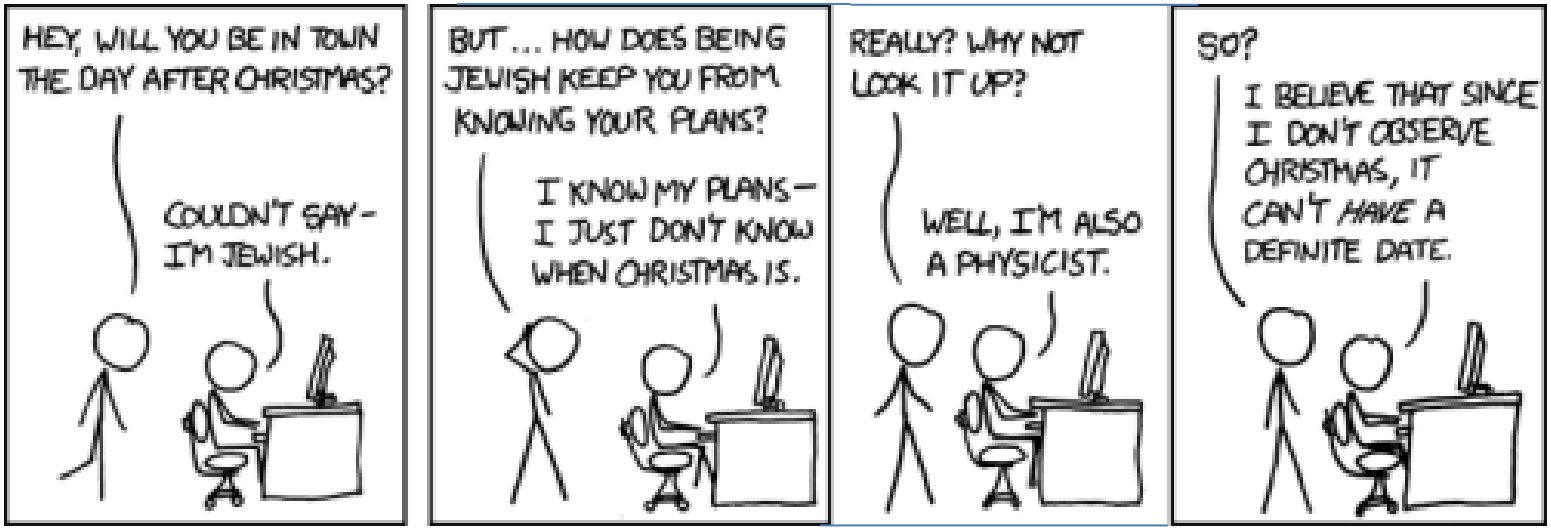
The observer effect



Quantum v macro scale

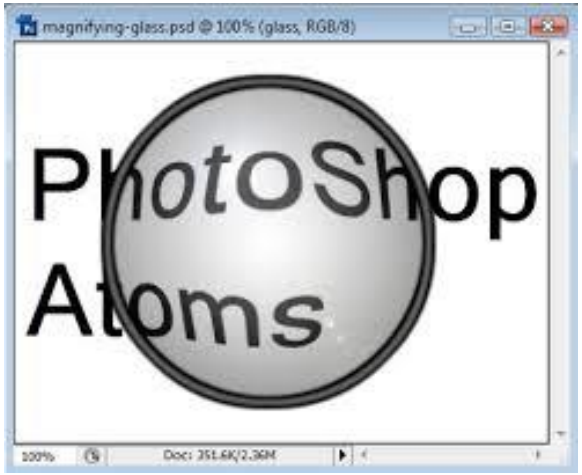
- Before the 1920s, scientists could confidently measure and calculate everything and state the results as exact.
- Now we know that, according to physicists, behaviour is fundamentally inexact and due to randomness. We can only predict and measure the probability of what happens.
- This randomness varies from being very small at a macro scale to being highly random at a micro scale.

Observational dependency

- Observational dependency is a concept in quantum mechanics which states that the act of observing something on the quantum scale changes what the properties of the object appear to be..
- Imagine reading some text through a magnifying glass.

