The two cultures, the resource knowledgeable and the resource illiterate.

written by Jack Lifton | February 21, 2025

In the late 1950s, the British novelist and professional biologist C.P. Snow described a discussion he had at a then-recent dinner party as an example of “the two cultures,” which he defined as those who knew or knew of the second law of thermodynamics and those who did not. He was surprised by this lack of basic knowledge among those who were the “educated “elites of the UK, and he wondered how these elites could govern an increasingly technologically based culture without any knowledge of how it works or how we got there.

It was remarkable, but it didn’t seem to matter much, in 1960, that the credentialed political class didn’t know of or understand the second law of thermodynamics; it matters now, but the distinction of the educated elites of today from those of Snow’s day is that today they no longer have the ability to comprehend the limitations of science and engineering but simply accept whichever contemporary theories or models fit their political needs as the ridiculous oxymoron, settled science.

Conclusions based on the application of logic to verifiable (reproducible) data have now disappeared from public discourse about the availability for use of natural resources for an energy transition away from burning cheap abundant fossil fuels to one utilizing those scarce or expensive and thus limited non fuel mineral resources necessary for a transition to alternate sources of energy.

The ruling political and financial classes have repeated the

pronouncement attributed to Queen Victoria, who when she was informed that England was doing poorly in its imperial war against South African Boers (farmers), who had dared to refuse inclusion in the British Empire said, “We are not interested in the possibilities of defeat, because they do not exist.”

Today’s ruling classes in the West and non-Chinese Asia are saying, since they are completely ignorant of the limitations on recovering natural resources economically, that they have no interest in the fact that contemporary civilization cannot afford to allocate enough capital to transform useful energy production away from the burning of economically available fossil fuels completely to the production of energy by the conversion of light and wind to electricity. Their folly and genuine resource illiteracy has now been amplified by a sudden realization that heat produced by controlled nuclear fission is a really good way to produce steam with zero emission of carbon dioxide, their favorite apocalyptic goblin of the moment.

Science is a process based on the application of observed data to logical reasoning. It is not a religion and its current theoretical basis is a model of the universe based on our current understanding. Such a contemporary model is not settled, and it is certainly not infallible.

As far as a transformation of the source of energy used by our civilization, from fossil fuels to “alternate, green, energy production, while maintaining not only the standard of living of the developed world but also bringing more and more of the developing world to that standard, it is not possible.

Here are the key data that refute the proposed green energy production model if it is to be based on known science and robust contemporary engineering for the storage of electricity:

There is no reproducible data to support the idea that there are

sufficient accessible, economically workable deposits of the critical minerals just for the batteries to support non-fossil fuel-generated energy storage.

The world's producing miners are not allocating investment to the development of such an expansion of existing mineral production as would be required to meet the needs shown on the above graph, because they know that the necessary deposits do not exist, and to attempt to go forward pretending that they do would be a waste of capital needed for logical growth.

The academic elites support the politics of green energy by relying on a flawed concept called "earth abundance,' which states that the amount of a mineral available for use is equivalent to its part in the makeup of the earth's crust. This academic definition is the actual basis of the most wasteful diversion of capital for political needs in human history. Earth abundance is not and cannot be the basis for the measurement of mineral accessibility.

The lists of critical minerals for alternative energy production, storage, and distribution must be expanded from the above to add iron (steel), aluminum, and copper, all of which require enormous amounts of fossil fuels to produce the continuous, reliable, controlled electricity necessary to refine those metals from their ores and to fabricate them into useful forms. Devices that produce alternate energy cannot be made without fossil fuel-generated electricity.

In addition, the critical and scarce metals, such as germanium, neodymium, praseodymium, dysprosium, terbium, tellurium and gallium, the electronic properties of which enable the conversion of light and molecular motion into electricity and the miniaturization of electronic and electromechanical devices are either very rare in accessible deposits or are only produced

as companion metals with copper, aluminum, lead, and iron. They are very costly to produce and fabricate and are much much less abundant than the academic community theorizes.

If our politicians and academic and business elites continue on the green path, then the geologists and mineral economists of our time will be seen in the future as the monks of our age preserving the knowledge of natural resource limitations for a future when science once again challenges religion.

At the beginning of World War I the British Foreign Secretary famously said that the lights were going out all over Europe and whether they would be lit again was unknown. The war against nature, called the green revolution, is again turning the lights out all over Europe.

To Mark Twain's famous dictum, "Everyone talks about the weather, but nobody does anything about it," I will add, "the earth's climate is and always has been variable. Humans can only adapt to its changes not control them, because we don't have the understanding or natural resources to do so.

Today's resource illiterates say that the question is: **Is mining evil but necessary?** The real question is: **Are there enough resources for everyone in the world to have as high a standard of living as the contemporary USA?** Politicians need to address this second question, or they will be replaced by politicians who do. In fact, this process has begun, and its first stage is called deglobalization.