

# "Don't fuck with time ..."

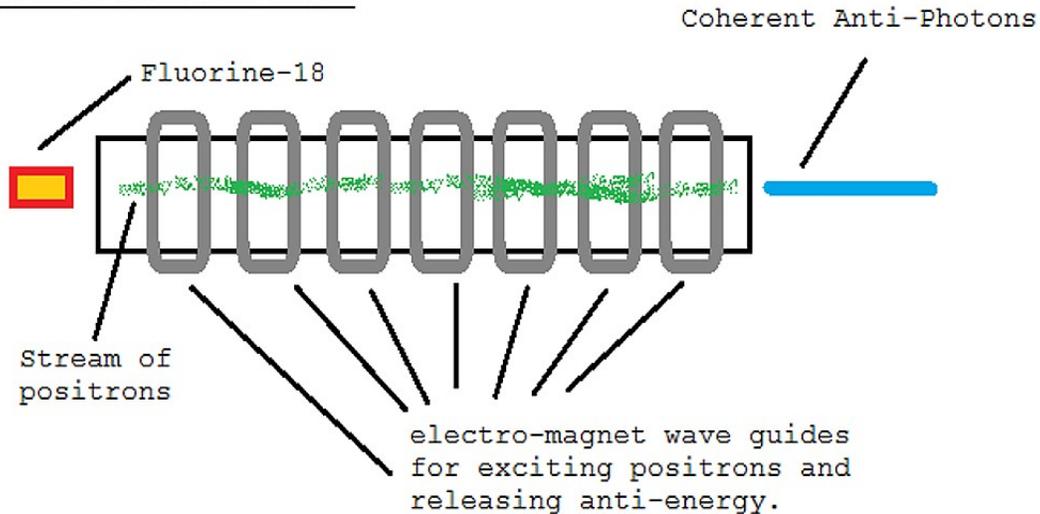
(of anti-photons, high school memories,  
and ridiculous teenage theories  
concerning matter, energy, time, and  
entropy)



*by*

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## A Free-Positron Laser



(FREE-POSITRON LASER: the very simplistic concept/design, shown above, would guide POSITRONS emitted from radioactive fluorine and apply the same technique used in a free-electron laser to this same problem - very dumb)

A person should always be wary of documenting a crazy idea from when they were 16 years old. Of course, at 16 (like many I have come to know in this life), I was a loner and mostly alienated from other people. Alienation is not an unusual state for a teenager, but my case was made worse by family circumstances - both too complex and too irrelevant (to our present topic) to discuss here. Instead, I would like to reveal a youthful conjecture and explain the reasoning behind it.

As a teenager, I consumed as much as I could of Scientific American and various OTC scientific journals - some infinitely better than others. During the 'hey day' of SDI (Strategic Defense Initiative), I became very

interested in the theoretical foundations of laser technology. Of course, my life took a different road, but that too is not the point of this blog entry.

Laser light is produced when an ATOM of some element is excited to release coherent radiation - radiation where all the wavelengths are the same and the direction is equivalent and amplified. The electrons, orbiting the nuclei of the atom, absorb the photons that are pumped into the system and then jump to a higher energy level, at the higher energy level they release the photon (emit it) - hence the concept 'quantum leap'. Certainly, this is no place for a half-ass explanation of the theory, and there are many good sources these days for deeper and more accurate explanations.

Separate from the basic theory of how to produce a laser beam - Light Amplification from Stimulated Emission of Radiation (L.A.S.E.R.) - there are many varieties and means to produce coherent/amplified/directed radiation.

The following is a VERY short list of the kinds of lasers that exist (not a complete list):

1. Solid State Lasers: the very first laser was a solid state laser, using a synthetic ruby crystal and the means of 'pumping' the energy into the laser came from relatively conventional sources of incoherent radiation (flash bulbs, strobes).

2. Gas Lasers: Energy pumping is done using radio frequency generators forcing an inert and isolated gas to release photons (raising quantum energy levels), then using mirrors to reflect and amplify the light.
  
