

Long Lunch – the collective writings and ramblings of Ed Dowling

A collection of observances of life on earth, physics, the foibles of mankind and other such stuff. Below are topics for conversations, writings and videos.

The Extension Cord around the World: Update: I thought of this about 10 years ago and I still have heard no one else coming up with the proposed solution I am giving. Things are now starting to happen. A group in Germany is starting to build a large solar electric array in the middle east. Note also that 5 square miles of solar array can produce a GIGAWATT of continuous power! That is clean, no carbon burning power. The same german group is now proposing to make numerous arrays across the middle east to the Medeteranian. Basically it is pretty much a fact that the world can be powered by solar energy in place of power plants.

I choose this because it shows how the collective concept of what is and can be is so limited by the “normal, accepted” view of the world. The concept is called Paradigm simply stated a paradigm is one’s concept of the world that then limits ones concept of the world – once inside our lives we “cant see the forest for the trees” even though it is plainly there. Here is an example of a cultural paradigm: Detroit has failed - it got beat by a country we pretty much leveled – Japan. A relatively small island, leveled by war and nuclear disaster. They have to import all their materials and energy but their paradigm did not limit them because everything had been wiped clean so to speak. So these guys are still able to build cars better in every way with those handicaps and even though this has been going on for 30 years Detroit can not keep up or change enough to survive – note: I just heard tonight that Chrysler may be acquired by a Canadian group. The reason for this shocking example is simply that the view of the world that evolved in Detroit – where automotive manufacturing was begun – severely limited their ability to simply see and understand what is needed in a good car. We are all limited by our paradigm – I know it happens to me even though I know what to watch out for.

So check it out – there is enough solar energy hitting just a small part of Arizona to power the united states – yes that is a fact – until the sun goes down. Then things don’t work so well and the power will go off. So the paradigm is that we need to somehow store enough during the sunny part to last until the sun rises again and cloudy days require even more storage capacity. So as long as there is still oil to burn or nuclear energy to use not much will happen. Storage of the solar energy is assumed to be needed and the associated costs of storage are so high that solar is not yet competitive. Here is my point from outside the paradigm box: The sun is always shining somewhere as the earth spins and the consortium that can figure out how to connect the world across the 2 oceans with a giant extension cord can achieve constant power with no storage – virtually free power for the whole earth. Note the power transmission problem is significant but possible – very possible to over come. I think that I am about the only one who has seen the problem and the solution this way. Yes this is entirely feasible and requires really only 1 piece of technology to work. That being: how to transmit gobs of power across the 2 oceans. The rest of the grid is already there so we know that part works. Now if the great minds of this world were to focus on this single problem it can be solved – sort of like the first trans-atlantic phone cable. Some suggestions: power transmission thru concentrated

light/energy beams and geo- synchronous orbit, Skin effect conductors of tubes with very little mass relative to surface area – note that an electrical conductor does not need the core of the wire – the electricity is conducted on the surface of the wire – known for many years now as the "skin effect" There is still a limit as to how much power the "skin" can transmit – it is not infinite but the fat conductors that one imagines can be hollow and have radically less mass than the same diameter solid metal conductor. This is well known science. Maybe a transatlantic cable routed below the ocean floor – or better yet numerous cables in a network so that no single cable is critical – just like the grid we have on the land. Remember the transatlantic phone cable worked for a long time. The electrical cable can be made of concentric tubes within tubes and I bet the power transmission potential of the same outside diameter cable compared to a single conductor will be better by at least a factor of 10. Note also if it is done as a grid that no single cable has to be gigantic. There are problems like deep trenches and stuff but remember the old transatlantic phone cord that worked for a way long time. Yes this can be done. Note: A lady in California has a company that beats all the others in building massive power grounding systems because she uses copper tubing instead of fat wire. She beats the competition simply on the savings of the weight of the needed copper / amp. This is real.

Lets go a little further. We only need to connect the behring straits to north asia – it is simply not that far – when you think about putting an extension cord across the pacific your mind and paradigm seem to go the vast expanse of water in the middle - when there are really way closer land masses Just like the transatlantic cable being replaced by satellite there will be ways to transmit power with no metal conductor. We just are not trying to do it cause we are so limited by the trees in our forest that keep us from seeing the trees. Lets leave his now and go to the next chapter for a little different view of the sun constantly going down and coming up as we spin. On to the Toke that follows the Sun.

