

## Immortality and Resurrection Thru Science

Author - Rodney Bartlett

Abstract -

Doctors, nurses and hospitals are in the business of taking good care of us. So I imagine the goal of healthy, eternal life (as well as the goal of resurrecting the dead to such life) interests them if it can be shown to have a scientific explanation. This article is a mixture of present ideas regarding physics, cosmology, computer science and mathematics that have been extrapolated to their possible state centuries from now. These multidisciplinary ideas are necessary to describe how immortality and resurrection will be achieved through science.

In a few sentences, how can resurrection be possible? The 2nd Law of Thermodynamics - which governs progress from the order of life to the disorder (entropy) of disease and death - must first be overcome. Apparently, the only way this can be done is if the universe is a computer simulation that can be refreshed or reloaded. The other requirement is that time not exclusively follow a straight line from past to future, because that condition would just mean more and more decay for the body. Einstein's General Relativity says time is curved and warped, meaning the future overcoming of entropy and disorder - the final part of this article identifies the overcoming of entropy with what a recent science paper calls "negative temperature" - can be made to follow a curve from any future century back to a time when any long-deceased person was alive and healthy (future medical advances will be able to correct any physical or mental problems - and some of the resurrected will live elsewhere, sparing the limited area on Earth).

I may lack the skills necessary to convince you of eternal life and resurrection. But if you have the misfortune to die someday, I have no doubt that you'll be convinced of their reality after that event.

Content -

### MATHEMATICS AND UNIFICATION

Many scientists have said mathematics is a universal language because  $1+1=2$  no matter who you are. The trend in modern physics is towards a unified theory of the universe - starting with the unified theories of the 20th century (notably Einstein's) and extending to string theory.

What happens if a person in, say, the 24th century is raised believing in a unified theory that has implications in physical terms for everything in space-time? Would he or she think there is actually only one thing? Would (s)he think it's a mistake to add one

apparently separate thing to another apparently separate thing to produce two, and that such addition is merely the result of the way the body's senses operate? (And our whole mathematical system is ultimately based on the idea that  $1+1=2$ .)

Does this mean that maths as we know it today is not the universal language we believe it to be? Will maths as we know it in a hundred years require all the maths and physics of today to be reexamined?

#### IMAGINARY TIME, QUANTUM GRAVITY AND CREATING THE COSMOS

There does seem to be a way out of this predicament. If humans created the universe, the maths we know today could describe that universe. Of course, our present understanding of maths would need a few revisions in the future.

For example, creating the cosmos could conceivably be done in the far future by creating a computer simulation that obeys General Relativity's mathematical and physical principle of space AND TIME being curved. This means time wouldn't always flow in a straight line from past to future, but it could also provide quasi-hyperboloid paths (similar to wormholes) for computer signals to follow from the 24th century to 13.8 billion years ago, where refreshment/reloading of part of the simulation might produce what we interpret as the Big Bang. Time's nonlinearity could also provide paths to the future.

Another possibility for change in our understanding of maths would be if IT (imaginary\* time), like the quantum, was no longer viewed as purely mathematical. The ultraviolet catastrophe, also called the Rayleigh–Jeans catastrophe, is a failure of classical physics to predict observed phenomena: it can be shown that a blackbody - a hypothetical perfect absorber and radiator of energy - would release an infinite amount of energy, contradicting the principles of conservation of energy and indicating that a new model for the behaviour of blackbodies was needed.

\* In this case, "imaginary" is a most unfortunate word, because it suggests IT is not real. The term is a relic from last century, when imaginary time was developed from Special Relativity and quantum mechanics. At that time, it was believed to be purely abstract and mathematical, with no reality in physics (most scientists still cling to this belief).

At the start of the 20th century, physicist Max Planck derived the correct solution by making some strange (for the time) assumptions. In particular, Planck used maths to show that electromagnetic radiation can only be emitted or absorbed in discrete packets, called quanta. Albert Einstein postulated that Planck's quanta were real physical particles (what we now call photons), not just a mathematical fiction. From there, Einstein developed his explanation for the photoelectric effect (when quanta or photons of light shine on certain metals, electrons are released and can form an electric current).

Stephen Hawking writes, "In real time, the universe has a beginning and an end at singularities that form a boundary to space-time and at which the laws of science break down. But in imaginary time, there are no singularities or boundaries. So maybe what we call imaginary time is really more basic ..." ("A Brief History of Time" by Stephen Hawking - Bantam Press, 1988, p.139). Could a future computer simulation of all the galaxies and planets - including the Milky Way and Earth - that includes boundaryless imaginary time cause the simulation to be eternal, infinite<sup>^</sup>, and indistinguishable from this "real" universe? (The lack of boundaries would also avoid Relativity's breaking down at the scale of quantum mechanics, thus introducing the graviton and the theory of QG or Quantum Gravity.)



<sup>^</sup> The contradiction became in the universe could contain infinite energy without violating the principles of conservation of energy use, like Max Planck's quanta being emitted or absorbed in discrete packets, the infinity of the universe would be "broken" if it was constructed of electronics' binary digits ie of discrete 1's and 0's. (see SUBSECTION 1 - TOPOLOGICAL COSMOLOGY)

Would the universe we live in then not only be infinite and eternal, but could its simulation origin be refreshed/reloaded to overcome the entropy of the 2nd law of thermodynamics - ensuring that, in reference to a musical record from Professor (and CERN member) Brian Cox's earlier life, "Things Can Only Get Better". Could this refreshing be interpreted as a Big Bang, with refreshing of a single star (see SUBSECTION 2 - REFRESHING OF A SINGLE PERSON) – e.g. the Sun in a few billion years - preventing it from becoming a red giant?