3. Semi-conductor Lasers: These are the most abundant, because they are basically L.E.D. lights (Gallium-Arsenide Lasers) and have a similar structure - essentially light emitting diodes are semi-conductor lasers of low energy. These are the lasers you generally find in 'laser pointers' or targeting lasers on firearms. They are cheap and abundant these days. I'm no expert on how much energy (in joules) can be achieved with this kind of laser.
  
4. Chemical Lasers: The airborne laser platform, deployed by the USAF, uses explosive gas (hydrogen fluoride) as both the energy pump and the medium for achieving coherent radiation.
  
5. Free Electron Lasers: This laser uses a directed electron beam (in a vacuum) to generate the energy for the laser. The beam is manipulated using EMF to force

a release of photons (coherent radiation). "Tickling" the stream of electrons with magnets.

6.X-Ray or Gamma-Ray Lasers: these are theoretical, there are some who believe DARPA has these already. It is known that Edward Teller (major figure in SDI in the 1980's and inventor of the American hydrogen bomb) was working on a thermal-nuclear burst technology using dense material as wave guides to produce an X-Ray laser. But, a nuclear bomb powering a laser is a tough nut to crack and many think this is silly government bullshit.

I digress, getting back to the main topic...

During a trip, my Sophomore year in High School, I began thinking about why an object in motion has 'energy' in it as a result of momentum? How is kinetic energy stored/distributed within an object in motion? These are naive and stupid questions, but, like I said – teenager.

Do you need displacement or motion through space to produce this change?

From a crude perspective, displacement is not required. A top, spinning on a point, that is virtually stationary, can contain massive amounts of kinetic energy.

So, if displacement is not necessary, then why is any relative motion required at all? Energy can neither be

created nor destroyed - but it CAN be transformed (usually with an associated cost of matter or energy). So why couldn't you simulate the effect of acceleration and momentum without any motion at all?

This was the genesis of an idea for taking advantage of relativistic time travel, without traveling through space - can you pump an object with energy, in such a way, that the object behaves as if it is moving at velocities close to the speed of light, but the object is stationary? The problem is the pump. How would you pump a non trivial object with energy and produce this effect?

More importantly, given the amount of energy required to achieve a high-percentage (98% of  $c$ ) of the speed of light, how do you pump a system (a human for example) without complete and total obliteration (i.e. the human is destroyed)?

At the time, in high school physics class, it seemed to me that you would need to use some kind of holographic technology, operating on MANY different wave-lengths, to evenly direct and distribute photons throughout the body in question ('body' here can mean anything, box, cat, baseball or person).

Let's assume you could do this ...

That you could actually "simulate" the effect of velocity and acceleration, by pumping energy into an object, in a distributed way - and to do so without impacting structural cohesion?

(sounds fucked-up)

(given all that)

This only helps with the form of time travel that is uncontroversial - travelling to the future. Einstein's Theory of Relativity and its effects have been documented and proven using high speed jets and atomic clocks. So we already know it is possible to build a one-way time machine to the future, and there are no real philosophical issues or paradoxes with this (see Rip Van Winkle).

Going backwards in time is the real trick.

There are two things you need to be able to show/prove if traveling into the past is possible: 1) that the paradoxes of causality can stay consistent within the universal cosmology and 2) that the past, in any case, actually exists (now, always, forever, in tact).

Let's talk about killing grand parents ...

