

# Article On the Nature of Time in Postnormal Times

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# Abstract

In postnormal times, the future constantly interacts with, and determines, the present; and time is often experienced simultaneously as linear and cyclic. As a result, the future is either eclipsed or is feared – a fear associated with shifts in global power, breakdown of paradigms, and the collapse of society and civilization from climate change and ecological disasters. This reflective paper argues that time in our epoch is epistemologically and ontologically broken and explores the impact of the drivers of postnormal change – speed, scope, scale and simultaneity – on our perceptions of time. It argues that speed is linked to 'implicit fascism', and simultaneity forces us to react to a number of different, and contradictory, demands. In postnormal times, the paper argues, the present, fluctuating with accelerating change, constantly devours the future; and the future often determines the present. Finally, it suggests that we need to see the future not as a time horizon but as an ever-present garden to be cultivated by all for all times.

# Keywords

Postnormal Times, Simultaneity and Time, Linear and Cyclic Time, Digital Time, Speed, Implicit Fascism, End of Times

# Introduction

Where is the future? And how long does it take to arrive?

These eternal simple questions have acquired new dimensions in postnormal times. The distinction between the present and the future has become so porous and diffused that it is now difficult to discern when the present ends and the future begins. Indeed, the future seems to be omnipresent. Consequently, 'the category of the future is losing much of its attractiveness' (Nowotny, 1994, p. 11). Indeed, why bother with the future when the future is already here as so many advertisements for new and emerging technologies tell us? A point well-illustrated by an advertisement for Toyota cars (https://www.youtube.com/watch?v=1c19t3EaP9E). 'Dear future', it begins in a mocking tone, 'so good to see you'. Apparently, the car has all 'the goods' the future could possibly offer. If the future is already here, then what is the point in talking about alternative futures, the fundamental idea of futures studies? Perhaps it is time, says Richard Slaughter, to say 'farewell to alternative futures' (Slaughter, 2020). There are, he suggests, no alternative macro futures out there, even though multiple micro future options may exist at all other levels. Poor future! It has lost much of its shine.

The subtitle of Jorg Friedrichs' *The Future is Not What it Used to Be* provides us with part of the reason: 'Climate Change and Energy Scarcity' (Friedrichs, 2013). Climate change, however, is only one of four, out of a total of nine planetary boundaries we have breached (Stockholm Resilience Centre, 2015). The other eight planetary boundaries that regulate the stability and resilience of the Earth system are: change in biosphere integrity (biodiversity loss and species extinction), stratospheric ozone depletion, ocean acidification, biogeochemical flows (phosphorus and nitrogen cycles), land-system change (for example deforestation), freshwater use, atmospheric aerosol loading (microscopic particles in the atmosphere that affect climate and living organisms) and the introduction of novel entities (for example, organic pollutants, radioactive materials, nanomaterials, and micro-plastics). Of these losses of biosphere integrity, land-system change, altered biogeochemical cycles as well as climate change have been

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breached, increasing the risk of severe damage to the environment and the planet. This is what Slaughter refers to as 'global system change'. His other reasons for discounting alternative futures include the rise of the post-truth fraternity, the increasing role of the repressed and suppressed history, changes in future studies itself and the shift in the geological age from the Holocene to the Anthropocene (Slaughter, 2020).

All these global changes are markers for postnormal times, where 'much of what we have taken as normal, conventional and orthodox just does not work anymore. Indeed, normality itself is revealed to be the roots of all our ills' (Sardar, 2010). Postnormal times is theorised as an in-between period: the old paradigms are collapsing and new ones struggling to be born. An age characterised by increasing contradictions, complexity, and chaos (3Cs), with the accent on accelerating change, and snowballing uncertainties and ignorances of different varieties. Just as climate change is not merely an issue or an event but also, as Jeff Goodell notes, 'an era, and it is just beginning' (Goodell, 2020), postnormal times too is a new epoch.

However, how long is an epoch?

Conventionally geological eras or epochs are measured in millions of years; minimum they last around three million years. However, the Holocene epoch just lasted 11,500 years before we entered the Anthropocene, an epoch in which human activities became the defining force in the Earth's geological and ecological processes (Zalasiewicz, Waters, Williams, & Summerhayes, 2019). When the scale of geological time was established in the nineteenth century, the boundaries were placed between eras, which corresponded to empirically observed evidence of mass extinctions in the fossil archives. It is therefore, reasonable to assume, given climate change, violations of planetary limits and mass extinction of insects, that in the times to come, we will be able to observe a clear boundary between the Holocene and Anthropocene epochs in the rock layers of the Earth.

Postnormal times, however, is not an epoch in the geological sense. We are not talking about deep times of geology or cosmology. Rather, it is more akin to historical epochs. History is often related as stories; and there is no single grand story to incorporate all of world history. So, the general narration of world history is divided into neat, digestible chunks, such as the feudal epoch or the epoch of exploration, to aid chronicle uniformity. Epochs are periods of time when there is some sort of consistency, peoples' social and cultural experience have some commonality and coherence, dominant power structures and paradigms are entrenched, and history seems to be moving in a given direction. Elsewhere, I divided what we may call the 'contemporary period', the twentieth century and the first decades of the twenty-first, into four divisions: classic, modern, postmodern, and postnormal (Sardar, 2015). Each division can be seen as an epoch, which changes when social, cultural, and power structures of society change. Postnormal times mark a turning point from the combined epochs of modernity and postmodernism to something different that has yet to emerge. It is strange in that it is an intermediate epoch; and instead of social and cultural cohesion, it is a period characterised by contradictions and chaos. But like other epochs, it has a beginning and should have an end.