The Toke that follows the Sunset around the world: This is the source of my idea for the Extension Cord around the world chapter. In the middle east for centuries the religious tradition is that one must work till the sun goes down. All across the middle east – lets say for 5 thousand miles – there are millions of people who for a thousand years have their "tsipsies" (little smoking pipes) loaded with hashish, ganja, pot – you know - literally waiting for that big orange ball to disappear into the horizon. As it sets the pipes are lit, the toke is inhaled and that toke and inhale becomes continuous as person after person, mile after mile the sunset traverses the world there. Man, I sure like the image and I believe that is what led me in part to the previous chapter on solar power.

The Little Walter J and Dick Armstead: Dick Armstead lived in Jerome, Arizona when I arrived there. He eventually sold his house to Guy Henley. Dick, Jim Mccully and I were the only hippies in Jerome in late 1969. Naturally we would get together once in a while. Dick had the requisite VW Micro Bus but for some reason it had no license plates so he did not drive it. The back of the VW was lettered in the same way a yacht would have been with the name of the craft: "The Little Walter J" it was professionally done in flowing script just like an expensive yacht. So on New Years eve, 1970 Dick was celebrating and got the urge to go uptown. He got in the Little Walter J and drove uptown to the Spirit Room and had a few more. The one and only town cop busted Dick on his way home for driving a

vehicle with no plates. Dick's response was: "No plates? Man this is the Little Walter J – it doesn't need plates".

End of story

The Rock Beaver: I live on the Verde River near Sycamore Canyon in Arizona. In the summer I walk 100 yards to the river and play in the water. Invariably, within a few minutes of my first river session of the year I start grabbing rocks and making first, a dam across the entire river, and then water "features". I allow myself to create the features with as little plan as possible – to sort of be controlled by feelings and play as opposed to being on a mission to make something significant, or "functional" or "truly artistic". I do tend to make them in a manner that greatly reduces the danger of children being swept away by the river. They make it safe for kids to play in the water with much less risk than the plain old river. They usually direct the water in sweeping reverse curves that can act as safety catches should a child end up playing in the river and getting into trouble if the adults attention wanders for a second or two – which is easy to do with 2 or 3 kids and 1 adult. I also make sure to make increasing "levels of difficulty features" so that there is a place for a one year old to be in a shallow, sandy bottomed, very slow moving current. Then one that a 3 to 5 year old can handle – up to the "E" ticket feature that can be ridden or body surfed by adults. The ones for small kids are usually side outlets from the major flow and downstream from the adult ones.

In the process of making them I have learned from the river itself – things with an oriental philosophy like how water so effortlessly flows around obstacles that stand in its way or how the seemingly tranquil surface can belie power that can sweep one away to death. Also things like truly understanding that the power of water (and all fluids including wind) increases geometrically/exponentially as a function of speed: a given volume of water flowing at 10 units per minute may be easy to resist and stay comfortable in but if the speed increases to 20 units per minute the force produced is not double – it is four times greater. "The force of a moving fluid increases as the square of the speed". This is old accepted physics. It takes 4 times as much power to go twice as fast when you are at the Bonneville Salt Flats in a hot rod or driving at 100 miles per hour on the freeway as opposed to fifty.

If one plays in the water for a half hour or so you will hear phantom voices – nothing supernatural – just sound produced by water running over rocks mixed with wind and maybe a bird call or two.

The verde isn't deep at all where I usually do my "work" so I deepen the pools and areas behind the dam by removing rocks from the bottom and use them to raise the dam or feature walls. This also leaves the smaller rocks paving the bottom with no big "lumps" to stub ones toes on. Once I have the big dam or larger water features made high or deep enough to have only my head sticking out other things begin to happen:

I can move about with ease because I am floating, I can move silently, after 10 or 20 minutes of this the wildlife begins to return – small birds first, then right on up to Great Blue Herons and Bald and Golden Eagles and other animals. Its like I am accepted as a part of the natural landscape – very nice.

