ISOPLETH

IN SCIENCE for July 13, Professor Lane tells of his need for a generic name for the lines used on maps to show equal values for various phenomena. He suggests that we make "isontic" the name for the genus that includes such species as "isobar," "isochlor," "isogam" and "isotherm."

I do not know how wide-spread the word "isopleth" may be. The "pleth" root refers to the plethora or degree of fulness in some respect. It is used by Huntington and Williams on page xii of the second edition of their "Business Geography," and elsewhere. I think that I have seen the term used by others, but I do not find it in my big Webster.

I dislike "isontic" because it sounds to me like an adjective instead of a noun. Besides, why make another name when there is a good one already?

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GENERAL FACTORS IN A TABLE OF INTERCORRELATIONS

IN studying the intercorrelations of a group of character traits, the following technique was developed. It seems of such general application in constructing a battery of tests that it should be made available at once to those interested in this field. The steps in the method are as follows:

(1) Construct a table of intercorrelations of the tests according to the usual method.

(2) Pick out the group of tests having the highest correlations with one another, and by Spearman's formula ("The Abilities of Man," Appendix, p. xvi) determine the correlation of each of the tests with the supposed general factor.

(3) Take this general factor as the criterion and, having its correlations with the specific factors and also the correlations of the specific factors with one another, work out the multiple correlation of the specific tests with the general factor. Weight the individual tests and obtain the regression equation.

(4) Using the regression equation for two or more general factors, *e.g.*,

$$\frac{X_0 - M_0}{\sigma_0} = \beta_{01.2}\left(\frac{X_1 - M_1}{\sigma_1}\right) + \beta_{02.1}\left(\frac{X_2 - M_2}{\sigma_2}\right) + \cdots + \beta_{0u(c-u)}\left(\frac{X_u - M_u}{\sigma_u}\right)$$

correlate the general factors according to the simple formula

$$r = \frac{1}{N}\Sigma\,\frac{x}{\sigma_x}\cdot\frac{y}{\sigma_y}.$$

When this technique is employed, a number of tests with relatively high correlations may have to be discarded because their regression coefficients approach zero. Retaining only those with significant regression coefficients, we have so far found that, for the groups studied, Spearman's tetrad difference criterion holds and also Dodd's coefficient of equiproportion. Before eliminating the tests with zero regression coefficients, there were several high partials that disturbed the coefficient of equiproportion.

One advantage of the technique is that in constructing a battery of tests it settles the problem of the criterion and allows the determination of weights for all the tests, including the specific test which might have been available, according to the ordinary method, only as a criterion.

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QUOTATIONS

THE ELGIN BOTANIC GARDEN

WHEN John D. Rockefeller, Jr., leased the "Upper Estate" of Columbia University for a great public improvement it was recalled that the land involved included a large part of the Elgin Botanic Garden, which was started in 1801 as a private enterprise on twenty acres of land which Dr. David Hosack bought of the city corporation for $4,807.36 and "a quit rent of sixteen bushels of good merchantable wheat to be paid every May in kind, or its equivalent in gold or silver." Dr. Marshall A. Howe, assistant director of the New York Botanical Garden, prints in the journal of that institution for March an interesting sketch of Dr. Hosack's enterprise, which eventually conferred on New York State its first publicly owned establishment of this nature.

Dr. Hosack was professor of botany at Columbia, and he labored unsuccessfully to induce the college, and later the state, to found a botanical garden. When he realized he could not accomplish this, he bought "nearly twenty acres of land" between the present Forty-seventh Street and Fifty-first Street, west of the Middle Road—now Fifth Avenue—a site then described as "distant from the city about three miles and a half." Dr. Hosack labored diligently in the garden, but eventually the burden of maintaining it became more than he felt he could bear. After much negotiation, in which he had the support of the County Medical Society, the governors of New York Hospital, the Mayor and Common Council, he succeeded in inducing the state to buy it under the provisions of "An Act for Promoting Medical Science