The epistemology of perfect symmetry as a proposed model for quantum states

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Abstract I propose a model for indeterminate information in a mixed state.

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1 The epistemology of symmetry information

If I give you a perfect, featureless disc to toss like a coin, what is the probability of getting a particular side turning up as a result? You can't know. You would guess a half, but only because I have told you it's a disc. In order to know, through statistics, you would have to mark the disc, but then it would no longer be perfect and featureless. And actually the symmetry would be broken.

Now if I place before you a perfect, featureless square, can you be certain that it is static. Or could it be continually performing symmetry transformations of itself? In other words, can you be certain that the only symmetry transformation going on, in a perfect square, is the identity transformation? The only way to know is to mark the square, but then it is no longer perfect and featureless. And actually the symmetry would be broken.

If we consider further the predicament of the square, prior to any marking, we cannot say it does not exist in a state where all its symmetry transformations are in operation. I propose this picture as a model of a mixed, superposed state. This is a state of information that cannot be denied, not one that can be confirmed. I see this example as somewhat similar (albeit the wrong symmetry) to the predicament of a spin-$\frac{1}{2}$ particle before passing through a Stern-Gerlach apparatus. My suggestion is that the Stern-Gerlach apparatus denies certain of the symmetry transformations. In the model, I see this as similar to marking the square, denying certain transformations.

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