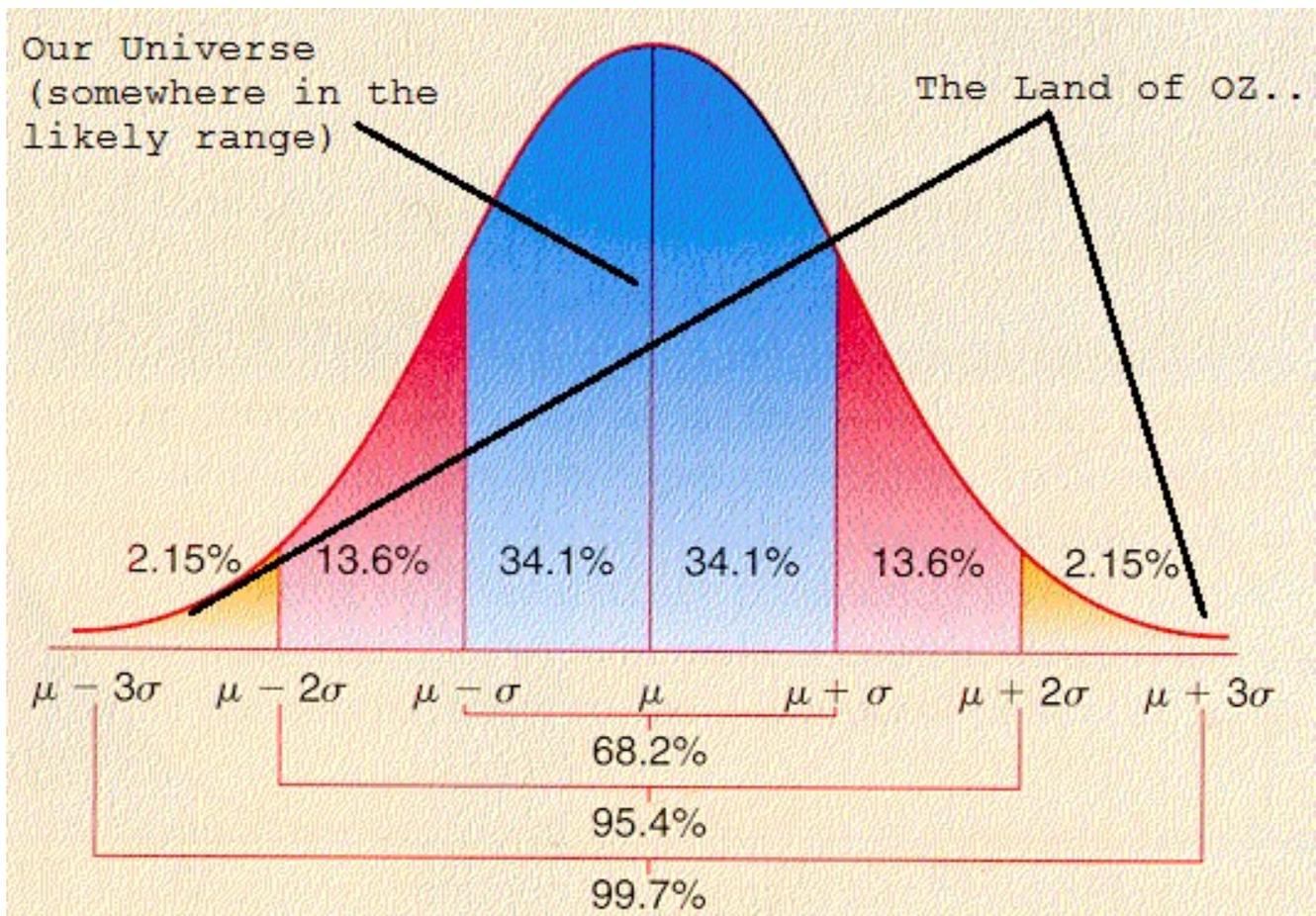
I do not want to provide another half-baked regurgitation of the [grandfather paradox](#) - mostly because it is a well known and well argued proof against time travel. As far as the past existing, well, I think this may

be the real philosophical and scientific barrier. Now, 26 years later, I might be convinced of the idea that the past and present are concepts that have little real meaning beyond our conventional usage in language. This is not to say there was never a 'past', but rather the arrow of time goes in one direction and it is unlikely that there is a 'place' or rather 'time' that exists beyond this moment.

