

Let In But Left Out

Leadership, Faith & Knowledge in the Age
of AI, **Coronavirus** & Fake News

Frank “Rio” Shines

Granison Shines

Copyright © 2020 Frank Shines and Granison Shines

All rights reserved. Published in the United States.

ISBN: 9781700533463 (softcover).

www.LetinButLeftOut.com

Cover art and design by Arifa Rasheed

DEDICATION

Frank Shines

Dedicated to Indigenous Peoples of America, and our Immigrants and Entrepreneurs who bring us the wealth of culture, resources, values and innovation and our U.S. Military & Intel Agencies who protect it

Granison Shines

This book is dedicated to my loving five children, the Fireflies who light up my life.

The American dream is alive but fraying for many.

- Jamie Dimon, Chairman and CEO of JPMorgan Chase & Co., Apr 2019¹

If we can't have faith in our nation's principles, why would the men and women of this nation join the military? And if they don't join, who will protect us? If we are not the champions of the good and the right, then who will follow us? And if no one follows us — where will the world end up?

- Admiral William H. McRaven, former commander of the United States Special Operations Command, NY Times, Oct 2019

The lack of immune protection or an existing cure or vaccine would leave Americans defenseless in the case of a full-blown coronavirus outbreak on U.S. soil...This lack of protection elevates the risk of the coronavirus evolving into a full-blown pandemic, imperiling the lives of millions of Americans.

- Peter Navarro, President Trump's Trade Adviser, Jan 29, 2020

Preface

On March 11, 2020, as I was holed up in my office writing the manuscript to warn of what might happen if the U.S. faces a global crisis in an era of A.I.-powered technology change, weaponized fake news, global distrust and national polarization, the World Health Organization (WHO) announced that the novel coronavirus had become a global pandemic. [1] And for the first time in 70 years America is not leading the world.

As a former Air Force officer and current business and technology consultant who has traveled the world and lived in different countries over the past 30 years, I have seen the impact technology has had on people's lives – both good and bad. Working with government, military and business leaders, my role is to help individuals and organizations adapt to change brought on by global competition, new technology or process improvements.

Today, technological and biological disruptions are outpacing the rate at which many Americans can adapt to change. However, working with some of the brightest leaders in the U.S. and around the world, I have discovered some simple tools and basic principles that can help individuals and organizations outpace competitors and cope with the change brought on from A.I.-powered technology and global pandemics.

Something certainly seems to be wrong with this country. Since the third known U.S. death from COVID-19 near Seattle on February 29, 2020 through April 19, 2020, more than 40,000 Americans have died. The Trump Administration warns of death rates as low as 100,000 to 240,000 and as high as 2.2 million people over the coming months. However, recent downward revisions put the projected death count at 60,000 to 80,000, with 69,000 being the best guess assuming adherence to social distancing. [2] Meanwhile, the U.S. stock market notched its greatest quarterly drop since the Great Depression of the 1930s and 26 million Americans filed for unemployment benefits in the past five weeks.

Polarization has retarded our ability to come together as a nation to solve big, hairy (coronavirus-like) problems like generations of the past. Indeed, we can no longer agree on basic facts so we cannot even define the problem, let alone solve it. Such a political environment has created the perfect petri dish for the spread of the coronavirus – and the loss of American exceptionalism.

Somehow, we **let in fake news and left out critical thinking**. We **let in personal gain and left out collective purpose**. We **let in the coronavirus but left out bio science**. In the 14th century the Black Death killed an estimated 30% to 60% of Europe's population, or about 100 million people. It took years for the Black Death to reach Europe. Aided by commercial aviation technology, COVID-19 circled the globe in a matter of weeks. The citizens of the 14th century had no clue what caused the plague. We got smarter. Centuries later, the 1918 Spanish flu pandemic killed an estimated 675,000 Americans, far less than 30% to 60% of our population. [3]

Now, thanks to modern medical science and respected people and institutions around the world, we understand what causes pandemics and we generally know how to minimize and contain them. Yet, disregard for facts and science has created an *infodemic* that contributed to U.K. Prime Minister Boris

Johnson, Prince Charles, and Matt Hancock, the U.K. Secretary of State for Health & Social Care, all testing positive for COVID-19. At the time of this writing Prime Minister Johnson was just released from intensive care. To date, five members of the U.S. Congress have also tested positive for the virus.

