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# MANY BUBBLE INTERPRETATION (M.B.I.)

## The MBI ('Many Bubble Interpretation')

The ‘Many Bubble Interpretation’ appears by means of a model of the McTaggart A series. Without being intially sidetracked into the fascinating coherentist theories of epistemic justification, we simply loosely define A series bubbles for present purposes as being entities inside which a person, persons or whatever are for the moment severally confined, each at some personal present (which we know from as far back as the work of Kornhuber, Libet, etc., is not readily defined as a single point in time, but more usually is taken by psychologists and others to have at least some ongoing ‘duration’), and with a past, a present and a future, in accord with the spirit of the McTaggart A series. The work of LePoidevin, Quentin Smith, Dean Zimmerman and many others is borne in mind. And as Dyke has said, we may not be forced to countenance plurality of further worlds in such circumstances – although we can. The A series is treated as a large category, intrinsically unmappable one to one onto the B series. There is also a B series and this can often be represented by a quantum mechanical description of the universe.

So we have both an A series and a B series, and McTaggart’s work and Zeno’s work, (and/or their modern counterparts), can pose no problems.

### *Outline of the MBI*

A relatively simple basic mathematical model for a “bubble” in the MBI ('Many Bubble Interpretation') discussed earlier, can be constructed. Many bubbles – and there would be many – could be much the same, in principle, and given by Berkeley Madonna, for example. And in the simpler cases of the model there need not exist episodic memories to retain many of the apparently intrinsic features of human thought (Egan, 2007). Even total loss of personal memory made no difference in subjects tested. Indeed Rosenbaum (2007) goes so far as to say: “We found that if you’re trying to put yourself mentally in someone else’s shoes, you don’t need to put yourself in your own shoes first.” We do not even need, of necessity, to consider mirror neurons to ‘have a life’. We can even, in terms of level of simulation simplification, try to emulate Winfree. And no complex ‘Theory of Mind’ is required (Ramsey, 2007).

There is no need to deal at this juncture with the problems posed by Honderich or by, for example Trevena and others, to the work of Libet (2003), and its defence by Haggard, Klein and others. Libet’s results, or others, will just be part of the Madonna formalism within the bubble, which can be “pseudo A series” in its formulation, I think.

Obviously, more complex contents can be given to the MBI and this is being done.

### *References*

Egan L. C., Santos L.R., Bloom P. (2007), “The Origins of Cognitive Dissonance: Evidence from Children and Monkeys”. Psychological Science, 18, 978-983.

Libet B.,(2003). “Can Conscious Experience affect brain Activity?”, Journal of Consciousness Studies 10, nr. 12, pp 24-28 ; and many others.

Ramsay T.Z. , (2007), Science and Consciousness Review, November 26, 2007

Rosenbaum R.S.,Stuss D.T.,Levine B., Tulving E.,(2007),”Theory of Mind Is Independent of Episodic Memory”, Science, 23 November 2007:Vol.318.no.5854, p. 1257 DOI: 10.1126/science.1148763

## Applications of the MBI (examples only)

### *In Quantum Theory:*

Quantum Computing – even for Paul Kwiat’s work – easier to understand in real terms (a)

The ‘Schroedinger cat paradox’ - not such a paradox any more (b)

Schroedinger’s kittens – also fall in line (not literally !) (c)

### *A Specific Application:*

A problem involving some applied mathematics and philosophy. (d)

The Many Bubble Effect described herein, together with other factors like McTaggart’s paradox and Zeno’s paradox, allowed a formulation in terms of differential equations of Stickgold’s dream experiments and my interpretation and furthering of them. This led to a number of equations and graphical results. In particular to equations like that described as N003b on my website at <http://ttjohn.blogspot.com/> (RSS feed available) and on the CD, obtainable here.

Very briefly, as the ‘pseudo A series’ might describe it, there could be tiny pushes and impulses to the mind at a given time, from both past and **future** stimulations, but at a particular time it could be said that the mind is in some kind of dynamic balance which Stickgold altered in the ‘Tetris dream’ by a push from the past, relatively easy in retrospect. In my case I alter the position of the push from the future to the present, and this worked too. Experiments and trials are still under way, and could show conclusively the merits of the MBI, though their success is not essential to it.

### *Important Next Step – Could perhaps be done by anyone !*

The next step may well involve the refinement or replacement of the present equations in Berkeley Madonna using methods of Self Organised Criticality, and in particular the use or incorporation of a model like the sandpile model may help.

The simplified form of the equations in the present model, described in more detail on the website, was

$$dR/dt = a*R + b*J*(1-|J|) + e*Z$$

$$dJ/dt = c*R*(1-|R|) + d*J + f*Z$$

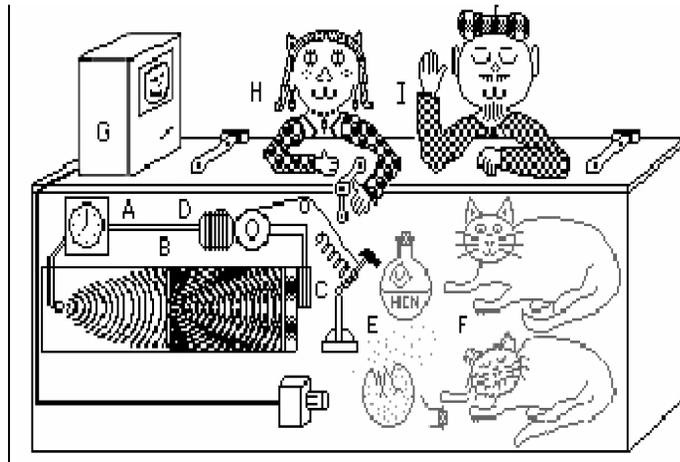
$$dZ/dt = h*S + g*R \quad (S \text{ is Heaviside step functions : in N003a, } g=f=0)$$

If these equations can be improved and/or accurate limits set on their parameters, they could be used for yet more tests and even more accurate results, in for example the mode, duration and timing of stimuli. (We might well bear in mind Winfree’s work as a parallel example of such methods). Very roughly, R ('Romeo') and J ('Juliet') represent the 'unconscious' and 'conscious' mind or equivalent representations in other philosophical approaches, and Z the applied impulse.