Like most periods of transitions, postnormal times is an epoch of deep ambiguity, uncertainty and rapid change. Moreover, quite naturally, it generates fear of the future – significantly when the future is associated with the loss of power, paradigmatic angst, and potential collapse of society, civilization and the ecosystems of the Earth. Part of the fear comes from the fact of the epochal shift itself and the realisation that return to 'normal' is not a viable option. 'If the epoch has changed', says Isabelle Stengers, 'one can thus begin by affirming that we are as badly prepared as possible to produce the type of response that, we feel, the situation requires of us. It is not a matter of observation of impotence, but rather of a point of departure' Stengers, 2015, p. 31). Stengers fears the 'Coming Barbarism', the decline of society into the world of the *Lord of the Flies*: a particularly Western notion of humanity which degenerates into savagery the moment civilizational parameters and controls are removed. A theme of countless Hollywood movies. Part of the fear stems from the sheer incompetence and corruption of our leaders. As Stengers puts it:

If there is nothing much to expect on the part of our guardians, those who concern and responsibility is that we behave in conformity with the virtues of (good) governance, perhaps more interesting is what they have the task of preventing and that they dread. They dread the moment when the rudder will be lost, when people will obstinately pose them questions that they cannot answer, when they will feel that the old refrains no longer work, that people judge them on their answers, that what they thought was stable is slipping away (Stengers, 2015, p. 31).

The fear of the future is also generated by the real possibility of collapse as a result of planetary transgressions, often seen as unavoidable and inevitable – an a priori given destiny. Slaughter's writing off of macro, alternative futures is a product of this actual dread. Indeed, according to one recking, 'Our Civilization Will Collapse' within three decades; 'the next three of five decades are going to be apocalyptic'; and 'the 2050s will be the decade of the Final Goodbye' (Haque, 2020). Bill McKibben concurs: it is indeed 'the end of the world as we know it' (McKibben, 2020). Not surprisingly, one is paralysed with fear; and the future becomes devoid of hope and optimism. If the imminent Collapse, the Apocalypse (to which we shall turn shortly), is only three decades away then postnormal times will also end within this period.

What if we work seriously to avoid the coming collapses, return to planetary boundaries, make peace with nature, abandon vengeful capitalism for a more equitable economic system, change our lifestyles, transcend our myriads of contradictions, become adept at dealing with uncertainty, and embrace complexity – that is, learn to navigate postnormal times? It is a big ask. But not an impossible one given the extent of our creativity and imagination. Clearly, such major transformations are not within the ability of a single generation. If we follow ibn Khaldun's (1377) argument, it will require four generations to create a new order of things. In which case, the postnormal period of transition would last a number of generations.

We know that as a general rule, aspirations of the future, dismal or alluring, speak mostly to our own time as well as reflect our own internal angst and concerns. Future is about time: it is about how we perceive time in our lived present, it is about memory and anticipation, it is about how time is presented in our worldviews, it is about how we give meaning and a sense of direction to our lives, and it is about collective undertakings. Time itself is, of course, all about change. As Felipe Fernandez-Armesto suggests, 'no change, no time. You approach or reflect a sense of time whenever you calculate the possible effect of connected processes of change' (Fernandez-Armesto, 2019, p. 65). Moreover, the rate of change itself shapes your perception of time, and hence, your notion of the future.

#### **Tomorrow Is Another Day**

So, to the age-old question: Is time linear with a single, unrepeatable trajectory, or is it cyclical without an ending? There are advocates for both options. In monotheistic religions – Judaism, Christianity and Islam – time is seen as unidirectional and linear. The past, present and future follow the straight 'arrow of time'. There is a beginning and an end. God began the Creation and will bring the cosmic story to an end. On the whole, Western thought also sees time as linear but without bringing God into the equation. Hinduism, on the other hand, presents time as a cycle that goes through four stages, or the ages of yogas. We are now living in Kali Yoga, the age of destruction, and trapped in an irremediable process. Buddhism, to a certain extent, and ancient Greece too, opt for the cyclic version. Some historians, from ibn Khaldun (1377) in the fourteenth century to Arnold Toynbee (1987) in the twentieth century, and a few in between, also subscribe to the cyclic theory of time. History can repeat itself but, as Marx was said to have noted, the second time it often arrives as farce.

Ostensibly, these two perceptions of time appear to clash. But, as Johan Galtung and Sohail Inayatullah have argued, genuine microhistories see time as linear as well as cyclic and transcendental. The function of microhistory is not just to find meaning in the past but to generate a new potential for meaning in the future (Galtung & Inayatullah, 1997). However, it is one thing to look at broad sweeps of history and quite another to experience time simultaneously as linear and cyclic in the present – the proficiency of postnormal times. This is why in postnormal times theory the future is represented as three tomorrows, which are simultaneously distinct and diffused: extended present, familiar futures and unthought futures (Sardar & Sweeney, 2016). Time in the framework of three tomorrows is complex and contradictory, characterised simultaneously in the singular as well as plural – time and times.

The extended present is a future that is not a future at all in the sense that it is simply an extension, and overlaying, of the present on to the future. It is a product of embedded trends and proliferating emerging issues of the present – some cannot be averted, some are foreseeable, some have gone postnormal. The future in extended present is mostly a colonised future. Familiar futures bring history and geography, memory and metaphors, images and imaginings of the future(s) into play. It is largely a domain of 'used futures' (Inayatullah, 2008). The third tomorrow, unthought futures, takes us outside the box of the dominant, and crumbling, paradigms into a thought horizon of genuinely alternative possibilities, astonishing creativity and ingenuity, and ethical imaginations. Unthought futures are not

unthinkable. Neither are they things we cannot expect or anticipate. Rather, they are located outside the framework of our current and conventional modes of thought; they question our given assumptions and concepts, ideas, principles, axioms, norms, actions and behaviour we have always taken for granted (Sardar & Sweeney, 2016).

