DISASTER'S OFFSPRING: CATASTROPHE, NARRATIVE, AND SURVIVAL IN GLOBAL HISTORY

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Displacement drives evolution. This has led to positive results, along with negative ones. Human evolution and global civilization are outcomes of relocation. It is challenging to find optimism in adversity, but, by drawing on perspectives from macro-history, humanity can better develop ideas for adaptation in the face of crisis. Our existence depends on our ability to seek constructive ideas for the future. The effort will necessarily be intricate and flexible. It is a process of individual choices, nuanced by global networking, in an adaptive system of planetary, regional, local and individual transformation. So, in the midst of distress, we can, as thinking beings and a civilization, try to find confidence in regeneration. It will depend on self-confidence and group cooperation as well as creative vision and engagement. The alternative is grim, which argues for further efforts in this process.

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Humanity faces serious crises today. Some of the central issues from which many of these proceed relate to climate, population, and migration. A key symptom of these concerns is often characterized as 'displacement', frequently defined as forced removal, but actually encompassing a wide variety of experiences, not all being involuntary or negative. Displacement engages concepts as diverse as exile, peopling, resettlement, migration, deportation, hegira, expatriation, and colonization.

We see dramatic headlines about political ejection of populations by dominant societies, but others have relocated as a result of natural disasters or have chosen to do so in the search for economic opportunity or by invitation of host societies. Some movements have occurred for a greater good of otherwise homogenous societies, although such efforts are often represented as social conflict. Consideration of the positive prospects of displacement does not diminish the primary need to deal with negative consequences. Optimism often hovers alongside tragic loss.

Contemporary issues of disruptive migrations abound, as for Nagorno-Karabakh in the South Caucasus, the Rohingya on the South / Southeast Asia frontier (Crossman 2014), the Bui hydroelectric project in Ghana (Hausermann 2018), and the Syrian Civil War (Cheung *et al*. 2020). More positive (or at least less tumultuous) movements have taken place when managed by foresighted policy, formal and informal, as with relocations in China (Liao andYip 2018) and the United States (Coxe 2003) or to Russia (Malakhov 2014). Such situations represent current concerns, but they have antecedents.

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In historic times, ethnic groups have been propelled by chain-disruption to sometimes far away locations. Early modern slavery from Africa to the Americas is a particularly notorious example (Lovejoy 2009), but the tribal relocation of the Yuezhi from the steppes of north-west China led to the beneficent founding of the Kushan Empire (Benjamin 2007). A dynamic blended state of 2000 years ago, the Kushans served as a 'centerpoint' linking Roman, Chinese and Indian empires along the Silk Road network (Daniélou 2003: 111).

Further back in time, transplantation was commemorated in migration epics, as with Semitic narratives of the Exodus in the *Torah* and *Qur'an* (Barnau 2018) or in the Tibetan-Nakhi saga, *The Generation and Migration of Humanity* (Qi 2017). In prehistoric times, archaeological, genomic and ecological evidence indicate significant migrations, such as in the peopling of the Americas and Polynesia (Davis *et al*. 2019; Callaway 2018).

As an anthropologist, my concerns address the need to tackle perceptions of displacement and remediate social clichés about social groups, such as ethnic, religious, gender or other bias. These can persist for decades in national histories and community interactions. The remediation of cultural shibboleths is important for societies to move ahead at times of disruption. More particularly, we must focus on the principal disruption facing the world today – the climate crisis and related issues.

To do this, we need to look back at our origins. Humans owe their very existence to climate change. All our ancestors have been refugees at one time or another, if not in the recent past, then in antiquity. By introducing such considerations of deeper time, we can better develop ideas about adaptation in the face of global crisis and displacement.

The Children of Climate Change

As a result of the Pleistocene glaciation that began 2.6 million years ago, a drying climate in East Africa forced our primate ancestors and collateral species out of the safety of woodlands and onto expanding savannahs in search of water and sustenance. Not every population succeeded. Those that adapted, survived, while those that did not, died out. Hominins developed a variety of new strategies for existence in this new grassland biome, from innovative ways to find shelter and nutrition to the invention of new ways to fashion tools. Larger group size was required to forage for food, watch for predators, and care for infants. This increase in numbers led to social tensions and the need to find ways to promote cohesion, so our ancestors also developed cognitive systems of forethought and conflict-management (Magilla *et al*. 2013; Dunbar 1992).

