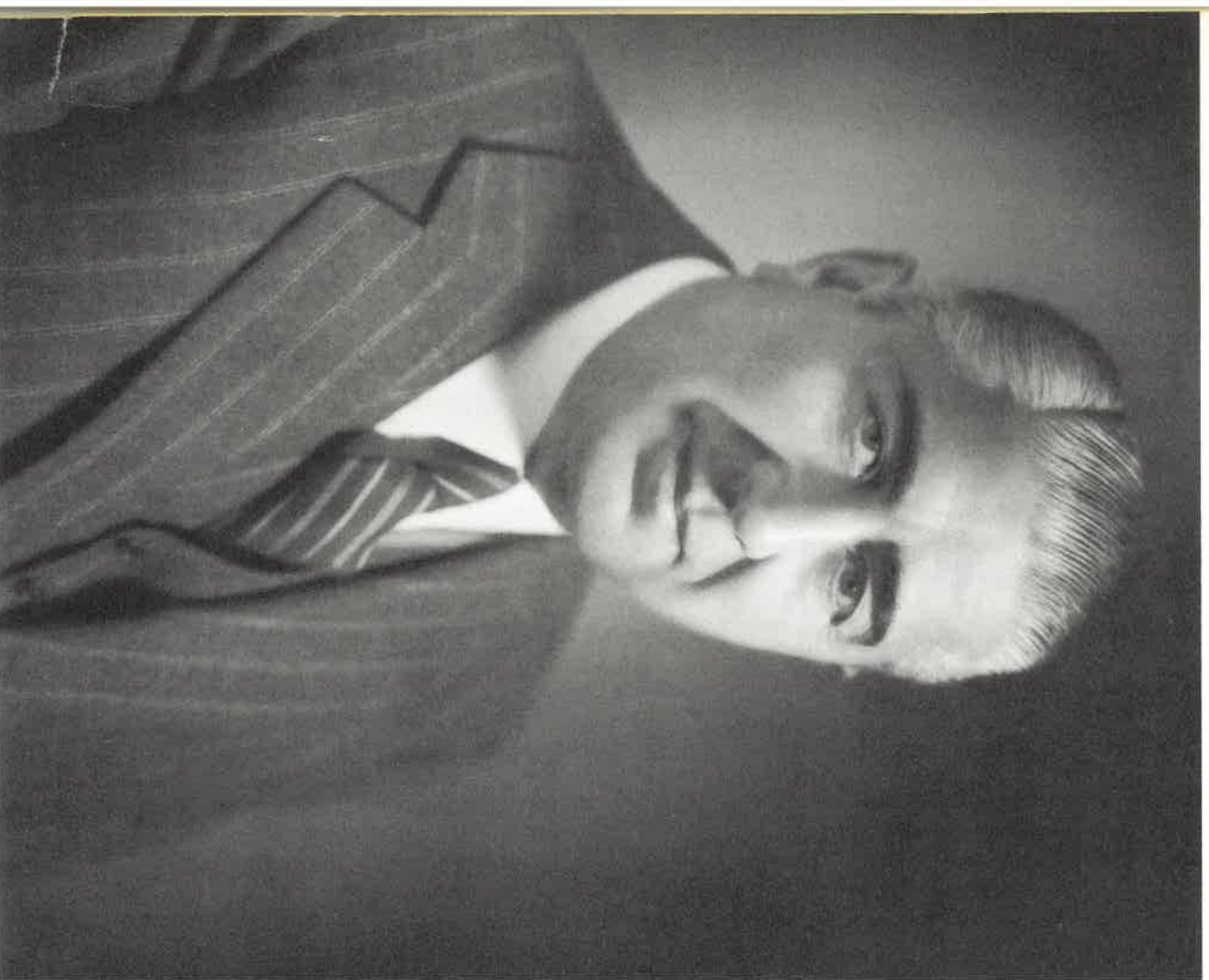
The Lithographic Process

Photolithography, or offset, is one of the three major printing processes now in use. The first and oldest of these is letterpress, stemming from the ancient art of the woodcut and the invention of movable type by Johannes Gutenberg about 1450. In this process, raised type or a raised image is inked and pressed with great force into the paper. The second process is photogravure, derived about 1890 from the old art of copper engraving. In this method, a screened image or typeface is photographically fixed on a copper plate, then deeply etched into the surface to produce a pattern of tiny wells for holding the ink. The paper, pressed against this plate, draws up the ink by absorption.