If treated in isolation from the other tomorrows, extended present can be viewed as linear time. After all, rooted trends and emerging issues do expand and continue towards the coming years. We know how a particular technology, for example 3-D printing or synthetic biology, could develop in the near future. Or, as epidemiologist tell us, how a virus may spread. Simple extrapolation of trends, including megatrends, are how 'predictions' about the future are made; basically, suggesting that the extended present will continue to extend. However, this analysis overlooks a vital point: the 'now' is not static; the present is itself dynamic and constantly changing. The extended present is constantly interacting with familiar futures which are located both in the present and the future. Familiar futures, both singular and plural, make the 'now' dynamic and changing, and by constantly transforming the extended present change the nature of present time. Present and future become suffused and time becomes simultaneously linear and cyclic. 'The extended present', writes Helga Nowotny, 'tries to diminish the uncertainty of the future by recalling cyclicality and seeking to combine it with linearity. The present is no longer interpreted merely as a part of the way on the straight line leading to the future open to progress, but as part of a cyclic movement' (Nowotny, 1994, p. 58). The present, fluctuating with accelerating change, thus constantly devours the future. The process is enhanced by current and emerging technologies – such as Artificial Intelligence, human-machine merger and Space exploration - that shrink the time-boundary between present and future.

This is a deterministic process. The conventional notion of determinism is that all events in the present are a product of historically existing causes. Or, to put it another way, the past determines the present. But in postnormal times, it is equally true to suggest that the future also determines the present. In fact, the future can have more impact on the present than the past. Thus, the continuous merging of extended present and familiar futures, linear and cyclic time, adds another layer to the colonisation of the future. There is a double whammy: the future is colonised not just through extended present but also through familiar futures which incessantly feed the extended present to boost the colonising process.

Unthought futures provide an antidote to this deterministic and colonising process. The function of the unthought futures is to provide genuine micro and macro alternative futures external to the dominant and orthodox modes of being, doing, living and knowing. Unthought futures are not time-bound: they can occur in extended present as well as familiar futures and represent the realm of other structures, other values, and other actions. They can be triggered by ideas and notions as well as manoeuvres and movements that question and seek to transcend dominant modes and paradigms. And the unthought futures can also arrive as events. A pandemic such as Covid-19 was widely predicted. But no one imagined that a virus, that most biologists do not even consider as a viable form of live, would stop the twenty-first century, high technology, world in its tracks: stop travel, stop physical contact, stop economic activities, stop growth, stop progress – indeed, stop time itself. Covid-19 demonstrated that it is only when we find ourselves in an unthought future, that we are forced to confront its full implications.

The unthought futures provide us with a mechanism for reclaiming agency that the extended present and familiar futures deny. A product of creativity, imagination and transformative leadership (Montuori & Donnelly, 2017), they are our basic tool for transcending the complexities, contradictions and chaotic events of postnormal times. Unthought futures are about opening up wealth of possibilities outside the current framework of thought and action, opportunities so uncommon that they appear distant and unapproachable, and render them into present realities. They are meant to move us from wallowing in the pessimism of coming collapse(s), as foretold by current trends, and becoming something other than who we are in the present to usher more viable, sustainable, and humane futures. Unthought futures ought to raise epochal consciousness; and mark 'the death of time, a poetic and philosophical expression of the superseding of an epoch by another one' (Nowotny, 1994, p. 100).

In postnormal times, both positive and negative changes can appear rapidly, as though from nowhere. In terms of positive changes, think of the #MeToo or Black Live Matter movements. Unthought futures can have similar impact leading to profound transformations. Indeed, given the will and appropriate actions, major transformations can occur within a generation. This suggests the possibility that postnormal times can be concluded, given the will and determination, in about a generation.

### **Time and Implicit Fascism**

Postnormal times have had a profound impact on how we experience personal, lived time. The world functions twenty-four hours, seven days a week. The global financial markets, from New York to London, Shanghai to Tokyo, Bombay to Singapore, are connected right round the clock. Global news channel broadcast 24 hours. Social media communicates issues, developments, grievances and nuisances instantly. Supermarkets and shops are open 24-hours, on Sundays, even on religious and other festivals. 'Time is money'; and our own time is harvested and monetised by corporations and big technology companies. All this, 'create McTime, a permanent present, obliterating time distinction, cancelling closed-times, night-times, off-times, and nodding-off-time' (Griffiths, 2004, p. 222). The consequent impact on our lives and bodies is quite overwhelming.

Historically, we have lived within structured time, most notably through religious rituals. Muslims, for example, structure time according to five daily prayers: dawn, early afternoon, late afternoon, sunset and the night prayer; and the weekly congregational prayer that also marks the day of rest. Judaism teaches us about the importance of the Sabbath, a day set aside for rest and worship; and emphasises the importance of yearlong observances every seventh year, when the earth rests along with the devotees. We are told in the Bible that God 'rested on the seventh day from all His work which He had done' (Genesis 2: 2-3) not because God needed to rest. Rather to emphasise that rest is required for what He has created in His own image. Chinese cultures also have designation days for rest and relaxation, many in the form of traditional festivals related to chronology and the Chinese calendar. Postnormal times takes a sledgehammer to such structures of times.

People, much like plants and fruit flies, have biological and mental in-built timers. In postnormal times, our internal timers are seriously distressed by four key drivers of postnormal change: speed, scope, scale and simultaneity, representing a radical departure from the conventional notion of change. Each driver has an impact on how we as individuals and communities experience time.

Speed plays havoc with how we function as human beings. It affects everything from how we interact with other people, our relationships, how we keep track of what is happening in our lives and within our communities, and how we process information and knowledge. The faster we move, the more difficult it becomes for us to keep track of the world around us, to grasp the profound changes that are taking place, to react sensibly and adjust appropriately to these changes. We experience time as rapid twists and buckles, leading to confusion, frustration and rage.

Speed can conqueror the world and bring instant, unimaginable wealth: tech oligarchs can make '\$18 billion in just 24 hours' (Hall, 2020). But speed is also the nemesis of the environment. Fast capitalism, fast travel, fast cars, fast food, fast fashion, fast trees, fast animal husbandry, fast holidays – all have a devastating impact on the environment and ecology of the earth. If you *Move Fast and Break Things* (Taplin, 2017), you not only debase culture but also debase time. Moreover, speed forces you to innovate perpetually, even if it means producing a slight variation of the same product year after year. You may call it 'creative destruction', but as Nowotny notes, it 'leads to another problem of civilization: that of obsolescence, the ageing of technologies, the production of waste. The past cannot absorb the waste fast enough. Through the creation of more and more new things, there is an inevitable increase of that which has to be disposed of. Both processes require a change of balance – in an extended present' (Nowotny, 1994, p. 11).

