

The Prisoner Paradox

Back in the middle ages a man was tried and sentenced to death. The trial occurred on Saturday afternoon. The judge said to him, "The sentence will be carried out next week. The day on which your execution will occur will be a surprise."

After the man was taken back to his cell, he sat down and began to think. After some thought, he thought to himself "I will not be executed!"

His reasoning was as follows. "If next Saturday comes, and I still haven't been executed, it won't be a surprise, therefore I cannot be executed on Saturday. Since I cannot be executed on Saturday, we can eliminate that as a possibility. Now if Friday comes and I still haven't been executed, then my execution day must be Friday, because it cannot be Saturday. Therefore, if Friday comes and I'm still alive, I cannot be executed on Friday, because it won't be a surprise. I can continue in this vein and eliminate each day of the week. Therefore, I will not be executed."

The man's spirits rose, and he faced each new day with renewed optimism. However on Wednesday morning, the execution squad arrived and led him to the gallows. It was a complete surprise.

What was wrong with the man's reasoning?