

Quantum Biology 8: Quantum Scaling

Readers Summary

1. What are nature's fundamental laws governing current?
2. How do they apply to you?
3. How can you use them to repair you?
4. How does the quantum world touch you every day?
5. Can you imagine examples of your microcosm meets your macrocosm?

Most humans are innately aware of the existence of fundamental laws of nature. These are the laws that define our material existence of our universe that we physically inhabit and that currently define our conscious existence. But what humans fail to realize is that how these laws, when singled out for dissection seem so contrary to our common sense. This series is slowly reminding you that the rules of life follow the physical laws who are their counterpart, even when your beliefs cause you to think otherwise. When you begin to explore the microcosm of our quantum reality you begin to see how the macrocosm is constructed and why things work in the fashion they do. It shows us at a deeper level, under all the subjectivity and paradox that life seems to hold, we can always find the bedrock of objective and concrete rules to be a beacon for us to follow. The key, however, is knowing where to look for them. Scientific objectivity is derived directly from the unwavering and unchanging laws that govern physics. This allows us to feel secure in drawing inferences and conclusions we draw from them to build our worldview beliefs upon. Today, we are beginning to realize in healthcare some of our beliefs have allowed us to stray far

from the epistemological foundation of the laws of physics.

This is a particular problem when we are relying on randomized controlled trials that are supposed to be valuable in distilling out the truth from the barrage of randomness that life provides. This randomness is seen in the conflicting reports in the literature and from people we constantly face in life, science and in the media. We need to be building our own owners manual using the incontrovertible laws of nature and not much else. If we do not, we are apt to fall prey to beliefs that seem true on the surface but not supported by the counter-intuitive principles found in the laws of nature. We need to return to the ancient processes that nature uses to build upon what our modern knowledge has revealed. Modern knowledge can never change the laws of the universe. Today, if you read an RCT on say, a statin, the implications of their conclusions goes against every observation we have made as a species. If you block cholesterol production, you can not convert cholesterol to pregnenolone at the most fundamental level based upon the laws nature has shown us. We need to go back to our roots to move forward. Understanding the foundations of the quantum electro-dynamic theory is the path we must begin to follow, even when at its outset it seems too complicated or confusing for the layperson to get. If you make a mistake with the cornerstone of a foundation, the house that gets built will not last. I believe this is why we are seeing cracks everywhere in our species today. What we believe does not match the laws of nature underlying our biology.

Take a look at [this link as a for example](#). CoEnzQ10 was made by evolution to allow for [quantum tunneling of electrons via the Q cycle](#). Today, we advocate for statins that actually block the formation of CoEnzQ10. Now we have a powered study that shows when you add back in nature's "lego block" that allows for quantum tunneling in all cells and specifically in muscle cells we see a dramatic result in physiologic function

in people with very severe cardiac disease. This is the kind of study that has to get you thinking are we really helping anyone by lowering anyone's LDL cholesterol with statins and blocking their ability to make hormones?

It is not all a simple game nature plays

Many of you know I am a big believer in bio-identical hormone replacement *when it is needed*. But what many of you may not realize that the laws of quantum physics require other things to be in harmony or resonance for it to work well. I have laid out what scientist have revealed about how our bone works in [EMF 8](#). It uses semiconduction and the use of a direct electric current and the combination of several different semiconductors to make energy coherent. Coherence is difficult for most lay people to understand because the current most people are familiar with is a regular electrical circuit. In an ordinary electric circuit in your house, there is always a significant loss of energy/information because of the resistance offered by the wire. In special materials like semiconductors, however, electric currents can travel and flow with almost a zero resistance. This is what we mean when we talk about the coherence of energy and information transfers in biology. Most believe energy production and transduction is all about ATP. Dr. Robert O. Becker, who was twice nominated for a Noble Prize, showed us in his work on bone metabolism how the laws of nature are used in mammalian bone physiology.

The implications for mankind here is immense if we just realize what he found. In a superconducting medium, electricity can flow for an extremely long time (think longevity) with a small electric current being generated. The stronger our current, the longer we live and the longer our parts work well. That is the directly proportional

relationship that is developing from the work of Becker and from longevity researchers.

