1077-A0-44   **Barry Mazur*** (`barry.mazur@gmail.com`). *Why is it plausible?* Preliminary report.
We have handy ways of discovering what stands a chance of being true. Any such way that is systematic, and that has been successful so far, goes under the catch-phrase *heuristic method*. They abound, these methods—explicitly formulated, or not. They lead us, perhaps, to a mere hint of a possibility that a mathematical statement might be plausible. At that point we might go about garnering other shades of plausibility arguments (as Polya wrote inspiringly about) and evidence of different colors, such as: analogies with things that are indeed true, computations, special case justifications, etc. Perhaps our thinking will reach the stage of some title of commitment such as **conjecture**. The end-game here is proof, of course. I want to focus on the beginning game, though, and spend the hour thinking of the nature of our current heuristic methods, and their fine structure. (Received September 17, 2011)