Me and David C. Ullrich

Source: http://sci.tech−archive.net/Archive/sci.math/2005−10/msg00791.html

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- *Date*: 8 Oct 2005 07:12:35 −0700

On this forum I have argued the question, "Two coins were flipped and at least one is a head. What are the chances that there are two heads?"

Many mathematicians get it confused with "The probability for two heads, given at least one head?"

I say that "given at least one head", and told, "at least one head" mean two different things.

Dr. Ullrich has stated in this forum, that the two mean the same thing. If for no other reason than that he said so. Also because everyone assumes them to be the same. (everyone does not, I don't)

I had occasion to visit Oklahoma State University. I found Dr. Ullrich in the Student Center. He said I was not welcome there. He refused to discuss the question with me there, as he has refused to discuss it here.

The probability for two tails, given at least one tail is one third. That is defined mathematically and is not arguable.

What it means to say, "at least one is a tail" is defined in the world domain and means what it says. As the math domain is a subset of the world domain, it is not possible to re−define, inside the math domain, what "at least one is" means in the outside world.

An example:

Suppose that a computer program randomizes the coins, or dice, or puppy dogs. Then shows us to colors. Suppose that we see a red and an orange.

We can make the statement"there are two colors and at least one is red" or we can make the statement "there are two colors and at least one is orange." The red statement tells nothing of orange, and the orange statement tells nothing of red.

The statements "at least one is red" and "at least one is orange" demonstrate what it means to say "at least one is".

Now make the statement, "There are two colors, given at least one red." Does that mean the same thing as "There are two coins, given at least one head"? If it does, then the probability for two reds is 1/3. To mean the same thing as "given at least one", the 'red' statement must convey some knowledge of 'orange' and the 'orange' statement must convey some knowledge of 'red'.

Dr. Ullrich seems to be somewhat of a fakir. He plays a lot of bachgammon.
He argues a lot in this forum.
He does not seem to publish.
He draws a paycheck at OSU, I guess, wonder if he has tenure?

When you accept that "given at least one" and told, "at least one" are different; then it's easy to get from:

P(hh|at least one h) = 1/3 to
P(hh|told "at least one h) = 1/2.

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