1 EXISTENTIAL EMERGENCY

The Getting of Wisdom

Velvet night enfolds the African savannah. The last light of day vanished half an hour ago; beneath a panoply of starlight filtered by scudding cloud, a boy picks his way home across the veldt, following a familiar track. As he approaches Black Hill, the place where his family takes shelter at dusk each day, the ground becomes rough and uneven. Limestone boulders litter the grassy slopes leading up to a rocky outcrop, groined by eons of rain and wind into a natural fortress of low cliffs, meandering crevices, shallow caves, and shelters – a place even ferocious predators avoid once darkness has fallen.

His attention focused on the uneven footing, the boy fails to detect the deeper shadow in the tree that overhangs this narrow part of the track, beaten by many feet over long ages. Indeed, the tree itself is hardly to be seen – a black silhouette against the fitful starshine. In daylight the tree appears old, rotten, stripped of foliage, devoid of any place to hide, a gaunt object not to be feared. Only on a moonless night like this is it a menace, as the old woman has often warned. But the youth is daring, lithe, and strong. Home is close. The path underfoot skirts the boulders, weaving among the rising outcrops – all other ways are far more difficult, treacherous, and just as risky. He should not have stayed out so long, hunting, to prove his prowess and pride. As he passes beneath the outstretched arm of the tree, a shadow blacker than the darkness overhead launches

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itself silently, blotting out the dim vault of the sky. The youth knows a moment's panic, total terror, and excruciating agony before his neck is expertly snapped. Teeth like daggers sink into his face and skull and in a series of brutal tugs the limp body is withdrawn silently into the dry grasses, heaved down the hillside to a lair where a hungry brood awaits.

Huddled safe in their rocky hilltop haven the family wait in vain, wait for the return of day, mourning yet another member of their clan to fall to the ruthless serial killer who stalks them in dreams as well as in reality. Not the first, by any means. One of a long, long line of child victims stretching back tens of thousands of years, hundreds of thousands, millions even.

The killing is real. It took place sometime between 1.8 and 1.5 million years ago. The victim was a child, probably a young male from a small family group of prehumans who regularly made use of the rocky shelters around Swartkrans, in the bushveld not far from Pretoria and Johannesburg in South Africa. We know how it happened because archaeologist Bob Brain, whose team unearthed the grisly forensic evidence, says:

> *Another insight into this came to light at Swartkrans when we found that the back of the skull of a child had two small round holes in its parietal bones. I noticed that the distance between these holes was matched very closely by that of the lower canines of a fossil leopard from the same part of the cave. My interpretation was that the child had been killed by a leopard, probably by the usual neck-bite, and then picked up with the lower canines in the back of the head and the upper ones in the child's face. It was then carried into the lower parts of the cave, and consumed there.*[1]

Brain's sifting of the remains of other prey animals, especially baboons, revealed that leopards had a habit of chewing the long bones but leaving the hard dome of the skull

untouched, a grim testimony of ancient slaughter for a modern humanity which has mostly long since forgotten what it is to be the hunted, rather than the hunter.

Yet, around the same time, and in exactly the same place, another equally remarkable event is taking place: people are discovering the use of fire – and of something far, far more important.

The site of Swartkrans offers the first definitive evidence of the control of fire by pre-humans. In a memorable letter to *Nature* in December 1988, Brain and colleagues reported

> *During recent excavations of hominid-bearing breccias in the Swartkrans cave altered bones were recovered from Member 3 (about 1.0–1.5 Myr BP [million years before the present]) which seemed to have been burnt. We examined the histology and chemistry of these specimens and found that they had been heated to a range of temperatures consistent with that occurring in campfires. The presence of these burnt bones, together with their distribution in the cave, is the earliest direct evidence for use of fire by hominids in the fossil record.*[2]

The dating is imprecise, but the rock strata containing burnt bones and other traces of fire is between 1 million and 1.5 million years old. The child's punctured skull was found in a layer at the same site dated at 1.5 million years, or a bit older.

Although there is no direct link between the actual killing and the use of fire, other than the shared location, the inference that fire was first adopted by humans as a defence against predators such as leopards is reasonable and has been widely accepted by archaeologists. It is probable that cooking followed soon after, bringing many health and dietary benefits. All animals are afraid of fire, especially the vast wildfires that rage across the world's savannahs, fuelled by grasses cured to tinder in summer heat, ignited by lightning strikes, and fanned by hot, fierce winds. Even when these fires die down, animals avoid the

smouldering areas. There must have been a special threat, and a special fear, that drove these pre-humans – creatures with brains not much larger than that of a modern chimpanzee – to beat down their natural instinct to avoid fire at all costs, to gather up the embers, to carry them carefully back to the home site and there conjure the flames forth again.

