The Future: A Very Short Introduction

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1. Three thousand years of futures

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Abstract

By understanding how humans in the past have framed the future, we can gain a deeper appreciation of the significance of futures thinking. ‘Three thousand years of futures’ explores the history of time consciousness, beginning with prophets in Judaeo-Christian and Persian cultures, the sibyls of ancient Greece, and Plato’s utopian vision. It then considers the Renaissance period, which represented a

revolution in thinking and culture that pointed to a radically different future, and the 18th-century European Enlightenment. The dark side of progress—as portrayed by Malthus—is discussed along with Cornucopianism, which emerged in response. Finally, the effects of the two world wars on states' future planning is considered.

History of time consciousness

By understanding how humans in the past have storied and framed the future, we can gain a deeper appreciation of the significance of futures thinking. If we explore 'the past of the future' and its links with 'present-day futures' we will be better prepared to create wiser futures for tomorrow.

Our evolving views about the future, and their connection with time, are interwoven with the evolution of human consciousness. Cultural historians and consciousness researchers have provided ample evidence that Charles Darwin's biological theories are not the entire story of evolution. Theories about the evolution of culture and consciousness were already circulating in the late 18th century between German idealist and romantic philosophers such as Georg Wilhelm Friedrich Hegel, Johann Wolfgang von Goethe, and Friedrich Wilhelm Joseph Schelling. The idea that human consciousness has evolved over great time periods is central to the work of 20th-century thinkers such as Rudolf Steiner, Pierre Teilhard de Chardin, Jean Gebser, Jürgen Habermas, Marshall McLuhan, and Ken Wilber, to name a few. Evolution of consciousness has influenced how we have historically viewed time and the future.

p. 21 ↲ Cultural historian Gebser distils twenty years of research across thousands of years of human consciousness in his book *The Ever-Present Origin*. He theorized that five structures of consciousness developed throughout human history, calling them archaic, magic, mythical, mental, and integral (emerging). Gebser, Steiner, and Wilber also claimed that time consciousness changed with the evolving consciousness of humans throughout history. British sociologist Barbara Adam, who writes extensively on social time and the future, draws on Gebser's detailed history of culture in her book *Time*. Sociologist of futures studies Eleonora Masini undertook an analysis of time and the future in sociological, historical, and anthropological terms. Here is a brief description of Gebser's structures including the type of time consciousness that he and others associate with it.

Archaic consciousness was experienced by the earliest of humans well before recorded history and little can be known about it. Gebser's view is that the earliest of humans lived in a kind of pre-temporal experience that he called the 'ever-present origin' or 'eternal now'. Feminist futurist Ivana Milojević refers to this earliest phase as the Dreamtime, which she also calls the eternal now.

Early hunter-gatherers, nomadic peoples, and cave dwellers, who lived very close to nature, up to and including the Ice Age, experienced what Gebser called magic consciousness. He called their temporal consciousness 'timelessness' and also claimed we can have a taste of it as modern humans when we listen to music, or have other blissful experiences. Barbara Adam uses the phrase 'a time before temporality' to refer to this ancient time when humans lived in a kind of embeddedness and unity with the whole, as in magic consciousness.

The shift from magic to mythical consciousness paralleled the shift from nomadic life to settled agricultural
p. 22 villages and the world's first cities. Mythical consciousness is associated with the ↲ development of language systems that enable complex mythology and pictographic writing, astronomy, and more complex social groupings. Gebser calls the time consciousness of this mythical period 'rhythmic/cyclical'. Masini agrees, referring to the cyclical time perspective found in the mythological narratives of Buddhist and Hindu cultures.

Gebser and others place the origins of mental-rational consciousness in the ancient Greek period of the great philosophers. It led to intellectual and cultural leaps through alphabetic writing, philosophy, mathematics, elite formal education, and formal legal systems. Gebser, Steiner, and Wilber all refer to the beginnings of the concept of linear time in this period, and by association, the beginnings of the default idea of the future that we have today. Masini's linear time concept also originated in the Graeco-Roman era and is symbolized by an arrow. It later came to represent progress in the modern period of scientific and technological development. She also points to the erosion of the idea that linear time is always associated with progress, in the wake of the Club of Rome *Limits to Growth Report* in the 1970s.

