



COVID-19: A SALUTARY EXPERIENCE OF VUCA

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After 6 months, with second phase outbreaks occurring around the world, and 'no end in sight'¹, it is timely to reflect on some aspects of the current pandemic from a systems and complexity perspective.

VUCA

First appearing in late 1980s as part of the US military's learning curriculum², the acronym VUCA describing volatile, uncertain, complex and ambiguous situations, has diffused widely into almost ubiquitous usage. At the beginning of March this year, Forbes magazine featured an article asserting the appropriateness of using VUCA to describe Coronavirus or COVID-19³. Now, with the passage of time, the experience of COVID-19 has made VUCA a visceral reality for almost everyone.

Outbreak of COVID-19

First reported in China on the 31st December 2019, and subsequently declared a public health emergency one month later, as of 1st August, there have been almost 688k recorded deaths from more than 17.5M cases of COVID-19 worldwide⁴, and despite variations in improvement, the World Health Organisation (WHO) have asserted that globally, the situation 'is worsening'⁵ and the pandemic 'continues to accelerate'⁶. Clearly, the emergence of COVID-19 has created volatility everywhere, there is uncertainty about what to do and what comes next, responding to it is complex and our understanding is clouded in ambiguity and lack of understanding. Clearly, VUCA is an excellent way of describing both our collective as well as individual experience.

Located on a spectrum from a 'once-in-a-century pathogen'⁷ to something that was 'highly likely' last year⁸, the outbreak of COVID-19 has been called everything from a Black Swan event⁹ to a White Swan event¹⁰, and even a Black Elephant event¹¹. To boot, Nasim Nicholas Taleb, the author who popularised the notion of Black Swan events told Bloomberg in March that it was not a Black Swan event. Obviously, one's perspective on these types of events is critical; one that importantly turns on the extent to which they were predictable, which in turn rests on understanding. And that is where it begins to get very interesting from a systems and complexity perspective.



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The Economy

According to the June Economic Outlook from the OECD, the world economy is on a tightrope as it faces a drop in GDP of 7.5%¹². However, this is not evenly distributed. Korea at one end of the spectrum is facing a drop of just over 1% whilst Spain at the other end is looking at a drop of more than 11%. Against this, around the world unemployment is growing, public debt is expected to soar and according to the United Nations, for the first time in 30 years globally the number of people in poverty could grow by as much as half a billion¹³. Simultaneously, it has been reported that in the US alone, the wealth of billionaires has grown by 21.5% or \$637M in 12 weeks since March¹⁴. Illustrative of extremes, these figures are consistent with research into the relationships between 43,000 transnational companies that identified the 1% of companies that control 40% of the wealth in the network¹⁵.

Clearly the economic impact is not evenly distributed, and neither is the related economic power. So, it is difficult to establish any overall measure of economic impact without forming assumptions and making decisions that are necessarily constrained by choices about where, and on what, to focus.

The Environment

The environmental impacts of COVID-19 have been equally varied. On the one hand, the various reductions in travel have reduced emissions¹⁶ and both NASA and the European Space Agency have observed improved air quality around the world¹⁷. Importantly however, these portents of favourable ecological news are largely correlated with other anthropogenic factors, heavily influenced by our collective response to COVID-19. This is anecdotally well illustrated in Hong Kong, where two giant pandas have allegedly mated for the first time in 10 years due to the increased privacy experienced as a result of the lockdown.

In contrast to the alleviatory effects placed on the environment by our collective response to COVID-19, there are other less obvious factors, that impact the human-environment interface; of which COVID-19 is an exemplar. Research has strongly indicated for some time that the emergence of diseases is driven by changes in land use, the expansion of agriculture, travel and trade¹⁸. At this boundary, so-called zoonotic diseases emerge; and according to the Global Virome Project, there are ~1.67M yet to be discovered zoonotic families¹⁹. This is critical for humans because approximately 80% of viruses and 50% of bacteria are zoonotic in origin²⁰. Clearly, COVID-19 is not an isolated event, and the boundary created by our expanding ecological footprint is a driving a range of risks that for some, like UN Environment Chief Inger Andersen represent a 'clear warning shot' for a civilisation 'playing with fire'²¹.

