Revisiting COVID-19 Policy: A Psychological Perspective on Consideration and Compassion

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> *"What if this virus . . . can teach us a little about holding contradictory ideas once again? What if it can allow us to see that we're not as stupid as our political parties want us to be, or as unidirectional as our TV channels seem to think we are? A purple America is a far more interesting one than the red or blue one that some insist on.*
> *What time demands now is a new form of contrapuntal thinking. We do not need to simplify. We need to scruff things up. We need to be brave enough to reach across the aisle. And the voices that really matter will be the ones that come from underneath, not above . . . "*
>
> *--Colum McCann*

[Note: early in 2020, I published an essay concerning policies that were being or could be enacted in response to the emerging COVID-19 health care crisis. I focused in particular on policies in the United States, but considered the issues surfaced to be relevant in all countries. Now, one year later, I wish to review the ways in which policies in this arena were and were not engaged. We have much to learn from this brief history, as we continue to address the COVID-19 challenge—and more importantly prepare to manage pandemic crises in the future in a more effective manner.

The millions of infections and many hundred thousand deaths related to COVID-19 speak tragically to the failure of countries throughout the world to deal effectively with the current virus. From this failure we can chose to sit back and hope either that there will be no future virus or that somehow things will be better the next time. We can instead spend time and energy identifying the people who made the mistakes. We can blame them and punish them for their arrogance and ignorance.

There is a third option. We can choose to learn from our collective mistakes. As those who are advocating the creation of learning organizations and learning societies have noted, we are not "stupid" when we make a mistake, but we are "stupid" when we continue to make the same mistake (Argyris and Schon, 1978; Senge, 1990). There is no way to avoid making mistakes in a world filled with volatility, uncertainty, complexity and ambiguity—along with turbulence and contradiction (VUCA Plus) (Bergquist, 2020a). The issues surrounding COVID-19 certainly qualify as VUCA Plus challenges and it is naïve to assume that mistakes would not be made. This essay is based on an assumption that the third option must be chosen. We must learn from our mistakes, rather than live in a world of denial, hope without action, or blame.]

The Basic Assumptions

When the virus first hit, early in 2020, we tended to ignore what was happening right in front of us. In part, ignorance was easy to engage because the virus produced very few noticable symptoms. As Nicholas Christakes (2020, p. 204), a quite knowledgeable documenter of COVID-19 has recently noted, this virus produces no grotesque physical symptoms (such as diarrhea, vomiting, odors and discoloration of skin). Furthermore, most of the early victims of this virus were outside of public view. Many sick people were sequestered in rest homes, and other health-care facilities or were alone at home with no one to witness their suffering. As Christakes (2020, p. 205) observes, there was a divide early on "between those who know someone who has died and those who do not". As the virus became more widespread this divide went away. Furthermore, COVID-19 seemed to become more "democratic"—it seemed to infect and kill without regard to socio-economic status or race. More recently, the epidemiologists have provided us with "less convenient truth." We have come more recently to the painful recognition that there are major differences in the rates of infection and death resulting from income and skin color.

By the middle of 2020, we were coming in many societies, to the collective realization that COVID-19 was to be a much more challenging enemy than many other viruses. While other viruses in recent years (including an earlier version of the current virus) have had a major impact in some countries, the current COVID-19 virus was having an impact in virtually every country—including the United States. Several important decisions needed to be made individually and collectively. At one level, the decision was quite easy. It was guided by a basic, shared assumption: we simply had to act in a thoughtful, compassion manner. We all knew that the correct thing to do was to engage in a series of actions (or inactions) that would assist in ameliorating the impact of COVID-19. We were all to observe social distancing when going out in public. We were to stay at home whenever possible, as well as wash our hands and engage in other sanitizing practices. All of these were deemed important. A simple term was even coined to subsume all these practices: "nonpharmaceutical interventions" or NPIs.

We all knew that only through social distancing (and other preventative actions) could we flatten the COCID-19 curve and bring our society (and other societies around the world) back to normal. But was this assumption about NPIs really valid? Could these socially based interventions do the

trick in blocking the invasion of the virus? Some epidemiologists from respected universities in the world (such as Harvard University) offered some "inconvenient truths", based on their careful modeling of future trends in the infection and mortality rates. In a *Boston Globe* article titled "There's only one way this ends: herd immunity", Jeff Howe (April 12, 2020) offered the following sobering observation:

> It's easy to forget that if a disease can't be contained – and its' too late for that in the COVID-19 pandemic—then there's only one possible ending to the story: We must collectively develop immunity to the disease. In lieu of a vaccine, that means most of us will need to be exposed to the virus, and some unknowably large number of us will die in the process. (Howe, 2020, p. K1)

The epidemiological experts introduced several different public policies to see what the impact of each policy would be on the rates of virus-related infection and death. Shockingly, it seemed that if a society consistently practices NPIs then rates of infection and mortality would drop off for only a short period of time and then rise again.

What was the reason for this potential trend? As Howe notes, it all has to do with the inevitability of infection. We will all eventually become infected, so the use of NPIs only delays the inevitable. Worst yet, this means that many of us would never build the antibodies that are created when we are infected and then come through the infection with built-in protection against the virus. What was to be done with this set of inconvenient truths? And did these truths influence the policies formulated and actions that were actually taken? Perhaps most importantly, as we reflect back over the past year, we must ask: was the influence that did take place helpful or harmful?

Herd Immunization

The health experts who provided us with the dire predictions offered a radical alternative solution that most of us did not want to hear. They suggested that we alternate a NPI policy with an "open up" policy that would allow us to go out in public without protection. We get infected. Most of us survive the infection and build the necessary anti-bodies. This is what is called *herd immunization*. When we all are self-immunized, then the virus will cease to be a major threat. It will go away (with the assistance of immunizing injections for young people). Many people will die—but many people will live and rebuild our societies. It is a horrible option that was received

with little support by those of us who were living with the basic set of assumptions about doing "the right thing" (NPI). Based on this set of assumptions, only uncaring people who live by numbers (statistical projections) would ever propose herd immunity. We must throw out this option –and perhaps fire the scientists who are making this inhumane proposal.

The problem was that they might in some way be right. They might ultimately be more caring than the rest of us. At the very least, they are quite brave in their articulation of the "inconvenient truth." Perhaps, careful consideration should be given to the truths that might be embedded in the herd immunization policy. Such a consideration never did take place in the United States nor in most other countries during 2020. Herd immunity became politized (as did many other complex societal issues of the 2020s in the United States). Americans were either for or against herd immunity and those advocating the other side of the issue were assigned labels that led to frozen, polarized positions. Civic discourse was rarely found regarding herd immunity in most corners of our world.

The Outcomes

What does it mean that no serious attention was devoted at any level to the matter of herd immunity? A serious proposal should have been offered and deliberated. It would include realistic appraisals regarding the virus's staying power which is at the core of a herd immunity policy. Embedded in this appraisal is an assumption that the virus will continue to linger, and outbreaks will occur at least sporadically—even with an effective vaccine and continuation of social distancing. While this assumption might be too pessimistic, it is important to keep the "worst case" scenario in mind—what the behavioral economics call "premortum" planning (Kahneman, 2013).

The proposal would also include policies and funds that intensify research efforts in the discovery of one or more vaccines that continue to combat the virus even as it continues to morph. The proposal would incorporate a third, critical element: procedures for distribution of the vaccines so that they would be universally and equitably available in all countries. A continuing commitment to NPI (social distancing and other effective preventative measures) would accompany this proposal. Effective and widespread testing and contact tracking would also be essential—

especially as a way to gain greater insight regarding the way in which the virus is spreading and the ongoing extent to which self-immunization is taking place.

While this proposal was never offered (or at least never given serious consideration) in the halls of government (such as the US congress, or White House), we can tabulate the extent to which element of the proposal were effectively engaged in 2020. First, the vaccines did arrive before the end of the year, and this is an exceptional accomplishment—exemplifying the way in which private and public enterprises can work together to solve problems. Second, in some countries there was effective testing and tracking—though not in the one country (United States) where one might expect this to take place. Third, the wide-spread engagement of NPI practices was to be found in most countries—though once again not in many regions of the United States. Finally, we did witness thoughtful enactment of both enforced NPI policies and equitable inoculation distribution plans in many countries.

With these noteworthy (and perhaps optimistic) examples of successful response to the COVID-19 virus in 2020, it is also important to note, that a realistic appraisal of the perspective offered by advocates for herd immunity never took place. Politics and polarization overwhelmed any thoughtful or comprehensive dialogue. Ironically, many of the actions suggested by the Herd Immune advocates were engaged – but through thoughtlessness and defiance (a blending of arrogance and ignorance). Many US citizens did not comply with social distancing norms— flaunting the request for civic responsibility in favor of individual liberties. As a result, a significant percentage of the population in the United States were infected, leading to what the herd immunization advocates hoped would be a baseline of immunity. This baseline would, in turn, leave the virus with nowhere to turn and, like many other viruses, COVID-19 would simply fade away (with the occasional appearance I already noted). Tragically, this fading away has not yet occurred. This is perhaps because the horror attending the herd immunity policy prevents citizens (at least in the United States) from collectively allowing it to happen.

