papers by K. Menger[1] concerned with the validity of the law of diminishing returns. This is: *Let the product of applying* y(e.g., *dollars*) *to* x(e.g., *acres*) *be* $E(x, y)$. *Then for* $h>0$

$$E(x, y_2 + h) - E(x, y_2) < E(x, y_1 + h) - E(x, y_1)$$

provided $y_2>y_1>y=y(x)$. Various properties of production functions E such as monotony, super-additivity, super-homogeneity, dependence are introduced. Examples are presented to show how these are related among themselves and with the above law and similar propositions. These relations are summarized graphically. This essay can be recommended by mathematicians to their friends in social science as an example of how one discipline can be used in another.

The concluding essay by Morgenstern is concerned with the role of experiment and computing in economics. Apart from discussions of a more philosophical nature there are indications of some computational experiments of immediate interest to economists.

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Mathematics and plausible reasoning. By G. Pólya. Volume I, *Induction and analogy in mathematics*, 16+280 pp., $5.50; volume II, *Patterns of plausible inference*, 10+190 pp., $4.50. Princeton University Press, 1954. 2 vols., $9.00.

There are many so-called "popular" books on mathematics. Some of them turn out to be of interest to professional mathematicians only (or, perhaps, to professional mathematicians *in ovo* as well). Others are so non-technical as to be well within the reach of any educated layman, and, consequently, their subject hardly deserves to be called mathematics. Most of the time Pólya manages to steer an admirable course between these two extremes. The two volumes under review are, however, not uniform in this respect; the first is more the mathematician's volume and the second the philosopher's. Since this review is addressed to mathematicians, it will discuss the first volume in more detail, and, it may well be charged, with more sympathy, than the second.

The book as a whole is organized around the central thesis that a good guess is quite as important as a good proof. As in his little book *How to solve it*, Pólya advocates that the mathematician should think and talk (at his desk and in the class room) about the theory of guesses as well as the theory of proofs. "Certainly, let us learn proving," he

[1] *Bemerkungen zu den Ertragsgesetzen* and *Weitere Bemerkungen zu den Ertragsgesetzen* in Zeitschrift f. Nationalökonomie vol. 7 (1936) pp. 25–26 and 388–397.