On Earth, the two major environmental currents our biology has access too are grounding and the photoelectric effect from the sun's rays. The reason that superconductors are different than electricity in a wire or an ionic current in a cell is that of the onset of extraordinary long-range interactions among pairs of electrons via mediating particles called phonons. This has collateral effects on protons because electrons in ECT affect proton chemiosmosis. I just spoke of them at the [May 2013 Webinar](#). A pair of phonons forms what is called Cooper pairs in physics. When you understand the implications of Cooper pairs, it makes sense of the following statement. 'More is different' and the primary reason more is different is because of the presence of these interactions.

Phonons are quanta of vibrations, that include sound, so they are named in an analogous fashion with photons which are quanta's of light.

Keys to understanding our superconducting current

In physics, the study of electric current is well developed.

It uses a formula most have heard of. The formula for current is $J = v (n) (e)$, where J = current, v = velocity of the particles, n = the density of the particles, e = the charge on each particle. The defining characteristic of all kinds of flow is found in the current. A stronger and larger current means a bigger flow as a universal law of nature. The details clearly vary in the system to system due to the complexities of the system, but the essential formula is the exact same way in all of nature. In the most simple terms, electric current can be thought of as the directed flow of the tiniest nanoscopic subatomic particles called electrons that carry a charge, while moving through a wire. The electric charge is

the stuff that electricity is made from. This stuff is used to charge a battery. We build up more electric charge at the batteries terminals as we increase the currents flow across the battery.

While we are discussing this information I want you to think about what I told you already about water conduction and what was in the [last blog about vitamin D](#). I also want you to think about the quality of your biologic semiconductors and your mitochondrial efficiency.

Hold these variables and “scale” them into this discussion.

When you examine the formula for current we see the first variable we come upon is “v”. For any flow to happen the particles need to move. They can not be at a zero velocity.

The faster the velocity of the particles leads to a much higher or stronger flow. (Think CoEnQ10 on the inner mitochondrial membrane or the collagen semiconductors of your skin when photons hit it when you have a trans fat embedded in the cell membranes those semiconductors, or when you do not have enough CoEnQ10 available due to your statin.) Are you beginning to see how these small factors can lead to massive changes in your current yet?

Let us talk about “n”. N covers the density of the particles.

The strength of the current would most certainly depend upon how many particles are available to flow in the first place.

In the case of no presence of particles, there is no flow.

Therefore, it should make intuitive sense that a higher density of particles going through the semiconductors generated a stronger flow. Are you beginning to see why sunblock, trans-fats that block your ability (dielectric blocker) to absorb UVB photons from light to make Vitamin D may be the bigger issue in our health? When your semiconductors cannot absorb a high enough density of the energy or information quanta, the system loses its ability to generate a high enough current. You might also see why

fluoride in your water can completely alter the ability of water to superconduct too.

Let us talk about "e" from the formula now. The strength of the electric current depends upon the electric "charge" (ie: the amount of electricity) that is carried by each particle.

If the particles carried no charge there would be no current.

Well, when we talk about an electron, the electric charge happens to be a fixed quantity that we all know. But in other forms of flow, each particle could in principle carry a larger or smaller chunk of whatever is flowing. These changes have a direct impact on the current that is able to flow in a system.

Implications: Since current is based on these three simple physical principles we can understand why they are multiplied together to get the total current in a system. This is apparent because mathematically when we multiply them together if any one of them increases the current must increase. This is what we observe as well. The current in all systems is **directly proportional** to these variables. Here are some more implications of the formula. If any of the variables double then the current would also double. If one doubles and another triples, the effect is cumulative.

There is a bigger implication that the formula is missing.

