

PAPERS ON APPLICATION OF STATISTICS

INTRODUCTION

By C. M. WAKEMAN¹

Some years ago the general manager of a large industry was instructed to "take care of" a job-seeking relative of the first vice-president. In order not to disrupt the organization, the subject was told to justify his place on the pay roll by investigating the circumstances surrounding a chronic condition of rejections of sub-standard materials in one part of the plant process. It so happened that the man had recently perused a report appearing in the 1933 *Proceedings*—the A.S.T.M. on Manual of Presentation of Data prepared by Committee E-1.² Connecting the information he obtained in that report with his particular problem, he eventually instigated a system of statistical quality control in the critical section of the factory. The ensuing benefits resulted in eliminating more than 50 per cent of the rejections and so astounded both the employee and the general manager that quality control soon took its rightful prominent place in the affairs of the company.

The importance of the application of statistics to quality control in modern testing has become so widely accepted that it needs no formal introduction. The excellent work of A.S.T.M. Committee E-11 on Quality Control of Materials has made available indisputable mathematical sampling procedures which assure

that the quality of the finished product will not fall below a stated level.

In a session at which Mr. Arthur W. Carpenter, B. F. Goodrich Co., and Past President of the Society, presided, three papers presented hereinafter were delivered by Messrs. Grant, Wernimont, and Youden and Cameron at the First Pacific Area National Meeting on October 11, 1949. These authors were selected by the Technical Program Committee, not alone for their propensity for introducing the subject of Application of Statistics to those unfamiliar with the subject, but also because they were familiar with practical problems.

The papers were followed by a showing of the film "Modern Quality Control".

Quality Control by Statistical Methods was originally conceived by Walter A. Shewhart of the Bell Laboratories in 1925, but it was not until the threat of war in 1941 that his techniques began to receive widespread attention. Then, through the efforts of the Ordnance Department, the government sponsored educational courses in Statistical Quality Control for all industries. Thereafter numerous societies were formed.

Statistical Quality Control now began to grow rapidly, proving its worth in more than two thousand companies. The various independent societies were amalgamated into the present nation-wide American Society for Quality Control in 1946.

¹ Testing Engineer, Los Angeles Harbor Dept., Los Angeles, Calif.

² *Proceedings*, Am. Soc. Testing Mats., Vol. 33, Part I, p. 453 (1933).