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## A Sociometric Matrix

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A Sociometric Matrix described herein developed from a felt need of the writer. The results from four sociometric tests had been recorded on four charts, but use of these separate charts proved cumbersome. Therefore, the attempt was made to compile a matrix in which all the choice patterns would appear simultaneously—a visual representation of the psychological situation seen from the viewpoint of each individual. After considerable experimentation, the writer developed such a device and named it a "Sociometric Matrix." It measures 24 by 20 inches. Each individual is represented by a rectangle which has been subdivided into six smaller cells. The position of each cell designates the category it

represents, and each has its distinctive color to make the differentiation clear. Unfortunately, it is too detailed to permit photographic reduction to manuscript size.

Since the number of subjects is twenty-five, the chart is comprised of twenty-five by twenty-five rectangles. The numbers in the vertical and horizontal margins refer to individuals. If we desire to know the number of choices an individual has received, we read the verticals under his number. To chart the choices he made, one reads the horizontal. At the bottom of the chart, we have a summation rectangle for each individual in which the total choices received on each category has been recorded in the appropriate cell. The present data involved unlimited choice on variable 1, and five choices were given for variables 2, 3, and 4. Therefore, to ensure accurate transference of data from the separate charts, each individual's horizontal total for cells number 2, 3, and 4 should equal five. The grand total for these variables equals  $125 - (N \text{ choices}) \times (N \text{ subjects})$ , or  $5 \times 25 = 125$ .

#### THEORETICAL AND PRACTICAL ASPECTS

**SIMPLICITY.** At the risk of commenting on the obvious, it may be stated that any one can draw up a Sociometric Matrix to suit his own data. The writer has found engineering chart paper most convenient for it can be bought by the foot in any desired length.

**FLEXIBILITY.** Both the number of cells (variables) and the number of rectangles (individuals) can be adapted to the data. Moreover, they may be adapted to qualitative description as well as the simple enumeration of a choice. For example, in the present Sociometric Matrix, a perusal of cells 3 and 4 can tell only whether or not a choice has been received. However, a double-cell allotted to the variable "Acquainted, September," permits it to be tri-dimensionalized as follows: In the first place, a color entry in the top cell indicates acquaintanceship; secondly, an entry in the lower cell of "W" or "L" symbolizes the strength of the relationship—whether the individual was acquainted "well" or "little"; and thirdly, a plus, minus, or zero symbolizes the affectivity of the relationship—whether positive, negative, or neutral. Thus existence, strength, and direction of an interpersonal variable can be ascertained at a glance.

**VERSATILITY.** The Sociometric Matrix may be used for many kinds of sociometric, educational, and psychological research. In the present example, it has been used for a cross-sectional study of interpersonal relationships existing at a certain time. However, it should prove equally appropriate for developmental studies, as Cell 1 to Cell "n" can represent time 1 to time "n". Cross-sectional and developmental aspects can be combined by having an arrangement of cells within the rectangle as follows:

	TIME 1	TIME 2
VARIABLE 1	1	
" 2	2	
" "n"	"n"	

**LEVELS OF INTERPRETATION.** The Sociometric Matrix permits analysis at various levels. A cursory perusal reveals stars, isolates, and other characteristics of the population under investigation, or that some individuals are chosen on only certain variables, others on all variables, etc. At a more complex level, interpretation can be made in terms of matrix algebra, by partial and multiple correlations, by indices of sociometric relationships, and by factor analysis.

**APPLICATIONS.** The time invested in constructing the Sociometric Matrix has proved salutary indeed, since it facilitates statistical analysis. Moreover, arranging all the data in matrix form results in a *Gestaltqualität*. Global patterns which can not be perceived in discrete charts emerge when the totality of relationships is perceived simultaneously. It has been found useful also as a visual aid in explaining research.