But for purposes of argument and conjecture, let's assume the following:

1. Events in the past exist and are true. They continue to exist. We don't experience them because, as with wakes behind a moving boat, these waves cannot catch up with us. But, if we could some how 'slow down' our speed through time, these wakes of past events could catch up and pass us.
2. Paradoxes of temporal causality only have ONE solution if you want to travel backwards in time - our universe is really the collection of EVERY possible outcome of EVERY branch in sequence along the time line. But, the likely universes are distributed, logically, according to probability. Another way of saying this is that 'bizarre or implausible' universes may exist, but the amount of energy needed to reach these is roughly correlated to the distance in the past one can reach - arguably, the further you want to go back, the more

energy you would need. Put another way, if you could somehow get back to 'near' the moment creation (big bang), you might be able to visit all possible universes (small 'u') for our given bubble universe (big 'U'). And, if hawking is right, there are many universes that come in and out of existence, and that complicates diversity of universal manifestation further. (fuck, this shit get's complicated fast)



So, even if you accept these two incredibly over-simplified assumptions, it still doesn't tell you 'how' you might travel backwards in time.

Let's revisit the idea of pumping a system with energy to achieve relativistic effects - if this were feasible, might there be an inverse relation at work here?

Let's think of this in a slightly different way - is it possible to slow local entropy?

We sort of do this all the time - it's called refrigeration. We humans, using brute force and a lot of energy, reduce the temperature of a region of space such that objects which would decay quickly at room temperature stay fresh and safe to eat. Maybe even one day, in the future, we will be able to create a means to safely store humans, at very low temperatures, so that they can 'pass the time' awaiting some future. But, would this REALLY be traveling forward in time, per the fancy notions of time travel?

Imagine you are a hyper intelligent being in the future and you have 'unfrozen' a human who was in cold storage. From the humans perspective it seems like traveling forward in time, but from the futuristic being's perspective you are a tiny fragment of the past - a steak left in the freezer. You, your capsule (time capsule), are a portal (via slowed entropy) into a past never envisioned by the future people. You become a form of time travel for them, sort of. This applies equally well to core samples of

ice from Antarctica or the remains of a mastodon found the in permafrost in Siberia (from 10,000 years ago).

Here is another thought experiment ...

One of the key assumptions here, for this example, is that entropy, within any given system, roughly aligns with the temporal properties of said system. This means 'change' and 'time' are the same things, in a way.

Let's say you could freeze a local space - down to the quantum level (a quantum refrigerator). An evil scientist develops a 'ray gun' that let's him or her (evil scientists can be any gender) freeze a whole space (like some space the size of a building or tavern) and keep any change from happening - assuming this evil scientist had a nearly free and abundant source of energy. Then, after 100 years, the device runs out of energy and the local space syncs up with the universe. For the folks who might venture into the 'old timely tavern' it would seem like a trip into the past, for the folks in the tavern (other than being terribly maltreated), they (if they could leave the tavern) would engage with a future that just moments ago, from their perspective, was the past.

At low energy levels (I would even include the gedanken experiment above as this), what we achieve from pumping energy out of a system is essentially a really, really, good freezer. But, if this works as relativistic

time dilation does, then 'time contraction' happens at energy levels that are very close to absolute zero, also, maybe.

Yeah..

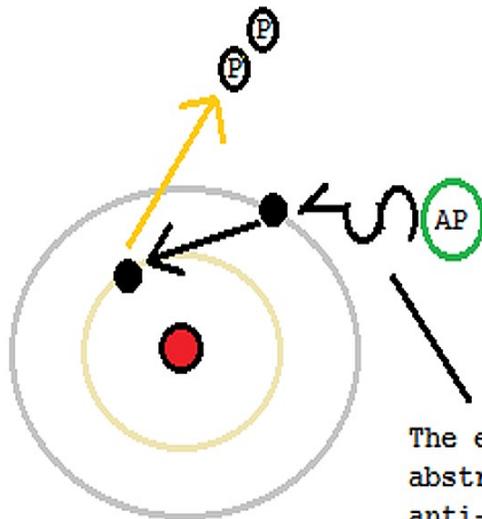
Dunking someone in liquid nitrogen would be about as safe as firing a powerful 10 mega-watt laser at them - without a means to gauge and manage the distribution of this effect, the 'real' effect is destructive, disintegration.

