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To: [Przybocki, Mark A. \(Fed\)](#)
Subject: Trust and Artificial Intelligence
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Attachments: [HOW CULTURES EVOLVE.docx](#)

To whom it may concern at the National Institute of Standards and Technology,
Re: “Trust and Artificial Intelligence” (NISTR – 8332- Draft) and “A Risk Management Framework” (NIST 2021 – 0004 – 0001)

COMMENT –

You need to broaden the scale of your perspective. What you are attempting is not just an exercise in risk management but a very complex attempt to manage the process of cultural evolution.

Your stated objective and many aspects of your outlined approach are appropriate but there are several systems involved in the process of cultural evolution and they are all complex adaptive systems. Achieving understanding and consensus among the many individual stakeholders and their related groups is going to require a tool set which fortunately exists but must be modified and presented in a format that is recognized and understood by the general population. – (The current efforts to get a sufficient portion of the population Covid vaccinated is a good illustration of what will happen if you don’t build in both understanding and consensus.)

I recently wrote an article which illustrates some of the complexity. It is not a scientific treatise, just something to share and discuss with friends. A copy is attached. If there are any ideas in there that you would like to discuss or request further detail on, I would be happy to oblige.

Sincerely

Robert “Steve” DeLorey

HOW CULTURES EVOLVE

As a young man, I considered the “American Culture” to be a stable unchanging sort of thing that was uniform throughout the country. As I matured a bit, I discovered that the “American Culture” is not uniform throughout the country nor is it unchanging. It is in fact constantly changing. It is evolving in much the same way that our biology evolves. The primary difference between the two evolving spheres is that our biological evolution is constrained to the random variations that might occur from generation to generation or through gene expression. Our cultural evolution on the other hand is not constrained by anything other than our own reluctance to change. It is a continuous and ongoing process that seems to be changing at an increasing rate.

Biological change is primarily driven by changes in individuals which if selected by survival of the fittest, become characteristics of the individual’s progeny or family group. Cultural change on the other hand is driven by changes in groups. It does not require generations of progeny, only consensus in the selection of a proposed variation in behavior. It can happen in a day, but usually requires much longer because there is a significant portion of the population which is reluctant to change.

COMPETTITION VS. COOPERATION

In his writings on evolution, Darwin placed considerable emphasis on “survival of the fittest” which is basically an argument in favor of competition. Subsequently, Adam Smith applied the same argument in his definition of capitalism. Consequently, for the past 300 years much of western civilization’s economic and social evolution has been based upon competition as the primary “modus operandi”.

However, during the twentieth century, as a result of the two world wars and several wars of lesser scope, the evolutionary process has been moving toward cooperation and away from competition. This is illustrated by the formation of the League of Nations after WW1, The United Nations after WW2, and a long list of groups of lesser international scope including:

NATO

The European Union

The Soviet Union

For a complete list see [List of intergovernmental organizations - Wikipedia](#)

This trend toward cooperation rather than competition came to a rather abrupt end during the second decade of the 21st century. A significant portion of the world population became dissatisfied with the trend away from individual responsibility toward communal responsibility.

This was a result of:

1. The recent moves toward globalization which resulted in the NAFTA trade agreement and the development of the Trans-Pacific Partnership (unfinished). Both of these agreements encouraged the outsourcing and offshoring of American manufacturing jobs.
2. The emerging threat of Global Warming and the related necessity to move away from fossil fuels as our primary source of energy. The resultant loss of employment, income and investments negatively impacts millions of people. This is reenforced as the initial effects of global warming become obvious in the form of extreme weather events, wildfires, water shortages, reduced food production, etc.

As a result, several countries moved away from globalization toward nationalism (from cooperation back toward competition) Some countries even moved from democracy to autocracy, plutocracy and/or dictatorships.

The U. S. seems to have lost its bearings completely in the 2016 election and spent four years dismantling what had taken seven decades to build.

However, since the 2020 elections we seem to have regained our balance and are headed back toward cooperation on a global scale. How far we travel along that path remains to be seen.

GROUP BEHAVIOR VS. INDIVIDUAL BEHAVIOR

In my research associated with Cultural Evolution. There is an emergent theme that people do not think and behave the same way as individuals as they do as members of a group.

This group behavior is particularly strong when the group is organized around a religious belief system or a political party. (which is why most people avoid discussing politics or religion).

