

## AUTHOR'S NOTE

THE object of this volume is to introduce the reader to what must be the most interesting and at the same time the most complex of all the printing processes. No attempt is made herein to deal with the technical skills of each section of the process. These will be fully dealt with in the volumes that follow. I have, however, attempted to correlate those sections and to show how the principles of each are interdependent.

Long experience with students of printing has convinced me that no other section of the industry demands so much pure craftsmanship. It is fair to say that in many cases the omission of the smallest detail in processing will result in a spoiled job.

Lithography has made tremendous progress since the war, and modern camera techniques combined with greatly improved printing plates are tending to ease the lot of the machine operator. Yet despite this there is still a considerable demand for the skill of the chromo artist and the transferer, whose work has changed little since the time of Senefelder. Thus we have this lusty infant Lithography combining the ancient skills with the developments of the future in electronic photo-typesetting and high-speed web-fed offset machines on a variety of materials that is truly astonishing.

I should like to thank Dr. Clulow for permission to quote from his work on *The Physico-Chemical Theory of Lithography*. I should also like to thank all those who have contributed in any way towards the completion of this book. For illustrations I am indebted to George Mann & Co., Harris Seybold Company, Rotaprint Ltd., Addressograph-Multilith Co., Horsells Ltd., Pictorial Machinery Ltd., S. R. Littlejohn Ltd., Monotype Corporation, Intertype Ltd., Air Control Installations Ltd., and to P.A.T.R.A. for photographs.

B.W.S.

# Lithography: Principles and Practice

## CHAPTER I

### HISTORICAL BACKGROUND

IN the year 1817, Alois (or Aloys) Senefelder wrote his book on the invention and art of lithography. It is largely autobiographical but proves that the whole credit for the discovery and invention of lithography is due to the author.

Senefelder was the son of an actor in Munich, and when his father died he resolved to become a dramatic author. Some minor successes induced him to have some of his pieces printed and, in watching the printers at work, he wished for a small printing establishment of his own. Lacking funds for this enterprise, he attempted the etching of copper plates, became a painstaking and efficient draughtsman, and was especially adept at drawing letters in reverse for this process.

For rubbing down his colours Senefelder used a piece of Kellheimer stone or Solnhofen limestone and, finding copper plates too expensive, the knowledge of chemistry that he had acquired during his student days suggested this limestone as a cheaper substitute. It proved excellent and could be etched with nitric acid in the same way as copper.

DISCOVERY OF LITHOGRAPHY. One day, according to the oft-quoted story, he was requested by his mother to write a laundry account. The writing ink was dried up, his stock of paper exhausted for proofs, and with the laundress waiting outside he wrote the laundry list on a newly-ground stone