

## FRAGILITY AND RESILIENCE By Edwin Eugene Ott, 20200526

In pondering our existing situation with COVID19, I suggest that we carefully consider our societies in terms of their fragility and resilience. Fragility is a term often used in science to describe materials. For example, glass is easily broken. Fragile materials may be very useful. For example, diamond is one of the hardest materials, but it is also fragile in that a sharp tap in the right place will fracture or shatter it. Resilience is also used in material science to describe a quality of being able to bend or deform when stressed but able to return to its original shape when the stress is removed. In most cases, fragility is considered undesirable and resilience is considered desirable.

The qualities of fragility and resilience have been expanded to use in *“psychology, economics, ecology, and more recently in international development and even peacebuilding.”*<sup>1</sup> *“As the world continues to urbanize, natural disasters, economic shocks, and outbreaks of violence will increasingly affect populations in cities, potentially making cities more fragile.”*<sup>2</sup> I do not believe that anyone would deny that the current COVID19 pandemic has shown our society to be highly fragile.

The United States has experienced abrupt crises that have exposed the fragility of our society. The most recent was the terrorist attacks on September 11, 2001 which destroyed the Twin Trade Towers in New York City, damaged the Pentagon, and attempted to destroy the White House. Commercial airliners were used as weapons in these attacks. Despite our experience with attacks upon battleships in World War 2 in which suicide crashes of aircraft were used as weapons, government and media persons proclaimed that no one imagined that aircraft could be used in terrorist attacks. Our security was found to be completely unprepared. Following these attacks, drastic changes to airport security were implemented. The US attacked and invaded Afghanistan, a war that continues today. Then the US attacked and invaded Iran. Much of the Middle

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<sup>1</sup> Bosetti, Louise; Ivanovic, Alexandra, and Munshey, Menaal. Fragility, Risk, and Resilience: A Review of Existing Frameworks, United Nations University Centre for Policy Research Background Paper, October 2016, p. 4. <https://i.unu.edu/media/cpr.unu.edu/attachment/2232/Assessing-Fragility-Risk-and-Resilience-Frameworks.pdf>

<sup>2</sup> *Ibid*, p. 1.

East has been destabilized and millions of refugees have fled. All this tragedy resulted from fractures solely within human society. I do not believe that as a nation we responded to this crisis in a resilient way. We just doubled down on our past behaviors.

During the 1930s, the USA endured a fragility in society that was caused by nature and our own mistakes, the Dust Bowl. The Great Plains is a large, mostly semi-arid region of the country located west of the Mississippi River and east of the Rocky Mountains. Following the Civil War and into the early 1900s, government land give-away programs were implemented that encouraged millions of persons to move into the region and develop it agriculturally. Prairies and grasslands were tilled and planted with row crops. *“Favorable climatic conditions in the 1920s with good rainfall and relatively moderate winters... permitted increased settlement and cultivation in the Great Plains,”*<sup>3</sup> then two crises struck, one natural, drought, and the other human caused, The Great Depression. Drought caused crops to fail and economics caused over cultivation with poor farming practices. Wind erosion stripped the land of its fertile soils. Massive dust storms deposited this soil from the Plains to the East Coast. Farmers and communities tried to survive; however, in the mid-1930s many were forced to abandon their farms and homes and emigrate to find a better life elsewhere, many to California.

*“The Dust Bowl exodus was the largest migration in American history within a short period of time. Between 1930 and 1940, approximately 3.5 million people moved out of the Plains states...”*<sup>4</sup> Under the Roosevelt administration, programs were implemented to help farmers and those in need, including formation of the Soil Conservation Service and the Federal Surplus Relief Corporation (FSRC) was established to regulate crop and other surpluses. *“In 1937, the federal government began an aggressive campaign to encourage farmers in the Dust Bowl to adopt planting and plowing methods that conserved the soil. The government paid reluctant farmers a dollar an acre to practice the new methods. By 1938, the massive conservation effort had reduced the amount of blowing soil*

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<sup>3</sup> Wikipedia, Dust Bowl, [https://en.wikipedia.org/wiki/Dust\\_Bowl](https://en.wikipedia.org/wiki/Dust_Bowl) , accessed 20200520.

<sup>4</sup> *Ibid.*

by 65%.”<sup>5</sup> Overall, I think the governmental response to this crisis focused upon increased resilience.

