

Schrödinger's Symphony #2 and NOT

Schrödinger's cat is a thought experiment, sometimes described as a paradox, devised by Austrian physicist Erwin Schrödinger in 1935. It illustrates what he saw as the problem of the Copenhagen interpretation of quantum mechanics applied to everyday objects. The scenario presents a cat that may be both alive and dead, depending on an earlier random event.

Schrödinger wrote:

One can even set up quite ridiculous cases. A cat is penned up in a steel chamber, along with the following device (which must be secured against direct interference by the cat): in a Geiger counter, there is a tiny bit of radioactive substance, so small, that perhaps in the course of the hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer that shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives if meanwhile no atom has decayed. The psi-function of the entire system would express this by having in it the living and dead cat (pardon the expression) mixed or smeared out in equal parts.

It is typical of these cases that an indeterminacy originally restricted to the atomic domain becomes transformed into macroscopic indeterminacy, which can then be resolved by direct observation. That prevents us from so naively accepting as valid a "blurred model" for representing reality. In itself, it would not embody anything unclear or contradictory. There is a difference between a shaky or out-of-focus photograph and a snapshot of clouds and fog banks.

—Erwin Schrödinger, Die gegenwärtige Situation in der Quantenmechanik (The present situation in quantum mechanics), Naturwissenschaften (translated by John D. Trimmer in Proceedings of the American Philosophical Society)

http://en.wikipedia.org/wiki/Schrödinger's_cat

```
Private Sub Form_Load()  
  Randomize  
  n = Int(Rnd() * 2000)  
  Open "r.txt" For Input As #1  
  While Not EOF(1)  
    Input #1, v  
    z = z + 1  
    If z > n Then GoTo jmp  
  Wend  
  jmp:  
  x = False  
  If v Mod 2 Then  
    x = True  
  Else  
    x = False  
  End If  
  ' kill file on e: if true  
  File1.Path = "e:"  
  a = File1.List(0)  
  If x Then  
    f = "e:/" & a  
    'MsgBox (f)  
    Kill f  
  End If  
End  
End Sub
```

Generate a pseudo-random number.

Get a random number from r.txt
r.txt contains data generated
by static- the free random
quantum movement of electrons.

If this number is even

'kill' (delete) the sound file on
drive e:

Drive e: is a micro SD card
containing a sound file
in PCM wave format.

At the end of this program
the SD card will either have
a sound file or not depending
on the random quantum number.
In Schrödinger's terms it will
actually contain and not contain
the file until it is observed.



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(One of a series)

The "Schrödinger Symphonies" is a practical adaptation of Schrödinger's famous thought experiment, in which due to Quantum randomness and Q.M. theory (in which 'observation' collapses a set of super-imposed states), a cat is both alive and dead, simultaneously until the box it is in is opened and the contents observed. In the production of the works Micro Sd cards have wave files copied to them of PCM sound files. They are then 'processed' by a computer program which selects a random number generated from a quantum event, the random 'noise' of electrons in a circuit. On the basis of this sample, a number, if it is even the file is deleted, otherwise it is left intact. The unexamined SD card is glued inside the Digi Pack, which adds a further paradox to the praxis. In order to collapse the duality of there being and not being a sound file, by removing the SD card and checking for data, the packaging (AKA Artwork?) has to be destroyed.

A further paradox is introduced – as each 'performance' / production is unique, the title of each – is itself paradoxical. If the object "Schrödinger's Symphony #1 and NOT" is examined it will not only determine if the object has the sound file - #1, it will then mean that if it does Schrödinger's Symphony #2 and NOT, may or may not be #2, but if it does not contain a sound file then Schrödinger's Symphony #2 and NOT, will either be #1 or not, and so if not, #3 would become a candidate for being #1. Throughout the chain of Schrödingerean works each successive # will be contingent on what (if anything) occurred elsewhere, not only in the past, but a future examination of an early work could alter the subsequent ontological status of latter works in the sequence. Thus these objects are also linked in an atemporal fashion in the nature of their onticity qua the collective ontology. Further if any of the series remains unexamined the 'set' of works remains 'uncountable'.

James Whitehead / JLIAT December 2013

Part of an ongoing exploration of music/sound/objects and ontology.