
CHAPTER 1

BALANCING TRANSNATIONAL RESPONSIBILITIES AND BURDEN-SHARING WITH SOVEREIGNTY AND HUMAN DIGNITY

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1. Background

In June 2008, 12 distinguished experts were invited to address a conference on potential global strategic catastrophes on both the general theoretical foundations of studying catastrophes and an assessment of their likelihood in particular domains. We chose our title carefully and deliberately: *potential*, because these are rare events, although unfortunately some may still occur; *global*, because these threats are often global in their causes and consequences; *strategic*, because they present multiple strategic dilemmas for states and the international system in balancing the principle of sovereignty with human rights and the need for urgent collective delivery of help and expertise to regions that may be geopolitically uncertain; and *catastrophes*, because these threats have major cascading impacts on our planet and our way of life in all of its dimensions – psychologically, socially, culturally, economically, politically and environmentally.

The potential catastrophes addressed in this book do not include more remote and less immediate events, such as existential cosmic events like comets, asteroids, cosmic rays, solar flares, supernova and gamma-ray bursts; or potential future technological aberrations or possibilities, such as challenges from robotic entities, evolutionary patterns or major collapses of the global system. These potentially catastrophic occurrences require us to adopt a much longer time-frame than we are accustomed to doing. Yet, it is worth briefly considering this type of potential catastrophe.

2. The Big Picture and Existential Risks

(a) Evolutionary Changes

Species extinction is not a rare phenomenon in the history of the Earth. It is estimated that about 99.9% of all the life forms that have inhabited the planet have become extinct. Some of these extinctions have occurred due to competition while others have occurred due to natural events. An important example within Hominids of extinction due to possible competition may have been the extinction of our nearest competitor, *Homo Neanderthalensis*, nearly 30,000 years ago – probably at the hands of our own *Homo Sapiens*. Another hominid extinction is believed to have occurred in the case of *Homo Floresiensis*, some 12,000 years ago.

Evolutionary changes are frequently attributed to factors such as mutations, balance selection, genetic recombination, genetic drift and gene flow between populations. While these changes usually occur slowly in the absence of environmental influences, they can be accelerated in unpredictable ways as a result of extreme and sudden environmental changes, such as, for example, the impact of the 10-km wide asteroid that hit the Yucatan peninsula some 65 million years ago, resulting in mass extinctions.

(b) Super-volcanic Eruptions

Super-volcanic eruptions can result in catastrophic consequences not only because of their massive physical destructive power, but also because of the release of sulphur-rich gases, the resulting formation of sulphuric acid aerosols in the stratosphere and their impact on the climate. Supervolcanos can also produce volcanic winters due to massive emissions of soot in a scenario that is similar to that of a nuclear winter. Severe cooling usually results from volcanic ash clouds as well as volatile sulphur injections into the stratosphere. These can have far-reaching existential consequences not only for the environment, but also for human populations and the future of human civilisation.

(c) Runaway Technologies and Hostile Robotic Inventions

It is conceivable that some technologies, through unintended by-products, could produce runaway technological instabilities. Examples of these may include self-replicating organisms that have been re-engineered, self-producing machines and uncontrolled chain reactions

from nuclear technologies. These runaway instabilities could also result from poorly designed or poorly considered research projects.

It is conceivable that robotic inventions could become autonomous and potentially antagonistic, and that at some point in the future, depending on the complexity of artificial intelligence machines, some may be capable of changing their empirical beliefs and thus become uncontrollable and unfriendly towards humans. In other words, after reaching some threshold of criticality, it is possible that artificial intelligence might increase in intelligence extremely fast (an intelligence explosion) and thus result in an uncontrollable and significant jump in intelligent capabilities and in consequences.

(d) Societal Collapse or Totalitarian Domination

Societies have been likened to a moving bicycle, with the forward momentum being produced by economic growth. It is suggested that as soon as the bicycle stops moving, for instance, in a time of economic depression or even stagnation, societies will become unstable – resulting in major risks to the rule of law and individual liberties.

Totalitarianism is a major threat to humanity and can occur either suddenly, as in the case of the Soviet Union, or more insidiously, for example as in the case of Nazi Germany. In the past, totalitarian states have focused on military might and internal security persecutions that have resulted in mass murder, slave labour, migration restrictions, starvation and inequalities. These usually occur due to lack of insights into the motivations of human nature and through ignoring major looming catastrophic events, primarily linked to the concentration of extreme power in the hands of a few leaders who are frequently out of touch with the realities of their own populations as well as with others. In the past, the duration of such regimes has been short, but that does not preclude their recurrence – especially if new totalitarians can learn from past mistakes or weaknesses.

