Contributions to the Theory of Systematic Statistics, II

——Large Sample Theoretical Treatments of Some Problems Arising from Dosage and Time Mortality Curve.——

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Introduction

In an earlier paper[1] the author has developed some theory of systematic statistics and announced before-hand that he shall deal with problems arising from dosage and time mortality curves as applications. The present paper includes such articles.

Estimation of parameters of dosage mortality curve has been deviced by many mathematical statisticians ; among others by C. I. Bliss[2] and R. A. Fisher[3], and many contributions have been made by them. On planning experiments for estimating parameters of the dosage mortality curve, Dr. Milton Friedman has written an excellent exposition in Chapter 11 of " Selected Techniques of Statistical Analysis for Scientific and Industrial Research and Production and Management Engineering " by the Statistical Research Group, Columbia University, 1947.

Estimation of parameters and testing statistical hypotheses concerning unknown parameters and design of experiments in both cases of dosage- and time mortality curve are attacked here tracing the formal analogies with the theory of systematic statistics. And it will be seen that some new aspects of the problems will be revealed.