Why were there mostly negative outcomes? First, we know that any considered decision about adopting a viable proposal and monitoring its enactment on an ongoing basis requires valid information regarding who has been and has not been infected. There must be broad-based (if not universal) testing—and this testing was not widely or consistently available in the United

States or in many other countries. The real challenge was even greater. There must also be contact tracing after testing has revealed a positive COVID-19 result. With whom has this person been in contact and have they yet been tested? This tracing was absent in most communities in the United States and elsewhere in the world. Without this tracing, the hit and miss of herd immunity would be completely untenable. Issues concerning the cost of tracking were prevalent. Concerns about confidentiality and the disruption of work forces were expressed. Perhaps of greatest importance was the psychological factor: a general fear of other people begins to emerge when tracing is implemented: "I don't really want to know that other people might be infecting me!" Perhaps these diverse factors account for the absence of tracking—as does the politicization and polarization that accompanied virtually every aspect of the COVID-19 response in the United States (and many other countries).

We also know that herd immunization must include both the "artificial" immunity that comes from inoculations and the "natural" immunization that comes from being infected with and successfully recovering from a virus. Unfortunately, past history suggests that "medicine [inoculations] has actually played a surprisingly small role in the decline of most infectious diseases across time." (Christakos, 2020, pp. 86-87). Socioeconomic improvements and public health policy measures have been much more important, as has the successful implementation of NPIs. Clearly, socioeconomic and pharmacological (immunization) factors must play a complementary role in addressing future pandemic virus challenges—and effective NPI policies must be engaged alongside these two factors. In its pure form, herd immunization will not work.

There is yet another troubling point regarding herd immunization. This point concerns projections into the future. We are faced with the unknown about whether self-immunization is permanent—and if any vaccine can promise life-long (or even long-term) immunity. Can the virus transform itself and successfully assault one's body once again? And what about the false positives—the occasional false assessment of one's immunization? We faced many complex problems regarding testing of COVID-19. VUCA Plus is fully present in the world of COVID-19. Decisions regarding how best to monitor this virus and the ways that the virus is best defeated are not easily made. Blame is easy to assign and a sense of helplessness is readily evoked.

What then have we learned during the past year? In the future, how do we address complex, multi-tier pandemic issues? At the very least we know two things. First, we know that critical data must be generated and pondered regarding the ongoing status of the virus. Second, forums must be convened in which important debate regarding options can take place. As I have already noted, the data is not easy to acquire. The forum will be even harder to enact—especially if it is to be international in scope. The difficulty thus resides not only in the procurement of valid and useful information, but also in the thoughtful consideration of implications embedded in this data.

As human beings, we prefer not to consider negative options—for they create collective stress. We would prefer to isolate (censor) the inconvenient truth and demonize those who are conveying this truth. Clearly, the challenge is great of convening an international forum in which constructive dialogue takes place. In order to successfully convene this dialogue regarding future pandemic policies, we must take several factors about the human psyche into consideration. As psychologists, we might have something important to say about the process of collective (inter-societal) policy formulation. We have learned (and perhaps have always known), that medicine, mind and heart must always dance together—especially when it comes to the exceptional challenge posed by a pandemic virus.

Thinking in Systems: The Outcomes May Surprise Us

While we, *homo sapiens*, are among the brightest members of the animal kingdom, there are some major limits in our capacity to think clearly and systematically about the challenging conditions we face. First, we are inclined to view our complex world in single dimensions: it is hard for us to take multiple, interacting variables into account at the same time. Our colleagues at M.I.T. (just down the road from the Harvard epidemiologists) have created a powerful modeling tool called system dynamics that enables us to take multiple variables into consideration at the same time (Meadows, 2008). The modeling tools being used by their colleagues at Harvard and other universities and research centers similarly enable multi-variable analyses.

And what are the outcomes of these analyses? Two particularly relevant insights are generated as they relate to the spread of COVID-19. First, there is the matter of rapid expansion in the outbreak. Something that is often called the *Power Law* is operating. As in the case of many systemic phenomena (such as birth rates, global warming and nuclear explosions), the spread of

viruses is exponential. There is a rapid doubling of infections as a virus spreads out (Christakis, 2020). The impact of a virus rapidly spreading is just as tragic as that of a nuclear weapon being detonated. The Nuclear Effect of a virus can't be underestimated. One day we look out at our world and nothing appears to be amiss. The next day we find that our world has changed forever.

The second insight concerns delay. System dynamic theorists suggest that delays in any complex system often have a greater impact on the way this system operates than does any of its other properties (such as the nature and size of entities operating inside the system). Delays can occur in the movement of entities inside a system, as well as movement of information about these entities. In the case of COVID-19, there were clear delays during 2020 in the flow of information about the virus between countries, and major delays in the production and distribution of testing equipment, medical supplies and vaccines. Even more profound delays occurred in the formulation and implementation in many countries of public policies regarding such matters as tracing of infections and enforcement of NPI policies. The Delay Effect might be just as important as the Nuclear Effect in coming to terms with our failure to meet the COVID-19 challenge.

The results generated by system-based analyses are often counter-intuitive—that is to say, the models often come up with outcomes that are quite different from what was anticipated. We are doing what is intuitively and humanely "the right thing". However, the outcomes of our caring actions end up being destructive—even catastrophic. We might be finding that the well-intended actions we are taking to meet the COVID-19 challenge have been way off the mark because we have not engaged in the system-based analyses advocated by those engaged in system dynamics. Our basic assumptions about compassionate acts might have to be questioned.

There is a second set of systemic insights that is equally disruptive of the usual way we think about and reason through challenging (often VUCA-Plus) issues. These insights come from the emerging interdisciplinary field of study that is often labeled *Complexity Theory*. This field focuses on systems that are not just complicated (many parts), but also complex (many interdependent parts)—and it is in their complexity that many systems become chaotic (Miller and Page, 2007). While there are many troubling and unanticipated insights emerging from this field, the one that has received the most public attention is the *Butterfly Effect*. First offered by Edward Lorenz in his meteorological research, this effect concerns our inability to offer valid predictions regarding the

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outcome of complex events given that a single (often quite small) event somewhere in the world (the fluttering of a butterfly's wings) can have a profound, widespread impact. It is because complex systems contain many interdependent parts that one small part can have a major impact on the entire system. Something like this effect might be operating in the case of COVID-19 and other epidemics.

We know, for instance, that the spread of SARS-1 in 2003 can be traced back primarily to one gentleman in China (Christakis, 2020, p. 37). This man, who made his living as a fishmonger, seems to have been a super-spreader of this virus. He was the butterfly of SARS-1. Similarly, the major culprits in the vast spread of Spanish Flue in 1918 were the citizens of Philadelphia. They ignored the warning signs and engaged in many events (including parades) that led to the spread of this virus (that had come to Philadelphia from a merchant ship) (Christakis, 2020, p. 72). Philadelphia was also a butterfly. On the one hand, the Fishmonger Effect came from the actions of one man, while the Philadelphia Effect came from the actions of an entire urban population. Both of these effects could be operating in the spread of COVID-19.

Jay Forrester, the original architect of System Dynamics, often declared: "don't just do something—stand there!" One of Forrester's esteemed students and colleagues, Donella Meadows (2008, p. 171) has put it this way: "[There is a broad-based and compelling tendency] to define a problem not by the systems' actual behavior, but by the lack of our favorite solution." Meadows (2008, pp.171-172) goes on to describe a typical decision-making process:

> Listen to any discussion in your family or a committee meeting at work or among the pundits in the media, and watch people leap to solutions, usually solutions in "predict, control or impose your will", without having paid attention to what the system is doing and why it's doing it.

Forrester, Meadows, and their colleagues strongly suggest that we need to reflect on our assumptions before taking any action. This might be what we should have done in 2020 regarding the COVID-19 virus—and what we must do when facing other pandemics in the near future. We must take into consideration such matters as the Nuclear, Delay, Fishmonger and Philadelphia Effects. This is quite a challenge—but we do have the modeling tools to engaged in this systemic

consideration. But what do we do with the often counter-intuitive outcomes of these considerations? I would suggest that we must slow down our thinking when doing this work.