Mammal communities vary in size according to their species. Besides the physical limitations of a species and its habitat, there are also emotional limitations, where even the most gregarious individual feels stress and discomfort. Primates help to solve this problem by physically grooming each other, which stimulates a body's endorphin production. Endorphins are a mild form of opioid – peptide chains of amino acids produced by the nervous system to inhibit pain. Endorphins also promote a sense of well-being (Keverne *et al*. 1989; Clay and de Waal 2014).

As our ancestor's brain size and group size increased, individuals needed to develop more effective techniques to reduce anxiety. Additional endorphin-promoting activities arose among scattered hominin species, such as controlled group fire use, communal

eating, shared amusement, basic speech, music, and dance (Dunbar 2016: 139–178). These strategies are forms of 'social grooming,' as opposed to the physical grooming of other primates. They are activities we take for granted today but were innovative behaviors that are central to what we now think it is *to be human*. Indeed, it has led to a field of study called *proxemics* and its associated specializations (Hall 1966).

Scholars acknowledge the differently timed, scattered and incomplete data for hominin use of fire, foodways, vocalization, music, kinetics, and other forms of social grooming. These strategies had come into use off and on at earlier times, but – what is most important – they began to come together as a *constellation of social behavior* about a half-million years ago among ancestral species leading to modern humans, when shifting climatic conditions in the last series of ice ages forced them into larger groups and varied ecological niches, as they migrated throughout Eurafrasia and Oceania.[1]

Global climatic conditions waxed and waned in the years of cold glacial advance and warm glacial retreat. These ecological fluctuations led to on-going adaptations. Our distant ancestors are seldom credited as inventors and pioneers, but without their harnessing fire for cooking and warmth, chipping rock into tools or selecting seeds for cultivation, we would not be reading these words today. This knowledge involved ideas about house-building, poetry, weaving, childcare, and trail construction that was all communicated in households, village councils and any number of every-day settings – a 'lived experience' that became the *collective knowledge* of humanity, a variable sum-total of what our genus learned over the last million and more years (Baker 2016).

Our ancestors migrated to fill habitable niches all around the globe, along with some not-so-habitable areas, such as small maritime islands and periodically exploited regions of the high Arctic (Fitzpatrick *et al*. 2016; Kealy *et al*. 2020; Sørensen and Gulløv 2012). Humanity became very adept at learning to sustain themselves in new biomes. Their migrations required a constant process of adaptation in both technology and behavior.

One of the more significant climate changes began about 8000 years ago, as aridification dried grasslands into deserts – an event called 'The Great Drying'. Small clusters of people were able to survive on these barren lands, but a majority were displaced. Over a period of 4000 years, North African savannahs, for example, became dry Sahara dunes. Some adapted, as did the Bedouins, but many sought out bodies of water, such as Lake Chad, the Niger and Nile rivers, or coastal fringes of the Mediterranean Sea, Atlantic Ocean, and Red Sea (see Tierney *et al*. 2017; Brookfield 2010; see also Kradin 2019 for more detail on nomadic pastoralists).

Other peoples around the world made similar moves to the rivers of the Tigris and Euphrates, Indus and Ganges, Yellow and Yangtze, as well as to many smaller waterbodies. The clustering of diverse peoples near water during the Great Drying required the development of new social relations, from agriculture and centralized religions to craft specializations, writing, and the stratification and complexification of skill-roles (Brooks 2010). Today, we call this survival strategy: *civilization*.

For over two-million years, the human narrative has been one of almost continuous displacement, migration, movement, and adaptation. Those who could not adjust became extinct. We are the last hominin species left on the planet. Australopithecines, *Homo erectus*, Denisovans, Neanderthals (see Claessen 2020) and other branches of the

human family tree are extinct, except as they exist in our genomes and cultures. As a result, I see us as 'the children of climate change.' Without the stimulus of displacement, we would not be where we are today and we would not have the benefits of civilization. But how does this lineage of survival translate into what we face today?

Winners, Losers, and Narrative

In today's world, a beguiling narrative has become fashionable among the carriers of civilization – the notion of permanence (Jonas 1970). Among those in power, this notion is a way to establish the concept of order, as in the 'divine right of Kings' or a British empire on which 'the sun never sets.' Even in the fanciful Star Wars films, we encounter an 'Eternal Empire.' Such an idea is not just about the hubris of ruling powers. Humans in general crave the illusion of permanence and the comfort it brings – especially when faced with the specter of sudden change and pain.