(e) Potential Accelerator Disasters

These refer to experiments that are held at such major research sites as the Conseil Européen pour la Recherche Nucléaire (CERN) and the Brookhaven Relativistic Heavy Ion Collider (RHIC). In these accelerators, colliders produce a fission reaction by bringing together “beams” of solid uranium or plutonium. While there is always a risk with these experiments (e.g. the production of black holes as well as other possibilities), it is important to note that the density of energy

that is produced by these accelerators is very small and is packed into a very small volume of space.

(f) Cosmic Ray and Radiation Threats

The earth may be exposed to cosmic hazards due to various factors that include solar motion, and solar as well as galactic evolutions. While the risk to the earth from the radiation and cosmic rays that might result from a supernova is low, the consequences of such events on the terrestrial environment are likely to be catastrophic. Such threats from cosmic rays from either nearby supernova or gamma ray bursts could, for example, result in accelerated global warming, and the possible reversal of the earth's magnetic field.

(g) Asteroids and Comets

It is estimated that there have been about 170 terrestrial impacts on the Earth. Of these, 40 of more than 3 km in diameter are less than 250 million years old. Some have been bunched in time. Each usually produces a crater 20 times its own size. The likely speed of a comet is probably around 55km/second, while that of an asteroid is probably 20km/second. The resulting energy from such impacts varies but the biggest impacts were probably equivalent to 100 million megatons of TNT, which is released less than a second after impact and spreads around the planet in about one hour. Such impacts would affect the land, sea, air and climate. The consequences could include fires, earthquakes, obscuring the sun, cooling, civilisation-destroying earthquakes, tsunamis, agricultural collapses, ozone depletion, acidified oceans, global warming, the loss of all species and, finally, cosmic winter.

(h) Extra-terrestrial Domination

While this is probably more science fiction than reality, the issue continues to fascinate. The likelihood of distant intelligent lives is unknown but likely, although the likelihood of a conflict with humanity is low given the phenomenal interstellar distances involved.

(i) The Fate of the Earth

As our solar system gets older, it is likely that the physical earth will be affected by a number of astrophysical events. Besides asteroids, comets and supernova explosions, there are other fateful events, such as the end of stellar evolution, black holes and galactic collisions,

among others. These threats may affect the biosphere first but later affect the fate of the planet itself. It is important to note, however, that any discussion of this is limited by our current knowledge of the universe and the type of physics we use to analyse it. In other words, physical constants may be time-dependent and new physical laws may be discovered that may radically alter our understanding of the universe.

3. Human Nature and Human Dignity

Naturally occurring disasters are likely and could result in unspeakable destruction and misery. It is my personal belief, however, that the greatest risks are likely to be due to humankind's aberrant behaviour and misuse of the destructive aspects of various technological innovations when unchecked human nature is allowed to emerge in the absence of accountability, law and order.

In my book, "*emotional amoral egoism*": *A Neurophilosophical Theory of Human Nature and its Universal Security Implications*, I set out in detail what I think motivates us all. I stress that we are more *emotional* than rational; and *amoral*, which means that we are not necessarily moral and that morality could easily disintegrate into immorality as soon as our self-interest (*egoism*) is threatened. In other words, human behaviour is governed mostly by *emotional self-interest*. The emotional repertoire with which we are endowed is the result of evolutionary selection pressures, and makes us for the most part less moral and less reflective than we would like to think. While we are capable of morality and reflection, it is important to note that in most circumstances these capacities are only likely to emerge when basic survival and emotional needs have been met. Emotions may be needed for moral behaviour, but this does not mean that we possess innate morality. It is possible that we may possess some moral sensitivities, but these are based on emotions and should not be equated with an innate moral system. Our neurochemical architecture is pre-programmed for gratification in what I have called *the gratification principle*, regardless of the source and reason for this "feel good factor". In most circumstances, morality is contingent on the degree of

satisfaction of our basic human needs. This means that circumstances will determine the survival value of humankind's moral compass.¹

