

# TRANSFORMATIONS OF BIMODAL DISTRIBUTIONS

By

G. A. BAKER

## I. INTRODUCTION

Several men have concerned themselves extensively with the transformation of frequency distributions, for instance, Edgeworth, Kapteyn, Arne Fisher, and H. L. Reitz (see 1, bibliography). The first three of these men have been concerned with transformations as a means of extending the scope of the normal distribution and Gram-Charlier system as a method of description. Reitz has been more interested in the properties of the transformed distributions.

There are three types of transformations that are of particular importance:

- (1)  $u = x^n$  because it has a physical interpretation.
- (2)  $u = \log x$  because Arne Fisher and others find it useful.
- (3)  $u = e^{-x}$  because it is the inverse of (2).

These three transformations will be discussed in some detail for bimodal frequency distributions. It is interesting to note that it is possible to transform a bimodal distribution into a unimodal distribution and vice versa by means of these transformations. The general scheme of the first part of the following is that of H. L. Reitz (see 1, bibliography).

The latter part of this paper consists of a few remarks on transformations in general.