Behind the image of comfort lurks horror. Although the fourteenth century is remembered as a time of heroic deeds, such as in *The Valiant Nine* in France and the *Romance of the Three Kingdoms* in China, it was also the time of the Black Death, which killed up to 200 million people in Eurasia. It led to further deaths in an age ignorant of the germ theory of disease, as dominant societies blamed minority populations and massacred Jews, Romani and others (Benedictow and Benedictow 2004). Bubonic plague arose again in later centuries, as recently as the first three decades of the twentieth century, when it killed 13 million people in India, until public health and vaccine all but ended the contagion (Sarkar 2011).

Similar devastations and displacement took place during episodes of land erosion, famine, and drought. It is small wonder that there is a desire for a narrative of permanence in the face of such disaster. But we have to remind ourselves that this representation of stability is somewhat of a myth, especially since it often ends up in self-congratulatory national narratives that then influence state policies (Wood 2020). Today, we see this process in the United States, as it is racked by the COVID-19 pandemic, racist violence, and ecological disasters. Behind this disruption, a myth looms that hinders the nation's ability to effectively deal with its crises.

By 1900, the United States had grown through the conquest of millions of kilometers of indigenous territory and half of Mexico, boundary adjustments with Canada, the purchase of Louisiana and Alaska, and the seizure of Hawai'i, along with the Philippines, Cuba, and Puerto Rico. A diversity of peoples came into the United States by this expansion, from indigenous tribes to Spanish, French, and Russian colonists. These new citizens joined millions of freed African-American slaves and Eurasian migrants during the Industrial Revolution, forming a vast social underclass. The American elites wanted the new lands and workers but not the mix of cultures that included progressive ideas about equality, as well as the sharing of power and wealth.

In response, American educators developed a course of study called 'Western Civilization.' Its goal was to provide cultural and historical legitimacy for the US elites by describing how the young nation had resulted from the fusion of Greek democracy, Roman administration, the Protestant Reformation, and English property rights. Its message was that 2000 years of Western European institutions had been brought to perfection in the United States. The study of 'Western Civilization' thus became a tool of ac-

culturation and assimilation, as it became required at almost every school in the country and trickled into American public culture[2] (Rodrigue 2011: 72–74).

This American study of 'Western Civilization' is an example of a myth of permanence in the face of displacement. The elites in the United States and indeed many of its underclass still believe the institutionalized narrative of 'Western' success and leadership. This is a testimony to the power of narrative. Because of these entrenched beliefs, it prevents Americans from adequately grappling with issues of race, class and ecology, which had been subverted by the paradigm of 'Western Civilization' over a century ago (Rodrigue 2016b).

On a wider stage, the notion of western European superiority has been taken as a truism in many other parts of the world (Goldstone 2013). In truth, there was no metaphysical quality of European society that unleashed their hegemony on the world. It had come about as a result of complex global interactions over thousands of years. The success of European society was a side-product of global interaction, aided by unintended consequences.

Europe had benefitted from many innovations it had received from Asia – the Christian religion, paper and printing, literary genres like the short story, spices, cotton and silk, mathematical concepts like the zero and algorithms, monetary techniques like cheques and banks, the compass and ship design, and gunpowder. When the Silk Road networks of exchange that had sustained Eurasian connections fragmented with the Black Death and the demise of the Mongol Empire in the fourteenth century, Europeans sought new routes and, in the process of navigating the Atlantic Ocean, discovered Sub-Saharan Africa and the Americas.

In the Americas, the combination of Eurasian disease and aggression wiped out up to 80 per cent of the native American population. European colonists found themselves in possession of a 'resource warehouse' that stretched from Tierra del Fuego to Alaska and provided precious metals, like gold and silver, timber and ship's masts, dyes, and foodstuffs, as well as indigenous technology and ideas. Access to such vast resources gave fresh advantages for expansion into Africa and Asia. Alone, Europeans did not have an innate cultural superiority. Their ability to dominate parts of the world came from the knowledge, resources and synthesis of ideas acquired in the Western hemisphere and Africa. The process can be described in a 'Global Algorithm':

Asian invention + Afro-American resource + European gestalt = Global civilization

The categories of the formula are shorthand for physical and intellectual exchange. Of course, this global dynamism was far more complex than a mere algorithm can convey, but it seeks to illustrate that – far from being just a European-driven phenomenon – the new global engagement had grown from the vast silk-route network into a planetary sphere of interaction that is properly designated as 'Global civilization' (Rodrigue 2019: 113–114).

We must keep in mind that our history is much longer than 500 years and involves more than just our species. For example, world historian Ji-Hyung Cho carries this narrative of global civilization into the realm of Big History. He reports how the European acquisition of the Americas contributed to a climate change that affected the rest of the world – the Little Ice Age, which lasted from about 1300 to 1850.