Speed is also the enemy of history and tradition; it seeks to perpetually create things anew, innovation at a breakneck pace is the ultimate goal. This means, notes Griffith, that 'there is a nasty, steely connection between speed and fascism. The Nazis took power and they gave the German proletariat transport (the Volkswagen). The Nazis also put money into land-speed record attempts. Henry Ford was awarded a medal by Hitler, who admired his anti-Semitic politics, his speed-products and his mono-principle processes' (Griffiths, 2004, p52).

The connection between speed and fascism is best illustrated by the early twentieth century Italian artistic and social movement that was the first to fetishize 'the beauty of speed'. The movement wanted to create the world anew, with its foundations firmly anchored to technology, and rejected art, literature, music and architecture of the period. The movement described itself as 'Futurism'; and its members came to be known as 'Futurists'. The Italian futurists desired a future where speed and technology represented the absolute triumph of man over nature. They glorified electricity, the car, airplane, machines and the industrial city. They despised the human body, peaceful co-existence and particularly women and anything that could be seen as famine and glorified war, nationalism and white supremacy. 'Accelerated movement', they argued, 'makes it seem that the traversed environment advances upon the traveller, rather than the other way round'. In another words, the future folds back on to the present in 'a

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thrilling onrush of visual, tactile, and aural sensation' creating an 'intoxicating sublimity of the moment' (Poggi, 2008, p. 29).

The godfather of Futurism was writer and poet Filippo Tommaso Marinetti (1876-1944), who published his 'The Founding and Manifesto of Futurism' in 1909. Marinetti wanted to erase history, destroy museums, architecture, archaeologists, antiquarians, libraries. Attack the cities with pickaxes he urged his followers. He wanted to replace it all with technology that moved with striking speed, banished work, and enabled 'crops and forests to spring up with lighting speed' (Poggi, 2008, p. 101). In their painting, the fascist futurists, such as Umberto Boccioni, Antonio Sant'Elia and Luigi Fillia emphasised speed, energy, flight, industrial landscapes and destructive war and violence. The original Marinetti manifesto was followed by a host of others on almost everything from clothing, food, smells, wars and lust – all enveloped in fascist trappings.

It is only a quick (goose, or in the case of Italian fascists, roman) step, suggests Griffith, from Matinetti's futurist manifesto and our current obsession with speed:

Today, the ideology of speed, particularly in its aspect of overtaking competitiveness, is behind the phenomenon of multinationals, today's most fascistic force. Theirs is a politics which brooks no ideological opposition, a totalitarianism whereby one market leader seeks – by competition – to destroy competitors, leading to global domination, demanding uniformity, as speed always does, as fascism always does, and destroying environments or people who get in the way (Griffiths, 2004, p. 52-53).

Where speed enhances uncertainty and confusion, scope seeks the reduction and variety of time. Different time zones collapse and we are forced to move in relation to a single global time. Multinationals work across time zones doing research and design in one place, manufacturing in another, providing support and services in yet another, cutting costs and wages, and selling their products across the globe 24 hours. The distinction between office and homes, work and leisure time, are dissolved, with an accent on efficiency, which eventually reaches a point of diminishing returns. Private and public time blur. Constant adaptation to global time traps us in a spiral of monotony; both the rhythm of the body and our patterns of thought become patchy. We become socially and mentally rootless as there is no time for our social or mental structures to hang on to. Indeed, we are being forced to increasingly live in a single time zone. There have even been attempts to standardise 'internet time' – for example, with Swatch 'beat time' which divides the day into '1000 beats', each beat equal to one decimal minute (86.4 seconds). Fortunately, neither the concept nor the watch associated with it travelled very far.

All of this has an overpowering impact on the scale of the individual. Throughout history, human beings have proved quite adaptable. When we fly to a different time zone, for example, we adjust to the new time, overcome our 'jet lag', in a few days. On the whole, evolution has been slow enough to provide our bodies with relevant mechanisms to develop responses to changing circumstances. But moving at great speed with global scope is a very recent phenomenon; there has been no time for evolution to catch and genetically establish the necessary mechanism for adjustment.

In postnormal times, the passage of natural time – day and night, the tempo of the week with demarcated time for rest, the cycles of the seasons, the phases of the moon, the annual motion of the sun through the constellation, the movements of the star across the heavens, and our connection with the environment and the cosmos – is replaced with digital time. We lose all connection to our environment and the cosmos; and imagine the course of life only through speed. As Bodil Jonsson notes, 'digital clocks are symptomatic of a drive for precision that is relevant in both micro and macro-cosmos, but tell us nothing about *our* cosmos' (Jonsson, 1999, p. 104). Digital time drains us of all our being; our personal time is no longer ours.

The result is that the effects become overwhelming, since neither you nor I can function in exponential mode. On the contrary, we are very much attached to habits, ie steady states. In spite of this, we are becoming increasingly involved in exponentially changing processes, and these in turn tend to lead to profound alternations in our attitude to time. Either we feel that time is running out of control, or else that the amount of change must have taken longer than it has (Jonsson, 1999, p. 116).

Our sense of time is fragmented and displaced, leading to alienation from ourselves, our families and communities, as well as nature and the cosmos.

This brings us to simultaneity, which gives time a qualitatively new dimension. We are forced to react to a number of different, often contradictory demands - all at once. The now consists of all the events and developments that are happening simultaneously and demanding our attention. Crisesemerge in clusters requiring us to deal with them simultaneously. There is a limit to our capabilities for multitasking; and anxiety, frustration and anger emerge when we cannot cope. As we learn from relativity, simultaneity is relative. As such, different observers have different perspectives and perceptions of now. Differences and contradictions are thus proliferated.