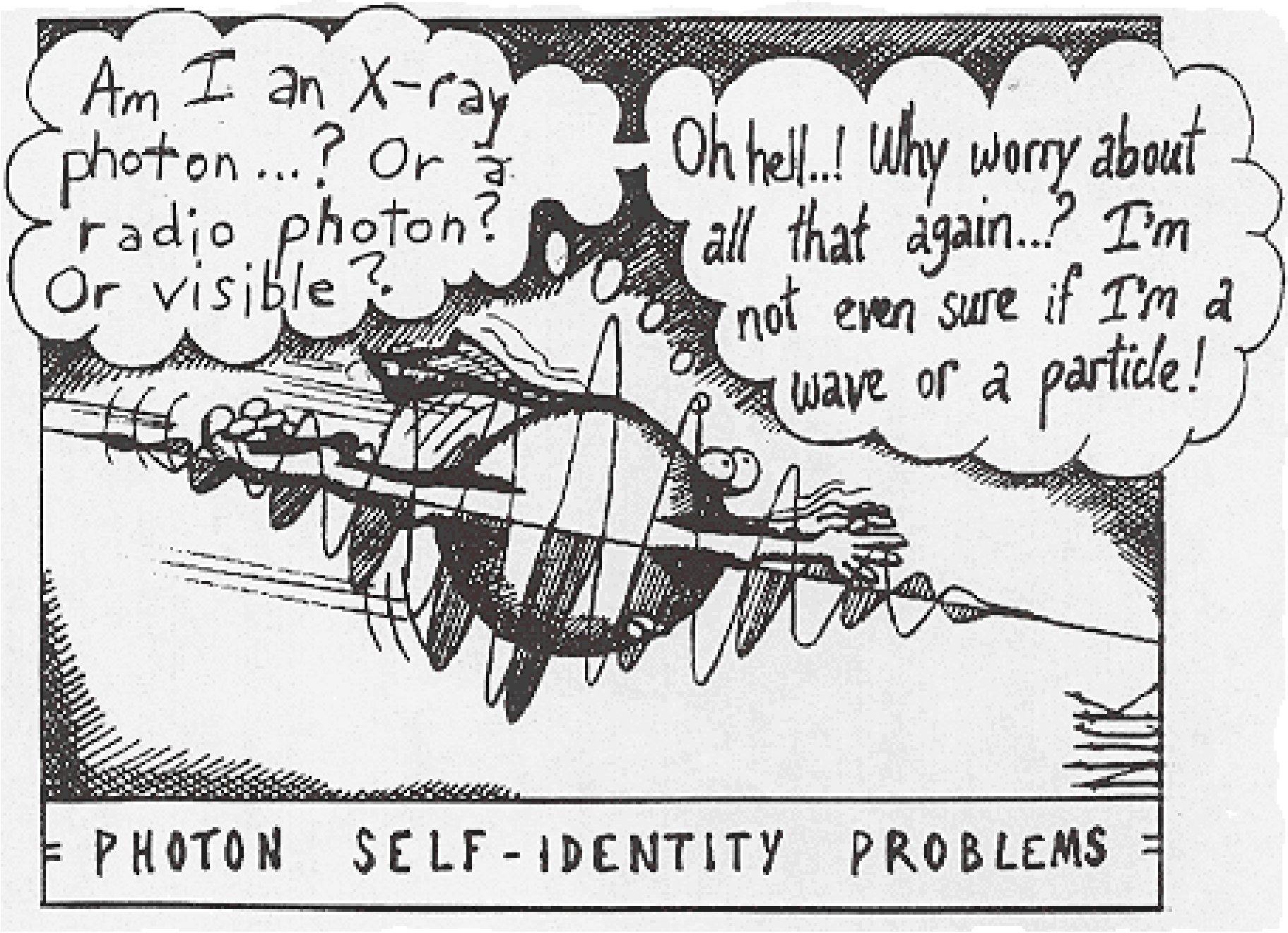
  Though the text remans the same,

  through the glass, it appears differently.



Wave particle duality

- Wave particle duality if the concept that all matter exhibits both wave-like and particle-like properties.
- Waves and particles can be the same thing at the same time until they are observed.


Am I an X-ray photon...? Or a radio photon? Or visible?
Oh hell..! Why worry about all that again...? I'm not even sure if I'm a wave or a particle!
PHOTON SELF-IDENTITY PROBLEMS