Offset differs importantly from both these processes, though superficially it has some elements of each. Its image is photographically imposed on a metal plate, as in gravure; the image is slightly raised from the plate, as in letterpress; but printing is done by an entirely different principle. In offset lithography the plate never comes in contact with the paper. The inked plate prints off on a special rubber roll, called a blanket, from which in turn the still ink-wet image is lightly transferred or "offset" onto paper. (The important stages in this process are shown in pictures and text beginning on page 15.) As may be seen from the nature of the offset process, it requires little printing pressure, hence it is the lightest, fastest, most economical of modern printing methods.

The principle of offset lithography, like that of other printing methods, goes back to an older art form, but one so recent that its invention may be precisely placed. In 1796, Anton Senefelder, a poor Austrian artist, discovered that a piece of porous stone upon which he had distractedly jotted a laundry list in greasy crayon could be used as a printing medium. On wetting and then inking the stone, it became a printing plate. The greasy markings repelled the water but held the oily ink, while the exposed portions of the stone, which took up the water, rejected the ink. All lithography still depends on this ancient principle that oil and water do not mix.

A search had been going on for years prior to this discovery for some cheap method of reproducing pictures in



ROBERT M. WERBLOW, *president of the Polygraphic Company.*

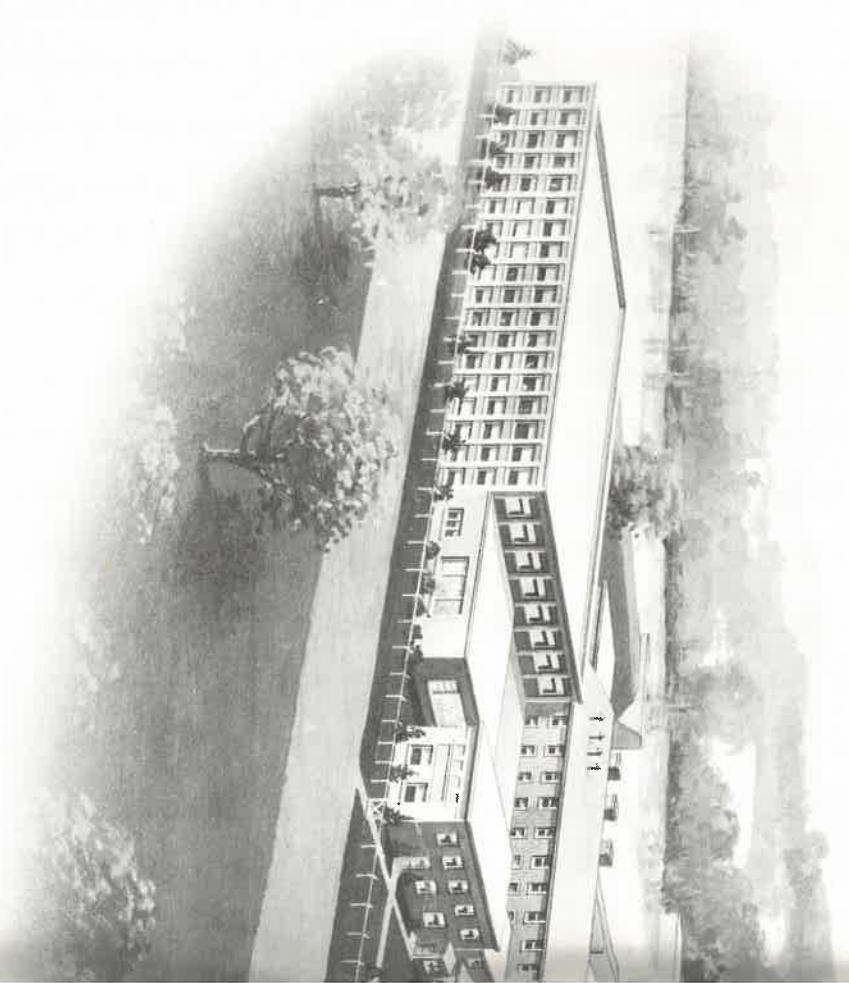
The Polygraphic Company of America appeared on the scene just as offset lithography was struggling up out of the stone age. Polygraphic got into the business in a curious way, through the back door. It came about like this:

In 1924, Robert M. Werblow, a young New York banker with a talent for sales, saw the opportunity to acquire, together with his brothers, a cut-film business then trying to break into the photolithographic trade. The time seemed ripe for this development. The industry was still using the old, glass photographic wet-plate for getting negatives to print on metal. It was messy, uncertain, cumbersome, hazardous. The new idea was to replace the wet plate with dry cut or strip film, prepared to any dimensions. It could be handled and developed as easily as any modern film. Robert

JAMES WERBLOW, vice-president and sales manager of Polygraphic.

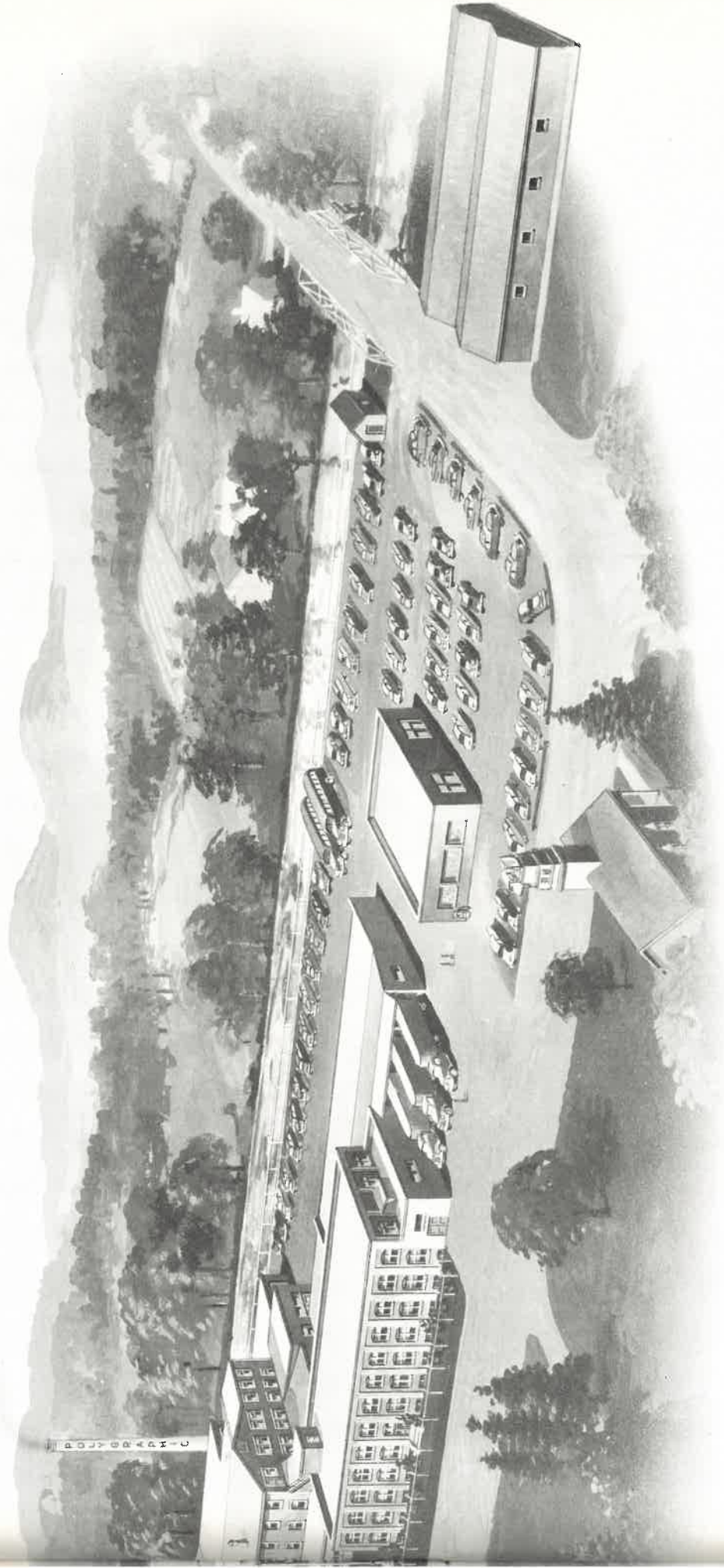


The plant at North Bennington, which Polygraphic bought in 1936 and later expanded, stands beside a small stream in the rolling Vermont countryside, approximately forty miles east of Albany, New York.



The officers of the Polygraphic Company meet in the board room of the New York headquarters, with President Robert M. Werblow at the head of the table. Left to right: Harold B. Seales, assistant treasurer; Albert A. Clune, treasurer; James Werblow, vice-president and sales manager; Robert M. Werblow; Earl E. James, vice-president in charge of Vermont plant operations; Harry Sykes, vice-president in charge of greeting card production; Joseph A. Hyland, vice-president in charge of book manufacturing.





printer whose account it was and to whom he had been trying to sell film for two years.

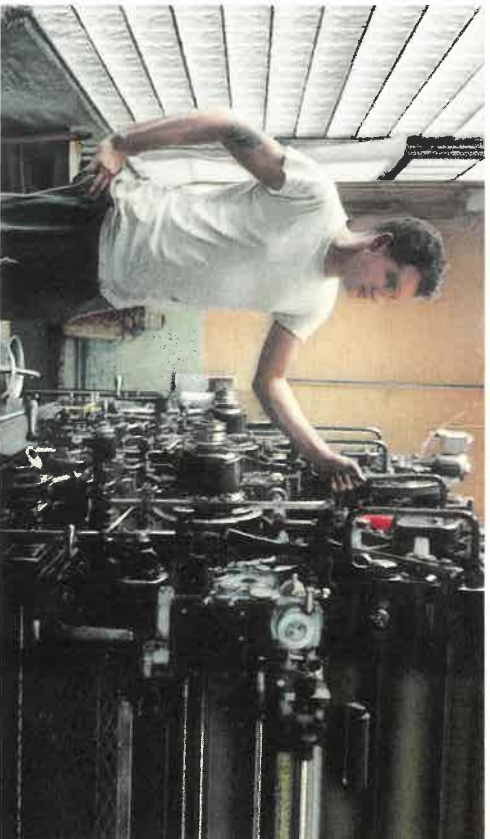
