

Optimism

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Can we agree that optimism is positive while pessimism is not? The answer “yes” leads to a dilemma which has bothered me for years. It has to do with progress, science, technology and how we use the sun. We don’t look evenly at our uses of the sun. An example is “Green Jobs.” Our public figures discuss “Green Jobs” and here that means people in hard hats and tool belts wiring photovoltaic panels, and installing wind generators. What of old uses of the sun? What of growing food or raising livestock? Isn’t that as green as stringing electric wires? Aren’t cooks who prepare food working with solar energy? To abuse language let me call a cook a “Fueling Engineer” for us “Biomachines.” The waiters and dishwashers are assistant engineers or technicians. We can go on and on in this vein and discover a majority of jobs even in oil powered America are green solar jobs. Look at doctors, teachers, and nurses. Not gas station attendants, truck drivers or airline pilots but a huge slice of America is still green. I say still green since a century ago there was even a greater share of green citizens than today. Our problem centers about progress, about electrification. Thank god for electricity, for the washing machine, the refrigerator, the vacuum cleaner. Let alone the microwave, the electric drill, the light bulb.

Were these devices not all developed in the face of obstinate pessimism? The first ones must have been clumsy, hardly worth it, absolutely dependent on optimism, trying again and again. Haven’t we learned that science and particularly electricity yield benefits and the skeptics stand in the way? That’s the difference between the new green jobs and the old. The cooks and waiters and nurses. Everyone

understands this. Why do I bring it up? Tradition is fine but do you want to return to the cave?

Well, yes, sometimes, caves are perfect, cool in the summer, mild in winter.

We wish to be able to mix the old and the new. We want to be able to decide which science we want or which we don't want. This is the measure of man. Freedom to choose for himself. Some science and some electricity we can do without.

Advancement isn't an obvious gradient to struggle up. It has to do with freedom to choose, to speak, to select. A struggle certainly but not a technical cause. Nothing simple. We are not always grateful for more fire power, more computing power. More horse power. Sometimes we want to be left alone.

In our town there are examples of misguided optimism and electrification. We have abandoned skylights in almost all our stores. We rely on electric lights during the sunniest weather. At the same time the State, through subsidies and renewable portfolio standards causes the construction of larger and more expensive photovoltaic power plants who's electricity certainly cannot electrify all the electric lights left on because there are no skylights. Technical optimism can cause us to abandon very good answers, as skylights for unhealthy technical causes, as solar generating power. This can easily be amplified by financial institutions. We, through decades of technical optimism have saddled ourselves with institutions that delight in generating electricity for itself even if there are far cheaper non-electric solar answers. It isn't a defeat to abandon electricity to use nature, the non-electric skylight. Walgreens has put up enough drug stores, where health is marketed under an unhealthy, unchanging, fluorescent ceiling to negate the hard work of their staffs.

We become weary listening to upbeat predictions that again and again fail. We finally realize that we finance the upbeat mood with our taxes. Cooks, waiters, small farmers, go out of business as policies support the green jobs I have mentioned. Of course we have problems, when has it ever been any different? Technical overshoot is no different than excesses our ancestors struggled against long ago.

Who are we to question science? Isn't that where I am going? Of course we must question this. The worst scoundrels in the world hide behind modern clichés about science. Taxpayers must question the politicians who spend their money. Scientists can slip into waste and fraud about as easily as anyone else.

We read reports of nature lovers and solar energy advocates badgering PNM to build more solar energy power plants. How absurd! Think of the drivers who confuse the gas peddle with the brake. They smash up. And so must we if we fail to see that it is we who must choose to use the sun not PNM. Choose the clothes line instead of an electric dryer. Draw the curtains to let in the light. Turn off the electric switches. We are all in trouble when we confuse ourselves about solar energy.

If machines have helped in the past, then let's stick with machines. If they ran from fossil fuels and we must change then let us find a replacement. All this makes sense, even turning to huge organizations - the government, the utilities. Perhaps it is more complicated. There must be a way to stop. Our local DOE lab, Sandia, has sought "drop in" solutions. These would be solar power plants; they would generate electricity in place of our present coal, gas and nuclear power plants. The

manufacturers with whom Sandia Labs worked have not succeeded, even with their optimistic subsidies. Stirling engines, promising devices for the California desert and the Southern California Edison Power Company, have not been as cheap or effective as Sandia Labs and the Stirling Engine Company thought. The company went bankrupt. There has also been trouble with others once so promising that Steven Chu and President Obama extended loan guarantees to aid them. Solyndra was not successful. The German company, Solar Millennium and their American Solar Trust have filed for bankruptcy. Brite Source, the Israeli company and descendant of Luz, has delayed their Initial Public Offering.

Rather than despairing and discrediting solar energy, we will consider why these expensive mistakes were made and how to avoid them. It has to do with who shops for energy. Do we leave it to the individual or do we have government, guided by Congress, choose how to heat and cool our houses, heat our water, and power the light bulbs. Watching the recent documentary on Grand Coulee Dam, it is easy to see how we might try a massive project again. Aren't their methods most suitable to convert the flow of a giant river into power sent through high voltage lines? While there are many good things to say about Grand Coulee Dam, there are also negative, especially if you were a salmon or an American Indian who fished for them.

A consequence of our great success with fossil fuels and electrification is determination to run the same machines on solar energy that ran on fossil fuels. We now can have solar energy competing with itself. The future competing with the past, the optimists competing with realists. This can hardly be otherwise, but could have unfortunate consequences. If machines run out of gas, it is faster to ride a donkey's back than to sit in a car pulled by a donkey. Old solar, sweat, leather and

animals competing with silicon, wires and electric motors. A \$800,000,000 loan guarantee to make \$.35/kWh electricity in Blythe for San Diego must end with clothes lines and windows as San Diego finds its own ways to use the sun. They can ill afford to run solar electric clothes dryers and solar electric lighting when they could use the sun directly.

What an odd path to cost effective use of the sun! California builds a gigantic ineffective solar power plant who's expensive electricity finally breaks the electric comic book spell and has California turn to cost effective non-electric passive solar. Clothes lines, night ventilation, daylighting. What a great disappointment! This isn't the future laid out for us in comic books decades ago, where people travelled in rocket ships, lived in soaring cities powered by magic rays, and yes, had power plants much like those now going bankrupt. If you ran out of gas and turned to natural energy you might ride on a solar powered donkey, while the more dignified electric utility would harness the same donkey to slowly pull your car, with you still at the wheel. In one case the slow pace tells the story; in our case it is high prices.