Ancestral hominids had walked the grasslands of Africa for at least 6 million years before fire came to Swartkrans. They had no doubt fled wildfires many times and seen other animals, leopards included, do the same. To conquer their own fear of fire, and to exploit the leopard's, was a spectacular leap forward into the age of humanity. To do such a thing requires a very special skill: the ability to look into the future, to imagine a possible threat, and to conceive, in the abstract, a way of meeting it. The site of Swartkrans captures both moments in the phenomenal ascendancy of humans.

This unexceptional, low, grassy African hill, with its rocky crown, marks the birthplace of wisdom.[3] It is also the earliest definitive proof of the will of our kind to survive – and the start of the evolution of that remarkable device, human intelligence, through the billions of man-hours we subsequently spent communicating, learning, exchanging ideas, and testing new technologies as we sat around a campfire, safe from predators. It was fire that helped us think together – and fire that made us human.

I first told this tale in *Surviving the 21st Century*, the book that first identified 10 interconnected mega-risks. I retell it here because it is a parable for our times and reveals elements essential to the survival of *Homo sapiens* at the time of our greatest peril from our greatest foe – ourselves. It describes our tendency as a species to take foolish risks; our ability to understand, foresee, and devise solutions to those risks; and the nature of wisdom itself.

Emergency

We humans are facing the greatest emergency of our entire million-year existence.

This is a crisis compounded of 10 catastrophic risks,[4] each of our own making. These threats are deeply interconnected and are now arriving together. However, their collective scale is so vast and their relationships so complex that few yet understand the peril they place us in.

Combined, these risks menace our very civilisation and, potentially, our survival as a species. The chief driver of these perils is the sheer scale of the human enterprise: overpopulation, overconsumption, pollution, inequality, poor choice of technologies, and poor social arrangements.

The danger is exacerbated by widespread delusion about the scale of the challenges we face, fierce competition over dwindling resources, our pride, and our warlike tendencies. This crisis threatens every person on Earth, woman, child, or man – and will do so for the next six generations at least. Its salient elements include:

- Extinction of species and the degradation of the ecosystems which support life on Earth, on a scale we have never previously witnessed.
- Key resources for living, including soil, water, forests, fish, and certain minerals, are becoming scarce – and the risk of conflict over them is escalating. A global water crisis looms. The oceans are heating, acidifying, and losing their oxygen and life. Fish and forests are disappearing.
- Due to technological 'advances', the threat of nuclear conflict is higher than at any time in our history. Nuclear weapons will be used – unless they are abolished.
- We are approaching the point where the Earth's climate may tip out of our control, pitching us into

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hothouse conditions which spell disaster for our food supply, health, and civilisation.
- Global poisoning by human chemical emissions is already out of control; it is five times the scale of our climate emissions, kills 13.7 million people a year, cripples 600 million every year, is reducing our intelligence, and is impacting all life on Earth.
- The world food supply teeters on a knife-edge, imperilled by declining resources, particularly soil and water, the decay of the ecosystem in which it exists, and the loss of the stable climate that allowed agriculture to develop in the first place.
- Despite the lessons of Covid-19, we are still unable to identify and prevent future pandemics. Our civilisation is set up to spread them. More are on the way; some may be man-made.
- Artificial intelligence, killer robots, universal surveillance, bio- and nanosciences, and other advanced technologies are unregulated and out of control. Their misuse poses growing risks to society, freedom, health, and the human future.
- The human population is growing at record speed – 1 per cent (almost 80 million people) a year. Megacities, and civilisation as a whole, face increasing risk of failure as we outrun our resources.
- There is widespread delusion, denial, and failure to recognise the reality of our plight. Misinformation is being actively spread by a misguided or malevolent segment of humanity.

Our interconnected social and economic systems are the unifying factor in the breakdown of the Earth's ability to sustain life. Most countries, their economies, and almost all corporations remain committed to growth in consumption, which is speeding us towards disaster. Our current economic model is broken because it now destroys the very things we (and it) need to survive. It must be redesigned or

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replaced. Fearful of an uncertain future and distrustful of one another, many countries are now seeking deadly recourse to rearmament.

However, there is much that can be done to curb the danger, limit the threats, reduce the number of lives lost to them, and improve human prosperity and well-being. The Council for the Human Future[5] has called on the governments, companies, and communities of the world to develop and implement an urgent plan of action that addresses all these risks and their combined impact – a Plan for Human Survival. Currently, what we have is a chaotic road to avoidable disaster. The group Common Home of Humanity[6] has called for an 'Earth System Treaty', a legal framework that covers all the risks we presently run and seeks to have humans live within a 'safe operating space'.[7]

Survival

The world needs a 'survival revolution' on a scale far larger and more encompassing than the agricultural, industrial, or computer revolutions that have preceded it. Such a revolution, supported by citizens, governments, and businesses worldwide, must address the existential emergency in its totality, meaning it must encompass *all* of the catastrophic risks, not just a cherry-picked handful of them. It must devise cross-cutting solutions that make none of the other risks worse – a major flaw in current thinking. It must take an integrated, systems approach to a complex problem.