Slow Thinking

We need not travel far (just to a nearby building at M.I.T.) to find a complementary perspective on human decision making. I have already briefly cited the work of MIT's Daniel Kahneman. He is the Nobel prize winning author of *Thinking Fast and Slow* (Kahneman, 2013) who focuses on processes of human decision making. Kahneman suggests that we are inclined to think fast about a pressing (and complex) problem—especially one (as I noted above) that is filled with anxiety. We should instead slow down our thinking so that we might better understand the problem and identify often untested underlying assumptions embedded in the problem. Like Forrester and Meadows, Kahneman urges us to stop for a few minutes (or a few days) before deciding and acting—especially when we are anxious or when there seems to be social pressure to quickly arrive at a decision.

As a sidebar, I can point to a story issuing from the recent reporting of Steve Dalkowski's death. Legend has it that he threw the fasting pitch ever recorded in modern baseball history. Supposedly, he was able to fire in a baseball at close to 110 miles per hour (though he was playing before the device recording the official speed was invented). While Dalkowski could pitch hard and fast, he was not very accurate. His errant pitches over the backstop were noteworthy, as was his strike-to-walk ratio (more of the latter than the former). Dalkowski was portrayed (as "Nuke" LaLoosh) by Tim Robbins in the movie, *Bull Durham,* with his fastball flying everywhere.

Tragically, Dalkowski was defeated by not only his lack of control as a pitcher, but also his lack of control as an alcoholic. Nevertheless, for a short period of time, he was a good pitcher and almost made it to the major leagues. What was the secret? He slowed down his pitch and found more accuracy in throwing the ball over the plate. As they say in baseball, he gained some "command" of his pitches—he learned how to "pitch" rather than just "throw". I would suggest that the same principle applies to 21st Century problem-solving. Our *Dalkowski Theorem* is that we must slow down our thinking if we want to be accurate—otherwise we will never make it to the major leagues! We need to thoughtfully pitch rather than simply throw hard (or solve fast)—otherwise we will remain a "bush leaguer".

Now back to Cambridge, we join Kahneman and his behavioral economics colleagues. They write about the frequent use of *Heuristics* (simple, readily applied rules) that enable fast thinking to occur. Many heuristics serve us well in addressing daily-problems and making decisions about mundane and often reoccurring matters. However, they often get us in trouble when we face unique and multi-tiered problems—such as formulating policies regarding the COVID-19 pandemic. We might be inclined to "throw hard" and engage a simple values-based heuristic about saving the life of a single person: "Your failure to social distance is endangering the life of my mother!" The herd immunization option is immediately rejected, even in its more benign form: "This is nothing more than a Nazified decision to 'let them bleed!'" We have polarized the discussion and sped up the response being formulated by our "opponent." All of us are throwing hard and fast rather than engaging in slow, thoughtfully pitching.

In applying this heuristic to the Corona virus epidemic, we move immediately to the social distancing (and other preventative actions) solution and decide immediately to "stop the bleeding!" We make it quite personal: "people [including my mother] will live if all of us stay at an appropriate distance from one another." Or "you don't really give a damned about other people or about me when you refuse to wear a mask!" Through our fast thinking and uncritical acceptance of the basic assumption of compassion, we have won the day in many countries. Widespread support for a NPI policy grew during the middle months of 2020. The NPI heuristic was working somewhat effectively for a while in some countries – such as China, Singapore and New Zealand. Unfortunately, in many instances, this heuristic required a strong authoritarian mandate: "everything must close down—and this is an order from your government!"

As Christakis (2020, p. 11) notes, a "social nuclear" weapon was engaged in China and emulated by other countries—though often with some variants. For instance, a "softer" and more humanitarian approach was taken in New Zealand that made implementation of this policy more palatable. A culture of compliance in Singapore and China made implementation more feasible. The small size of Singapore also made implementation somewhat easier, while in China the NPI policy was implemented and enforced at all levels of government (Christakis, 2020, p. 10).

The rate of infection was soon creeping back up in each of these countries—especially among members of their communities who are marginalized. Requirements regarding lock down were eased at times. Citizens were spending more time out in public. They were social distancing, but this was not enough. The NPI restrictions were often re-instituted as infections and deaths once again rose. COVID-19 infections would come and go—much as was predicted by many advocates of herd immunization. Restrictions also came and went—with citizens uncertain about what to do. This uncertainly, in turn, increased levels of anxiety—and this increased anxiety produced stress, which made citizens more vulnerable to many diseases (not just COZVID-19). Christakis (2020, p. 143) identifies this as *Psychogenetic Illness* and offers the following disturbing description:

> Fear can itself be contagious, forming a kind of parallel epidemic. Contagions of germs, emotions, and behaviors can act independently or they can intersect [as is the case with all complex systems]. And fear has an advantage over even the most contagious pathogens— people can contract a disease only through contact with other infested individuals, but they can contract feat through contact with either infected individuals or fearful ones.

It is when fear is introduced into the drama of 2020 COVD-19 that we find not just psychogenetic illness, but also the inability for citizens of a nation to make slow, thoughtful decisions.

Regression and the Search for a Silver Bullet

What then is the solution? How does thoughtful, systemic thinking and decision-making operate to help us effectively address future pandemics. Let's cut immediately to the chase: there probably was not a silver bullet available in 2020 to solve the problem. No social policy could bring the death rate down to an "acceptable level." Even though several vaccines were produced by the end of 2020, there remained the major challenge of distribution given the widely differential levels of economic vitality and presence of health-related infrastructures from country to country. Dire predictions made by the epidemiologist may be coming true. We might need to slow down our thinking and challenge our humane, short-term perspective on confronting the virus with a broad-based application of social distancing public policies, complemented by vaccine-based immunization. Good intentions might not be enough. We need to do a better job of thinking in a systemic manner, as Forrester and Meadows propose, but this might also not be enough.

For a moment we need to stand still rather than do something—especially as we get ready for future pandemics. The herd is starring at us from not too far away. Our slow thinking might be leading us to the difficult and anxiety-provoking conclusion that our policy must change. This recognition, in turn, creates more anxiety and pushes us back to fast thinking. Our rational system of thought and problem-solving will easily collapsed. The baseball once again might fly over the backstop. Death counts mount everywhere in the world. Like Dalkowski, we (collectively) seek out something that will numb the pain of failure.

The movement to slow, systemic thinking will not be easy. In many ways, the outcomes of our attempts to cope with COVID-19 could have been predicted. We know that all VUCA Plus issues are usually not handled in a thoughtful manner by Americans (or virtually anyone else in the world). These issues tend to be heavily ladened with anxiety—and this anxiety not only makes us vulnerable to disease (psychogenesis). It also impacts on the way we think about and feel about the source of the anxiety—in this case COVID-19. The anxiety must be metabolized (transformed) in a way that contains and reduces the anxiety (Bergquist, 2020a).

Typically, the metabolism only takes place by regressing to a lower level of thought and feeling. We turn "primitive" in our assessment of the lurking force or entity that wishes to do us harm. For instance, Christakis (2020, p. 21) notes that bats are often the ultimate culprits in the transmission of viruses (for some reason pathogens move easily between bats and humans). They are perfect sources of evil, having often been the source in many societies of profound villainy and horror (Dracula?). We envision bat-like, shadowy viruses lurking in our closets, ready to bite us in the neck and turn us into flesh-eating zombies – or worst yet into political opponents.

In seeking to metabolize our anxiety, we not only identify evil forces and figures, but also seek to find safe refuge from this evil, by looking to a leader who can fight against or flee from this evil. This leader will offer simple ways in which we can reduce our anxiety (Bergquist, 2020a). These ways often include not only identifying the enemy of evil who "caused" the underlying problem and/or blocked its solution, but also providing a simple portrayal of the problem itself. Such has been the case with "deliberations" regarding herd immunity.

As Daniel Kahneman (2013) and other behavioral economists have noted, we are likely to engage in "fast thinking" when confronting immediate, anxiety-filled challenges. The "slow thinking" that is required to sort through the VUCA-Plus labyrinth of COVID-19 infections and immunity was not widely engaged in the United States during 2020. USA citizens were not alone. Anxiety-provoked regression in thought, feelings and actions pervaded the world. Authoritarianism emerged and reigned supreme in many societies. Leaders were being obeyed who had no business being in this role. Stupidity filled the cracks and crevices of COVID-19 deliberations.

We know now that an effective policy should include both NPI and carefully planned testing, tracing and inoculations. We must account for the speed at which a virus spreads, as well as for inevitable delays in the flow of both resources and information. We must recognize that a virus can begin in the home of a fishmonger or spread in a city like Philadelphia. Butterflies are everywhere when it comes to pandemics. We also know that all these matters are contentious and subject to conflict-filled deliberation. Truth and reality can be quite elusive. It is easy to regress individually and collectively when anxiety is saturating our thoughts and actions. As I have already mentioned, we have tools that can aide our slow, systemic analysis of pandemic problems—despite the challenges we face in confronting these problems. I am about to introduce a process that can help us do a better job in making balanced decisions based on this analysis.