The displacement of indigenous New World agrarian societies, like the Maya, led to major reforestation of their cultivated lands. The growth of woodlands as a result of

the collapse of indigenous agriculture led to increased uptake of carbon from the atmosphere, which led to a drop in temperature – up to 2 degrees centigrade. The Little Ice Age only abated in the early 1800s, as a result of deforestation in the Americas, as native populations began to recover and overseas immigrants increased. In addition, industrial factories around the world had begun to discharge greenhouse gasses into the atmosphere, which raised the temperature to that which existed before the Little Ice Age and then continued to bring us to the climate crisis we face today (Cho 2017).

Today's Dilemmas

Today, we find ourselves with almost eight billion humans crowded on a planet with dwindling resources. We are again in the midst of a climate change, a crisis of immense proportions that will unfold in this century. The challenges will be as dramatic as those faced by our ancestors and will force us to similarly embrace change. For example, the low-lying seaboards of the world will flood and become increasingly vulnerable to intense storm surges as the world's ice sheets melt. This will result in hundreds of millions of people relocating inland from coastal areas (Boon *et al*. 2018; Kopp *et al*. 2014; Kulp and Strauss 2019).

In India, as its coastal fringe is inundated, over a hundred million people will need to move up the Western and Eastern Ghats (coastal mountains) and onto the Deccan Plateau or to upland areas of North India. The Deccan Plateau is semi-arid with little topsoil and much of its land farmed to capacity. It has crowded centers like Bangalore from which people are already relocating. North India's cities are polluted and crowded and face their own problems, as global warming melts the Himalayan glaciers, a source of the region's river water (Roy 2019; Rivière 2015: Raizada *et al*. 2018).

India's problem is a global problem. There is no natural solution and sparse national and international preparation to remedy the crisis. Our situation is similar to the move that our ancestors made to fresh water 8000 years ago during the Great Drying, which resulted in the most profound change in human identity – civilization. The challenge we face today is to develop new forms of interacting global / regional / local civilization (Kothari and Joy 2017; Kalpavriksh 2018; Kothari *et al*. 2019).

Communication of such information between societies is a challenge, but it is a vital necessity. In the past, resident peoples had learned about local products, ignorance of which could cause problems for arriving newcomers. European colonists of the Americas struggled with this issue in the early modern period. We can see that communication is an important aspect of knowledge, and it is communication that makes the process of global human contact one of *interacting collective knowledge* (Rodrigue *et al.* 2016).

One of the central needs is to build a new global identity for humanity. We each carry in ourselves multiple touchstones – ethnicity, language, religion, *etc*. The one that tends to be least developed is global identity. It is this global kinship that is most needed right now. In the mounting climate disaster, people with survival skills and knowledge and those who have an ability to cooperate will have greater chances for survival. These would tend not be urban elites or deskilled rural residents.

Those having traditions of sustenance, such as indigenous foragers, smallhold farmers and coastal fishing people, would most likely have a better chance at endurance, as they have before – by adapting (Shtyrbul 2009). It could be, for implementation

of high-tech responses, that those with scientific infrastructure skills would benefit, or those with wealth and access to military power would better survive under oligarchies. It is unclear as to what might endow people with favorable abilities in future crises, so what is generally needed for more widespread human survival is better global communication – communication of a more intense and purposeful nature.

In order to keep a positive trajectory of human self-awareness moving forward, we first have to survive. Historical psychologist Akop Nazaretyan documented how humans managed to reduce violence over the last two million years, despite the development of ever more lethal technology. He codified it as the *Law of Techno-Humanitarian Balance*, an axiom that explains how human populations developed methods to constrain the use of harmful artefacts and behaviors. In our hominin past, this involved regulating practices like the use of stone weapons and killing of kin. Those populations that did not develop such controls died out, while those that did implement social restraints managed to survive. In modern society, pollution and racism pose as much of a threat to human survival as nuclear weapons (Nazaretyan (2010).[3]

There are examples of the successful management of such problems in our recent past, as in the Convention for the Protection of the Ozone Layer (1985) and the Comprehensive Nuclear-Test–Ban Treaty (1996). These efforts took place at the upper echelons of international relations. What is often missing, however, are linkages between such global successes and more modest grassroots initiatives. A diverse creativity exists at the community level around the world; they provide techniques that can benefit all.

For example, access to clean and fresh water is a chronic problem in many places. In central India, water supply can be an acute issue and will become worse because of future demographic shifts. Local peoples are taking such issues into their own hands. In Gopalpura, a village where residents planned and built their own system of water drainage and reservoirs, they provided enough water for their community. In Bomminampadu, a village in south-east India, they faced issues of contaminated water, so they designed and built their own inexpensive ultraviolet purification system so the village had clean water (Salina 2008).