For a more erudite discussion of this concept see Multilevel Selection Theory - [Group selection - Wikipedia](#) [Multilevel selection theory and evidence: a critique of Gardner, 2015 - Goodnight - 2015 - Journal of Evolutionary Biology - Wiley Online Library](#)

POLITICAL CLEAVAGE [https://en.wikipedia.org/wiki/Cleavage_\(politics\)](https://en.wikipedia.org/wiki/Cleavage_(politics))

The concept of “Political Cleavage” and its dangers is also emergent. It is defined as follows: “In [political science](#) and [sociology](#), a cleavage is a historically determined social or cultural line which divides citizens within a society into groups with differing political interests, resulting in political conflict among these groups.[\[1\]](#) Social or cultural cleavages thus become political cleavages once they get politicized as such.[\[2\]](#)

Several political cleavages are mentioned as possible such as “Owner vs. Worker, Church vs. State, Urban vs. Rural, Center vs. Periphery” and I would add Liberal vs. Conservative.

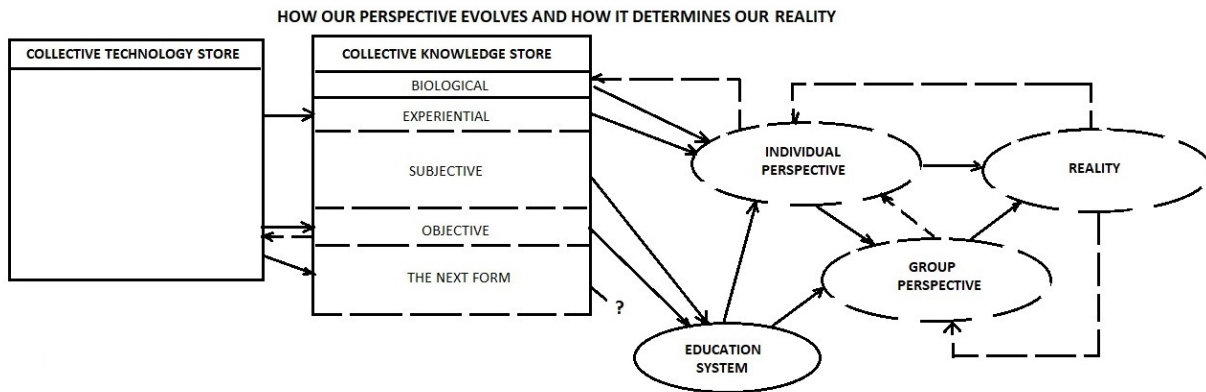
MANIPULATION OF THE INDIVIDUAL VOTERS THROUGH THEIR SELECTED GROUPS

It is not the development of these differences that concerns me but the way in which some manipulators use these differences to win elections with lies and propaganda and then use the power of their elected positions to pass laws that benefit themselves and their financial backers, to the detriment of the majority. This basic process was described by Nicolo Machiavelli some 500 years ago in his book “The Prince” and has been used ever since by those who would manipulate the people including Popes, Kings, dictators, etc.

It’s such an old and well-known con game that I am amazed that it still works so effectively and consistently.

The manipulators simply produce a series of reality shows and most are based upon imagined reality at that. My hypothesis is that the individual’s perspective/behavior determines his/her selection (as in evolutionary selection) of the groups that

he/she joins, and the group simply reinforces the individual's perspective/behavior as shown in the following diagram.



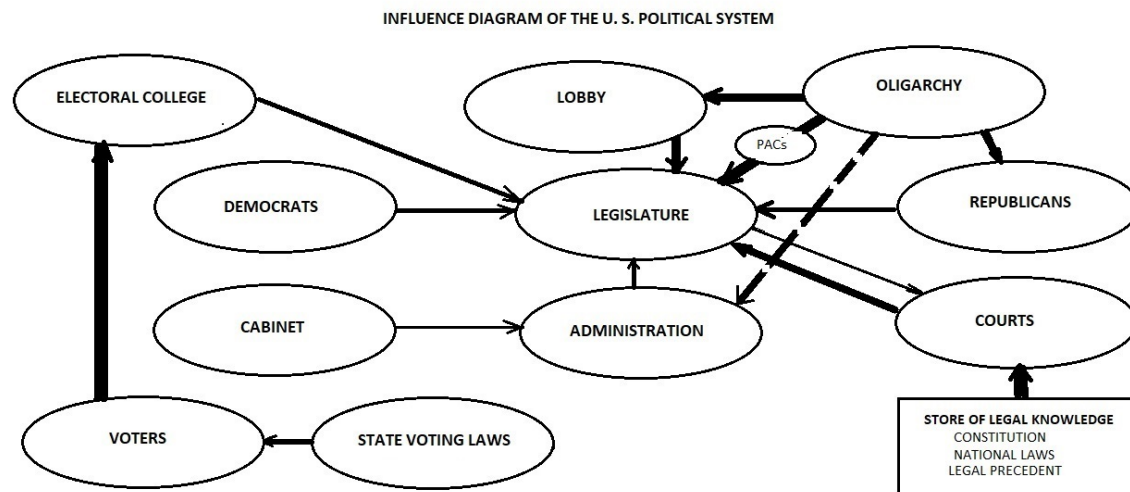
The collective knowledge store in the above diagram needs a little explanation: Biological Knowledge is that knowledge which we acquire through genetics. We are born with it. A good example is our reaction when we are in a dark wood and hear a twig snap nearby. Experiential Knowledge is that knowledge which we acquire as individuals after we are born, each pleasant or painful experience contributes. Subjective Knowledge began to accumulate a few thousand years ago as we developed languages, alphabets, writing, pictographs etc. and these new tools were used to develop elaborate belief systems that we convey to our progeny through education and example. Objective Knowledge began to accumulate a few hundred years ago after we developed an initial set of tools like magnifying glasses, telescopes, microscopes etc. which facilitated the development of “Scientific Methods”. This type of knowledge is conveyed to our progeny primarily through the education and communication systems that have evolved. The Next Form of knowledge is currently emergent. It will be generated by Artificial Intelligence and conveyed by the emergent forms of media.