During my time in the military, we conducted war planning and simulation exercises (often in concert with our allies) in preparation for conventional, nuclear and biological warfare. For years, U.S. government healthcare experts have engaged in similar pandemic simulation exercises. Consequently, we no longer suffer 30% mortality rates despite a much larger world population, global sea and air travel and greater human encroachment on wildlife habitat. However, to minimize and contain pandemics, nations must have a shared belief in science and ethics, trust each other, and cooperate on a global scale -- not on a national or local level.

Suddenly, everything has changed. Businesses, public venues, schools, places of worship and local communities are shut down. Americans who previously resisted technology are now forced to use online tools to work, play, socialize and learn while maintaining “social distancing” [1] to avoid spread of the virus.

Yesterday, my daughter’s tech-phobic elementary school teacher hosted a Zoom video classroom of 32 students online for the first time. Later in the evening, she sent an email to parents to apologize for lashing out at the students because of her technostress. Schools and universities that once repelled online learning for years have suddenly moved their courses to the Web. Business managers who refused to let workers telecommute for even one day a month are now forced to manage virtual teams of work-from-home (WFH) employees.

Misinformation on trivial matters are mostly harmless. On the other hand, Americans who make decisions and take actions about the pandemic based on fake news and conspiracy theories found online and elsewhere, are endangering the lives of themselves and others. In March, an Arizona man fearing coronavirus and attempting to self-medicate, died after consuming a form of chloroquine used to treat aquariums. [4] We are being outsmarted by a virus that thrives on human ignorance and distrust and our collective hubris.

During World War II, many of America’s *Greatest Generation* lost their lives storming the beaches of Normandy to defeat Adolph Hitler and the Nazis. Today, we ask Americans to stay off the Florida beaches during Spring Break to avoid passing along a virus that could kill our elderly and immunocompromised citizens; yet many tourists and locals flock to the beaches to socialize, drink and party. More than 5,000 have died of COVID-19 in our nursing communities; and nearly 400 have died in military VA hospitals. Price-gouging, scams and conspiracy theories abound. Our healthcare systems and personnel are overwhelmed. Despite access to smartphones we cling to dumb habits. More lives will be lost that could have been saved.

We entered the 21st century with an incredible feeling of optimism for the future. It seemed nothing could stand in our way. It appeared that we, as a nation and a world, were poised to fulfill the dreams of humankind for freedom, health, happiness and prosperity.

Yet now it seems a day doesn't go by that news media isn't reporting on alarming pre-pandemic trends and coronavirus events.