The fifth type of consciousness, which Gebser called integral, began to appear with the Renaissance and is gradually strengthening in individuals and culture through advances in sciences, philosophy, human rights. It parallels the development of higher modes of reasoning, identified by developmental psychologists. Gebser's integral consciousness, being the most highly evolved, is associated with the most highly evolved time consciousness. Gebser calls this 'time freedom' or 'concretion of time' in which we are capable of experiencing all the different cultural time senses, rather than being restricted to only one. Masini's most evolved time consciousness is symbolized by the spiral, which is an integration of the circle and the arrow, and draws on the work of systems scientist and consciousness researcher Ervin László.

p. 23 ↲ These evolving temporalities have changed our future perceptions over thousands of years. The emerging time sense associated with integral consciousness will shape our futures consciousness tomorrow.

Prophets, sibyls, and divination

From the first millennium BCE, the major figures of cultural leadership in Judaeo-Christian and Persian cultures were called prophets. The word 'prophet' means 'forespeaker' (Greek), and 'delegate or mouthpiece of another' (Hebrew). In these times, the future was believed to be in the hands of God. The future was predestined as part of God's divine plan. The Prophets, who the people believed could hear and mediate the revelations of God, had great power attributed to them. They were deemed to be leaders of their people.

In ancient Persia, the prophet Zoroaster (Zarathustra) (*c*.628–*c*.551 BCE) was leader of his people and also founder of the Zoroastrian religion. He encapsulates the intimate relationship between leadership, prophecy, and religion/God/Spirit. Islam also took the title of prophet for its leader when it originated over a thousand years later.

In the Hebrew setting, where prophecy arose out of divination and seership, the main role of the prophets as messengers of God (Yahweh) was to announce prophecies. Their success at forespeaking depended on their ability to receive divine revelations, which was crucial for these early prophets, who also fulfilled quite integrated roles in their societies, as civil and religious leaders. From around 1000 BCE guilds of prophets formed and became active statesmen or mentors for the kings. Not all the prophets told the kings what they wanted to hear, however. Some of the later prophet orators were rebel-activists calling the king to account for his lack of moral or
p. 24 ethical character. One such radical reformer was the prophet Elijah, a ↲ prototype for today's critical futures thinkers who need the courage to 'speak truth to power'. The most famous Hebrew prophets were men, such as Abraham, Isaac, Jacob, and Moses. However, the Talmud names seven women, and reports that Sarah's prophetic ability was superior to that of her more famous husband, Abraham. Ironically, when Alvin Toffler published *The Futurists* (1972) his twenty-two futurists included only one woman, Margaret Mead, but he admits that the wives of several of the authors often co-authored their works, including his own wife, Heidi.

Women had a more dominant role in the future in ancient Greece where the sibyls were the oracles. Like the prophets, the sibyls were believed to have direct access to divine revelations and their oracles and predictions were treated with great respect within the culture of the time. These original Sibylline Oracles were collected and guarded in temples to be consulted in times of great crisis. Controversy surrounds these oracles, though, because in later times both the Jews and the Christians wrote similar-looking texts, which may be confused with the originals. Although the original sibyls were figures from pre-Christian, pagan times, Michelangelo immortalized five of them in the grand fresco in the Sistine Chapel (the Delphic, Cumaean, Libyan, Persian, and Erythraean Sibyls). The sibyls are often credited with being the first to predict the coming of Christ. Michelangelo painted them as the first to sense the coming of the Redeemer, linking prophecy with spiritual redemption. The call of the future in these times was a spiritual call.

While the people of the Abrahamic and other religions were heavily invested in human mediation between God and the affairs of men and kings, the Chinese were using primarily inanimate objects to interpret the universal laws and 'read the future'. As early as 1200 BCE the Chinese shamans of the Shang Dynasty were writing on oracle bones to send their messages and predictions. Much later, but guided by similar principles, the
p. 25 ↲ Vikings threw their runes to divine their futures. In medieval Europe divination was still the order of the day. Tarot cards emerged in mid-15th-century France, but it was not until the 18th century—paradoxically, after the arrival of modern science—that they were used to read the future.

Between Plato and Leonardo da Vinci

The middle of the first millennium BCE saw a shift from human reliance on the gods via messages from prophets and sibyls to the beginnings of human-centred utopian visions in Greece and Rome. Sargent tells us in *Utopianism: A Very Short Introduction* that the earlier utopian classic myths looked back to a fantasy golden age in the past, whereas the Greek and Roman utopias of Plato and Virgil (70–19 BCE) referred to human-created societies.