But simultaneity also presents us with an opportunity. As we cannot deal with simultaneous occurrences on our own, we are obliged to collaborate rather than compete. A good example is provided by global efforts to develop a vaccine for Covid-19. Despite entrenched political differences, governments and scientists across the world worked together – simultaneously – to produce a viable vaccine. Typically, a vaccine would take several years, if not a decade or so, to be researched, tested and approved. However, the short time required to produce the vaccine also led to research based on simultaneity: phases of research, requiring testing at different levels, were conducted in parallel. The end results were not only astonishing but a clear demonstration of what can be achieved through collaboration at the global level.

Speed and scope are also essential for tackling wicked problems of postnormal times – from the prevention of planetary collapse to solving the issues of climate change, from dealing with rampant inequalities to implementing policies of social justice, from wallowing in decaying paradigms and disintegrating orthodoxies to creating new paradigms and genuine future alternatives. These urgent problems require global collaboration and timely approaches.

### The End of Times?

Accelerating uncertainties come as standard in postnormal times. As such, time, as St Augustine feared, and for whom past and future only existed in the now as memory and expectation, becomes the site of insecurity. Those who find it difficult to cope with insecurity and uncertainties, look for an anchor: something secure and firm to hold on to in times of turbulent change. We rely on our own beliefs and dogmas when we try to cope with our inner most insecurities; and where relevant dogmas do not exist, we invent them!

It is thus hardly surprising that there is a marked increase in eschatological beliefs and movements in postnormal times. A number of Christian sects, particularly American evangelicals, firmly hold to the dogma that we have reached 'end times', and Jesus will return to bring redemptive history to its ultimate conclusion. Those who believe in the rapture, Christian Zionists amongst them, cannot wait for the apocalyptic rapture when the faithful, dead or alive, will rise up to the heavens to meet the Lord. A similar number of Muslim sects eagerly await the reappearance of the Mahdi, the twelfth Imam of the Shia, who is said to have gone into occultation during the early phase of Islamic history. On his return, he will rule only for a handful of years to restore justice before the Day of Judgement and end of times. Other religious traditions have comparable dogmas.

It is easy to dismiss eschatology as irrational mumbo-jumbo. But its significance in an era of uncertainties and insecurities cannot be underestimated. American evangelicals provide the bulk of support for the Trump presidency in the US. Christian Zionists, who believe that the formation of the state of Israel is a prerequisite for the Second Coming of Jesus, have played a leading role in promoting the expansion of the settlement and the persecution of the Palestinians. Christian Zionists not only supported and sustained the Trump presidency, but played an active part in his administration; the most notable being Michael Pompeo, the Secretary of State. According to Simon Tisdall, Foreign Editor of the *Observer*, the support for 'Israel of Pompeo and fellow Christian Zionists is unconditional and uncompromising. He once told Israel, Trump was sent by God to save the Jews from the Persians. "I am confident the Lord is at work here" (Tisdall, 2020).

Apocalyptic thought also played a major role in the formation, and the atrocities, of the extremist group ISIS, who established an 'Islamic Caliphate' in Iraq and Syria. The former President of Iran, Mahmoud Ahmadinejad, organised a regular 'International Conference for the Preparation of the Arrival of the Mehdi' (I know, I was invited to one!); and conducted most of the state business on the anticipation of Mehdi's imminent arrival. Postnormal uncertainties will probably increase both the number and influence of such apocalyptic movements.

The same can be said about the rampant rise of supremacist nationalism and fascism in the US, Europe, India, Brazil and elsewhere. Much of it is the product of the uncertainties, and the ignorances they generate, of seeping

and shifting power – from the West to the East, from 'the White Men' to men and women of all shades and colour, from monolithic polities to multiculturalism, from the middle classes to the ultra-rich beneficiaries of globalisation and speedy capitalism, and from patriarchy and heterosexual normalcy to barging plurality. Those who cannot deal with the uncertainties of such power shifts seek to reduce the complex reality of postnormal times to one-dimensional racism, cult of manufactured tradition, fetishization of weapons and war, and distrust and hatred for all who are not 'us'.

'We describe *ourselves*', notes Griffiths, 'when we think we describe *time*... Our image of time is totalitarian, because the totalitarianism is in us, but one writ so large we can hardly read it' (Griffiths, 2004, p232). One particular form of fascism we fail to read is that of technological determinism: the proponents of technological Singularity, the champions of Transhumanism. The dream here is that accelerating technological growth will inevitably lead, very soon, to the merging of man and machine, which will produce an explosion of intelligence, which will produce more intelligence more and more rapidly, eventually leading to Superintelligence – and Humanity 2.00. According to Ray Kurzweil, the Singularity will happen by 2045 (Reedy, 2017), spelling the end time for Humanity 1.00. The resemblance here with apocalyptic religious thought is uncanny. Singularity is a form of rapture where God is simply replaced with technology in pursuit of bliss, perpetual happiness and eternal life. Transhumanism, writes Maxwell Mehlman, seeks

to provide hope in the face of death, a measure of control over the savage aspects of nature, and meaning to its followers' existence. No wonder that there is a Mormon Transhumanist Association according to whose creed transhumanism is a means of realising "diverse prophetic visions of transfiguration, immortality, resurrection, renewal of this world, and the discovery and creation of worlds without end (Mehlman, 2012, p. 24)