Polarity Management

We must leave the confines of Cambridge Massachusetts so that I might introduce a new perspective on the best way to learn from the COVID-19 crisis of 2020 and to make decisions when faced with future pandemic crises. Specifically, I turn to the work of Barry Johnson (1996), the "dean" of *polarity management*. Johnson's perspectives and his related tools can guide our actions in the future. I specifically envision a hypothetical forum or series of forums convened to slowly and thoughtfully formulate a viable pandemic policy for the future.

Johnson suggests that polarity management can be used in handling everyday dilemmas. It can also be of great value in addressing major societal contradictions—settings in which there are two or more legitimate but opposite forces at work. Can polarity management help us gain a purchase on a pandemic policy? I believe the answer is "yes". Along with systemic perspectives and slow

thinking, polarity management might provide important guidance in the convening of a forum for constructive dialogue.

Both/And Rather Than Either/Or

Many of those involved already in the deliberation regarding a pandemic policy have framed the policy as an either/or option. To quote Howe again, those offering the herd option are taking the follow stand: ". . . the fact remains that herd immunity isn't merely a possible strategy. In the long run it is the only strategy. The question, then, is how to get there responsibly." The proponents of NPI and social distancing offer an even more absolutist stance: "the withdrawal of a social distance policy is unethical and immoral. It is counter to everything we hold precious as human beings."

I will frame our analysis around these two polar-opposite stances and begin by identifying some of the benefits and disadvantages associated with each policy. The benefits in both cases yield short-term (tactical) and long-term (strategic) outcomes. The disadvantages I offer relate to what we don't know and what might be an unexpected and devastating outcome.

BENEFITS: **NPI/SOCIAL DISTANCE POLICY**	**BENEFITS:** **HERD IMMUNITY POLICY**
• Preserve commitment to focus on welfare of each individual person • Reduce pressure on health care workers and facilities • Establish new social norms and interpersonal behavior patterns that can endure for a long time.	• Build a sustainable world community with most if not all people being immune • Set realistic expectations regarding short-term impact of virus on human health. • Set hard but realistic policies regarding health priorities with specific populations.

DISADVANTAGES: **NPI/SOCIAL DISTANCING POLICY**	**DISADVANTAGES:** **HERD IMMUNITY POLICY**
• May lead to recurrent outbreaks of the virus and ultimately more deaths • Will sustain global uncertainty about long-term status of human health • We don't know if social distancing can be sustained by most societies • May set precedence for short-term solutions to pandemic outbreaks in the future	• We don't know if human societies can really tolerate large scale death rates without reverting to short term actions. • We don't know what this policy would do in terms of its impact on the ethics and soul of human societies. • Who would make the decision about who lives and who dies?

These initial summary statements regarding the pull between two public policies can be framed as a polarity. What tends to occur is that we linger briefly on the advantages inherent in one of the options (in this case the NPI/social distancing policy). Then we begin to recognize some of the disadvantages associated with this option.

We are pulled to the second option. If social distancing and other preventative actions are not the answer, then we must embrace a herd immunization policy. Yet, as we linger on this second option, we discover that this policy also has its flaws and disadvantages. We are led back to the first policy—and must again face the disadvantages inherent in this first option.

The swing has begun from left top to left bottom to right top, to right bottom, back again to left top. We are whipped back and forth. As anxiety increases regarding the COVERT-19 virus and future pandemic viruses, the vacillation also increases in both intensity and rapidity. This is what the dynamics of polarization is all about. There is inadequate time and attention given to each option.

The Polarity Graph

Here is what the polarity-based dynamics of our policy deliberations might look like if mapped on a polarity graph:

Compassion AND Consideration

Action Steps
How will we gain or maintain the positive results from focusing on this left pole? What? Who? By When? Measures?

A. Establish uniform public policy regarding social distancing when around other people.
B. Identify ways to effectively monitor conformity to this policy.
C. Clearly identify the conditions under which it is appropriate to leave one's home.
D. Accurately test all citizens to see if they are infected or free of infection to determine when social distancing policy can be withdrawn.

1. Growing debate about the failure of the social distancing policy.
2. Vascilation with continual refinement the policy followed by continuing failure.
3. Growing wide-spread sense of helplessness and hopelessness.

FORMULATION OF A VIABLE PUBLIC POLICY

Values = positive results of focus on the left pole

Upsides/Positives
1. Preserve commitment to focus on welfare of each individual person
2. Reduce pressure on health care workers and facilities.
3. Establish new social norms and interpersonal behavior patterns that can endure for a long time.

COMPASSION

Downsides/Negatives
1. May lead to recurrent outbreaks of the virus and ultimately more deaths.
2. Will sustain global uncertainty about long-term status of human health.
3. We don't know if social distancing can be sustained by most societies.
4. May set precedence for short-term solutions to pandemic outbreaks in the future

Fears = negative results of over-focus on the left pole to the neglect of the right pole

Values = positive results of focus on the right pole

Upsides/Positives
1. Build a sustainable world community with most if not all people being immune.
2. Set realistic expectations regarding short-term impact of virus on human health.
3. Set hard but realistic policies regarding health priorities with specific populations.

and   CONSIDERATION

Downsides/Negatives
1. We don't know if human societies can really tolerate large scale death rates without reverting to short term actions.
2. We don't know what this policy would do in terms of the impact of the ethics and soul of human societies.
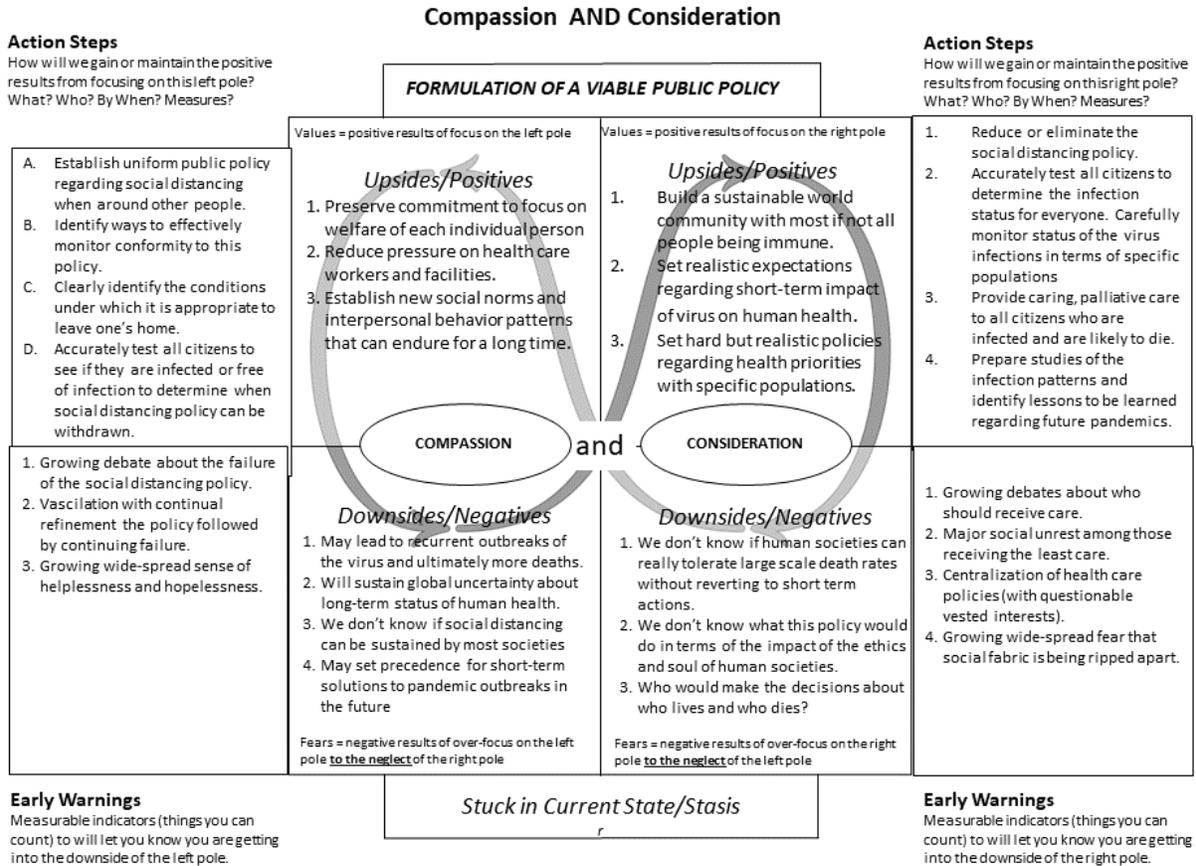3. Who would make the decisions about who lives and who dies?