> This branch of the utopian tradition gives people hope because it is more realistic and because it focuses on humans solving problems, such as adequate food, housing, and clothing and security, rather than relying on Nature or the gods.

Plato's *Republic* (380 BCE) addresses questions of education, the role of both women and men in society, and presents an ideal harmonious state governed by philosopher-kings. Sargent describes it as 'the closest possible approximation of the ideal society'. Sargent makes a similar point about Virgil's images of Arcadia where 'the better world became based on human activity rather than simply being a gift from the gods'. He goes further to claim that Virgil's *Fourth Eclogue* marks a shift from the past golden age to the future.

A clearer differentiation between the past and the future was being consolidated in ancient Rome. According to de Jouvenel the Roman philosopher Marcus Tullius Cicero (106–43 BCE) made an important distinction between
p. 26 'facta: what is accomplished and can be taken as solid' and 'futura: what shall come into being, and ↲ is as yet "undone" '. De Jouvenel went on to argue that therefore there can be no science of the future because 'the future is not the realm of the "true or false" but the realm of the "possibles" ', or what he called futuribles. While time theorists may critique de Jouvenel's concepts of facta and futura as oversimplification, they were merely starting points to more nuanced concepts in his art of conjecture.

Macrohistorians Johan Galtung and Sohail Inayatullah refer to Chinese philosopher Sīmǎ Qiān (145–90 BCE) as one of the first futurists in that he charted cycles of virtue spread over 30-, 100-, 300-, and 1,000-year time spans. Remarkably, Sīmǎ Qiān and Cicero, although writing just a few years apart, represent the two sides of that worldview shift from cyclical time to linear time.

Only a few signposts can be found in the human journey to understand the future during the so-called Dark and Middle Ages. The first to develop a utopian vision within the relatively nascent linear time concept was Christian theologian and philosopher Augustine of Hippo (354–430 CE), who wrote the *De Civitate Dei* (translated as *City of God*) in 426 CE. Augustine proposed a utopian future society based on love, drawing from the Christian teachings of his times.

Several hundred years passed before the next significant utopian visionary. In the late 12th century, Sicilian abbot and mystic Joachim of Fiore (1135–1202) developed a prophecy of three great ages on earth. He predicted the third age would begin in the year 1260 when the earth would become the scene for spiritual action. Dutch sociologist and politician Fred Polak offered important insights into the contrasting concepts of the future of Augustine and Joachim in *The Image of the Future* (1955). In Polak's view, Augustine's utopia is a platonic ideal that attempts to remake the world by raising it to a heavenly form—to spiritualize the world so that it becomes a
p. 27 City of God. ↲ In Augustine's approach to the future, humans were passive in the face of a transcendent God and powerful Church. By contrast, in Joachim's third age humans are responsible for transforming the earth through their actions. Joachim's approach inspired the brotherhoods of mendicant monks in Europe and led to 'social utopism and utopian socialism'.

Ironically it was in 1260, the year that Joachim proposed for the start of his third age on earth, that English philosopher, monk, and mathematician Roger Bacon (*c*.1220–1292) published *Epistola de Secretis Operibus*. Roger Bacon (unlike Francis Bacon, 400 years later) is often overlooked in the literature and yet he foresaw that scientific knowledge would one day lead to the invention of the motorcar, the helicopter, and the self-propelled ship. I include an extract from Bacon's *Epistola* here cited in Clarke's *The Pattern of Expectation 1644–2001*.

> … cars can be made so that without animals they will move with unbelievable rapidity … Also flying machines can be constructed so that a man sits in the midst of the machine revolving some engine by which artificial wings are made to beat the air like a flying bird.

Roger Bacon's scientific writing was rediscovered in the 19th century and is viewed as a forerunner to Francis Bacon's development of experimental method. His *Epistola* however falls more into the category of his alchemical writings than his scientific writings. I see it as a prototype for science fiction.

