

BIO
PHYSICAL
MICROWORMHOLES

BPM FOR SHORT

BY

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Bio-Physical Microwormholes Hypothosis

Before you can discuss Bio-Physical Microwormholes you must first understand what a wormhole is and then consider the possibility that microwormholes exist.

Black hole

For those who do not know what a black hole is, it is a super massive object that has enough mass to prevent light from escaping its gravitational pull. Thus no light is ever emitted by a black hole, and all light that reaches its event horizon is sucked into it.

Wormhole

The term wormhole is used in astrophysics and mathematics to describe a singularity which connects two points in space-time. They are related to black holes in that they require large amounts of gravity to exist, and it is this super-mass that allows them to 'pull' space-time together.

As with black holes, wormholes are theoretical and have never been proven to exist. Unlike black holes it is difficult to prove the existence of wormholes because the energy transmitted through the wormhole would be altered by its journey through the tunnel.

Black holes can be observed indirectly by looking for gravitational distortion of light as it travels through space. If light is being distorted and there is no visible cause for this distortion and the distortion is significant, then it could be that a black hole is causing the distortion.

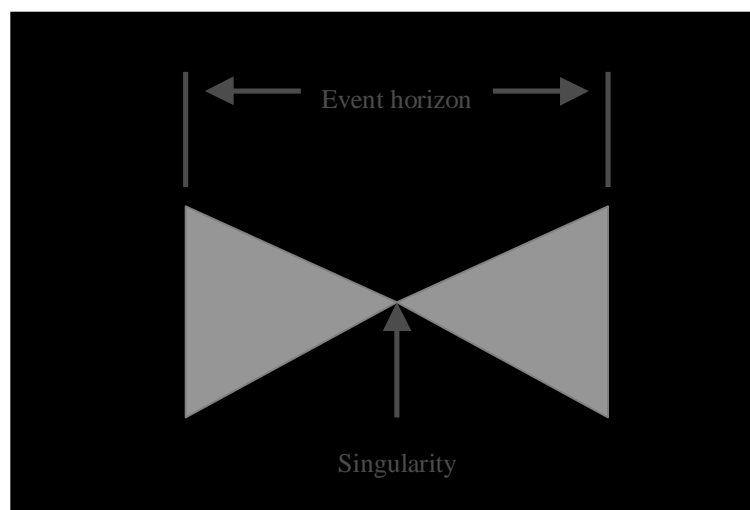
With wormholes the only way to determine if they exist is to discover its 'source'. The 'source' being the end of the wormhole from which the matter is expelled.

Let's imagine that black holes and wormholes exist in space.

By doing so we can use the mathematics used to describe such phenomena as a tool to model the real Universe. In this mathematical model it is possible to scale objects and to describe the Universe using multiple dimensions. Most of the mathematics is beyond all but the most hardened mathematician, but it is easy to imagine a car being scaled down to one tenth size, so why not a black hole or wormhole?

In the physical world there are reasons why things cannot be scaled up and down, but for the purpose of this mind experiment let us ignore both these practical reasons and the humanistic repercussions of the existence of microwormholes.

Wormhole



Microwormholes

So we now have this model of a microwormhole which might exist in space. Where might they exist, if anywhere. Well they need some sort of mass to be able to exist at all so they would need to be associated with a particle of some sort. The most likely candidate is one of the more massive particle's, the proton. This is because it is the most fundamental heavy particle in existence and it makes up most of the mass in the Universe. Protons are made of two up quarks and one down quark, while neutrons are made from two down quarks and one up. If microwormholes are associated with matter then they might also be related to quarks too. Quarks are the building blocks of particles, much the same way protons, electrons and neutrons are the building blocks of atoms. I only mention quarks so as to provide depth to the discussion, since the microwormholes might be related to quarks rather than the particles themselves.

For arguments sake, let's imagine that microwormholes exist in protons only and that the relationship between the microwormholes is one-to-one. That is, that each proton is connected to another proton by a microwormhole.

John Gribbin in his book *Star dust* explains the abundance of atoms by considering a twelve gram bag of carbon atoms. He removes one atom of carbon from the bag for every second the Universe has been in existence, at the end of this mind experiment he was left with a near full bag of carbon atoms. With only a millionth of the original atoms missing. This puts the abundance of protons into perspective and so the abundance of these microwormholes, should they exist. Remember carbon atoms contain twelve protons and at least twelve neutrons, should neutrons also contain a microwormhole.