Fears = negative results of over-focus on the right pole to the neglect of the left pole

Action Steps
How will we gain or maintain the positive results from focusing on this right pole? What? Who? By When? Measures?

1. Reduce or eliminate the social distancing policy.
2. Accurately test all citizens to determine the infection status for everyone. Carefully monitor status of the virus infections in terms of specific populations
3. Provide caring, palliative care to all citizens who are infected and are likely to die.
4. Prepare studies of the infection patterns and identify lessons to be learned regarding future pandemics.

1. Growing debates about who should receive care.
2. Major social unrest among those receiving the least care.
3. Centralization of health care policies (with questionable vested interests).
4. Growing wide-spread fear that social fabric is being ripped apart.

Early Warnings
Measurable indicators (things you can count) to will let you know you are getting into the downside of the left pole.

Stuck in Current State/Stasis

Early Warnings
Measurable indicators (things you can count) to will let you know you are getting into the downside of the right pole.

A Polarity Analysis

With this preliminary framing and charting completed, we turn to what happens when we try to *maximize* the benefits of either side at the expense of the other side. In the case of sustaining the NPI/social distancing policy, the maximization of social distancing and related preventive measures would (as the epidemiological models indicate) tend to delay but ultimately accelerate the rate of infections and ultimately virus-related deaths. Furthermore, we now know that the masks don't necessarily prevent the virus from spreading. The virus comes in through the sides of the masks which most people wore during the COVID-19 crisis (much as water comes in through the edges of our googles, not through the glass). We would soon be in despair regarding the

failure of this NPI/social distancing policy. At some point, we might adopt the herd policy, but would probably find that it is too late.

Conversely, if we completely override the NPI/social distancing policy and fully adopt the herd infection policy, then we would witness massive death rates and would be deeply concerned within a short period of time (throughout the world) regarding the "heartlessness" of this policy. We would inevitably find that projections about the potential number of people who would die before herd immunization was established are staggering. We would feel deeply wounded about the decisions being made. If we are religious and view ourselves as culpable, then we might ask our deity for forgiveness. Other members of our society would be inclined to launch a vitriolic attack against those who enacted this grotesque policy. As a result, we are likely to return to a NPI/social distancing policy—though only after many deaths. And the NPI/social distancing policy would still be flawed.

Barry Johnson warns that we must not try to maximize the appeal of any one side; rather we must carefully *optimize* the degree to which we are inclined toward one side or the other as well as the duration of our stay with consideration and enactment of this side. How serious are we about focusing on this one side and how long are we going to sustain this focus? Optimizing also means that we must find a reasonable and perhaps flexible set-point as we act in favor of one side or another. Finding these acceptable optimum responses and repeatedly redefining them is the key to polarity management. This strategy is aligned with the suggestion made by many health policy experts that with future pandemic virus we should periodically adopt a NPI policy, rather than abandoning it all together.

The fundamental recommendation to be made in managing this particular polarity is to remain in the positive domain of each policy option long enough to identify all (or at least most) of the key benefits and potential actions to be taken that maximize these benefits. Time should also be devoted to and attention directed (in a slow and systemic manner) toward identification of potential ways in which the two policies can be brought together on behalf of an integrated response to the pandemic challenge. Consideration and compassion potentially join hands.

This polarity management recommendation is not easily enacted—especially when the stakes are high (as they certainly were in 2020 regarding COVID-19 and will be with any future pandemic crises). As Johnson and others engaged in polarity management have noted, effective management of polarities requires a constant process of vigilance, negotiation, and adjustments. The second option regarding future pandemic invasions that is offered by public health policy experts seems to be aligned with this recommendation of dynamic vigilance. In agreement with the polarity management experts, those advocating the second option suggest that we must continuously seek and refine a dynamic, flexible balance between consideration and compassion. Each side's beneficial contributions can be enjoyed without engendering serious negative consequences. We must accompany this balance with some immediate, tangible correctives, such as wide-spread distribution of better-designed masks, increased testing and improved tracing.

Policy Alarm Systems

Johnson has one more important point to make regarding the management of polarities. He identifies the value inherent in setting up an alarm system as a safeguard against overshooting either side of the polarity. It would be prudent to build in an alarm system that warns us when we may be trying to maximize one side and are on the verge of triggering the negative reactions.

The alarm signal for the NPI policy might a growing debate regarding failure of this policy and the continual refinement of this policy by leaders in politics and business. We would observe a struggling system: abundant vacillation, frequent reversal of existing policy, and very short-term implementation, criticism, and abandonment of revised social distancing policies and stay-at-home orders. The signal might also be apparent at a deeper, psychological level. There would be a growing sense of helplessness and hopelessness.

The alarm system for safeguards against the herd immunization policy might be increasing occurrence of debates about who should receive the most care and who should "tragically" be allowed to die (for the sake of the "herd"). Major social unrest might arise among those populations receiving the least care and witnessing what seems to be cavalier societal disregard for their welfare. Control of health care policies might become more centralized and embedded in vested social and economic interests. At this point, the herd policies might be saving lives in the

long term—but destroying (forever) the social fabric of the communities in which these policies are being implemented.

Hopefully, with the safeguards in place and the alarm signals clearly articulated, we can address the negative consequences of each option in a constructive manner. As a result, we might even be in a place to formulate an integrative, global policy regarding the handling of recurrent global pandemics (which will occur inevitably in our boundaryless world). Optimally, this formulation could be thought through in a slow manner with broader, often counter-intuitive and systemic dynamics taken into consideration. Johnson's polarity management would be joined with the wisdom of Forrester's systems thinking and Kahneman's slow thinking.

Consideration and Compassion: A Personal Integrative Strategy

What then are we to do personally when confronted with new pandemic outbreaks? A cursory analysis would suggest that we have three choices. Meadow's systems thinking and Kahneman's slow and fast thinking are relevant to each of these choices. Each choice also involves the polarity of consideration and compassion.

The First Choice: Denial or Disillusionment

The first choice is to do nothing and avoid making a tough decision. We won't even engage a polarity analysis when considering this option. This choice, like that made in many countries during the first months of the COVID-19 virus, is filled with denial and underestimation of virus impact. It is a form of freezing—which was the behavior our ancient ancestors learned to engage as one of the slowest and weakest animals on the African Savannah (Sapolsky, 1998). If we remain still and don't move, then maybe the threatening entity (lion or virus) will somehow go away. It seems that we are also very slow and very weak when it comes to somehow escaping or fighting the virus. However, unlike the lion on the Savannah that might overlook us or lose interest in us if we remain frozen, the COVID-19 virus knew where we were and has no intention of leaving us alone. The same will undoubtedly be the case with any future viruses.

Living in the world of 21st Century realities, freeze can take on several different forms. We might simply remain at home, escaping into reality TV, watching the televised replay of some sporting event, or getting absorbed in a warm and soothing "escapist" novel. Alternatively, as one of my colleagues in China reports, we can become disillusioned with what is happening (or not happening) in the world: "In the past [2020] we tried one of the other options and found it useless or found that no one else was dancing to the same tune. Why should I do anything, when no one else seems to be doing the right thing? Why trust my government, when they botched it with COVID-19."

This choice is what Dr. Michael Osterholm (2020) of the University of Minnesota calls the *Fool's Position*. It requires massive denial of the reality we now face—or it requires a pervasive sense of helplessness. This denial and helplessness, in turn, yield not only dysfunctional public policy and dangerous collective action, but also disillusionment. They are also key ingredients in the formula for a toxic brew of stress, depression and illness. In sum, freezing leads to horrible health and societal outcomes since individual and collective freezing produces highly stressed physical and societal systems.

The Second Choice: Doing the "Right" Thing

The second choice is to engage in fast thinking by embracing the basic assumption about being "good". We are compassionate. We are caring. At one level, this basic assumption makes great evolutionary sense. As human beings we have been able to survive not because we are fast or strong – or even because we are smart. It is because we care about one another. We are saturated with a chemical called oxytocin that pulls us toward bonding and nurturance. It makes us feel good when we help other people and makes us feel horrible when we sit back and watch other people suffer. The triggering of oxytocin requires none of the systemic and often counter-intuitive thinking espoused by Forrester and his system dynamic colleagues. Why create a computer-based model when everyone around us is crying for help.

We do what we immediately know is proper. We win approval from our family, friends, and fellow citizens (and win elections). Perhaps of greatest importance is our own self-approval. We do the "right" and "decent" thing—based on what the media and our chosen political leaders encourage us to do. In 2020, we made sure our masks were in place and we remained at an

appropriate distance from other people when going to the supermarket. We were the perfect NPIers. Other people at the supermarket nodded their appreciation for the sensitive way in which we were looking after their welfare. There were wonderful short-term benefits for us—but these NPI actions are not necessarily something that leads to long term systemic benefit for our society.