A century after Roger Bacon, North African Arab historian Ibn Khaldun (1332–1406) published *The Muqaddimah* (1377), which macrohistorians tell us included a cyclical theory of social change tracing patterns of nomadic conquest, consolidation, waste, decadence, and further conquest. Whether the future is a site of progress or decline, or merely repeated cycles, is still topical in the 21st century.

p. 28 Renaissance futures

The Renaissance represented a revolution in thinking and culture that pointed to a radically different future. It spanned a long period of great artistic and literary creativity in Europe from the late 14th to the 17th centuries. Leonardo da Vinci (1452–1519) was a significant early futures' visionary who, before the end of the 15th century,

produced comprehensive drawings and models of flying machines and war machines. Over ten years from 1488 he also developed a comprehensive model of an ideal city as a response to the plague that ravaged Milan. Leonardo's ideal city included infrastructure such as wide roads, fresh air vents in buildings, and underground sanitation systems to prevent the spread of disease, but the grand scale of the design was too large to be built at the time. Da Vinci was a Renaissance futurist whose visions provided prototypes for inventions that were built centuries later.

In parallel with the Renaissance, there was a great era of maritime exploration by the Spanish, Portuguese, British, French, and Dutch. These explorers ventured by sea beyond Europe across the Atlantic, the Indian Ocean, and the Pacific, claiming territory for the kings and queens. French philosopher Edgar Morin refers to this as the beginning of the 'planetary era'. This marked both the beginnings of European colonization of other parts of the world and the beginnings of globalization with the formation of the first multinationals such as the British East India Company and the Dutch East India Company at the beginning of the 1600s.

This spirit of exploration beyond the known world most likely inspired the utopian writers to imagine other lands where life could be improved through a fresh start. The utopias of this period are utopias of another place rather than a future time, which came later. The best-known utopian narrative is Thomas More's *Utopia* (1516). It was a
p. 29 forerunner for socialist visions in which ↲ the values of the community were more highly prized than those of the individual in society.

The prophetic writing of Nostradamus' *Les Propheties* (1555) is often left out of histories of the future, perhaps for fear it might bring ridicule to a field that many have tried to establish as a science. In sharp contrast with Nostradamus' imaginative prophecies, Nicolaus Copernicus (1473–1543) published *On the Revolution of the Heavenly Spheres* in 1543, initiating a major shift in thinking from a geocentric to a heliocentric universe, called the Copernican Revolution. Probably anticipating that the Church would view his publication as heretical he waited until just before his death to publish it. His publication is claimed to have started the scientific revolution, through what was called the 'new astronomy'.

In 1589, Spanish theologian Louis de Molina (1535–1600) entered the centuries-old theological debate on free will versus determinism in relation to the future. In his book *Concordia*, Part IV: *On Divine Foreknowledge*, de Molina came up with the notion of 'futura' which suggested that the future was neither fully determined by God nor fully free for humans, but that there were contingent and possible futures for humans that God could know, hypothetically. This debate is too complex to consider in detail, but de Molina did influence later ideas.

A century after More, Italian philosopher and Dominican monk Tommaso Campanella (1568–1639) published *La città del sole* (1602) translated as *The City of the Sun*. The story is told as a dialogue between a Grandmaster of the Knights Hospitallers and a Genoese sea-captain, his guest, who is telling the Grandmaster of the amazing city he has seen on his travels. The story begins with a physical description of a city built on a great hill and divided into seven huge circles. As the description goes on, it becomes more involved in esoteric details, which seem to
p. 30 draw some inspiration from Augustine's *City of God*. The pre-modern ↲ mind-set is evident in the last section where the Grandmaster gives an astrologer's view of the coming age.

> Oh, if you knew what our astrologers say of the coming age, and of our age, that has in it more history within 100 years than all the world had in 4,000 years before! of the wonderful inventions of printing and guns, and the use of the magnet, and how it all comes of Mercury, Mars, the Moon, and the Scorpion!

Medieval utopias were often linked to religious values and yet in many cases the Church persecuted the authors for their views. For example, Campanella spent twenty-seven years in prison for his heterodox views, but ironically wrote most of his work there. He fared better than More, who was executed.