Of course there is a possibility that the microwormholes are joined co-jointly so that they are all connected to each other, rather than one-to-one. This is more likely and would be similar to the Internet, with the connectivity between protons (nodes) being provided by large stars (routers).

Life and The Stars

John Gribbin in his book *Star dust* provides a link between the life of a star and life as we know it. This link is called the CHON. CHON stands for Carbon, Hydrogen, Oxygen and Nitrogen. These elements are common to both 'life' systems. DNA molecules are almost entirely made from CHON elements, and the chemical sub-units that make up the letters of the DNA alphabet contain nothing else.

Star's obtain their energy using the four elements in the CHON *cycle* of life. Star's larger than the Sun use the CNO cycle and the star's that are similar in size to the Sun or smaller use the proton-proton chain (a Hydrogen nucleus is a proton).

In terms of mass, Hydrogen is the commonest element (see tables), with Helium (an inert gas) being the second most common, with around a third of the abundance of Hydrogen. The other elements make up only two percent of the known mass of the Universe.

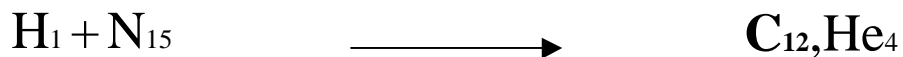
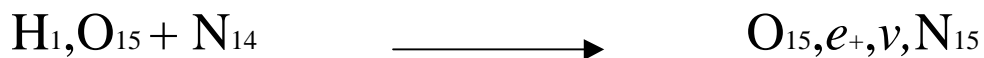
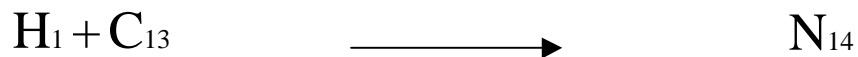
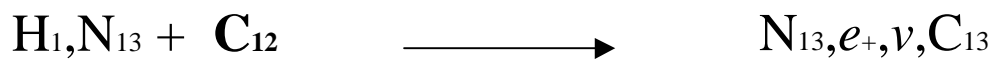
The rest of the elements are best counted relative to the number of Oxygen atoms. That way it is easier to under their relative abundance. For instance, for every 70 atoms of Oxygen there are 40 atoms of Carbons and on 2 atoms of Iron. For the CNO Cycle elements the relative abundance is approximately four-one-seven (CNO=4:1:7).

The reason for the low abundance of the other elements, is that there are not required by the core process of creating energy, therefore they are only created by accident or during novae's.

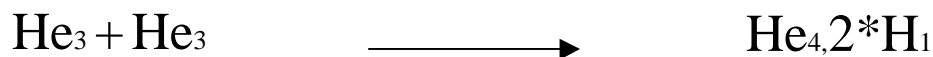
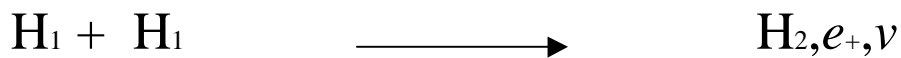
Element	Percentage
Hydrogen	70%
Helium	28%
<i>Oxygen</i>	1%
Others	1%

Element	Atoms (relative)
Sulphur	2
Iron	3
Magnesium	4
Neon	4
Silicon	5
Nitrogen	9
Carbon	40
<i>Oxygen</i>	70

The CNO Cycle



The proton-proton Cycle



Bio-Physical Microwormholes

Now it is time to use your imagination and knowledge of systems to understand the science-fiction involved in the theory of Bio-Physical Microwormholes:-

With the existence of microwormholes it is possible to consider how these little holes in space might be used by living organisms. It is reasonable to imagine that there will be some form of energy transmission between microwormholes.

Imagine two children holding a pair of cans to their ears with piece of string held tight between the two cans. As one child listens the other speaks, and the vibrations from their voice are carried down the string to the other can, which amplifies the vibration and transmits it to the other child's ear.