We are wonderful people—but we might die during the coming year along with those who admire us. Our actions may lead to unanticipated outcomes. Perhaps we should remain frozen—so that we do no harm (Bergquist, 2020b). This might be what my Chinese colleague described as the state of wide-spread disillusionment in her own country. The system is not responding like it should to our generous actions. We are kind, but the virus is persistent. As an experienced clinical psychologist, my Chinese colleague warns that this might be an inevitable stage in the psychological reaction to pandemics. I wonder if her reflections on reactions in Chinese are applicable elsewhere in the world (including the United States).

If we wish to avoid disillusionment, then we might try hope. We can fast think by hoping that a cure or source of prevention will come soon when the next pandemic arrives. Hope is certainly a good thing—we know that hope can be healing. Furthermore, hope might be warranted. Scientists achieved miraculous results in 2020 concerning the production of vaccines. Cures were on the way within one year. Perhaps we will only have to hunker down and engage in proper social behavior when the next pandemic arrives.

Is this a viable choice? Can we rely on hope and optimistic anticipation as a public policy? Our COVID-19 enemy has been agile and widely present. It has not easily succumbed to human intervention and is too widely distributed to prevent re-occurring outbreaks in remote regions of the world (where the preventative or curative measures are not present). This could happen in the case of any future virus. There are likely to be repeated struggles with containment throughout the world. The epidemiologists of 2020 might be right: there could be a very long-term, drawn out struggles against future viruses. We must be engaged in painfully realistic assessments of future viruses.

The Third Choice: Humane or Defiant Herding

The third personal choice leads us directly to this painful assessment. We become considerate realists. Like the second choice, fast thinking takes place when we make the third choice. This leads to the absolute abandonment of any individual behavior related to recommended social behavior. "Why bother with social distancing and other preventative actions when they don't really make much difference in the long term." We abandon all compassion and sense of collective responsibility. We turn away from NPI and any recognition that recommended norms regarding social behavior can be managed in a humane manner. We could blend consideration with a pinch of compassion by support a public policy that allocates caring resources to those many citizens who must become infected in order to gain immunity. Instead of focusing on testing and contact tracing or sitting around hoping for a cure, we wait out the eventual global immunization (as happened with many other illnesses and pandemics in the past, such as the Spanish Flu in 1918).

At its extreme, we redirect our primary attention and resources away from the discovery of new curative drugs and preventative inoculations. We personally become more focused on the reinforcement of existing health care services. Those who are infected should receive the best possible care. We are hunkering down in a different way from that involved with the second choice. Put simply, we turn with this third choice to the caring and thoughtful treatment of those who are suffering and most afflicted. We become the good Samaritans through our thoughts and actions. In the long run, it is a choice that is just as compassionate as the second choice. In the short run, however, the outcomes of our car can be quite brutal. Many people about whom we care will die. This can lead us individually and collectively to a polarity response--a swinging back to the second choice or to a freezing in place (choice one).

This third choice requires that each of us make hard decisions regarding who we think should and who should not receive the caring attention. Important questions arise. What about racial minorities? What about those who are poor or incarcerated? Do we ignore those involved in occupations requiring close contact with other people—such as those in the meat-packing industry or restaurants? And what about the health care workers themselves? Who do we save and who do we lose? Who makes the decisions, or does no one take responsibility for the horrible choices that must be made? We could end up with a Darwinian survival of the fittest scenario.

It becomes even more troubling. While Darwinian survival could be with us for a lengthy period of time, there is a potential reality from which most (if not all) of us will want to escape. It is not at all clear that we would eventually win the battle against the virus. Globalization gives the virus an edge in its capacity to spread quickly (Christakis, 2020, p. 298). While we gain an edge with our advanced medical expertise and knowledge about human behavior (the NPI factor), the virus can counter with many mutations that are frequently manufactured (Christakis, 2020, p. 307). At best, there might be a standoff, with the virus becoming something like a very nasty cold. We would end up in a lingering "cold war" (to offer a horrible pun).

This is a "nice try" but a feeble attempt at Hope. It is likely that the virus will produce much more than sniffles—it will continue to kill many people. Christakis (2020, p. 297-298) forces us to consider the cold reality of potential defeat or at least our engagement in a never-ending war:

> . . . it is not clear why human beings should be favored to win against microbes in an evolutionary arms race. Microbes have been around a lot longer than humans, are more numerous, do not mind dying, and can mutate rapidly, evading our defenses. . . . While we can use our wits to win, perhaps against a pathogen causing a particular outbreak, and while we can occasionally eliminate a pathogen . . . it is extremely doubtful we can win against all pathogens. Infectious disease care and control seem more realistic objectives than eradication.

Thus, even with equitable policies in place, we have to prepare ourselves (with this second choice) for the ongoing death of many people—including those we love. A major role might have to be played by religious institutions and other faith-based communities—as we seek to find some purpose or meaning in the afflictions that will become rampant with the next pandemic. We would have to allow our public policies and our careful consideration of the long-term outcomes of a social distancing policy to temper (and sadly often replace) our personal compassion.

Our grieving and sense of guilt could overwhelm us as we engage in an unwinnable war—must as we have done many times in our history when engaged in physical warfare. As I already noted, we might be propelled back individually and collectively to the second choice when faced with these prospects and the associated deeply felt emotions. Polarity vacillation could replace consistent

consideration and compassion. We would certainly be tempted to refreeze (and turn to the first choice). We would become disillusioned like my very caring colleague in China observed.

Fight, Flight or Freeze: Perhaps the Only Options

Before leaving this third choice, we must acknowledge that it gets much more complex. There is another way in which the third choice can play out. It might not just be a matter of thoughtful and compassionate treatment of those who are afflicted. It might also be a matter of actively challenging widely held beliefs regarding the virus and social NPI policies. We might engage the fight. This is an important variant on the third choice. Like the engagement in humane treatment, this variant eliminates the freeze and moves us to action. As occurred in many countries during the COVID-19 pandemic, we become defiant protestors. Our oxytocin-based yearning for nurturance and bonding is replaced by our adrenaline-based push toward fight. If this doesn't work, then we are pushed toward flight and a sense of profound powerlessness and alienation.

Fight occurs when we demonstrate outside the offices of our elected leaders. We prepare signs that say: "giving me liberty or give me death!" We produce You Tube videos that question the validity of a social distancing policy. "What are the real intentions driving this policy?" "Who started it out? Was this pandemic embedded in a plot hatched by government officials in some enemy country that was intended to destroy us? Were some major corporate leaders producing the virus in order to make money by creating the vaccine to defeat this virus?" "I want to know what is really happening!"

In many ways, these defiant actions are really a form of flight rather than fight. We are scared and run away to a world that is not based in reality. In declaring that the next pandemic is something of a conspiracy that benefits political leaders or the medical establishment, we flee from the scene of the actual infection to a scene that is less immediate but ultimately more fearful. We shift attention from health and medicine to politics and business practices. At the very least, we declare that social distancing policies (or other changes in recommended social behavior) violates our individual freedom. This freedom, in turn, is not based in reality, for freedom without shared responsibility is nothing more than anarchy.

If we can't win a fight and if flight leads us to a world that doesn't exist, then the only real option is freeze. Without the viable option of confronting the virus with either fight or flight, we are left to remain still and quiet—like the rodents living on the African Savannah. Weak and small, when faced with the virus, we refuse to do anything different from what we have always done. We give up and just wait things out. We declare that we are free to do nothing. But this isn't freedom—it is helpless freeze. Unlike the rodent, who unfreezes after several moments and shakes off the adrenaline that has been coursing through its body, we humans remain in freeze for a long period of time and rarely shake off the freeze once we are unfrozen. The tragic (and ironic) outcome of sustained freeze is that our body is stressed and increasingly vulnerable to many different disease entities –including viruses. Thus, by doing nothing, we are, in fact, doing something: we are exposing our body to the virus that threatens us. We are inviting the Lion to enjoy us for lunch.

These fight, flight and freeze variants on the third choice are clearly represented in the work down during 2020 by two Southern California physicians. They posted several You Tube videos that created major controversy—noting that many deaths reportedly caused by COVID-19 were attributable in fact to other causes (such as heart disease). They suggested that the reasons people who are infected with the virus die can often be traced back to poor lifelong health habits (such as smoking and obesity). These physicians proposed that the virus only accelerates a decline in health that has already taking place. Hospitals, according to these two physicians, were being encouraged (perhaps even forced) to ascribe the death to COVID-19. As is the case with the herd immunization advocates, these physicians declared that social distancing was only delaying the inevitable.