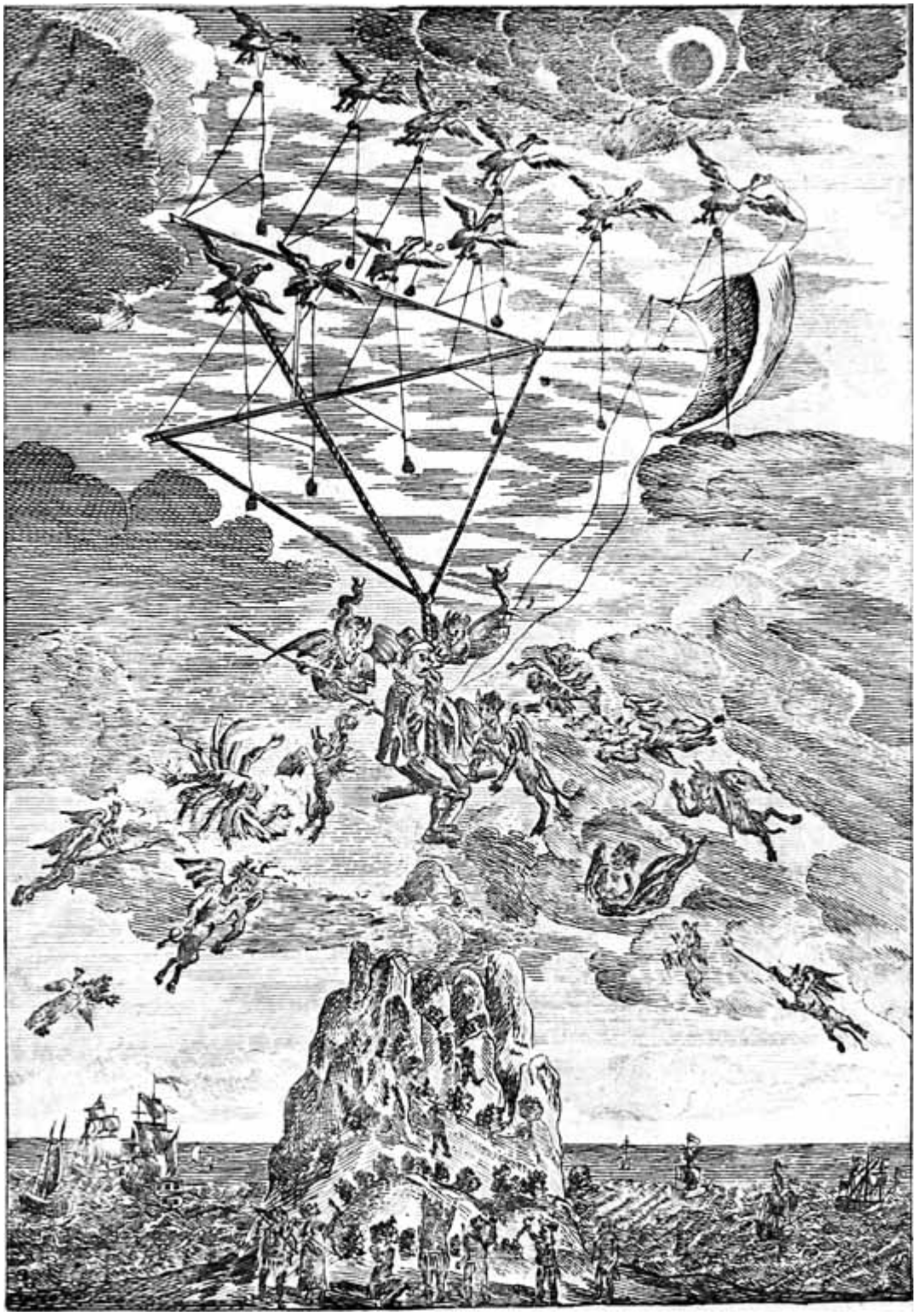
The first scientific bid for the future

Throughout the 16th and 17th centuries great upheavals were taking place all over the world: the artistic renewal and inventiveness of the Renaissance; the exploration and colonization by Europeans of other lands; and the transition from the mythical and religious visions to futuristic visions inspired by modern science, heralding a shift in power from church dogma to modern scientific discovery. The scientific revolution and the Age of Enlightenment introduced the first scientific and rational bid for the future.

English scientist Francis Bacon's (1561–1626) *New Atlantis* was published in 1627, the year after his death. Bacon is often called the father of empiricism, because he developed the inductive scientific method. Bacon's vision takes a more scientific approach than earlier futuristic narratives. It marks a transition from the medieval outlook that sought happiness in the ideal, spiritualized visions of Augustine or Campanella to a worldview believing in the possibilities of modern science and human progress. His vision included idealistic views of human
p. 31 qualities ↲ and a state-funded research college foreshadowing the Enlightenment, from which sprang modern research universities.