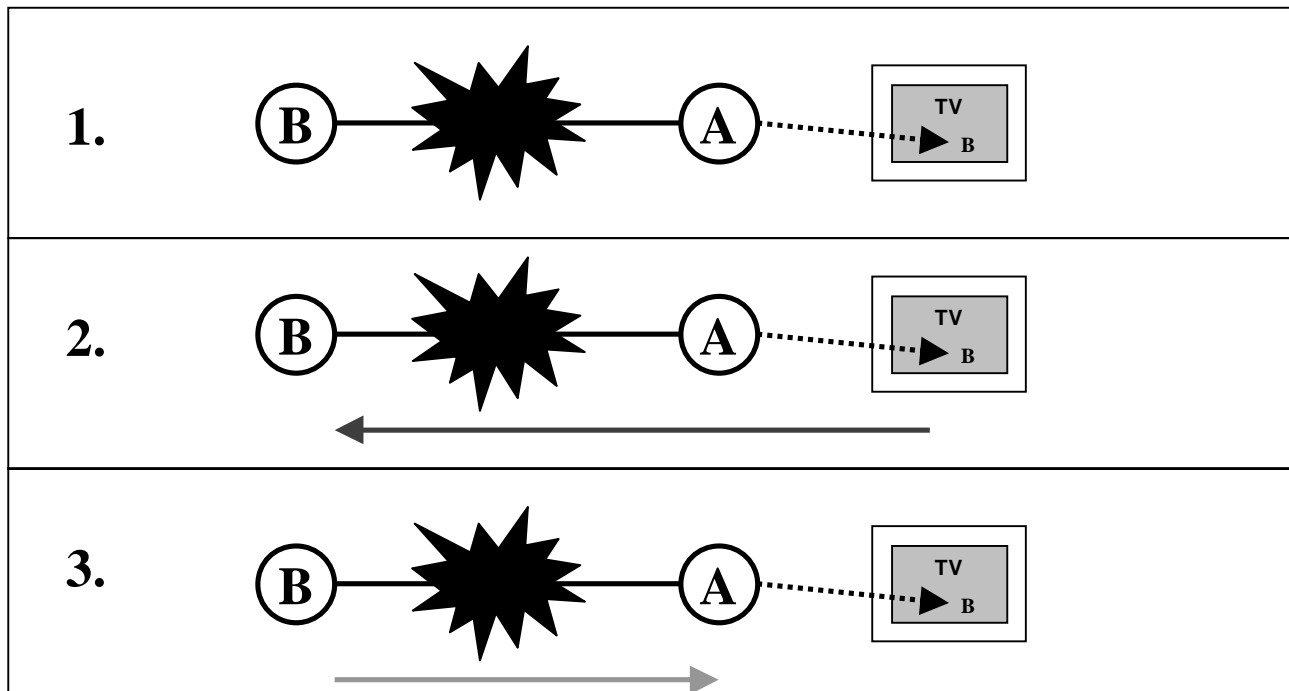
By using this simply model of energy transmission it is possible to construct a more complicated model based on microwormholes and the human brain. Provided the two children are able to establish the connection, the data can be transmitted as and when required, since with microwormholes time and space are irrelevant.

Let us consider an example where two people are establishing a communication link. Let's say person 'A' is watching the television, and person 'B' is on the television (1). If the two people are able to connect to each other then person 'B' would recognise themselves (2). Provided person 'B' allowed the communication link to be established (3), information and data could be transmitted via the microwormhole.

Obviously none of this happens in real-time between the people. Person 'B' might be dead, and the packets of information being transmitted by person 'A' are just dropped down into the microwormhole. The response from person 'B' has already happened in real-time with person 'B' responding to future events.

The question now if this is happening how come none of us realise what is happening and if it is happening how might it be used ?

Bio-physical microwormhole handshake via television



This very simple model of data transmission is obviously incorrect, but the concept of two temporally and spacially separated human brains transmitting data is nothing new. People have considered telepathy for years, and everyone has at some point in their lives experienced things which cannot be easily explained away, only ignored.

With the concept of Bio-Physical Microwormholes, it is now at least possible to provide a detailed science-fiction explanation for such things, and who knows, in the passage of time it may be possible to detect these tiny holes in space-time.

The idea's of Bio-Physical Microwormholes are discussed in my book, Mind Trek DSR.

References and related books:

Mind Trek DSR by James Richard (ISBN: 1-904181-07-4)

Star dust by John Gribbin (ISBN: 0-14-028378-1)

The case of the missing neutrinos by John Gribbin (ISBN: 0-140-28734-5)

ASIMOV'S New guide to SCIENCE by Isaac Asimov (ISBN: 0-14-017213-0)

The Universe in a nutshell by Stephen Hawking (ISBN: 0-593-04815-6)