COVID19 has revealed many fragilities to our society today. We boast that our nation is the most advanced in all the world, yet we were woefully prepared for this crisis. However, a bright spot in our response has been the willingness of our citizens to make great personal sacrifices for the benefit of others. From my personal perspective, Americans have accepted the recommendations of social distancing to a greater degree than I would have expected. For a society that is so blatantly self-centered, many people have risked their health, careers, and livelihoods to help others. I consider my personal sacrifices to be minor compared to what many others have made, especially medical, emergency, security, and everyday working people.

The primary goal of social distancing has always been to prevent the collapse of our medical and hospital system by overload. Saving lives was a secondary benefit. We have made much progress toward this primary goal. I will leave it to others and history to decide if we should have done more. Now, as long as we do not lose control over the spread of the infection, our goal is to restore a functioning system. I am suggesting that we not blindly rush to re-ignite the old economic system. We should take this opportunity to consider corrections and changes needed to be made. There were many fragilities revealed by this pandemic. Many questions need to be asked and answered. Perhaps the most iconic question is “What happened to all the toilet paper?” At the beginning of the pandemic we were assured by government personnel and other experts not to worry about shortages because we had a great supply system. Toilet paper is still in short supply, along with many other crucial items such as medical supplies and personal protective equipment.

**One reason** for our economy becoming more fragile, and thus less resilient, can be understood in terms of the concepts “creative destruction and destructive creation.” Creative destruction was coined in the 1950s to describe how rapid industrial changes were benefitting the economy, and in turn, society as a whole. Destructive creation was coined as a counter argument that described the negative effects upon society by economic changes resulting from rapid industrial

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<sup>5</sup> *ibid*

innovation. Both terms describe the same effect of capitalism. Capitalism is an economic system that is based upon winners and losers. Capitalism is organic and evolutionary as described by the description “survival of the fittest.” This description is now more often replaced in evolutionary theory by softer, less combative descriptions, but the result is the same, the new replaces the old. In the 1950s, there was good argument for saying the benefits of innovation outweighed the negatives. Our nation was still largely undeveloped, and workers were able to easily change to new jobs that were created. Innovations focused mostly upon mechanization. However, there were effects that were viewed by many of the losers to be severe. For example, mechanization spawned the disappearance of small, family farms. In the 1970s, with application of computers into the industry, employment negatives began increasing. Today, it is clear that overall employment is suffering greatly with each new innovation.

A **second reason** for our current economic fragility is efficiency. Capitalism is ruled by profits and losses, and, thus, efficiency is judged by increase of profits. The efficiency is achieved by increasing market share and reducing employment, overhead, and liability. Our economic system rewards businesses to buy their competitors and entrepreneurs to sell their creations. Overhead is reduced by using “just in time” parts and services supply. Specialization increases efficiency. Liability is reduced by sharing it with independent suppliers of parts and services. We have too finely tuned our industrial system. We have created a complex, rigid system that will fracture with a single, well-placed blow, like a diamond.

A **third reason** for our current economic fragility is size. Our economic system has grown into a behemoth. We have based our economy upon consumption. Our population has doubled since 1950, but our consumption has increased many times greater.<sup>6</sup> Consumption must continually increase to keep the economy from collapsing. In the meantime, another economic behemoth, China, is growing. We are now in a “survival of the fittest” fight with China.

At this point readers may be saying to themselves, “You are just talking about the problem, but I am interested in conclusions.” One of the first things I

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<sup>6</sup> GDP is not an exact measure of consumption; it is an indicator. Since 1960, the US GDP has increased more than 35-fold.

learned in college was that answers are easy, but understanding the question is paramount. If you do not know what problem is to be solved, that is, what is the question, then you cannot expect to solve the problem except by fortuitous chance. In the novel The Hitchhiker's Guide to the Galaxy by Douglas Adams, the last surviving human searches for the answer to the question “what is the meaning of life, the universe, and everything?” He finally learns that the answer is 42. This answer was useless to him because he did not understand the question. William Shakespeare in his play Hamlet posed the hitchhiker’s question much better as “*To be, or not to be, that is the question.*” As we ponder today what we will do after COVID19, we should ask ourselves, “Do we wish to direct ourselves in better directions based upon the lessons of this pandemic, or do we wish to plod ahead and let chance determine our fates?”

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(To Be Continued)