Soon after Bacon's utopia René Descartes published his *Discourse on Method* (1637) in which his famous dictum 'Cogito ergo Sum (I think, therefore I am)' appeared. Descartes's arguments for the mind–body split founded what is known as Cartesian (or French) Rationalism and inspired the French Enlightenment.

The new astronomical writings of Copernicus, Johannes Kepler, and Galileo Galilei inspired the beginnings of futuristic fiction that looked beyond earth to the moon and other planets. English bishop Francis Godwin's fantasy narrative *The Man in the Moone* (published posthumously in 1638) is often considered to be one of the first works of science fiction (see Figure 3). Starting off as something of a terrestrial utopia it develops into a fantasy in which the lead character constructs a flying machine, powered by large wild swans, which are able to carry him to the moon in a matter of twelve days.



3. Francis Godwin's *The Man in the Moone* cover image 1768. Illustration of *The Strange Voyage and Adventures of Domingo Gonsales to the World in the Moon.*

In a more pragmatic vein British scientist Robert Boyle wrote twenty-four scientific predictions, known as *Boyle's Wishlist* (1662), most of which have since been invented. In 1679 German philosopher and polymath Gottfried Wilhelm Leibniz published *The Ultimate Origin of Things* in which he put forward an evolutionary treatise that

foreshadowed both the evolution of consciousness writings of the German idealists and the biological evolution theories of Darwin.

French author Bernard le Bovier de Fontenelle (1657–1757), following in the footsteps of Godwin, published *Entretiens sur la pluralité des mondes* (1686) on the possibility of life on other planets. It is surprising that he has not been claimed by transhumanists as one of their pioneers. The following year Isaac Newton published his
p. 32 *Principia Mathematica* (1687) marking the birth of modern science. ↲

p. 33 ↲ This rapid series of developments saw modern science and Enlightenment rationality taking precedence over the rules set forth by the Church and the medieval (or Hermetic) sciences of astrology and alchemy. It was the beginning of the period of the future as determined by the rules of reason and science. The tensions between modern science and the Hermetic sciences are particularly marked in Isaac Newton, who was both the father of modern science and the last great alchemist, and Francis Bacon, both the father of empiricism and leader of the Rosicrucian movement in England.

Enlightenment futures

The 18th century was the period of the European Enlightenment when important writings were published that formed the basis of rational philosophy and theories of knowledge for the coming centuries. A few outstanding contributions had particular impact on humanity's view of the future.

Bertrand de Jouvenel draws our attention to an important contribution to futures thinking made by French mathematician and philosopher Pierre Louis Moreau de Maupertuis, who wrote about 'memory and prevision' in his published *Letters* (1752). De Jouvenal quotes Maupertuis as saying, 'the one is a retracing of the past, the other is an anticipation of the future'. Other notable contributions were the first *Encyclopedia*, coordinated by French philosopher Denis Diderot over twenty years (1751–72), followed by the *Critique of Pure Reason* (1783) by German philosopher Immanuel Kant (1724–1804). Jean-Jacques Rousseau published *The Social Contract* (1762), representing his utopian view of a society in which the common people were fully engaged in creating the rules of society—an early form of participatory democracy. French writer Louis-Sébastien Mercier published his utopian novel *L'An 2440* (1771) in which his world of 'peaceful nations, constitutional monarchs, universal
p. 34 education and technological advances' was an extension of Bacon's *New Atlantis*. ↲ Clarke described Mercier as an optimist who believed that 'the combined logic of humanity and of science would inevitably lead to concord and co-operation throughout the planet'.

Scientific advances led to the launch of the first balloon in Paris in 1783, which precipitated a shift in the futures' psyche of Europe. The Montgolfier balloon event (see Figure 4a) led to a rapid increase in images about the coming advances of technology, especially images of humans taking flight in various forms (see Figure 4b). A flurry of futuristic fiction followed, inspired by this novel scientific invention that at last enabled humans to take mastery of the air: a vision for at least 700 years. In French, the new genre was called 'roman de l'avenir', in English 'the tale of futurity', and in German, 'Zukunftsroman'.

4a. Montgolfier balloon, 1783. Illustration of the launch of the first balloon in Paris.

4b. French fantasy images of flight, 1900. French utopian flying machines of the previous century, exhibited as 'The Dream of Flight' in 2003–4. A wonderful flight of aerial fancy.