- Millennials have become the lost generation who entered the labor force during the Great Recession of 2008 and now face a once-in-a-century 2020 Coronavirus Pandemic [5]
- Virus deaths at nursing homes soar to 5,500 [6];
- Healthcare systems and frontline medical workers are stretched to the limit and medical supplies such as ventilators and personal protective equipment (PPE) are nearly depleted;
- Early data trends show Native Americans, Blacks and Latinos are dying from coronavirus at disproportionately higher rates (and blamed for doing so) [7]
- Pope Francis holds Easter mass via live stream amid coronavirus outbreak [8] and Tom Hanks hosts first remote episode of 'Saturday Night Live'
- Lines for groceries, food aid and unemployment assistance stretch for blocks amid coronavirus crisis;
- Goldman Sachs projects 34% drop in U.S. GDP and 15% unemployment in response to the coronavirus pandemic [9];
- Dow plunges 13% in worst one day drop in stock market since 1987 over coronavirus fears [10];
- COVID-19 spurs fear of mass biometric surveillance and facial recognition tracking;
- Three GOP senators in self-quarantine and unable to vote on Coronavirus Relief bill [11];
- There is an insidious and steady rise in surveillance capitalism and digital colonialism and likely to accelerate further due to coronavirus fears;
- Domestic abuse, adult and youth suicide rates are trending upward at an alarming rate [12] [13];
- People are experiencing unprecedented levels of anxiety, stress [14] and drug overdoses [15];
- Increasing wealth and income inequality threaten the social fabric of the nation [16];
- Confidence in nearly every major American institution has fallen, except our military [17] [18];
- Globalization and technology advances are killing off long-established companies, disrupting industries, sending manufacturing overseas and eliminating jobs [19];
- Scientists and activists point to the COVID-19 outbreak as a warning of the consequences of climate change to the entire planet and even the survival of humankind; and
- The life expectancy in the U.S. has fallen for four consecutive years – coronavirus deaths may worsen this trend [20]

Are these just disparate statistics and trends or are they connected? Has the COVID-19 pandemic finally exposed the consequences of our neglect of history, truth, science, family, faith, community, humanity, and the power of reflection and cooperation? Have we let in disruption but left out transition? Where are the leaders?

Is the virtual cycle of technological advancement encompassing artificial intelligence, automation,

robotics, 5G and bio science outpacing the rate at which humans and our institutions can adapt to and handle change? Has the sheer volume of data and the complexity of our problems exceeded our cognitive capacity to develop practical, sustainable solutions? Has the insidious nature of low probability, high-risk biological or virtual threats exceeded our ability to imagine scenarios and respond appropriately?

Is our failure to detect silent, invisible threats and adapt to the increased rate of change now driving greater socio-political, economic and personal dislocation? Has the timing of these tech changes coupled with middle-class erosion, rising rates of the religiously unaffiliated with its loss of “community,” [21] and a two-pronged demographic shift (the inverted pyramid of an aging population and the browning of America) stoked fears that are now weaponized and magnified online -- and keep us from working together towards a common aim? Do our current forms of global crisis response, democracy and capitalism need an upgrade?

In short, have we:

- Let in a Coronavirus but Left out Bio Science?
- Let in Virtual but Left out Reality?
- Let in Disruption but Left out Transition?
- Let in Fake News but Left out Critical Thinking?
- Let in the Noise but Left out the Signal?
- Let in Personal Gain but Left out Collective Purpose?
- Let in Distrust & Despair but Left out Faith & Hope?
- Let in Anger but Left out Empathy?
- Let in CoronaStress but Left out PsychoFlex?
- Let in Bio Hackers but Left out Bio Ethics?
- Let in Diversity but Left our Inclusion?
- Let in AI-Bio Wars but Left out AI-Bio Armor?
- Let in Runaway Algorithms but Left out Ethical Guardrails?

If any of these concerns ring true to you, then this book will provide you with lucid explanations and practical solutions. Despite our initial response to the coronavirus outbreak, there is still time to course-correct. For the first time in human history, we know what causes a pandemic and possess the science and technology to combat it. Based on my experience as a business and technology consultant working in the life sciences industry, I will outline a method we can apply to better understand the COVID-19 problem, flatten the curve and safely get America back to work.

More importantly, this approach can be used by anyone to help bring people together to solve complex problems in an atmosphere of psychological safety and mutual respect. If you know of a family member, friend or colleague who has to learn to rapidly upskill, “play well with others” or is struggling to cope with social distancing and accelerating life change, then this book may be the perfect gift.

Introduction

When there is a visible enemy to fight in open combat, the answer is not so difficult. Many serve, all applaud, and the tide of patriotism runs high. But when there is a long, slow struggle, with no immediate visible foe, your choice will seem hard indeed.