Will similarly credentialed health care "experts" show up on social media when the next pandemic strikes? They might very well be effective, for our two Southern California physicians have brought together all three variants. They are fighting against the COVID-19 experts who they believe are nothing more than liars and opportunists. Flight is also involved, for those of us who read their statement can escape to this new reality—believing that the virus is nothing more than a blip on the health care radar. And freeze is engaged when we do nothing but sit back after reading the social media post. We wait for the various Lions (competing experts) to fight it out rather than eat us—without acknowledging that these experts aren't the real Lions. The virus is

waiting in the bushes to attack us when we become more vulnerable. Our two physicians are correct in noting that COVIDF-19 is aided by our existing physical (and mental) conditions.

The story gets even more interesting and complex. The challenging perspectives these physicians offer led to their You Tube presentations being shut down by the You Tube staff. Was this decision by You Tube appropriate and justifiable? Most of us (who are not radical social libertarians) would agree that there should be screening of inaccurate or inappropriate content (such as pornography) or blatantly inaccurate information. However, should the observations made by these two physicians be considered inappropriate? Do we know that what they declared is inaccurate? What should be the policy regarding future challenging presentations regarding a pandemic?

As one might imagine, uproar about this "censorship" was widespread and passionate. Fight was soon engaged by many people. As one of those commenting on the censorship declared: "If you stomp on our freedom—that has one ending and its violence. Spoken like a true American!" At the very least, the actions taken by You Tube speak to the major challenge of establishing an open forum for the discussion of various options. What should we make of these variants on the third choice? Don't we want a forum that welcomes the sharing of diverse perspectives regarding something as complex as a global pandemic? Do we instead wish to continue fighting against these inaccuracies? Instead of the forum do we flee from the disturbing reality ("these are quacks who will soon be ignored")? We can always just freeze in place ("there is nothing to be done—we are helpless and ignorant consumers of misinformation"). Forums are hard to convene when the anxiety of COVID-19 compels us to fight, flight or freeze.

On the one hand, those declaring "give me freedom or give me death" may be opening the door for deadly misinformation. They actually may be choosing their own death (from the infection). At the very least, they may be endangering the lives of other people and adding greater stress to the health care system by sharing or accepting misinformation. They are declaring their own freedom—but are constraining the freedom of other people in our society. On the other hand, we are remaking a fragile democratic society if we block out all discourse about the validity of specific pandemic policies. The compelling tendency to fight against, flee from or freeze in the face of misinformation and inconsiderate (non-NPI) social behavior may lead us to a society

without the fourth "F" – which is freedom. Fight, flight and freeze not only make forums difficult to convene. they also lead us to the creation of a society without freedom. This is a society in which very few of us wish to live.

The polarity has been fully and passionately engaged with the presence of these three variants on the third choice. Fight, flight and freeze may win the day—and help viruses eventually win the war. In the future, how do we make the management of the polarity between compassion and consideration into a constructive act that yields a viable social policy regarding a pandemic virus? We need an open forum for system-based, slow thinking dialogue—a forum leading potentially away from fight, flight and freeze to the identification of a fourth choice.

The Fourth Choice: Integrating Consideration and Compassion

There is a fourth choice. We become realistic about the spread of future viruses and the interplay between induced immunity (via vaccines) and natural immunization (a variant on herd immunity). This considered acceptance of reality is coupled with the compassionate enforcement of strong social behavioral practices (NPI) and with the development and efficient (and equitable) distribution of effective vaccines. This choice requires that we are quite thoughtful in formulating policy. Can we construct a set of contingency plans that account for (but don't rely on) the potential of curative or preventative breakthroughs in response to the variants in pandemic viruses we are likely to encounter? Slow and systemic thinking must be in place for this fourth option to be engaged successfully. This will not be an easy journey. It requires that we become rational and caring citizens despite the fact that we will be quite anxious and prone to disillusionment and the uncritical acceptance of misinformation. We must become fully acquainted with the habits of our Lion (virus) rather than engaging in fight, flight or freeze. After all, we are among the smartest (considerate) and most caring (compassionate) animals on the Savannah. This is our adaptive advantage—let's make use of this advantage.

From the perspective of this fourth choice, the best pathway requires that we bring about the integration of compassion and consideration—rather than these values and accompanying perspectives being framed as a non-reconcilable polarity. This fourth choice requires that social distancing (and other preventative actions) are consistently engaged. We need to learn from what did and did not work in various society during 2020 regarding NPI social behavior policies. The

(at least temporary) acceptance of the social distancing policy (the upper left side of the polarity map) will only be effective if it can be applied in a flexible and adaptive manner without a polarizing vacillation between this policy and the herd policy (the upper right side of the polarity map). The fourth choice also requires effective and widely accessible testing and a labor-intensive contact tracing system.

At the present time, the continuing engagement of NPI in the future probably makes sense. A strict herd immunization policy does not make sense—for several reasons. First, we have not acquired sufficiently valid and useful information to make the critical decisions in the future regarding vulnerability. Who is most likely to live and who is most likely to die? The epidemiologists now know more than they did prior to 2020—but the information still isn't complete. Second, many of us lack confidence that any governmental (or nongovernmental) institution can fairly handle such a difficult decision-making process (operating without prejudice or vested interests). Third, in 2020, we painfully discovered in most countries that there are not an adequate number of health workers, nor adequate facilities, to handle a significant increase in hospital admissions. It is unlikely that most governments in the future will be able to fund these operations at a sufficient level.

It is only when there is valid information, trust in government, and adequate health resources that a NPI policy can be abandoned –even temporarily. At the point where conditions are satisfactory, then we will probably be positioned to adjust this policy. Writing in the midst of the COVID-19 outbreak, Howe (2020, p. K4) relied on the expertise of the epidemiologists when he suggests that "once more wide-spread testing is in place and hospitals have the resources they need to treat COVID-19 patients, then we could switch gears and allow for more exposure than we are allowing now." This perspective is probably appropriate when we face future pandemic challenges.

We can turn even closer to the source of epidemiological expertise--the aforementioned Dr. Michael Osterholm (2020). As one of the experts who engaged in slow, systemic thinking when considering the best way to address the COVID-19 virus, Osterholm moves well beyond the domain of medicine and virology. He suggests that the fundamental question be framed as follows: *How do we maintain (preserve) our society*? Along with many other epidemiologists, he

came to the sobering conclusion that ultimately between 60 and 70% of the people in the world will have to be inoculated or infected. They will either become immunity to the virus or pass away. Furthermore, we will be facing the challenge of COVID-19 (and other viruses in the future) for many months (or even years). If Osterholm is correct, then viruses will become a lingering factor in all societies, erupting in one community after another and bringing about social and economic disruption wherever it erupts.

Osterholm is not alone. Many other medical and epidemiological experts have joined him in declaring that this will be a war not a battle. Just as American (and other nation's) armed forces have been in Afghanistan for many years, so we must acknowledge that the COVID-19 virus –and many future pandemic viruses—are strong and persistent enemies that will not easily be defeated. For us to somehow bear the weight of these long-term healthcare war, Osterholm insists that we engage universal (or near universal) testing and tracking procedures that yield high quality (valid) results. The medical leaders in all societies need to know how to use high-quality testing procedure and must steer clear of either inequitable distribution of these tests or use inferior tests that yield invalid results. A systems-based contact tracing process must be engaged.

Appropriate NPI behavior is required. We now know that the COVD-19 virus can (and will) mutate. This virus (and future ones) learns how to adapt to the human organism. Our enemy is fleet of foot and capable of change. However, we do have a defense against the virus to which it cannot adapt. We can be just as fleet of foot and capable of change as the virus. This adaptive defense is our modification of social behavior. The virus can't move from person to person if the second person isn't nearby or if the second person is protected with an effective, "leak-proof" mask. If we are staying at home, then the virus would have to knock on our front door—and we don't have to let it enter. The virus can't swirl around an unmasked crowd if this crowd is never convened.

With good and fair testing and tracing procedures engaged throughout the world and with appropriate social behavior in place, leaders of our global communities can make difficult but informed decisions about where to allocate resources and can determine which sub-populations in particular need to be protected and sheltered. It is only when effective testing protocols, tracing procedures and social distancing policies are fully in place that we can selectively answer

the short-term question: how and when do we "open up"? And it is only at the point when we have valid and useful information that we can answer the related question: to whom and how should we be directing often scarce medical resources when a new pandemic virus begins to spread worldwide?

As a slow, thoughtful analyst, Osterholm envisions a systems-based approach to addressing the COVID-19 crisis. He declares that this approach will only be effective if several other foundational elements are in place. These elements are required for societies around the world to survive. First, health care workers must be fully protected with fully available and functioning protective equipment. This means that greater attention needs to be given to and higher priority assigned to the task of producing (and stockpiling) this equipment.