The zoonotic interface has been known about for a long time and the increasing number of Emerging Infectious Diseases (EIDs) across that boundary is problematic²². Although, influenced by one's worldview and personal perspective on the interaction between human development and the environment, we are likely, as one anthropologist claims, 'at the cusp of this new age of the Anthropocene'²³. Quite specifically, urbanisation is identified as a key driver of the dynamics that occur at the interface of wildlife, livestock and human beings²⁴.

Although zoonotic diseases have been present for a millennia, they constitute 'the greatest burden on human health and livelihood'²⁵. Moreover, they fundamentally challenge the popular notion that "the environment" is external to human and social activity. The emergence and subsequent spread of COVID-19 is another reminder that we live in a highly interconnected system of 'ecological, evolutionary, social, economic, and epidemiological mechanisms'²⁵ where, although somewhat arbitrary, decisions regarding boundaries are critical.

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Casualties

COVID-19 kills people, and so too do other causes, on a quite staggering scale. Of the 150,000 people who die each day around the world, just under 49k die of cardiovascular diseases, about 26k die of cancer and about 17k people die of respiratory related diseases²⁶. In contrast global daily deaths from COVID-19 are ranging between 3k and 6k²⁷.

In Australia, we've had 200 deaths from 17,282 COVID-19 cases²⁸, and that contrasts with 902 deaths from influenza in 2019 from more than 312k reported cases²⁹. Whilst concurrent outbreaks of COVID-19 and influenza outbreaks would present a massive health challenge, an interesting pattern has emerged since lockdowns commenced, namely that there has been a remarkable reduction in influenza cases and deaths. In Australia, deaths from the flu have dropped to just 36 in contrast to 430 the same time last year³⁰. Surely, an unintended consequence due largely, as Professor Barr Director of the WHO Collaborating Centre for Reference and Research on Influenza says to social distancing measures.

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Information

Another phenomenon associated with the pandemic has been what could be called mis, dis or conflicting information³¹. Information flows are critical elements within any system, and COVID-19 is no exception. Social media has influenced what people know and what they think they know, and the variability of information begets issues of trust, extreme polarisation of positions and ultimately problematic behaviour ranging from hoarding to xenophobia. The WHO have even partnered with national governments to mount joint campaigns targeted at raising awareness of misinformation³². As reported in Scientific American, the problem with misinformation is that the consequential lack of trust undermines people's ability to accept valid information³². Further to this, it is even asserted that social media has been used intentionally by state-based actors for strategic gain in the wider geopolitical environment³³. Information is therefore not an objective thing but something with multiple meanings that is disseminated and consumed according to multiple purposes.

Supply Chains

Closely associated with the closure of borders (both international and domestic), supply chains have been progressively disrupted and discussions of resilience and assurance have been juxtaposed against those of efficiency and integration. Perceptions and opinions are premised upon different perspectives, conflicting purposes, and uncertainty about where to draw the boundaries of both procurement and risk management. Procurement teams in all sectors have struggled with interrupted supply, variable information flows and the challenges of remapping supply networks in such a volatile environment. These difficulties have exposed a range of paradigms associated with supply chain management most notably the lowest cost within given quality parameters. Importantly, the treatment of risk has emerged as a key consideration. And that is where the whole experience gets very interesting, because predictability rests on understanding, and understanding always occurs within a given domain or area of concern. For many, the outbreak of COVID-19 was unexpected, for others, however, it was entirely anticipated. Since 2005, there have been numerous scientific articles specifically addressing the link between bats and coronavirus, even specifically in China⁸.

Global Connectedness

Anecdotally, the world is more interconnected than at any other time in history, and this is validated by the DHL Global Connectedness Index that measures exports and imports across 140 countries, accounting for 99 percent of the world's GDP³⁴. According to the International Air Transport Association (IATA),

almost 4.72 Billion passengers were expected to fly internationally in 2020³⁵, which, as observed by Dan Reed of Forbes magazine, is almost 50% of the world's population³⁶. Obviously COVID-19 is expected to significantly impact the volume and economic value of this activity. However, the fact remains, that human travel and the subsequent physical interconnectedness provides a conduit for the global and widespread transmission of disease, with the correlated borders closures recognised as being a critical step in Australia's initial response to the pandemic³⁷. Paradoxically, although the closure of the international border proved a good control measure against the importation of COVID-19³⁷, it is also responsible for the massive reduction in international students and revenue to Australian universities.