President John F. Kennedy, 1962 Commencement
Address to U.S. Military Academy at West Point

America faces the greatest crisis of our generation; yet due to AI-powered fake news and COVID-19 conspiracy theories, we cannot even agree we have a problem, let alone resolve it. Political leaders who denigrated the scientific community, our public institutions and the media, now need them to help fight the virus and educate the public. We know that **a vaccine is a cure for a pandemic. But what is the cure for an infodemic** of deadly fake news that infects the minds of Americans and ultimately threatens our public health and the foundation of democracy and free market capitalism?

It's no wonder that people feel stressed and dislocated these days. We are in the midst of a global pandemic and an *economic suppression*. Our basic beliefs and the foundations of our lives are rapidly changing from day-to-day and from hour-to-hour. I look at the daily COVID-19 death count:

- Apr 4, 2020, 16:24 ET: 16,454 Americans dead and 95,047 lives lost worldwide
- April 20, 2020, 10:17 ET: 40,620 Americans dead and 166,130 lives lost worldwide
- April 22, 2020, 08:51 ET: 45,343 Americans dead and 179,047 lives lost worldwide
- April 23, 2020, 17:02 ET: 49,648 Americans dead and 190,098 lives lost worldwide

Former solid foundations feel like loose sand, shifting beneath our feet.

The coronavirus has forced us to close schools, college and university campuses, sports venues, night clubs, restaurants, beaches, businesses and many other public gathering establishments. Priests give last rites to terminally ill COVID-19 patients via Facetime. Social distancing of six feet is the order of the day to prevent spread of the virus. Teachers and professors must convert paper-based study lessons into digital content and learn to teach students online. Workers must master the discipline of how to work from home. Production workers in essential industries must redesign workflows to comply with social distancing guidelines. Supervisors and managers must lead virtual workforces. Loved ones must learn to visit each other via electronic devices instead of in person. Public speakers and trainers are forced to communicate via online video.

I'm working with my close friend, a brilliant Brazilian-American music composer and performance artist, Joao MacDowell. [25] He is considering innovative ways to bring solace and hope through his music to his global audiences via the Web vs. in person. Ironically, Joao's current work, an opera called *The Seventh Seal*, is based on Ingmar Bergman's 1957 film by the same name and takes place during the Middle Ages at the time of the Black Plague.

I suspect that we Americans will undergo more change in 2020 than we have ever experienced in a

single year of our lifetimes. Fears of biometric and digital surveillance are growing. The coronavirus pandemic is revealing how little we have invested in our people, our infrastructure and our imaginations. Here are examples of why we will have to upgrade democracy and refine capitalism for the digital age.

- Five members of congress have tested positive for the coronavirus. This will force the U.S. government to rethink how to define a quorum and conduct legislation during biological crises under the rules of social distancing.
- The pandemic has exposed an American healthcare system that is woefully inadequate.
- The remaining political campaigns, primaries, debates, conventions and voting in the 2020 U.S. presidential election will have to be modified to minimize social contact and containment of the virus.
- The 2020 U.S. Census, responsible for the data used to distribute trillions of dollars, faces coronavirus disruption risks as citizens lose jobs and homes and rural communities that lack Internet access go uncounted. [26] This could further widen income inequality gaps.
- The nature of this pandemic crisis is reminding us that economies serve societies, not the other way around. The fall in the Dow Index measures economic decline, but we do not have a daily, visible measure for social decline. (Yet we must incentivize people to stay away from work to save society -- and in turn, the economy.)

Even prior to the coronavirus outbreak, business leaders felt the pressure. For nearly every organization, procedures, business models and techniques that worked for decades or even centuries are unexpectedly obsolete, threatening their very existence. For the individual, the disorientation is even more pronounced. The basic belief of long-term employment and retirement planning is challenged, and the family and community no longer feel safe and secure. Jokingly, the value of our 401k retirement plans have dropped to 301k, then 201k as the stock market has fallen. The COVID-19 pandemic will only further accelerate the changes that were already underway.