The next 10 chapters in this book each deal with one of the threats. The chapters have three parts. The first describes a catastrophic risk and the scientific evidence for it. The second enumerates solutions that must be taken by nations and by humanity as a whole, based on sound scientific advice. And the third describes what

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individuals can do in their own lives to improve our prospects of survival, also based on expert advice.

Our common existential emergency cannot be left to national governments, which have so far displayed more ability to dither, procrastinate, and pursue selfish, short-term aims than intent to save humanity.[8] In the end, action must be driven by the 8 to 10 billion citizens of planet Earth who are willing to do all that is necessary to save themselves, their children, and their grandchildren. Only through these billions of concerned citizens acting together can politics, commerce, religion, and society be induced to adopt wisdom – and make the changes essential to our survival as a civilisation and as a species.

Together, we must fix our broken planet – before it is too late to do so.

The Solutions

Here, in no special order, are 10 examples of the 'big picture' solutions which humans need to adopt without delay. More detailed explanations are to be found in the chapters that follow.

1. Outlaw all nuclear weapons, eliminate their stockpiles, and safely recycle or bury their materials. (Chapter 4)
2. End all extraction and use of fossil fuels and their by-products – pesticides, plastics, and petrochemicals – by 2030. Replace them with renewable energy and green chemistry. Rewild half the Earth's land area to draw down and lock up carbon. (Chapters 5 and 8)
3. Create a circular global economy in which every resource is recycled and nothing is lost, wasted, or allowed to pollute. (Chapter 3) Dematerialise the economy, substituting ideas for material goods.

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Introduce a 'Green New Deal' that reduces inequality, ensures sustainability, triggers investment, and transitions economies into a new model of prosperity and abundance. Introduce an Earth Standard Currency. (Chapter 13)

4. Develop a renewable global food system, consisting of:
   - Regenerative agriculture
   - Climate-proof urban food systems that use recycled water and nutrients
   - Deep-ocean farming of plants, fish, and marine animals.[9] (See also Chapter 8)
5. Return half of the world's current farmlands to forest or wilderness to end the Sixth Extinction and restore the habitability of the biosphere. Create a 'Stewards of the Earth' programme to carry it out. (Chapters 2 and 8)
6. Create a new Human Right Not to Be Poisoned and a 'Clean Up the Earth Alliance'[10] to eliminate all forms of toxic pollution. Introduce a global inventory and universal safety testing of all manufactured chemicals. (Chapter 6)
7. Introduce a world plan to progressively and voluntarily reduce the human population to a sustainable level. (Chapter 9)
8. Prevent future pandemics by ending environmental destruction (Chapter 2), banning dangerous scientific experiments, discouraging global travel, creating early warning systems, and reducing the human population. (Chapters 7 and 9)
9. Give women a greater role in world and community leadership. Unlike men, women tend not to start wars, wreck oceans, fell forests, ruin landscapes, pollute, and poison everyone. They often take thought for the needs of coming generations.

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10. Draw up an 'Earth System Treaty' and integrated survival plan at the global level that addresses all the risks outlined here and their solutions, to be signed by all countries and their governments and open to be signed by all citizens, bodies, and corporations if they so wish.

The challenge facing humanity is vast and daunting – but its solutions are feasible, heartening, and inspiring. They offer hope, whereas denial offers only misery and despair. Furthermore, they offer prosperity, better work, greater happiness, and increased well-being for all of humankind.

The question is whether humans still have the intelligence and the wisdom to adopt these solutions. Doing so will help save literally billions of lives that will otherwise be needlessly sacrificed.

No government on Earth yet has an explicit policy for human survival, or a constitution which places our survival first and foremost. They are so blinded by the present they do not see the need.

There is no plan by humanity as a whole to avert the danger we face and secure our future. It is time we had one. The rest of this book explains in plain language what such a plan might look like – and what we can each do in our own lives to make it happen.

What You Can Do

The first thing is for each of us, as individuals, to understand that our own personal future is at risk – as well as that of humanity. This book provides hard scientific evidence for this statement, and there is plenty more available. Every day we face mounting risks from global poisoning, an increasingly violent climate, a shakier food supply, growing scarcity of resources – like water, soil, fish, and forests that we need for survival – and from the steady

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unravelling of Earth systems, such as oceans and climate, that support life on this planet.

The second thing we can all do is not despair. Humans have met and surmounted many life-threatening challenges in the past – and we are *very* good at it. What we are less good at is acting together, with foresight, in plenty of time to curb the danger and lower the death toll. This time we need to act together.

The third thing we can all do is take action in our own lives to rein in our demand for energy and material goods, thus reducing the poisons they emit. By changing our demand from damaging and unsustainable goods to renewable energy, renewable goods, and renewable food, we can send a signal to the world economy that is so powerful no corporation or government can ignore it.

By making the right changes in our own lives, we can help to repair the world we live in and hand it, unbroken, to our children's children.

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