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Conclusion

COVID-19 presents us with complexity related challenges that draw attention to a range of issues including boundaries, interconnectedness, emergence and unintended consequences.

Boundaries are evident between human society and wildlife, between countries and states as well as between individuals and within groups. Where and how we establish those boundaries significantly determines the scope and scale of our concern as well as the nature of our agency and the process of our necessary adaptation and intervening responses. Inter-connectedness is evident in terms of travel, information flows and supply chains; internationally, domestically and locally. The dynamics of this inter-connectedness is a critical determinant of adaptation, resilience and ultimately viability. Emergence is a defining attribute of complex systems, and one of the central dynamics associated with COVID-19. Notwithstanding the predictability or otherwise of the outbreak, emergent phenomena include the variability of economic impacts and patterns of social disruption, the diversity of people's behaviour and the restructuring of business operations to fill holes in supply chains and meet changed procurement requirements. A range of unintended consequences has underscored the complexity of the pandemic. From unexpected positive ecological indicators to changed patterns of mortality from influenza, and from wealth redistribution to changes in the patterns of workplace engagement, the pandemic has already, and will continue to, produced unexpected and unintended consequences. Finally, that these elements are themselves inter-related is also clear in the experience of COVID-19. The boundaries we create simultaneously determine and are determined by the inter-connected issues that emerge and produce consequences, many of which are unintended. We are observers and participants, we act and are acted upon, we appreciate both the known and the unknown.

It therefore appears exceedingly obvious to describe the COVID-19 situation as complex, and yet, doing so may unintentionally obscure a critically important insight. The French post-modern philosopher Jacques Derrida noted that whilst not wanting to over complicate things, 'one should also never simplify or pretend to be sure of such simplicity where there is none' because 'if things were simple, word would have gotten around'³⁸. Echoing this view, the American economist, cognitive psychologist and Nobel Laureate who first proposed the notion of bounded rationality laid it out in clear and simple language when he asserted that 'the elaborate organizations that human beings have constructed in the modern world to carry out the work of production and government can only be understood as machinery for coping with the limits of man's abilities to comprehend and compute in the face of complexity and uncertainty'³⁹. It would appear that complexity is an attribute of life.

In his magisterial treatment of the subject, American philosopher and polymath Nicholas Rescher describes both the modes of complexity in the physical world (ontological) as well as the all-important relationship to the cognitive aspects of its appreciation (epistemological). Noting that there is no generally agreed definition of complexity, he asserts that 'the best overall index we have of a system's complexity is the

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extent to which resources (of time, energy, ingenuity) must be expanded on its cognitive domestication' and that because complexity has both ontological and epistemological aspects, its appreciation 'hinges on the relationship of minds and of things – on the ways in which the former can come to terms with the latter'⁴⁰. Herein lies an important insight, namely that when we're talking about complexity, we're talking about subjective complexity (epistemological) not objective complexity (ontological). Objective complexity is irreducible and unknowable, and our appreciation of, and reaction to, it exposes what Paul Cilliers refers to as the ethics of complexity⁴¹.

As humans we each have our own cognitive or psychological systems that produce the different, sometimes competing, but certainly bounded rationalities that constitute the myriad expressions and diversity of human worldviews. Experiences like COVID-19 can inform our awareness of complexity and highlight the imperative of learning to live with rather than attempt to control complexity. Certainly, as the WHO Secretary General has stated, 'we must all learn to live with the virus'⁴². The choices we make, the ends we peruse and the means we employ all reflect our individual and collective adaptation; echoing novelist Dan Brown's view that 'the decisions of our past are the architects of our present'⁴³. This represents the ethical challenge of complexity and at the same time the complexity of the ethical challenge, in which, human perception, judgement and agency is the critical fulcrum.

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Associate Professor John Bensley is Director Canberra in the QUT Graduate School of Business with expertise in systems thinking, the management of innovation, product management and analytical psychology. John works with other University academics, Graduate School staff and industry professionals, to design, develop and deliver transdisciplinary education programs that meet the specific requirements of post-graduate students as well as a range of corporate and government clients. With more than 30 years management, marketing and operational experience from the mining and telecommunication industries his passion is understanding the determining effect of the human equation within organisations and helping people sense-make in complex environments.



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