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On the nature of mathematical conjecture.

In mathematics truth and beauty go hand-in-hand. The beauty of the subject derives from an appreciation of the truth behind the theory. But, on the working edge of the subject, where conjectures are formulated and turned into theory, it seems to work in the other direction, in the process beauty is being turned into truth. This talk will describe some of the experiences of the speaker concerning what conjectures are and how they are formulated, where the sense of beauty plays an important role in guiding intuition. (Received September 22, 2011)