SYNOPSIS OF ELEMENTARY MATHEMATICAL STATISTICS[1]

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Section *IV*. The Graphical Representation of Frequency Distributions

25.   The investigation of a frequency distribution is greatly facilitated by presenting the data graphically by means of either a *Frequency Polygon* or a *Histogram*, depending upon the nature of the distribution.

For a distribution of discrete variates the frequencies are represented by ordinates whose lengths are proportional to the various frequencies and whose abscissae correspond to the variates of the distribution.   The shape of the distribution is rendered more apparent by either connecting the tops of the ordinates by straight lines, thus forming a *Frequency Polygon*, or drawing a *Frequency Curve* that approximately passes through the vertices of the polygon.   Figure I presents the Frequency Polygon derived from the data of Table XI.   In addition a curve has been drawn to illustrate the general trend of the distribution.

If the frequency distribution under examination be one of grouped discrete or continuous variates it will be found that the *Histogram* is best suited for graphical representation.   A Histogram is a series of rectangles erected on bases that are proportional to the class intervals and with altitudes proportional to the respective class frequencies. Thus, in this case, the frequencies are represented by areas.   The shape of the distribution may be emphasized by constructing a continuous fre-

1 A continuationn of an article bearing the same caption appearing in Vol. I, No. 1, of the Annals.

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