When we read the equation we tacitly assumed that the velocities of all the particles are in the same direction. We assumed that the flow would be in the direction of the flow of current. In nature, or in biology, this does not have to be the case. In fact, the particles could be moving in many different directions all at once. Some could be going backward. The more random motion present in the system the more resistance is present. The less resistance of flow of current increases the coherence of the system because it allows for free flow of the current in the system. In physics, the direction of flow is broken down in the "v" of the equation. V_s is the sideways velocity, v_f is the forward velocity, and $-v_f$ is the backward flow. Since the particles

could all be moving in any direction we need to obtain the net flow of most of the particles so they do this by taking the average of all the "vf" of the particles. In physics, this is accounted for by placing a horizontal bar over the symbol in question. In this case, it would be the "V". This implies when certain solar frequencies are absent (UV/IR) then backflow could occur in ECT in some cases that would alter free radical signals like superoxide. It would affect mitophagy efficiency and the spinning head of the ATPase as collateral effects.

Back to the hormones

It should be intuitive now to realize one of the downsides to modern anti-aging medicine and bio-identical hormones (BHRT).

Most of the practitioners in this area look to replace a person's hormones to the top quartile of the reference range for the lab in question. This is akin to the increasing the particles in our equation but it does nothing in determining the direction of flow or the density of the particles. This is why only looking at this one axis of BHRT can lead to short-term gains that wear off. It also underlies why many modern physicians do not believe BHRT works long term. The fallacy of both beliefs is that they do not understand that hormones act upon the current of flow over our semiconductors.

That means there are two other factors at play that can be additive offset the changes made to the system. Hormone's direction of flow is determined by its periodicity or its circadian cycle. If one adds a hormone out of its cycle it would seriously affect the directional flow and look to dampen the system's current. This is why taking melatonin or vitamin D at the wrong times of the day can be very detrimental. It also underpins why the route of the medication may have massive implications for the eventual current of flow in our semiconductors.

Quantum Truth Bomb: Just replacing hormones or fixing your

diet is not enough. These variables directly affect the current in the human system, therefore, we need to consider the effect of direction and coordination of the effects when they are used.

Quantum physics requires precise application of the details. Here I showed you the three main variables in how current is determined in any system. The equation before this last discussion of the direction of the flow might appear to be the same to you when you look at it, but nothing could be further from the truth. Nature, via QED, makes an important distinction that directly affects the downstream effects. QED says motion is not enough for flow to occur. The motion has to be directed and coordinated. If the particles are moving all random fashion, the sum of their motion may lead to a zero current. When we lose water coherence, this is precisely what happens. We lose the coordinated flow of free electrons in the correct direction. When this happens on the inner mitochondrial membrane, the flow slows and allows for more leak to occur. The more leak we get the more ROS we generate and the shorter our telomeres get. This is why understanding current and flow is critical. You might be shocked to hear that you will never hear about electron flow or direction in a biochemistry book. This underscores why we have a foundational or epistemological problem today in medicine. We have to understand how light controls the biophysical levers in biochemistry. **We just have not linked how the laws of nature tie into the biologic processes in cells.**

Summary

The success in reversing any disease is also tied to this formula. The velocity of the particles is equivalent to “hard work”. This connection should be easy for you to make. The more “electrons”, photons, or phonons in any system require more work is needed to move them in a coordinated fashion. After all, if photons and electrons flowed for free without

work we would never have to pay a utility bill. To reverse a disease requires a higher current. This means it requires more work and a tighter cohesion to the principles that dictate current and flow in that system. This is why Edison famously was quoted, Genius is 1% inspiration, and 99% perspiration. Here we see how quantum theory from the microcosm meets the macro world. In the end success, success boils down to sweating out the details that make the work to move photons and electrons across your semiconductors. It is not a macronutrient story, and it has never been, as I laid out in [EMF 2](#). What I said in [EMF 2](#) was meant to shock you into a new reality. Today's post is written to show you how quantum theory is scaled down to simple ideas to make you understand how she works to keep you well. See hard work is a lot more important than being smart or talented.