"Mr. Jones," he said, "I'm going to take this job away from you."

Polygraphic got the job—its first—and delivered it in such good order, at such low cost that Paramount asked it to bid on the printing of a decorative fan for promotional distribution in movie houses over the country. Polygraphic got that job, too, and Paramount was a steady account thereafter. Polygraphic undertook to print Paramount's line of sheet music, then still being done by the old lithographic process on stone. "With Paramount," says Werblow, "we took music printing out of the stone age." In a short time, nearly all photolithographic plants had moved over to the use of film. Thus Polygraphic helped modernize the industry

and, in addition to its sale of film, found itself in the printing business.

The Growth of Polygraphic

The offset process was still only a tiny part of the total printing trade, struggling to improve quality and live down its early crudities. To increase its sale of film, as well as to keep its presses busy, the Polygraphic Company had to go out and sell offset as a process. Through the Thirties it put on lectures and plant tours to acquaint advertising men, sales executives and others with the process. It sent out



Donald Davis, press operator



Dexter G. Shultz, paper-cutting machine operator



Mrs. Barbara Sprague, folding machine operator

The sturdy type of New England
workman seen on this page
is independent,
and quick to acquire skills.
He was a major factor
in bringing Polygraphic to Vermont.

Spencer A. Haynes, color photographer



Charles Griffith, color stripper