So here I am moving around in the water with only my head sticking out, building a dam and accepted by the wildlife. I naturally move to the lowest part of the dam or feature – easy to spot 'cause that's where the water is running over more that any other place. I can

also hear the water running over the low spot. So I kind of drift/float/swim to that spot with a big rock from the bottom and place it to raise the water level. So one day I am doing this float and build thing and I remember one of the Disney True Life Adventure series on Beavers and how they use the sound of running water to know where to place the sticks to raise their dam. At that point I go wow – I'm like the beaver - a rock beaver – only my head sticking out of the water and all. A funny realization for sure.

So as if this isn't enough of the humorous realization thing, the next few times I go to the river to play and fine tune my dams and such I keep finding sticks. Some in the very spots where the flowing water would have me placing rocks. At first I thought it was just sticks from up stream that got caught in the low spot where the water was flowing. So I remove the sticks and play more. The next day – more sticks, and I then notice that they are all with green leaves attached and neatly gnawed – a real beaver has taken over my rock beaver dam !! This is just too funny. For a second or two I actually get a little territorial about the beaver taking over my dam. Once my dam appeared and he could swim around in it he would spend all night plugging holes in the rocks and raising the level – just like in the Disney films. Also see number 32 below for a related river physics lesson and story.

29 You Find Hardest Way: I saw a PBS piece on one of the world's smartest and most successful inventors. A Japanese man – I forget his name. He invented the floppy disc and, I believe, the process that allowed for producing solar cells in a continuous process at a fraction of the cost of previous processes. One thing he said has stayed with me for a decade or so – to paraphrase with accent: “If you need to solve problem to make faster, better – you look at hardest way first. Something in hardest way must be understood.” Meaning that the making of the best tea, silk tapestries, musical instruments – anything created – will usually involve the most time consuming, and seemingly most inefficient methods BUT it is the way that produces the ideal “thing” – the best thing. That is what to look at if you want to make the same best thing in a more efficient manner – there will be a reason why that way was chosen, even though it seems at first to be too time consuming and inefficient to use or try to improve. I found that this kind of thinking was way outside the box and a revealing glimpse into the mind of an acknowledged genius.

The Doctor Rocky Birch Traveling Medicine Show –and the Magic Picture Propeller

Back in the early '70's in Jerome there was a Vietnam vet who had been a medic in the war – hence the title “doctor” Rocky Birch. He had the little black doctors bag and would offer to clean your teeth for \$5. A funny fella. He had an old pickup truck and had the “Doctor Rocky Birch Traveling Medicine Show” where he sold the Elixir OF Life – “its odorless, its colorless – it's the Elixir of Life! Actually it was water in little bottles.

So Rocky would park his truck in the space across from Paul and Jerrys in front of the big stone steps and the show would begin. I would play the banjo and a girl would dance around – twirling with a skirt on mostly – underwear or no underwear – the twirling seemed to bring in the audience. Now rocky begins his spiel and the big stone steps start to fill up with people. He is funny for sure and people start to laugh at the odorless and colorless Elixir of Life and he starts to offer up bottles for sale. Then he brings out the Magic Picture Propeller to show the power of the Elixir of Life. He gets a willing victim from the audience and opens up a bottle of the Elixir and has the guy take a swig and close his eyes and wait for the stuff to “take effect”. He warns the guy to not open his eyes or the Picture Propeller

will not work properly. He takes the Picture Propeller out of its box and shows it to the audience – it turns out to be a hand drill with 2 sticks nailed together with the nail sticking in the drill chuck – so when he turns the handle it spins like a 4 blade fan. So now Rocky comes up to the guy with his eyes closed who is waiting to feel the power of the Elixir of Life and the Picture Propeller. He is facing into the afternoon sun and Rocky puts the propeller a foot or so from the guys eyes and turns the handle making the sun flash on and off thru the guys eyelids and the guy says “I can see it, I can see it! Its working!. Well the audience loves this, people buy little bottles of the elixir and I play the banjo and the girl twirls one more time.

This little show got to be so popular that there would be more people out on the big steps than in the bar on a Saturday or Sunday afternoon. After a few weeks something happened – maybe the bar owners complained – and Larry the police chief shows up during one of the shows and tells Rocky he cant continue – there are complaints and he has no license. So an audience of 50 or 60 people are not happy and are booing and at this point Rocky is pretty close to the chief and he leans in and kisses him on the lips..... A fitting end as Rocky is arrested, the audience gets a thrill and The Doctor Rocky Birch Traveling Medicine Show moves on to another town – I stay in Jerome.