The flow diagram on the right side of the diagram also needs some explanation. Notice that the flows between the individual's perspective and the group perspective form a reinforcing loop in both directions. Because the individual chooses to join groups that have perspectives that are like his/her own, any inputs from the individual will reinforce the group's perspective and any feedback from the group will reinforce the individual's perspective. Understanding this provides an explanation for the seemingly irrational behavior of the several right-wing

groups that participated in the Jan 6th Insurrection. [PolitiFact | Yes, Jan. 6 Capitol assault was an “armed insurrection”](#)

HOW DO WE PROCEED?

How do we mend the internal U. S. political cleavage? – First, we must come to a common understanding of the U. S. political system. This is one of the several complex, adaptive systems that comprise our sphere of cultural evolution. The complexity of these systems has led several researchers to despair of ever fully understanding them all. I have had the same doubts but have found that it is possible to adequately define and discuss complex systems by way of influence diagrams. The following example depicts the U.S. political system as it has functioned for the past half century.



Interpretation: Beginning at the lower left, State Voting Laws have a significant influence on the voters, particularly in the case of voter suppression laws and gerrymandering. However, in both the 2018 and 2020 elections, the attempts at voter suppression seem to have a diminishing effect on the millennial generation. (in the 2018 elections, the turnout rate for that group increased from 22% to 42%. I find no final stats for that group in the 2020 election but based upon stats published during the early voting/mail in period, it probably exceeded 50%

The Voters have a relatively large influence upon the electoral college and the electoral college in fulfilling its roll has a significant influence on the legislature.

The dominant influence in the system is wielded by the Oligarchy. They wield a heavy influence on their representatives in the congressional lobby, and through them, the oligarchy wields a heavy influence on the elected members of both parties of congress. They also wield a heavy influence on Republican candidates for election (including those already in office) primarily by funding election campaigns sometimes by direct contributions and sometimes through PACs.

The diagram also indicates that the Legislature has some influence on the courts but only through their ability to approve or reject candidates nominated by the Administration. The Courts are influenced to a much greater degree by the Store of Legal Knowledge and this influence continues throughout the appointee's time in office.

The heavy influence wielded by the Oligarchy is the primary threat to our democracy and the primary cause of the inequity that currently exists in the distribution of income and wealth in the United States. We must find a way to decrease the current ability of the Oligarchy to influence both the Legislature and the Administration..

Can we or should we return to the encouragement of cooperation on a global scale, or should we scale to more regional goals such as Central and North America (NAFTA), then South America etc.

On the global scale we have:

The U.N. is actively pursuing global cooperation and we should continue to cooperate with their efforts.

In regard to Climate Change, we have the Paris accord and we have already rejoined that effort. However, we must accept the fact that China, although they compromised their perspective in regard to their economic system several years ago and reverted to capitalist competition, that change was only in reference groups outside of China. They are still reluctant to embrace cooperation with groups inside China. It remains to be seen how much they will cooperate with the

goals of the Paris accord. How much of their internal energy consumption will be converted from fossil fuels to renewable energy.

What will it take to get China, Russia, Iran and North Korea to cooperate with the rest of the world? If you take away the demand for fossil fuels, what resources do Iran, Russia, or even Texas have?

It remains to be seen whether we as a global society will be able to curtail our use of fossil fuels quickly enough to avoid “growth to collapse”.

I’ve been researching these questions for almost 50 years now and the only answer that seems feasible is that we need to develop a toolset that will enable us to evaluate the many variations that are available and rapidly select those that are most effective. Fortunately, that tool set has existed for those fifty years. It’s called Systems Dynamics. Unfortunately, it has not been accepted by the political system, the economic system or the social science portion of the scientific community. Admittedly, it is a heavy lift but there must be a way to convey the complexity of our systems to the general public and gain the understanding and consensus that is necessary for cultural evolution to proceed rapidly.