Simply put, we are experiencing one of the greatest shakeups in the history of humankind. The rate and breadth of biological threats coupled with multiple, reinforcing technological advancements in the age of Artificial Intelligence (AI) is unprecedented. While it's true that there have been previous technology revolutions, they played out mostly pandemic-free over a longer timeframe, giving people time to adjust.

For example, it required more than 100 years for Americans to adopt landline technology, beginning when Samuel Morse and others invented the telegraph in the 1830s and 1840s. [27] Even though Alexander Graham Bell was awarded the patent for the telephone in 1876, it took until the 1970s for the majority of U.S. households to contain at least one telephone. By contrast, we adopted smartphones in 10 years.

Furthermore, tech change is exacerbated by concomitant demographic and culture change in the form of an aging U.S. population, a growing minority population, changing religious and gender norms and immigration fears.

The Harvard biologist James Wilson may have put it best:

“The real problem of humanity is the following: we have paleolithic emotions; medieval institutions; and god-like technology. And it is terrifically dangerous, and it is now approaching a point of crisis overall.” [28]

Americans are witnessing Wilson's prophetic words in real-time as the coronavirus sweeps across the nation and the world. Too often we are responding to this outbreak with Stone Age emotions rather than 21st Century science.

Decisions about pandemic outbreaks should be left to the scientists and we should hold them accountable. However, decisions about how technology is managed in American society should not be reserved for a handful of coastal elites in Washington D.C., Silicon Valley and Wall Street. Every American should have a say in how technology impacts their lives. But with the power of choice comes an obligation for each of us to learn, share and act responsibly. The coronavirus outbreak has accelerated our sense of urgency and the need to take personal responsibility for our lives and the lives of others.

In *The Big Short*, Brad Pitt plays the role of an ex-banker, Ben Ricker, who hates big banks. He admonishes the two young investors he is helping, "If we're right, people lose homes. People lose jobs. People lose retirement savings, people lose pensions. You know what I hate about f***** banking? It reduces people to numbers." [31]

We hear a similar refrain today with comments such as "the coronavirus cure could be worse than the problem itself," suggesting a tradeoff between the lost lives of COVID-19 victims and getting Americans back to work to save the U.S. economy and jumpstart Wall Street. [32]

The Brad Pitt film is based on the Michael Lewis non-fiction book by the same name. It examines the causes of the 2008 financial collapse – the biggest economic meltdown since the Great Depression. The Great Recession, as it came to be known, cost many Americans their jobs, homes and retirement savings. According to Wharton's Peter Capelli, "One in five employees lost their jobs at the beginning of the Great Recession." [33]

My family also felt the pain. Many of my relatives lost their jobs and their houses, and even now have not fully recovered. Throughout the book I share real life stories of loss and victory across four generations of my family.

As I noted in the Preface, I was writing this book when COVID-19 struck, triggering a global pandemic. Prior to this viral outbreak I had written, "The 2008 financial collapse shocked America. I fear that a similar shock will happen soon."

Well, that shock came faster than I expected, and we are now living it.

On a personal note, perhaps my family's journey can give us all hope in a time of social distancing, isolation, dislocation and despair. Like many other American families, our family survived the 1918 Spanish Flu, the Great Depression and WWII. The Spanish Flu infected 500 million people and killed an estimated 50-100 million worldwide. The Great Depression saw 25% unemployment rates and a 65% collapse in international trade. [34] If we can survive those tragic events, we can survive COVID-19. If we all pull together.

I am the product of African slaves, Indigenous Peoples and British-Irish slave owners. I embrace all parts of my ancestry. My ancestors arrived in this country in the holds of slave ships, left the British Empire for a better future, survived small pox and marched the Trail of Tears, were freed under Emancipation Proclamation, led the migration West and benefitted from hard work, America's technological progress and a rising middle class. Both the Shines and Stroud families took similar routes to flee the repression of the South and head West to make a better life for themselves and future generations. Today, many of us are part

of *middle-class* and *forgotten* America, and a few of us are part of the 1- and 10- percenters.

