THE SECOND AWARD
OF THE BÔCHER MEMORIAL PRIZE

The Annual Meeting of 1924 was marked by the second award of the Bôcher Memorial Prize. On recommendation of the Committee, this prize, which was offered for a notable research memoir in volumes 19–24 of the TRANS-ACTIONS, was divided equally between Eric Temple Bell for a memoir entitled *Arithmetical paraphrases*, published in volume 22, and Solomon Lefschetz for a memoir entitled *On certain numerical invariants of algebraic varieties with applications to Abelian varieties*, in the same volume.

The presentation was made at the beginning of the afternoon session on December 30 by President Birkhoff as chairman of the committee. After some personal references to the mathematician whose name this prize commemorates, he gave the following brief resumés of the papers as analyzed by the committee.

"The memoir by Bell is a fundamental contribution to the theory of numbers. That field of mathematics is largely an aggregation of special results and methods. What have been needed are general principles, serving to unify and extend. Such a general principle is given by Bell. This principle may be stated very simply for a special but a typical case. Suppose that by the development of an elliptic or theta function we have found a linear identity between the sines of the angles $a_i x + b_i y$ for $i = 1, 2, \cdots$, then if $f(a, b)$ is an arbitrary even function, Bell shows that we have the like linear identity between the $f(a_i, b_i)$. Since we are free to choose the even function, we may deduce as many arithmetical facts as we please from the initial identity. Similarly from a linear identity between cosines we derive a corresponding identity for an arbitrary odd function. These are merely the simplest cases of the

13