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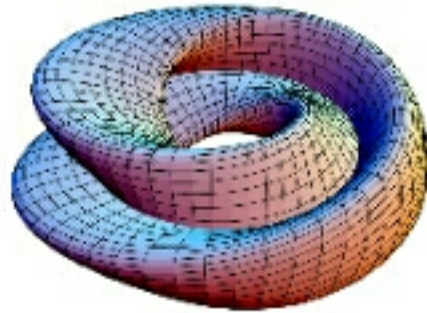
#### SUBSECTION 1 - TOPOLOGICAL COSMOLOGY

Consider the Möbius Strip (above) in the light of "A Brief History of Time" by Stephen Hawking (Bantam Press, 1988): pp. 66-67, which says "One way of thinking of spin is to imagine the particles as little tops spinning about an axis. However, this can be misleading, because quantum mechanics tells us that the particles do not have any well-defined axis. What the spin of a particle really tells us is what the particle looks like from different directions ... there are particles that (must be turned) through two complete revolutions (to look the same). Such particles are said to have spin  $\frac{1}{2}$ . Particles of spin  $\frac{1}{2}$  make up the matter in the universe ..."

My interpretation is that it's possible for the Möbius Strip to correspond to spin  $\frac{1}{2}$  since you must travel around a Strip twice to reach your starting point (this equals turning particles through two complete revolutions to look the same). The curvature of the Möbius strip implies this quantum spin could be continuous. Since it's known this type of spin can only have discrete values, these values (and curves) must be determined by

individual pulses of energy. The on/off or increased-energy/decreased-energy pulses of the virtual particles<sup>^</sup> filling space-time (or, since General Relativity says space-time IS gravity, composing gravity) would produce the discrete values of binary digits' 1's and 0's.

These 1's and 0's are encoded in the shape of a Möbius.



<sup>^</sup>  
fluctu  
seemi

These "particles" are actually quantum  
ations/energy pulses, and their motions could be  
ngly random if they obey Chaos theory's principle of  
"hidden order existing in apparent disorder".

The Mobius strips, which are only two-dimensional, then follow the rules of maths and pair up to combine into four-dimensional Klein bottles [Polthier K, "Imaging maths - Inside the Klein bottle": <https://plus.maths.org/content/os/issue26/features/mathart/index>] long before reaching the scale of quantum particles. This produces the 3 spatial dimensions/1 temporal dimension known to us. There could be extra dimensions unified with these e.g. the previously mentioned Imaginary Time which, following the union of time and space into space-time, might be linked to a so-called Imaginary Space full of Dark Matter. One theory scientists have for the universe's shape says it is a doughnut. From that, I conclude the type of Klein bottle that Mobius Strips combine into is the figure-8 Klein bottle (pictured above) because this somewhat resembles the doughnut, as well as observable spiral galaxies. "Some scientists believe that large warm and cool spots in the Cosmic Microwave Background could actually be evidence for this kind of ... (doughnut/figure-8 Klein bottle) ... topology". ["What Shape is the Universe?" by Vanessa Janek: (May 11, 2015) - [http://www.universetoday.com/120157/what-shape-is-the-universe/#google\\_vignette](http://www.universetoday.com/120157/what-shape-is-the-universe/#google_vignette)]

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## SUBSECTION 2 - REFRESHING OF A SINGLE PERSON

Re: "Quantum gas goes below absolute zero - Ultracold atoms pave way for negative-Kelvin materials" by Zeeya Merali: 03 January 2013: <http://www.nature.com/news/quantum-gas-goes-below-absolute-zero-1.12146>

Going below absolute zero has consequences that go beyond negative-Kelvin materials. It also addresses the dream of attaining healthy immortality - as well as of resurrecting the dead, through advances in science.

Living things are known to have positive temperature - any thermometer will confirm this - to which added energy will increase entropy, eventually causing death (Braun, S. et al. "Science" 339, 52–55 [2013]). Could their high degree of order result from living things also being negative-temperature systems that, as implied by a 1919 paper by Einstein,

have gravitational and electromagnetic energy constantly added to them? ("Spielen Gravitationsfelder im Aufbau der materiellen Elementarteilchen eine wesentliche Rolle?" **["Do gravitational fields play an essential role in the structure of elementary particles?"]** by Albert Einstein - Sitzungsberichte der Preussischen Akademie der Wissenschaften, [Math. Phys.], 349-356 [1919] Berlin). Adding energy to negative-temperature systems causes them to decrease in entropy (Braun, S. et al. "Science" 339, 52–55 [2013]). Thus, they achieve the innate potential to decrease entropy perpetually, and to be immortal. Einstein's General and Special Relativity inform us that space-time is curved and warped, with time not being simultaneous for different observers. Therefore, time doesn't always follow the accepted straight line from past to future and our deceased ancestors can one day benefit from this potential for decreased entropy being realised ... they'd be resurrected!

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