But the transhumanist dream of union of man and machine also has an established history in futurist thought going back to the Italian fascist Futurism movement (Poggi, 2008; Sardar, 2009), which took different forms from 1900 to 1930s. (Notice that a popular American futures website, which is partnered with Singularity University, is called Futurism.com, unwittingly echoing a connection with the Italian futurism movement). Like the transhumanists, the Italian fascist futurists were obsessed with the infusion of man and machine. Its best delineation comes in Marinetti's 1909 cyborg novel Mafarka the Futurist. Mafarka is an Arabian king with imperialist ambition who creates a mechanical son, Gazurmah, to be his immortal substitute. Gazurmah, born without a female vulva, is carved out of oak and modelled on an airplane. He looks dazzling in his enormous, orange cloth wings stretched over a lattice composed of steel, bamboo and hippopotamus sinew. Mafarka finds his coarse skin, squared jaw, ribs of iron, and formidable metallic member alluring; and breathes life into his son with a lingering homoerotic kiss. But his creation devours him - a fate Mafarka has foreseen and desired so that he might be reborn in the immortal son. Gazurmah proceeds to rape and obliterate the earth. Gazurmah is not too far removed from The Terminator (1984). But while the Terminator is a dystopia, Martinetti's *Mafarka the Futurist*, with its aspirations of autogenesis and immortality and demonization of women's bodies, is presented as a distinctive utopia. Fellow traveller, Luigi Colombo Fillia's 1929 painting, Spirituality of Aviator, portrays a similar utopia. The aviator is pictured as a fluid biomorphic shape embedded in a semi-transparent, tilted plane. Man and machine become one, permeable body with fluid boundaries. The aviator's mystical body seems to give birth to an industrial city indicated by smoke gushing through circular openings, carrying within their stream three small buildings. Fillia painted a number of other notable pictures where landscape and bodies merge with technology depicting a 'religion of velocity' (Poggi, 2008, p. 254).

Time and history do move in cycles! Fear of uncertain times, total and blind faith in technology as a mechanism of salvation, often serve as a glue to bind the future and fascism together. Another commonly used weapon in the quest for fascist ideals is the notion of freedom, a cherished ideal of neoliberals and libertarians. As political theorist Wendy Brown notes, 'neoliberal rationality prepared the ground for the mobilization and legitimacy of ferocious antidemocratic forces in the second decade of the twenty-first century' through its unrelenting 'assaults on constitutional democracy, on racial, gender, and sexual equality, on public education, and on civil, nonviolent public sphere have all been carried out in the name of both freedom and morality' (Brown, 2019, p. 7). Freedom is a clarion call for libertarians fearful of losing their entitlements to the privileges of whiteness, raging against political correctness and everything else – from government support for the disfranchised, political equality to wearing face masks in a time of pandemic. 'This rage in turn becomes the consummate expression of freedom and Americanness,

or freedom and Europeanness, or freedom and the West'. Hence: 'Nazis, Klansmen, and other white nationalists gather publicly in 'free speech rallies', why an authoritarian white male supremist in the White House is identified with freedom by his supporters because of 'political incorrectness', and how decades of policies and principles of social inclusion, antidiscrimination, and racial, sexual, and gender equality come to be tarred as tyrannical norms and rules imposed by left-wing mobs'. This is 'what happens when freedom is reduced to naked assertion of power and entitlement' (Brown, 2019, p. 45).

Way back in 1980, the late American social scientist, and a friend of futurist Alvin Toffler, Bertram Gross, argued that the US was about to be taken over by a new brand of *Friendly Fascism*, 'far more sophisticated than the "Caesarism" of fascist Germany, Italy, and Japan. It would need no charismatic dictator nor even a titular head...It would require no one-party rule, no mass fascist party, no glorification of the State, no dissolution of legislatures, no denial of reason. Rather, it would come slowly as an outgrowth of present trends' (Gross, 1980, p185). In my 1995 paper, 'Cyberspace as the Darker Side of the West', I argued that the companies mining cyberspace would transform into new versions of colonial corporations such as the British East India Company and Dutch East India Company (Sardar, 1995). Gross was particularly concerned about 'new style technocrats', who during the past forty years have morphed into 'tech oligarchs'; cyberspace has turned out to be a gold mine not just for the West but also for the East. With vast wealth, power and control over technology, the tech oligarchs, suggests Joel Kotkin, are determined to impose a neo-feudal order on the world. Their visions are not simply to make money but 'to "change the world", replace the old physical and social structure with "electronically augmented environment" where everything is determined by digital code' (Kotkin, 2020, p145). This 'technocratic despotism', Kotkin argues, is not limited to the West - but is global. And its cutting edge can be found in China, where the 'use of artificial intelligence to regulate society and public opinion' has become the norm. 'Sophisticated algorithms are employed to control everything from legal proceedings to permission for marriage...The regime is also using facial recognition technology and 'social credit' scoring, which includes everything from credit worthiness and work performance to political reliability (Kotkin, 2020, p31).

Postnormal times seem to be taking us back to the future of fascism. Speed, scope, scale can work simultaneously, to use the words of Jay Griffith, to 'mould an implicit fascism' (Griffiths, 2004, p232). Notice how rapidly fascism emerged in Myanmar, spread at speed through social media, and led to the genocide and the flight of the Rohingyas from the country (CBS, 2018). Or how rapidly and effectively hatred against Muslims in India is spread via social media by the Hindu fascists (Opindia, 2018). Or how quickly since 2017, China has moved and held 1.8 million Uyghurs in 'the largest incarceration of an ethno-religious minority since the Holocaust' (Chao, 2020). Or how quickly the American radical right and evangelical Christianity became indistinguishable from each other (MacLean, 2017). In postnormal times, the far right, as Cas Mudde shows, has been 'normalised' and gone mainstream. It spreads its 'pathological normalcy' over the globe with great speed reaching in scale to individuals and communities so that no country is immune from far-right politics. Moreover, the boundaries between far-right and other ideologies and ideologues, such as the libertarians and neoliberals, are blurred (Mudde, 2019).

