



USE YOUR BRAIN AN OLD PARADOX

The Pop Quiz



WILL YOU SEE THIS ONE COMING OR WILL IT BE A TOTAL SURPRISE ?

The Problem

One Friday the teacher makes a dreadful announcement: there will be a pop quiz one day next week! Worse, the teacher won't tell you which day it is! The teacher promises you won't know when the quiz will be until the day that it happens.

You spend the weekend worried about this, but a strange thought crosses your mind.

The quiz can't be Friday, because if Friday is the last day, so if the test hadn't happened yet, you'd know it would be on Friday. Then you realize the test can't be Thursday, because if the test can't be Friday than having it on Thursday won't be surprise because there is no other day it could be. Following this logic you realize the test can't be on Wednesday, Tuesday, or Monday. Relieved, you go to sleep and don't bother studying.

This makes it extra surprising when you get to school Wednesday and the teacher slaps the pop quiz on your desk.

How is this possible?

The Solution

If you figure this one out, you should definitely write a paper on it! There is no consensus on how this paradox should be resolved and, believe me, hundreds of papers have already been written on the topic. There are two theories on how to resolve it, one that uses logic and one that uses epistemology, the study of how we know things. Personally I believe this is an example of circular logic. If you know the test will be on a certain day, then the test can't be on that day, but once you decide the test can't be on that day, you don't know the test will be on that day anymore, so it can happen on it again.

With that said the student in this problem made one definite, huge mistake. Once they determined that one part of the statement the teacher made was flawed they thought it meant that the other part wasn't true either. Unfortunately for them, life and logic don't work like that. Just because one thing in a statement is wrong doesn't mean the rest of it is. Even if the teacher's statement about you not knowing when the quiz will be is incorrect, they can still give you a quiz and a giant F.

If you thought this was interesting, read up on it under the name "The Unexpected Hanging Paradox." You can also check out the Lottery Paradox which is quite a bit simpler and actually has a couple of solutions.