While the above applies to the vast majority of humanity, there are exceptions, in which some people are capable of truly altruistic acts and moral behaviour despite their own hardship and deprivation. Yet, this is rare and should not be considered the norm. In general, existential anxiety and insecurity are not usually conducive to consciously altruistic acts. This has serious implications for society and the global system, where good governance and the rule of law must be maintained at all cost, and anarchy prevented – while ensuring human dignity. This is true under normal circumstances, but is especially true and critical in the aftermath of catastrophes. Such circumstances can generate what I have previously termed *fear(survival)-induced pre-emptive aggression*, which can be quite prevalent in situations of anarchy regardless of the causes.²

The recognition that human nature is largely influenced by neurochemically mediated emotional self-interest does not mean that we cannot do anything to modify human nature. This realisation means that attitudes and behaviour are explainable and transformable. We may do many things, but we will only repeat consistently what gratifies us. It is also true that we are unlikely to give up gratifying behaviour unless we replace it with something equally gratifying. Strangely, at the neurochemical level the brain neither recognises nor cares about what produces this gratification – and therein lies the danger for humanity.

In light of the above, it is critical that we recognise the central roles that emotionality, amorality and egoism play in our daily lives, and that we strive to incorporate these considerations into our institutional and policy frameworks. All these attributes of human nature when used properly have led and can lead to progress, achievement and charity. However, in order to avoid the detrimental aspects of emotional self-interest, we need to prevent alienation, inequality, deprivation, fear, injustice and anarchy. In the absence of innate morality, governments and the global system therefore have a major responsibility for setting the right conditions that allow our moral commitments, such as justice and equality, to be expanded to a broader con-

¹ N.R.F. Al Rodhan, “*emotional amoral egoism*”: *A Neurophilosophical Theory of Human Nature and its Universal Security Implications* (Berlin: LIT, 2008), p. 110.

² *Ibid.*, p. 140.

text beyond ourselves and our immediate family. These norms, above all, serve the national interests of all states, and therefore, should not be thought of as just altruistic and philanthropic acts. In other words, these should not be seen as philanthropic acts, because they are unlikely to occur on that basis alone, but as critical prerequisites for the sustainability of states.

Given that human beings are primarily emotionally driven, their need for physical security, a sense of belonging and a positive self-image and collective identity takes on added significance. Circumstances and practices that diminish people's dignity will necessarily mean that related human needs, such as the need for a positive sense of self and respect for the communities to which one belongs, go unsatisfied. In the event of a catastrophe, human dignity is likely to be particularly fragile, due to the more negative manifestations of emotionally selfish behaviour as well as the vulnerabilities generated by the catastrophe itself and its aftermath. Upholding people's sense of dignity ought therefore to be a primary consideration in the formulation of responses to catastrophes. Respect for international humanitarian law on the part of states, protection of those most at risk, and ensuring that human rights are upheld and that gender and cultural sensitivities are taken into account by those responding to catastrophes are among the most fundamental means of upholding human dignity in the event of a catastrophe.

In addition to dignity, justice is an essential requirement for the well-being of humankind. Thus, rather than being a peripheral issue, justice is central to security considerations. Even from the point of view of self-interest, justice is required because of its importance to related existential human needs and, consequently, to security and stability. While we may not be equipped with innate morality, we do, nevertheless, have morally relevant sensitivities and we have developed normative ideals that together provide the foundations with which to further elaborate frameworks in order to better ensure that justice prevails in catastrophic situations.

The importance of justice to security was highlighted in my publication *The Five Dimensions of Global Security: Proposal for a Multi-sum Security Principle*, in which I proposed a *multi-sum security principle*, which stated that:

In a globalized world, security can no longer be thought of as a zero-sum game involving states alone. Global security, instead, has five dimensions that include human, environmental, national, transnational, and transcultural security, and, therefore, global security and the security of any state or culture cannot be achieved without good governance at all levels that guarantees security through *justice for all* individuals, states and cultures.³

The multi-sum security principle is an example of a security paradigm that brings justice considerations to the centre of the security agenda.

Ensuring that human dignity and justice prevail in situations where fear, desperation, vulnerability and competing interests are likely to be prevalent and extreme depends on the existence of good governance – regardless of the specific form that this may take in various localities. Fair representation, transparency, accountability and fair treatment are all elements that are necessary for timely and effective responses to catastrophes and post-catastrophic situations. Ensuring a functioning justice system is critical in post-catastrophic situations, as is the accountability and liability of those responsible for injustices when a lack of order exists and the vulnerability of people and communities is heightened.