It is not just the specific knowledge that is needed, it is also a systemic need to incorporate and spread the knowledge into global human infrastructures and how to change the infrastructures themselves. This issue has been identified and discussed in a variety of development contexts, ones frequently involving particular industries, geographies and infrastructures (Hotz-Hart 2000; Wang and Hosoki 2016; Simmie and Sennett (1999). Other studies express the need and have a guarded hope for a new sense of globalization (Goldin, Cameron and Balarajan 2012). Even a few consider larger frameworks of macro-history (Rawson and Mansfield 2018; Torday 2019).

Initiatives for such paradigm shifts require global cooperation of scholars and scientists, creative artists and musicians, business and civic leaders, citizens and workers, the poorest outcasts and the wealthiest elites, philosophers and spiritual leaders, community activists and many others. We all have a common goal – to sustain the planet, the environment, biodiversity, ourselves and our children, and to create a fair, peaceful and balanced world. This engagement is already key to human evolution, in its biological and socio/cultural forms, and conceptually appears under several names, such as ‘compatible integration,’ ‘social aromorphosis,’ or ‘mondalization’ (Nairn 2018; Bondarenko, Grinin

and Korotayev 2002, 2011; Rodrigue 2015, 2017: 211–212; Grinin, Korotayev and Markov 2017).

Nuclear physicist Alexander Panov and Akop Nazaretyan have highlighted the role of *superfluous diversity / redundant variety* as a way to overcome crisis. This concept notes the many techniques that societies around the world have developed to accomplish the same purpose. This diversity allows later societies to choose from a variety of options and to implement new survival strategies (Panov 2017: 371–375; Nazaretyan 2004, 2017). This process can be seen as a form of 'retrofitting the future' or *Adaptive Global Identity* (Rodrigue 2014).

The heart of this effort is not just an expanded sense of time and space. It allows us to see across boundaries, the boundaries that confine our sense of existence, our identity and, more importantly, our potential. The restrictions of boundaries have in the past led to conflict, and so, by re-evaluating historical perspective, we can see options that were available but not utilized.

Not a 'Conclusion' but a Process

Despite the calamities we face today, we have some reasons for hope. We have many people with fresh ideas who want to have new relationships with Earth and life, and who are envisioning a new world. We have digital technologies that allow us to network with each other on a vastly wider scale. We have media that lets us access cutting-edge scientific discoveries and contemplate their implementation. We are better off and more prepared for embracing change than when our ancestors clustered around the waterways at Olduvai Gorge two million years ago.

We are in a climate crisis, one that will result in all of us becoming climate refugees in some way. A focus on the social needs of peoples is crucial. New ideas and commitments are needed. We need to understand and promote some of the more positive views and outcomes, as such considerations give hope and new ideas for not just displaced peoples but also for humanity as a whole for the future. The challenges of such rethinking are enormous, but are being addressed around the world in many settings, from sustainability studies and teaching to community engagement (Wong, Lau and Gibson 2020; Ahearn 2020).

This awareness is but a continuation of our on-going expansion of collective knowledge. It is a basic need that has to be replicated in a new, more relevant system of meaning. By reimaging global humanity as an interacting tapestry and by seeing how we fit into larger schemes of things, we free ourselves to explore the unfolding realms of our existence.[4]

NOTES

[1] Isolated and exiguous evidence for hominin use of endorphin-producing behaviour appears earlier than 500,000 BP. For example, hominin use of fire has been dated from one to two million years ago, but it does not seem to be systematic or widespread (James 1989; Berna *et al.* 2012).

[2] Although Western Civilization has been liberalized over the years, a 'culture war' developed between its supporters and those who believed the very concept and promotion of a Western Civilization course was exclusionary (Rodrigue 2016b; McNeill 1963; McNeill and McNeill 2003).

[3] In 1993, Akop Nazaretyan presented his concept of techno-humanitarian balance in the Russian journal, *Social Sciences Today*, where he called it the 'Law of Evolutionary Correlations' (Nazaretyan

1993). He refined it to its present form, documenting the decline of violence in human history, which appeared in numerous publications (Nazaretyan 2010). Psychologist Steven Pinker later documented a similar trend (Pinker 2011).

[4] I appreciate ideas and assistance from my wife, Penelope Markle, who is my best editor! Some concepts originated in other of my articles, which have been so cited.

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