

Wiki: https://en.wikipedia.org/wiki/Barry_Arthur_Cipra

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Barry Arthur Cipra - [Barry, Cipra, 17, 65, 1980, 2021, 4, 4, 0]

Barry Arthur Cipra is an American mathematician and writer. He regularly makes several contributions to the Science magazine and SIAM News, which is a monthly publication for the Society for Industrial and Applied Mathematics. He got his Ph.D from University of Maryland College Park in 1980. Afterwards he was an instructor at MIT and at Ohio State University. Also served as an assistant professor of mathematics at St. Olaf College in Northfield, Minnesota.

Barry believes one of his jobs is to take hard to understand mathematical concepts and try to make them understandable to a general audience. This is why instead of doing math, he likes to report math. This wasn't always the case however. His PhD work was on modular forms, which are analytic functions that embody all sorts of number theoretic information. The specific part that Barry worked on was something known as the Shimura lift, which allows us to map modular forms of half integral "weight" to integral weight. Shimura's work only kicked in when the weight was $5/2$ or higher. Barry's goal at University of Maryland was to reduce this weight to $3/2$.

After his postdoc at MIT, Barry started talking to a visitor at the chemistry department. Although this person was in the chemistry department, he was essentially a mathematics deep down. They spoke about a problem he was having in ferromagnetism, which is a mechanism by which certain materials, commonly iron, form permanent magnets naturally. The visitor's problem was ferromagnetism and its link to the Ising model, which was a famous problem in statistical physics. Roots of Barry's desire to take hard math concepts and simplify them for the general audience was starting to be known now. From his work with this visitor, he wrote a "beginners guide" to the Ising model and the math that it is made up from. This guide was so popular and powerful that a 90 year old Ernst Ising read it and wrote a highly complementary letter to Barry through the mail. This is when Barry realized his potential in this new found career. After many postdocs, at the end of his last one, he started looking around at academic positions. But he was fortunate that others pushed him to pursue what he actually wanted to do, journalism.

He's always had an interest in writing ever since he was a child. Although he never had any professional training, he did take a journalism class in high school and started working on the school newspaper in the following year. Even though currently he reports math, he still dabbles in some low level problems to keep his mind fresh. He likes to come up with problems that are simple to state but have not so simple proofs or explanations. Thankfully, because of Barry and his contributions to the Science magazine, he has inspired many to pursue the field of mathematics.