4. The Structure of this Book

The book is divided into five parts. The first deals with the theoretical foundations of international relations and the international system as they relate to catastrophes, while the next three deal with specific catastrophes.

In the theoretical sphere, Sir Adam Roberts questions whether we live in uniquely dangerous times and stresses the need to combine policy recommendations with awareness of potential catastrophes. He emphasises the critical role that catastrophes play in the development of state policies and strategies, and analyses the effect of catastrophes on the functioning of the international system. Sir Adam Roberts suggests that it may be desirable to have a sense of fragility in relation to potential events as a means of inducing prudence. He cautions against alarmist rhetoric and reminds us that these events have more disastrous consequences in regions where elements of good governance, such as political freedoms and an independent media, are less devel-

³ N.R.F. Al Rodhan, *The Five Dimensions of Global Security: Proposal for a Multi-sum Security Principle* (Berlin: LIT, 2007), p. 15.

oped. In his view, while legal mechanisms may be powerless in the face of these disasters, they nevertheless remain the basis of most national and international actions to address them. On the important question of the relationship between sovereignty and human rights, he reminds us that while the United Nations (UN) General Assembly's 2005 world summit adopted the "right to protect", it nevertheless limited any right of intervention to the UN Security Council and thus did not establish any new law on the matter.

Graeme Herd examines how catastrophes are understood in the context of various approaches to international relations theory. He suggests that the basic assumptions within realist thinking are challenged by catastrophes, especially with regard to the issue of sovereign rights and territorial integrity. He contends that this is also true of the basic assumptions of liberal thinking, and argues that a process of convergence in strategic norms can result from shared regional, transnational or global catastrophes. He suggests that because of globalisation and the resulting increased interdependence, the *Symbiotic Realism* theory of international relations may be the most suitable theory with which to address transnational threats in general and catastrophes in particular.⁴ He reminds us that burden-sharing, an idea at the heart of *Symbiotic Realism*, may provide the most appropriate framework through which to manage catastrophes, due to its recognition of the circumstantial nature of morality in situations where people's basic needs are not met, as is often the case in catastrophes.

Sundelius and Grönvall discuss the concept of "intermestic space", which results from the merger of the international and domestic arenas, something that often happens in catastrophes which tend to spill over jurisdictional, sectoral and geographic borders. They also suggest that the novel and acute risks associated with many catastrophes demand concerted strategies that differ from those required for dealing with the territorial issues of the past.

The book continues by targeting specific catastrophes. The contributors cover 11 topics: pandemics and bio-catastrophes, the availability of freshwater, global warming, nanosecurity, nuclear catastrophes, financial meltdown, cyber crises, demographic imbalance and migration, state failure and war, massive conventional terrorist attack and threats to the energy supply.

⁴ N.R.F. Al-Rodhan, *Symbiotic Realism: A Theory of International Relations in an Instant and an Interdependent World* (Berlin: LIT, 2007).

Finally, Alyson Bailes provides a postscript, suggesting that the guiding principle in dealing with catastrophes must be to optimise the role of the nation state. This is because, despite the supranational nature of catastrophes, the state remains the building block of any response strategy not only because it is the only entity where laws can be passed and enforced, but also because the state remains the highest level at which any effective democratic control can be exercised.

5. Conclusions

My aim in hosting the conference that formed the basis for this volume was to gather a group of eminent experts to elaborate the theoretical foundations of the study of catastrophes and to develop a set of policy-relevant recommendations.

I also hoped to emphasise the need for cooperative, inclusive, multilateral and multidimensional actions and burden-sharing paradigms to help prepare for these potential threats. This is essential in order to balance the potential rarity of these events with the tremendous costs of preparing for them as well as their devastating consequences should they occur.

It is also worth remembering that while the economic, political and sometimes environmental consequences of such events may be fixable, there is one consequence that may not be as easily fixed, and that is the human suffering and its profoundly negative impact on human dignity, something that I believe to be the most central, vulnerable, and often forgotten and underestimated aspect of our existence.

The fragility and vulnerability of human neuro-psychobiology is such that long after the reconstruction efforts are complete, there might still be a great deal of enduring pain and humiliation that is unseen and that could have long-lasting and negative consequences for our interconnected and interdependent world. It is worth remembering that whenever and wherever possible, prevention is far more effective than the best cures.