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## Communication

# General Thoughts Regarding Prof Bernard Carr's FQxI Podcast With Zeeya Merali

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**Abstract** - Apparently, reconciliation of physics and the psychic needs a revolutionary theory which physically unites everything in space with everything in every period of time. On page 157 of his book "The Mind of God", physicist Paul Davies says, "The fall of an apple on Earth is affected by, and in turn reacts upon, the position of the moon." The effect is tiny and can be ignored for practical purposes - but it does exist and can't be overlooked if science is serious about discovering ultimate truth. In the same way, there is a tiny effect between the thoughts of any two beings, between the present and the future, as well as between humans on Earth and a planet so distant that it has no measurable gravitational influence on us. In other words, the unification of all space-time produces the potential for telepathy, precognition, and scientific astrology. This Communication also refers to Hawking radiation possibly being re-named Einstein-Hawking radiation, and - thanks to binary digits, topology, space-filling fractals, and computer art's Sky Replacement process - the Big Bang having run its course and being retired (with honours).

**Keywords** - Reconciliation of physics and the psychic; Einstein-Hawking radiation; Binary digits; Topology; Space-filling fractals.

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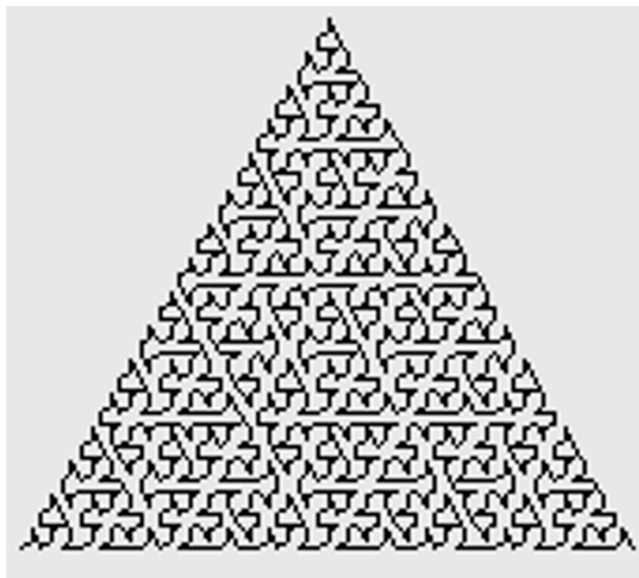
A final theory of physics will unify psychic research with science. Quantum gravity will certainly be a major step forwards. Apparently, reconciliation of physics and the psychic needs a revolutionary theory which physically unites everything in space with everything in every period of time. This might be accomplished using the idea that all the objects and events on an electronic screen are united into one thing by the programming. The same could apply to the entire universe in all times. Then all things would be entangled with, and unavoidably affect, everything else. Telepathy and precognition would be perfectly natural with science having to admit that astrology is not pseudoscience.

The subject of Hawking radiation is very interesting. My impression is that it could well be renamed as Einstein-Hawking radiation someday. This is because of Einstein's 1919 paper "Do gravitational fields play an essential role in the structure of elementary particles?" This paper is often criticized because it doesn't mention the nuclear forces discovered in the 1930s. But it seems to me that the graviton-photon interactions he spoke of would produce the nuclear-force bosons just as easily as elementary particles. The pressure produced by the interaction would not magically stop at the event horizon but would naturally extend outwards from a black hole. The pressure could then be interpreted as mass radiating from

the black hole.

Regarding the Big Bang - the cosmos appears to be infinite and eternal, neither expanding nor contracting. Let me explain my reasoning - One-dimensional (1D) electric pulses create the binary digits of one and zero, used in electronics. The bits encode 2D Mobius strips which incorporate Wick rotation whose real plus imaginary numbers display and record the coordinates and motions of particles (forming the 4th dimension of time). A couple of Mobius strips pair up to form a Klein bottle which is immersed in 3D - trillions of strips and bottles respectively produce photons and gravitons that interact via Einstein's paper and form the quantum spin of both massive electron, Higgs boson, etc and the massless gluon. Referring to a figure-8 Klein bottle, note that the Klein bottle's positive and negative curvature fit together to produce the outline of a doughnut. A doughnut (or strictly, a torus) is technically flat. When many figure-8 Klein bottles are grouped together, a procedure analogous to computer art's Sky Replacement will cause binary digits to fill in any gaps or holes (similar to a Space-Filling Fractal) in the same way that computers can make a sky that's blue from horizon to horizon. In other words, the digits "smooth out" the Klein bottles to produce General Relativity's regular space (often likened to a rubber sheet). But the Klein doesn't become multiply connected like the doughnut. Only the doughnut's outline (with its hole filled in) is adopted and the bottle retains the property of simple connectedness. A flat universe that is also simply connected implies an infinite universe that extends endlessly in all directions [1]. And the partnership of space and time means time would also be infinite i.e. everlasting.

Computers can map multi-dimensional information onto a one-dimensional line to make the info easier to work with. Such processing uses Space-filling Fractals, repeating patterns that can cover an entire region without leaving any gaps [2]. Starting with a  $\pi$ -shape, then repeating the shape at tinier and tinier scales while turning corners, the fill curve below is drawn. (See Fig. 1) The diagram is 2-dimensional (2D) but the fill curve can be woven to fill a 3-dimensional (3D) block. The 3D Space-filling Fractal results from the information in the 1D line which drew the fractal / fill curve. As suggested two paragraphs ago, 1st-dimensional electric pulses and binary digits (bits) produce the 3 dimensions of emergent space (length, width, and height) via the continuous loops of the one-sided Mobius strip and Klein bottle. Space may be regarded as nothing more than the curved trajectories followed by infinite numbers of photons and gravitons which, if a paper by Albert Einstein is correct, also "play an essential role in the structure of elementary particles" [3]. As explained, Sky Replacement and bits (binary digits) fill in any gaps in the basic structure formed by Mobius strips and figure-8 Klein bottles, fulfilling the function of space-filling fractals and making the uni-verse flat but simply-connected.



**Figure 1:** Space-filling Fractal. (From reference [4]).

If the previous paragraph is correct, the absence of the Big Bang means - as the podcast explains - there are no primordial black holes (PBHs). Scientists who invested part of their career researching PBHs definitely haven't wasted that time, though. It's really important to think about topics (including primordial black holes), even if they don't actually exist. I don't think my conclusions about Hawking radiation or the Big Bang would have manifested with-out my thinking of PBHs.

## References

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