

1023-11-1245 **Barry Mazur***, Harvard University, Cambridge, MA. *The structure of error terms in number theory and an introduction to the Sato-Tate Conjecture.*

My aim is to discuss, in very concrete of terms, an important conjecture about the probability distribution of (let us call them:) *error terms* in number theory, posed forty years ago by Mikio Sato and John Tate. This was finally verified last Spring for a large number of important cases as the culmination of three major works, these being in three distinct mathematical settings, coming together in a marvelous way:

- *automorphic representation theory* (work of Laurent Clozel, Michael Harris, and Richard Taylor)
- *algebraic geometry* (work of Michael Harris, Nicholas Shepherd-Barron, and Richard Taylor)
- *algebraic number theory and Galois deformation theory* (work of Richard Taylor).

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