Second, the health care systems they serve must not be overwhelmed—which means that communities must periodically issue stay-at-home orders. The question of opening up will be answered differently from one community to the next, with the answer changing from month to month, depending on up-to-date testing data and results of ongoing contact tracing that can be accessed by members of this community. Long-term, health care resources must be greatly increased (and held in reserve) so that health care systems are not readily overwhelmed.

Osterholm offers a third foundational element which is much more psychological in nature. He believes that a carefully crafted and implemented realistic pandemic-response policy will only work if those in a position of leadership communicate in a way that is not only knowledgeable but also comforting. Osterholm points back to the "fireside chats" that Franklyn Roosevelt brought to the American people during the high-stress periods of World War II. What would a digitally mediated fireside chat look like in the mid-21st Century? Who would deliver this chat? Would it be delivered by a different respected leader in each nation or is there some global leader who has credibility in virtually all countries? Is the world sufficiently "flat" (Friedman, 2005) that a truthful yet reassuring message can be delivered in a universally compelling manner by a globally-acknowledge person of wisdom and integrity?

Collaborative Creation of the Future

While I agree with Osterholm regarding the need for competent and well-intended leaders who offer fireside chats (or the 21st Century equivalent), I think another foundational element must be in place if we are to successfully negotiate long-running pandemic wars while preserving our global societies. We need collective processes of wisdom and integrity that lead to the identification of benefits from both sides of the polarity. There must be both caring compassion and thoughtful consideration that goes well beyond the head or heart of an individual leader. Ultimately, I would suggest that it is about *trust* in leadership along with trust in collective wisdom and integrity. Furthermore, whether one is focusing on the actions taken by one person in a leadership position or many people operating in a collaborative manner, it is about trust in competence (consideration) along with trust in intentions (compassion) (Bergquist, Betwee and Meuel, 1995). Effective leadership coupled with effective collaborative action is a tall order—but it is essential if our global society is to successfully combat future pandemic invasions.

Social Constructive Dialogue

I would go even farther. Something even more fundamental must be in place—and this additional condition is truly psychological in nature. We must do something more than slow down our thinking and be both considerate and compassionate. We must collectively engage in extended, constructive conversations about policies and policies related to future pandemic challenges and to what Osterholm suggests is fundamental: how do we maintain (preserve) our society? These conversations must include members of our communities with diverse perspectives and expertise. Ultimately, we must engage an even broader, global set of communities—so that the conversation is truly "flat" and global. It is only in this format that we can successfully confront a virus that is itself beholding to a world that is becoming "flat."

When this global forum has been convened, we must engage in what Ken and Mary Gergen (2004) describe as social constructive dialogue. This dialogue is required if we are to create a shared narrative (social construction) filled with both reality and hope—with both consideration and compassion. We cannot rely on our individual leaders to solve the virus problems. This would be nothing more than regression to an old (and highly authoritarian) reliance on other people to solve our collective problems. We must avoid other people constructing our collective narrative about the cause and cure of COVID-19 (and other future pandemics). The social construction of a dominant collective narrative that is valid (consideration) and hopeful (compassion) requires that

we not leave either the policy formulation or the narrative construction to the designated leaders. We must participate (and encourage our leaders to join us) in the engagement of a polarity-based analysis of not just the various options available to us in coping with the continuing crisis of COVID-19, but also new options available to us in addressing future pandemic challenges.

The Nature of Collaboration: Together and Apart

The challenge of convening a collaborative forum takes on an additional dimension in our COVID-19 saturated world. The challenge resides at the very heart of who we are as caring and collaborating people. The virus has pulled us and our societies in two directions. It has driven us both toward one another and away from one another. A successful convening of policy forums must address this bifurcation. I offer a brief description of this bifurcation, and turn to Robert Sommers, a keen observer of social behavior, as well as Nicholas Christakis, our often-cited physician and sociologist, for insights regarding the tendency of people under conditions of stress and anxiety (brought about by some threatening entity such as COVID-19) to move toward or move away from other people.

Sommers (1969) used the term *Sociofugal* to describe social spaces that pull us apart. I would suggest that the virus has created *sociofugal* conditions in many societies. Christakis (2020, Chapter 5) proposes that the anxiety indued by COVID-19 leads us to become suspicious of people who in some way threaten us with disease or social unrest. The "others" in our life leave us alone and fearful—in a state that Christakis (2020, pp. 143-144) equates to mass-hysteria (such as what occurred with the Salem witch-trial). For Christakis, this fear of the "other" relates directly to the anxiety-induced processes of psychogenesis that I identified earlier. When we are fearful and anxious, then we are more vulnerable to disease. And when we are vulnerable to disease, we are likely to be more fearful of other people and are likely to restrict our interaction with other people. As we pull away (taking a sociofugal stance), then we are likely to become even more fearful and we subsequently seek out less interpersonal support. This, in turn, makes us even more vulnerable. We are suddenly trying to survive midst a perfect storm of anxiety, disease and interpersonal isolation.

Conversely, Christakis suggests that the COBID-19 virus has drawn us together. This condition would seem to align with Sommer's description of *Sociopetal* space that encourages interactions

and joint collaborations among members of a community. As Christakis (2020, p. 211) notes: "love and connection can make suffering more bearable". We take care of one another not only to heal the other person but also to heal ourselves. We wear masks not primarily to help ourselves, but instead to help one another. As Christakis (2020, p. 216) notes, it took us a while to recognize that we want to assist other people as a way of assisting ourselves. Apparently the virus has taught us that we can be caring and compassion beings. Our nurturing oxytocin might be kicking in and motivating us to confront the virus from the health-producing perspective of sociopetal caring. Psychogenesis can be a two-way street: our psyche can either help or hurt the processes of protection and healing in our life. We can run away or hang around to be of assistance to one another and our self.

Conclusion: A Compelling Image of the Future

As Osterholm has noted, the core question is: How do we preserve our societies around the world while addressing the virus challenges? As compassionate and considerate people, we can address this core question. As people who are drawn toward a sociopetal stance of collaboration, we are motivated and positioned to take on the challenge of constructive dialogue. In taking this optimistic stance, I would offer a second, even more ambitious version of Osterholm's core question. We might pose the following question: *What is a compelling image of the future for each of our societies that should emerge from the COVID-19 crisis*? This version of the key question arises from the work of Fred Polak (1973) who proposed many years ago that a viable society must always hold in mind (and heart) a compelling image of its own future –a future to which members of society are willing to commit their talent, wisdom and energy in a sustained manner.

To address this bigger question, we must invite people with multiple perspective to the narrative-constructing and decision-making table. It is only through the sharing of diverse visions and ideas that we can build a compelling—yet realistic—image of the post COVID-19 future. We should listen to our learned colleagues, like Drs. Osterholm and Christakis, who are engaged in epidemiological modeling of the virus's behavior, documentation of the way we have responded to the virus, and identification of policies that are required to successfully confront the virus. It is critical that we hear and appreciate their "inconvenient truths." We must respect the way in which multi-tiered data can be processed and interpreted as a dynamic system. The contemporary system dynamics inheritors of Jay Forrester's and Donella Meadow's wisdom might lend a hand.

I propose that this is not enough if we are to address this broader question about our collective future. We should recognize that the epidemiologists and system modelers do not have all the answers. Christakis (2020, Chapter 7) notes that COVID-19 has had an impact that spreads far beyond the domain of medicine. We should bring many other people to the table—including ethicists, historians, economists, and sociologists. This virus has taught us about our environment. It has forced us to notice what happens when humans aren't pumping quite as many fumes into the air. The virus has also encouraged us to learn about home cooking and sanitization. We are learning how to be more comfortable in disclosing the status of our health and we have gained greater appreciation for the important role played by many "essential" workers who we previously ignored. Perhaps most importantly, the virus is teaching us about the very nature and existence of mortality. These are lessons that extend far beyond medicine and human body.

If we are to successful in not just formulating a compelling vision of the future, but also implementing this collective vision then we need yet another set of experts at the table. Communication experts are needed who know how to help leaders conduct fireside chats in a considerate and compassion manner. We should knock on the door of religious leaders to help us make sense of a God who both gives and takes—and to help us find the best way in which to wed our secular and sacred perspectives, concerns and future actions as they relate to future pandemic viruses. Perhaps, an invitation should be extended to psychologists and behavioral economists. They do know something about human decision-making (at its best and at its worst), as well as the ways in which we, as human beings, change our perspectives and practices. As experts on the dynamics of groups and teams under conditions of intense anxiety, human relations experts and consultants might help design and facilitate dialogues occurring at the table.

Together, we might be able to create an image of the future that is both realistic and compelling. This would be an image that is saturated with both consideration and compassion. We hold the opportunity in our hands to create such an image of the future for all societies in our world. We can create this image in anticipation of future pandemics while addressing the more immediate lingering COVID-19 challenges. With this compelling image in place, we might be able to not only preserve our global societies, but also enrich them.

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