This is where the naive interpretation of matter/anti-matter physics comes into play. If we can use lasers to pump energy into a system, could we use them to remove energy from a system? How would this work?

For this we need an anti-particle to the photon that produces annihilation (oops, first law of thermodynamics is not happy with this). Current theory, which is superior to my own teenage cosmology, would say my notion of an anti-photon cannot exist - the photon is it's own anti-particle. But, as with all flights of fancy and speculation, as long as you know it is dubious you are in no danger of being led astray.

For the moment, let's pretend that the annihilation of energy poses no problem (it kind of does, but I don't want to dwell). How about this as a way to avoid breaking 1LOT -

when an electron, of non anti-matter, absorbs an anti-photon, it in fact is forced to release 2 photons. If an atom continued to absorb anti-photons, the immediate effect would be a reduction in entropy and could be a means of refrigeration.

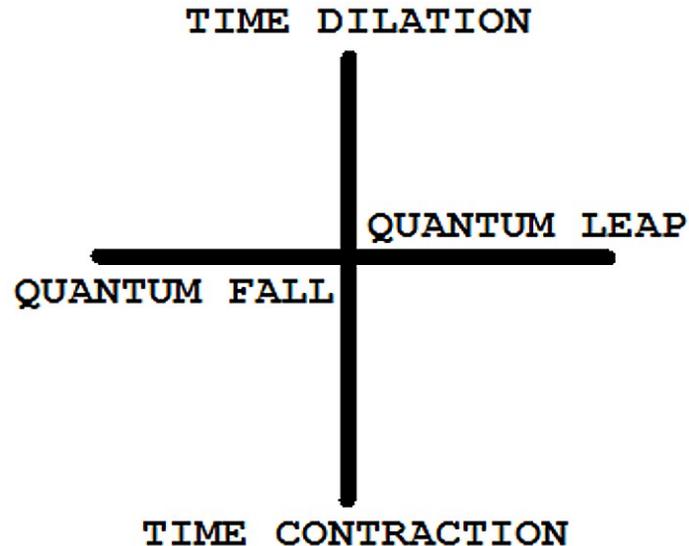


The electron orbiting the abstract ATOM absorbs 1 anti-photon and releases two standard photons. This creates the opposite of a quantum leap - "A Quantum Fall".

But what if I could do with anti-photons what my 'simulator' of relativistic effects does with our garden variety photon? Could this be a means of 'slowing down' local space such that 'space from the past' catches up? Of course, once you visited that space you could never return to your original timeline (that creates a paradox), which makes time travel into the past more or less equivalent to visiting other 'timeline-universes' within our

temporal/causal multiverse (which is a unity at the BIG "U" leve).

"Quantum Fall", the opposite of a quantum leap, occurs when we progressively reduce the energy levels of electrons orbiting the nuclei of the atom. If we can do this, without 'tearing' or 'fracturing' the material we wish to transport backwards in time, then we might assume that at high percentages of entropy reduction (98% or greater) our experimental material would undergo "Time Contraction".



This is it. This is NOT science, but rather conjecture. More importantly, this is mostly 'remembered' conjecture from 26 years ago ...

Did I tell you that you pay NOTHING for visiting this blog, website?

Then worst case, you got your money's worth by reading this entry - actually, worst case is I wasted about 20 minutes of your day, maybe 45 minutes.

One more thing before you depart in anger ...

I think the only form of "time travel" that would be meaningful to any one of us would be the form where "you could go back and change your own life" - you could go back and "kill Hitler" and other shit and that would change the "current world". But this kind of time travel is, in fact, the most complicated and dangerous. Unintended consequences aside, it seems logically impossible that you could continue to exist once this change had been made - even a MINOR variation in a singleton time line would erase who you were/are before the "rift".

So ...

Please ...

DON'T FUCK WITH TIME!

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