

**SOME PROPERTIES AND APPLICATIONS OF THE STUTTERING
GENERALIZED WARING DISTRIBUTION**

J. PANARETOS

School of Engineering

Division of Applied Mathematics

University of Patras

P.O. Box 1325 - Patras, GREECE

(Received July 27, 1987 and in revised form March 3, 1989)

ABSTRACT

The Stuttering Generalized Waring Distribution arises in connection with sampling from an urn that contains balls of two colours (black and white) and it can be thought of as an intermingling of generalized Waring streams (Panaretos and Kekalaki [4]).

Because of its application potential a study of its properties would be worthwhile. In this paper it is shown that it can be obtained as a mixture of the generalized Poisson distribution. It is also demonstrated that, in an urn scheme, increasing the number of balls in the urn in an appropriate fashion one can end up with a Poisson type or a negative binomial type sampling distribution as an approximation to the stuttering generalized Waring distribution.

Keywords and Phrases: *Generalized Waring Distribution, Generalized Poisson Distribution, Mixtures of Distributions, Urn Models, Accident Theory, Hypergeometric Function.*

AMS 1980 Subject Classification.

Primary: 62E20, *Secondary:* 60E05, 60F99, 62E10, 62P25