REALITY #15: ANIMAL PHOTOSYNTHESIS

The blogs will no longer be available as they have been. Silver, Gold, and Platinum members will get the content as part of their membership and Bronze can participate too by signing up for membership. They will get blog access only from this point forward.

I have given 6 years of content to the public for free 100% of the time. That has come to end.

I am no focusing in on my tribe from here on out. SKIN IN THE GAME matters deeply to me.

Members will receive the new blog today on your member dashboard. The blogs will now be part of your membership package. It will no longer be available as they used to be. Comments will also be limited to members as well. You will get some information on this today from support if you are a member of Jackkruse.com from here on in.

Here is the lead in for the new blog called

REALITY #15: ANIMAL PHOTOSYNTHESIS
Released Aug 11 at 1:00 AM on Patreon.
Here is the link for those of you who are interested but remain lurkers. I'd encourage you to consider membership at some level for this cutting edge information on quantum biology at www.patreon.com/DrJackKruse
THE BLOG TAKE HOME : Are there truly quantum effects or phenomena intrinsic to a specific thermodynamic process that offer an operational advantage over their classical counterpart? Most people think that sunlight hitting the water is the key mechanism to make the battery for life. We use hydrated proteins made from aromatic amino acids to separate water to make energy in human cells. The old viewpoint is

myopic (Mitchell).

Quantum mechanics allows us to create a battery that can collect and distribute energy and information on demand and this is the kind of battery that living tissues would need. It represents what we observe in the living state in nature too. When we need energy or information our tissues deliver it consistently when they are functioning well.

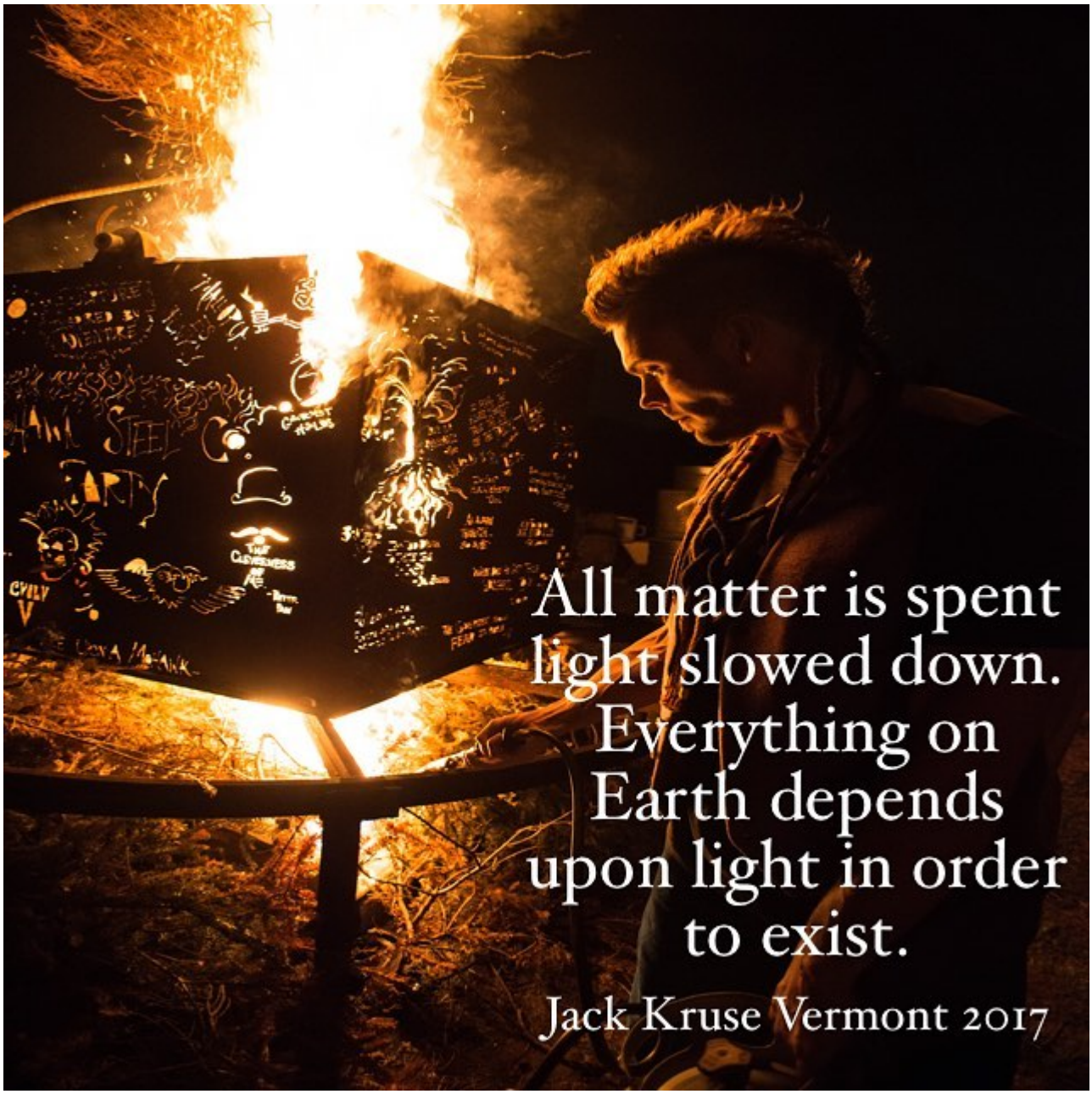
How do they do this? After all thermodynamics should be sensitive to the underlying microscopic description. For example, the efficiency of a heat engine like our colony of mitochondria should always be limited by the Carnot theorem. We are bound by this theorem thermodynamically irrespective of whether the working medium is comprised of quantum or classical components.

Carnot showed us a few hundred years ago how a heat engine like mitochondria operates. He showed that the best way to increase the efficiency of a heat engine was to increase the difference in the temperature from the heat source (matrix) inside the engine and the exterior surroundings. This is why Cold Thermogenesis works for most mammals who have a decent heteroplasmy rate. It does not help people with defective mitochondria with high heteroplasmy rates on short time scales because their heat engines have a high heteroplasmy rate.

Carnot showed us clearly that the hotter an engine can run, the more efficient it is. This means people with diseases have inefficient heat engines because of CHRONIC WIDESPREAD MITOCHONDRIAL COLONY FAILURE at some level. This idea has guided mechanical engineers for 200 years but it still seems to perplex doctors who treat people with diseases today. This is why UV light and melanin are so helpful in repair defective mitochondria. They raise the temperature of the blood and mitochondria in the skin to help mitochondria in all tissues they are found using Quantum Thermodynamic principles.

On Patreon, we will discuss these things in the Quantum Thermodynamics blog series.

However, for non- equilibrium situation the question is more subtle. For instance very recently it has been demonstrated that it is possible to use non-equilibrium short cuts to adiabaticity to boost the power of engine cycles without compromising efficiency (Deng et al. 2013, del Campo et al. 2014). One may then wonder whether it is in the finite time operation of devices that quantum mechanics offers advantages biology is seemingly unaware of today. How melanin works photosynthetically in us is one small example. The present blog provides an example of a process where quantum correlations provide an huge advantage to living state.


All matter is spent light slowed down. Everything on Earth depends upon light in order to exist.
Jack Kruse Vermont 2017