#### The Broken Arrow

Speed is also the enemy of thought and reflection, of considered knowledge – anything that takes time to reflect, think through, and mature. In postnormal times, conventional modes of production of knowledge are radically transformed. Big Data generates gargantuan information that contains not only Popperian *Objective Knowledge* (Popper, 1979) but also fake news, alternative facts, manufactured fake science, false history, conspiracy theories, the paranoia of anonymous on-line mobs and 'bullshit' (Frankfort, 2005) – all of which are incorporated in knowledge. Furthermore, knowledge is also merged with different varieties of ignorances: vincible ignorance produced by racist algorithms, destructive advances such as development of autonomous weapons of mass destruction, and weaponised disciplines; and invincible ignorance, which is a product of our Unthought – things we never think about because they are outside the domain of dominant paradigms, disciplinary boundaries, theories, principles, assumptions, and axioms. Emergent knowledge is thus shrouded in the smog of ignorance that is not easy to negotiate (Sardar, 2020).

In conventional Western epistemology, ignorance is considered an outlier, a bad epistemic practice. But in postnormal times, ignorance is not just a partial shadow but the total eclipse: it covers, surrounds, obscures and

shrouds what could be regarded as knowledge. Ignorance thus emerges 'not as a feature of neglectful epistemic practice but as a substantive epistemic practice itself' (Alcoff, 2007, p. 39). Established paradigms, now overburdened with ignorance, failing and dying, are thus unable to produce coherent, inclusive, accounts of the past nor permit clear and viable visions of the future. We enter the domain of time-slice epistemology where evidence is based on self-rationalised beliefs and irrationality becomes the dominant theme. There is, writes philosopher Sarah Moss, 'no connection between your past mental states and what you currently believe, or between your future mental states and what you are currently doing' (Moss, 2015). Consequently, time is epistemologically broken.

But epistemologically broken time still has a tenuous connection between the past and the future in the here and now - albeit, based on fading paradigms, ignorance fuelled epistemology that sustains domination and exploitation, manufactured fields of normalcy that make us think that all is okay, and self-justified rationality. But in postnormal times, time is also ontologically broken, which makes the connection between the present – the now – and the future even more problematic.

'With the everyday idea of time', writes C K Raju, 'the idea of individual humans as the cause of events is the following. The future comes into existence, and the choices one makes now decides which future comes into existence. This coming into existence, and passing out of existence, is fundamental to the mundane notion of cause; this belief is the basis of action in everyday life' (Raju, 2003, p. 173). But in postnormal times, where complexity is the norm and we are often on the edge of chaos, there is seldom a direct cause and effect relationship. As Jordi Serra notes, 'nowadays phenomena are the result of complex networks of causality in which many causal factors are intermingled; in such cases, action on just one element is not only futile but often also quite dangerous. Action on A triggers myriads of reactions in B, C, D all the way to Z; and many of these reactions can acquire chaotic proportions at lightning speed' (Serra, 2017). As an effect may not naturally follow the cause, the causal link between the past and the future breaks down – leading to ontologically broken time.

We are, however, not in the province of total indeterminism. In a completely indeterminate world, 'past and present would not decide the future. There would be no rational way to judge the future consequences of one's present actions', notes Raju. Thus, 'there would be no place at all for voluntary action', and 'it would be futile to speak about choosing rationally between different futures' (Raju, 2003, p. 224). While epistemologically and ontologically broken time destroys conventional notions of rationality as well as the standard way of perceiving reality, it does not abolish free will or agency in postnormal times where the accent is firmly on complexity. In a complex system, each member of the system has the potentials of starting a chain reaction within the possibility of many different actions: a vegetable trader who sets himself on fire starts the Arab spring, a video of police abuse starts a movement, and a shy teenager can give a new life to the climate change movement. Collectively, the set of individual potentials provide agency and create possible space for cooperative actions. This space is itself dynamic; individual members of the system come together, interact, learn, produce new learning, and construct new internal and external relations that lead to further change. Complex systems self-organise to create a new order. What it means is that we need to see the current reality as shifting and changing in a complex dynamic: the present is like a flock of birds moving in unison, in full flight!

But where is the flock of birds going? Without a causal relationship, the present does not provide us with a route, or guidance, for the future. Given that the future is unfolding on, and constantly interacting with, the extended present, it is ever-present; and ceases to be a destination. The future is entrenched in the now: not simply as trends and emerging issues, but more importantly as a complex, endlessly changing entity: a product of cyclic time overlapping linear time, an amalgam of extended present constantly being impacted by familiar and unthought futures, a compound of broken ontological and epistemological time, infused with knowledge and ignorance in equal measure, and a continuum of fluctuating contradictory and chaotic developments. This demands a fundamental rethink of how we view the future.

A useful metaphor is to think of the future as a garden: a purview to cultivate, a space to shape an appropriate and healthy environment, a place to cherish (Sardar, 2005). A garden heals broken time for once established, and continuously and adequately looked after, a garden has no 'end'. In the garden there is time for everything: when to plant, when to water the plants, when to cut the flowers, when to prune and remove weeds. You have to prepare the soil and make sure it is right for the kind of plants you want to grow. You have to remove dead plants, cut down a bush or tree when they begin to suffocate other plants. And when you are all done, you start all over again. There are linear time and cyclic time in the garden. It may all look tranquil, but a garden is boundlessly changing. And it has diversity – the essence of life. There are a variety of hardy perennials that flower year after year. There are the

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annuals and the biennials that have to be planted in season. Some plants that provide various colours of foliage, or hedges and borders, or climb up fences, or play architectural roles. There are fruit trees, trees that provide fragrant and colourful flowers and trees that fix the soil and provide shade. There are the grasses so essential for the lawns. The diversity and time dimension of the garden is beautifully captured in the poem, 'Time and the Garden', by Yvor Winters. The opening verses read:

The spring has darkened with activity. The future gathers in vine, bush, and tree: Persimmon, walnut, loquat, fig, and grape, Degrees and kinds of colour, taste, and shape. These will advance in their due series, space The season like a tranquil dwelling-place. (Winters, 1999)

And what would a garden be without the proverbial birds and the bees? And those worms and insects that both enrich the soil and require some form of pest control. And all those wonderful aquatic features with gently streaming water. The thing about a garden is that all this truly monumental variety of life exists in symbiosis: nourishing each other and ensuring the overall survival of the garden. But the garden is also under constant threat from proliferating weeds, pests and plant diseases, excessive use of pesticides, wildlife, aggressive non-native plants, drought and, of course, climate change. And new threats emerge all the time!