The coordination of the current on your semiconductors is equivalent to the discipline of your actions. You saw above that a sustained current only exists if all the particles are moving in the same direction. This direction must be congruent to direction needed in the system. Becker's bone work showed that we use the photoelectric effect on collagen to calcify bone. I spoke about this in a bit in [EMF 7](#), but expanded upon it to a great degree in [EMF 8](#). Today, I am going to scale it to the macro world of your behavior and your decisions. When particles move around randomly, we may get no flow at all. So the current needs to be **directed and disciplined**, to get the action we need. This should just reaffirm many of the morning affirmations I make on [my Facebook wall](#) for you now. I use thoughts to direct the current in me, by teaching 'my system' to become more disciplined. To gain success, one must have discipline, otherwise our "current" is wasted. We could work very hard, (think of an endurance athlete for example) and still get nowhere (death) unless our efforts are directed and disciplined towards our goals. I think this is why endurance athletes are successful in doing the things they do, but it is

also why they tend to fall apart before many others who do not. They do not understand how the direction of current in their goals leads to shorter telomeres, neolithic illness, and usually a nasty demise. See particles can move very fast in a system, yet, never lead to an increase in net flow, because they are moving in all sorts of dimensions randomly. How do we tell? We look at their labs and they make no sense. [Their hormone panel is a wreck; see this column for insights.](#)

What is the equivalence of the density of the carriers in a current? I am hoping by now you are beginning to scale between the quantum world and the world you know well. The density of the carriers is skin to our persistence. Just as a flow requires lots of particles flowing together, in real life flow toward a success comes from a multifactorial accumulation of bits of effort over time. The incremental motion of each particle is represented by each small step we make in our recovery in life. If we never make the leap, we never make progress. If there is a zero density of particles, there is no flow. Success follows persistent efforts directed toward a goal. When I think about density on the inner mitochondrial membrane I think about electron density. I eluded to it in [the quantum electron blog](#) post 18 months ago. Do the electrons and protons from foods matter in a reversal from disease? I said it does. And here is the proof of concept.

Foods that have higher ATP densities, like a ketogenic diet, have more electron density. This is why carbohydrates have 36 ATP but the same stoichiometric amount of ATP in fat has 147 ATP. **Density correlates with electron flow even in life.** The next time someone says you need carbs to fuel maximum performance, remember this lesson on the current of flow.

This is Nature's laws speaking not my own. No RCT will ever change this fact ever. Electron flow across the inner mitochondrial membrane determines mitochondrial efficiency.

Mitochondrial efficiency determines our ability to work and think well. Better decisions come from higher amounts of photons and electrons moving across our own superconductors.

The last part to consider in our equation is the charge on each carrier in the system. The charge equivalence in life is our aggressiveness. On the surface this may not make a lot of sense but let me explain it. We all know people who work really hard but fail to meet their goals. They have the talents and ingredients for success but they always seem to come up short, while people less talented win more. (think Peyton Manning vs. Tom Brady)

Why is this linked to electron charge you ask? The charge of any particle is an intrinsic property of the particle. A person's aggressiveness is also part of their intrinsic make up. Look at the career and make up of Peyton Manning. He is quite calm. Look at the career and make up of Tom Brady. He is fiery under pressure. In electrical circuits, the charge is usually fixed as well. It usually is related to the known charge of the electron. In other systems, the flow can be larger and denser, (think protonicity in water) and it will decidedly boost the current. When aggressiveness is channeled with the direction of the current it can clear obstacles in the path to success. This is why there is a deep quantum truth to the saying. "Nice guys finish last." As with anything the dose makes the poison. If one is too aggressive you can thwart the "current", and turn people off. Sometimes that may be part of the systems design too. Current is not a function of talent or skill. The world is littered with massively talented superstars who just flamed out. I could list 500. Most intrinsic skills and talents we are born with. We can not develop them significantly. We can hone them and polish them but they are part of our fabric from the outset. We can develop the skills and talents we have using the 4 variables found in nature's laws for current.

If you do not have the facial symmetry of Sophia Loren, the muscle skeletal system of Shaquille O'Neal, or the neuronal map of Einstein, you will not have the intrinsic talents they did but you can develop what intrinsic talents you have and

change everything in your life. Why? **Because it is Nature's laws, built into our evolutionary design, intrinsically by quantum electrodynamic theory.** Not fully understanding the implications of what is on this blog will keep you spinning your wheels in your own reversal. Everything in life is explainable when you understand Nature's laws. It is time to get on with that education to improve your current and your flow.

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