My great grandfather, Rev. Kimbal Dolphus (K.D.) Stroud, was the son of an African slave mother and half-British, half-Tawakoni (an Indigenous tribe now part of the Wichita Nation) father. He was also a teacher, poet, pastor and Langston University graduate who strongly believed in education and America's free enterprise system.

K.D. married Lulu Magee, a Creek Nation Native American in what was then called the *Indian Territory* (present day Oklahoma). In 1909, to escape blatant racism and the Jim Crow segregation laws of the South (which remained in effect until 1965), K.D. moved his family to Colorado Springs, Colorado where his children would have greater educational opportunity and a chance to pursue the American Dream. Seventy years later I would attend the U.S. Air Force Academy which is located in Colorado Springs.

Despite suffering the twin evils of poverty and racism, my great grandparents raised eleven children who went on to attain pioneering achievements in business, engineering, academia, science, social services and athletics. All eleven siblings, including six girls, went on to attend college, six of them graduating.

- Jack Stroud, my great uncle, wrote many of the mathematical equations for the control systems used for launching the Apollo I mission.
- K.D. and his sons founded a family-owned national trucking company that lasted into the 1970s.
- Great uncle Kelly Dolphus competed in the 1928 Olympic trials, was the first black elected to the Phi Beta Kapp honor society at Colorado College where he graduated cum laude in 1931, and earned a master's degree at the University of Mexico where he wrote (in Spanish) his thesis on the history of blacks in America.
- Great aunts Effie and Lu Lu, respectively, have a Colorado College Scholars program and a Colorado park (Lu Lu Pollard Park) named in their honor.

Our family picked cotton on Texas plantations and hauled coal in Colorado mines. Today, our family owns TV, telephone, consulting and real estate companies and work at hi-tech firms. But like so many other American families, a large percentage of my relatives suffered from the slowdown in upward mobility that started in the mid-1970s. Additionally, many of us lost jobs, homes and life savings during the 2008 financial collapse and now must struggle to make ends meet. During the pandemic, we meet online via family Zoom video sessions to learn together, help each other cope and to socialize.

In writing this book, I've researched our family history for clues on what drove my great grandparents. How were K.D. and Lulu able to survive the deadly Spanish flu pandemic and the Great Depression and raise eleven children in the sub-zero temperatures of the Colorado Rockies with no electricity or running water? How did the couple prepare and inspire their children to handle the shock of racism and the technological advancements of their times?

In the 1920s, K.D. and his children founded the Stroud Brothers Trucking Company that hired black and white workers across multiple western states. Nearly 100 years later (December 2019), Jil Tiefenthaler, the President of Colorado College, invited me and other family members to attend an evening recognition event honoring the Stroud family's scholastic achievements.

Colorado College created the *Stroud Scholars* program, which “honors the legacy of two of the earliest African-American students to graduate from Colorado College, siblings Kelly Dolphus Stroud ’31 and Effie Stroud Frazier ’31, who persevered through discrimination yet excelled in education and in their lives.” [35] **That is the power of the American Dream – if we can keep it.**

This book opens with a chapter about Situational Awareness and concludes with Get Phygital! It is further divided into three major sections: A Call for Reflection, A Call for Balance and A Call for Action.

In Situational Awareness, I explain that during pilot training my U.S. Air Force instructors drilled into me the importance of “getting your head out of the cockpit.” This is a form of what the military calls *situational awareness*, which means to be constantly aware of what is happening all around you and take personal responsibility for your own safety and the safety of your unit. In the year of COVID-19, social distancing and handwashing are examples of situational awareness.