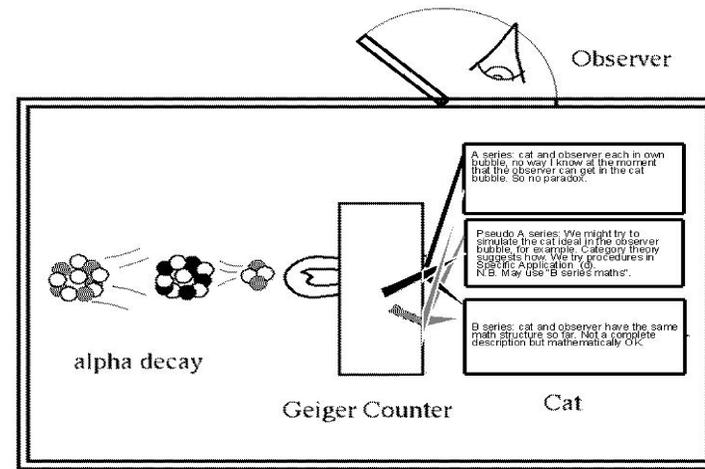
{The paper “Self-Organised Criticality – a possible tool for the MBI” shows some of the present basis of that idea, the paper “Episodic Memory, Cognitive Dissonance, and the MBI Bubble” fills in some more of the details. “McTaggart’s A and B series and how they relate to modern science and neuroscience in the 21<sup>st</sup> Century” briefly describes the relevance of McTaggart’s work. “2007 TSC & Qmind Conferences: My Abstracts & brief Details” give earlier posters at Salzburg and Budapest conferences and also provide brief abstracts of supporting work including equations and graphs, all on the CD. A further abstract has been accepted at the Arizona conference later this year. “Human Consciousness, Philosophy and Computation” is a fairly comprehensive summary of the position at that point. All on website <http://ttjohn.blogspot.com/> }

# Schrodinger's Cat

Copenhagen etc. - leaves usual unexplained problems

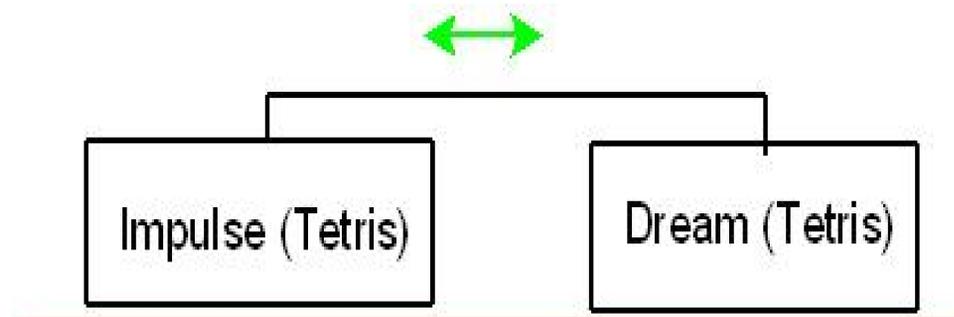


M.B.I. – explains and progresses further work

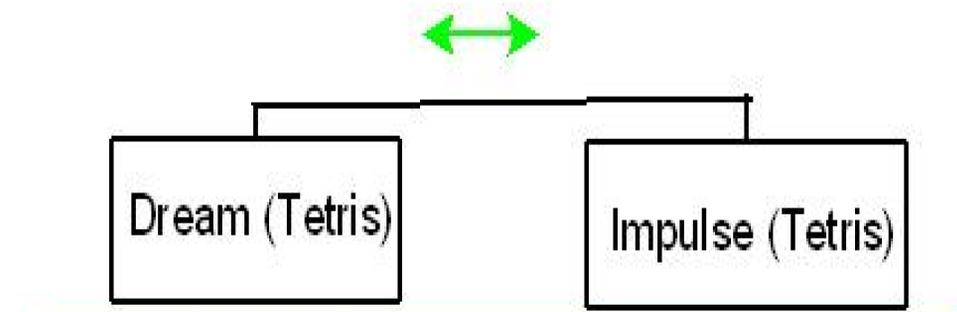


## Simple Tetris game illustrates M.B.I. application – others to be considered

**A** In the experiment on the left, the subject plays Tetris and then dreams about it. On the right, the time positions are reversed.



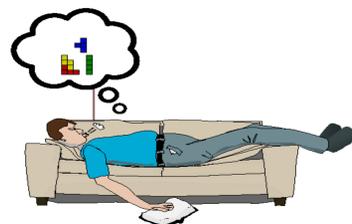
"Time" ➔  
Stickgold Effect



"Time" ➔  
Reverse Stickgold Effect

**B**

**Dream**



**Impulse**