Like the garden, the future has to be continuously cultivated. And the cultivation has to be collective – we are all gardeners and protectors of all our futures. The garden we are talking about is a public garden – open to all, involving everyone. We all – people from all cultures and perspectives - have to clear the dead and dying paradigms, notions, ideas, principles and dogmas. New paradigms, notions and ideas need to be planted. The poisonous weeds of ignorances have to be removed – again and again. The diversity and plurality of the future has to be ensured and sustained. Crops for the future generations have to be planted. New and emerging threats have to be identified and tackled. The process is ongoing without an end state. And just as gardens retain memory, futures too need to perverse what is good and healthy in traditions, what provides us with our identity, and ensures our being.

Of course, the metaphor has its limits, and should not be stretched too far. A garden, even a public one is tamed and restricted in nature. In the garden, change is slow; postnormal futures, on the other hand, change rapidly and continuously. Unlike the future, a blooming garden is not subject to unthought – unless, of course, the unthought comes as complete destruction of the garden. But the essence of the metaphor is clear: futures, like gardens, have to be nurtured and cultivated constantly and continuously, even when there is a threat of environmental collapse.

### Some of Our Tomorrows

Time is as much a part of the real world as it is a part of our mental constructions; and the dynamic of the real world often transforms our perceptions. In postnormal times, speed and accelerating change is distorting both our perception of reality and our perception of time. Consequently, the future is discounted. We are presented with potential futures as *The Inevitable* (Kelly, 2016), an a priori given fate that cannot be escaped. Indeed, the future has been conquered to such an extent that even dreaming about the future seems futile, as an advertisement for a Honda e-electric car makes clear. 'Dreams', it says, over images of a beatific woman chasing a speeding futuristic 'concept car', 'it all begins with a blank page'. 'Ask yourself', the advertisement urges, 'is a dream still even a dream if you can drive it?'. So why dream about the future when your dreams have already been realised; the future is foreclosed even before you have imagined an alternative. The fear of collapse, the real dangers posed by climate change and the violation of planetary boundaries, lead to similar perceptions of closure. After all, existence is the foremost axiom or piece of reality which shapes the structure of thinking; and the threats to our own existence leads

to paralyses both in our thoughts and our actions. We are terrified with the gigantic nature of our problems, with potentially looming collapses, with the devastating impact of climate change, and feel it is impossible to do anything about them. Hence, the writing off of macro alternative futures. When we see postnormal change moving in our direction, we triumphantly declare 'the end of history'; when it moves in the other direction, or when we cannot cope with the uncertainties that change usher, we announce 'the end of times'. The idea of obliteration is linked to the perception that we have sinned, made grave mistakes, and deserve collapse or end of times. 'It served us right', says Jean-Claude Carriere. 'A sense which acceleration obviously makes sharper, for any engine which goes faster and faster can only blow up in the end' (Eco, Gould, Carriere, & Delumeau, 1999, p. 224). It all amounts to either self-induced or scammed abandoning of agency and hope.

Postnormal times does not spell the end of times through potential collapses, even though the threats are real and urgent. Why? Because positive change can come at breakneck speed. Consider how much changed in just a few months with the arrival of Covid-19: time stopped even though the clocks ticked, the Earth rested for a short time, and the planet began to recover quickly. We have the agency to usher such timely changes. Indeed, a major function of postnormal times theory is to focus on agency and generate pathways for navigating our way out of postnormal times. We need the self-belief that we can actually change things. As for the end of times through allegedly divine prophesies - well, that will come when the sun starts its journey to become a supernova.

'We all want to have known the time of all times, the hinge of destiny, the real break with the past, the transition with no going back', says Umberto Eco. (Eco, Gould, Carriere, & Delumeau, 1999, p. 223). Postnormal times mark that 'real break', it *is* a transition with no turning back. So, it should not be a surprise that it does mean the end of particular types of time. It is the end of time for dominant paradigms of modernity, capitalism, postmodernism and many associated concepts and notions. Time is up for 'Western civilization' as we have known it, along with the speed-based life of excess it has globalised. Time is also coming to an end for neoliberalism, libertarianism and all the other pernicious isms that the West has imposed on Others throughout recent history. It is the beginning of the end for obsessive individualism, self-centred notions of freedom, and 'the diabolical character of modern liberty' that seeks *Freedom from Reality* (Schindler, 2017). It is the beginning of the end of white privilege (despite the nihilism, fatalism and resentment of some white folk). It is the middle of the end of patriarchy. And it is so utterly painful for some! In postnormal times, there are no unassailable - physical, conceptual or mental - structures: all can crumble in front of our eyes; and 'we have run out of time to build new things in old ways'. (Worland, 2020).

But the old ways continue. Not just in our thought patterns, in our, to use the words of David Andress, 'selfish wickedness', but also in the old ways of imposing power and values on others and thus exiling their futures to an arid fate. One effect of accelerating change in postnormal times is the loss of memory. Past and futures exist in the now as memory and expectation. But rapid change undermines time as memory. We lose our ability to understand and retain tradition or learn from history. The life-enhancing tradition of other cultures is either denigrated, suppressed, and written out of history. A sense of 'entitlement to greatness', based on colonisation and stolen wealth, is used to justify the status quo – not so much out of nostalgia but, as David Andress points out, from a distorted, demented version of the past (Andress, 2018). Time, as a phenomenon of memory, is thus drained of expectation as well as anticipation.

'We wrote the script of our time', says Griffiths, 'in shorthand. Literally 00. And gave ourselves short shrift with this shorthand; sold ourselves short' (Griffiths, 2004, p. 125). To keep all futures, micro and macro, plural, inclusive, and open to all viable possibilities, we need to rewrite the script of time, by long hand, with creativity and imagination, in slow time. This process begins by replacing 'me' with 'us'. So that I, along with all others, can say: I have time, therefore I am.

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