Like an inexperienced pilot who becomes fixated on the cockpit instruments and fails to see the danger of another plane in its flightpath, Americans have their faces planted deeply in their smartphone screens. Many are mistaking a virtual world for a real world.

With bent necks and squinted eyes, we click and tweet and assume it is the responsibility of someone else to take care of us. Suddenly, coronavirus forces us to observe our surroundings and maintain six feet of social distancing space, and to beware of a sneezing neighbor or a coughing child. Further, situational awareness reminds us to take in all signals (symptoms such as your temperature) and separate the signal from the noise.

Fake news and *information inequality* have lulled many Americans into a false sense of security that the coronavirus is just the flu. Some have paid with their lives to discover this is not true. Our political leaders and scientists have done a poor job of communicating the lethality of this virus. They use stats when they should augment the numbers with stories. They show graphs when they should add music, art, movies and animation to help people “feel and live” the effects of the virus.

Like K.D. and Lulu, we Americans have always faced great challenges and risen to the occasion. We humans have been blessed with a unique superpower that no other species possesses; it is “the ability to cooperate flexibly in large numbers,” according to the bestselling author (*Sapiens, Homo Deus, 21 Lessons for the 21st Century*) and historian, Yuval Noah Harari. Our founding fathers set up a system of government that reinforced this superpower – but, still, they were concerned about its future.

John Adams wrote, **“Democracy never lasts long. It soon wastes, exhausts and murders itself. There was never a democracy that did not commit suicide.”** [36] Should our nation fail us, we still have ways to cope and cooperate in large numbers through the faith found in our religious or spiritual beliefs and institutions and our familial connections.

Contents

Preface

Introduction

Call for Reflection

Situational Awareness

Cognitive Bias & the COVID “Hoax”

Trans-Atlantic, Trail of Tears & The Rockies

Olympic Dreams & Wings from Heaven

A Loss of Faith?

The AI-Bioscience Generation

Ray Meets Raj: Inequality & Oligarchy

Call for Balance

Let in Coronavirus but Left out Bio Science

Let in Virtual but Left out Reality

Let in Disruption but Left out Transition

Let in Fake News but Left out Critical Thinking

Let in Personal Gain but Left out Collective Purpose

Call for Action

FAULT Leadership

Leave no Soldier Behind: Vets in Transition

Conclusion

Get Phygital!

Situational Awareness

*I'm learning to fly but I ain't got wings
Coming down is the hardest thing
Well, the good old days may not return
And the rocks might melt and the sea may burn*

Tom Petty and The Heartbreakers, "Learning to Fly"

Get your head out of the cockpit!

This is one of the most important lessons taught to commercial and military pilots.

"Get your head out of the cockpit." I heard that phrase repeated again and again by my instructors. It was drilled into me countless times until it was instinctive.

But what does it mean? What do airplanes and cockpits have to do with life, technology change and coronavirus outbreaks?

Let me tell you about the day I should have died – except that **I got my head out of the cockpit.**

More than 25 years ago, I flew a Cessna T-37B, an Air Force jet trainer, on a training mission with an instructor pilot (IP) sitting next to me. We took off from Williams Air Force Base near Phoenix to practice aerobatic maneuvers in a special use air space known as a Military Operations Area (MOA). Civilian aircraft must get clearance to enter these areas.

After we flew into the MOA, it was time to practice the aerobatic maneuvers. Before starting these, I "cleared" the aircraft to ensure the safety of air space surrounding the plane. Every IP had stressed the importance of "getting my head out of the cockpit" by augmenting the cockpit instrument checks with manual visual checks.

I automatically strained my neck to look outside of the aircraft by swiveling to the front, the back, left and right, below and above. Looking up, I saw the wheel well of a private plane less than 500 feet above us. Without thinking my training kicked in.

"Aircraft above!" I yelled, initiating avoidance.

"My aircraft!" my IP, sitting to my right, yelled. I immediately dropped my hands from the flight controls. You never want to have two sets of hands fighting for control of a plane.