The second half of the 18th century was a time of great political and social upheaval across much of global society. The British Industrial Revolution (*c*.1760) was followed by the American Revolution (1765–83), and subsequently, by the French Revolution (1789–99). Each dramatically influenced the views of the future in their societies and beyond to the wider world.

Important theories arose from the middle of this century that sowed seeds for the two contrasting futures we see today: human-centred futures and technotopian futures. Publications influenced by La Mettrie's mechanistic view of human nature, the theories of human progress of Turgot, de Condorcet, and the German idealists and romantics are discussed in the chapter devoted to that struggle (Chapter 5).

The last decade of the 18th century was known in Germany as the High Romantic period, during which the German idealist and romantic philosophers were very active and inspired by the French Revolution. Goethe published *Wilhelm Meister's Apprenticeship* (1796) founding the genre of the *Bildungsroman* or philosophical
p. 35 evolutionary novel. Schelling published his *System* ↲ *of Transcendental Idealism* (1800), which incorporated his views on conscious evolution. These philosophers contributed a great deal to the emerging humanistic ideas of human progress, and cultural and intellectual futures. They are still very influential today in theories about
p. 36 futures of thinking and consciousness. ↲

p. 37 ↲ However, right at the end of this heady century of great scientific and technological progress, philosophical awakening, post-colonial revolutions, and a great burst of techno-utopian futuristic fiction across Europe, the first cracks in the dream of endless progress began to appear. Clarke describes the highs and lows of utopias and dystopias very eloquently in the following words.

> The tale of the future tends to be a literature of extremes … by tracing the curves of hope and fear to their logical conclusions in visions of social perfection, or in forecasts of terrible wars, or in extravagant fantasies of human power.

The dark side of progress

On the verge of the spread of the Industrial Revolution across continental Europe a publication appeared in London called *An Essay on the Principle of Population as it affects the Future Improvement of Society* (1798). It was first published anonymously but the author was soon identified as English cleric Thomas Malthus. Malthus critically questioned the optimistic utopian views of Godwin, Mercier, and de Condorcet, and the theories of progress of Turgot. Malthus was a philosophical dystopian in that he argued that so-called infinite progress and prosperity brings with it serious problems. His theory proposed that exponential population growth would lead to a dystopian future of overpopulation stripped of the resources required for human survival. Malthus became an inspiration for pessimistic groups that later became known as Malthusians.

In combination with the Industrial Revolution taking hold in Europe, Malthusian theories seemed to precipitate a surge of anxiety about the future of humanity. There was a dramatic swing in the emphasis of futuristic fiction from techno-optimism, to questions and fears about the very survival of the human race.

p. 38 ↲ In the first three decades of the 19th century a new genre of apocalyptic fiction and art emerged, with the theme of the *Last Man*. English researcher Catherine Redford tells us that the first was *Le Dernier Homme* (1805) by Jean-Baptiste Cousin de Grainville. While Lord Byron and Thomas Campbell also wrote on the theme, the best known is Mary Wollstonecraft Shelley's *The Last Man* (1826). Paradoxically, just prior to the surge in last man narratives, French writer Nicolas Restif de la Bretonne published *Les Posthumes* (1802), which introduced the notion of Superman for the first time in fiction.

By the mid-19th century with the deaths of key German romantic philosophers, the romantic thread of literature in France, Germany, and England gave way to more pragmatic approaches to the future. During the 1830s to 1860s Auguste Comte, founder of sociology, developed his theories of social evolution and positivism. Wendell Bell suggests that Comte's discussion of the metapatterns of social change presages futures studies as a scholarly discipline.

Karl Marx and Friedrich Engels published *The Communist Manifesto* (1848), a political pamphlet idealizing a communist society beyond class struggle. Marx had a paradoxical and controversial take on the future in that he condemned utopians and denied his own utopian intentions. Yet, as Bell points out, his '*Manifesto* is regarded by many as one of the most influential utopian visions in human history'.

Darwin published *The Origin of Species* (1859) on his biological evolution theory. Herbert Spencer's social engineering theories in the 1870s were influenced by Comte's social evolution theories, Marxian socio-economic ideology, and Darwinian evolution. Comte and Spencer's social engineering, applying biological concepts of

natural selection and survival of the fittest to sociology and politics, was gaining popularity in Europe and the USA.

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Science fiction and early forecasting

By the late 19th century belief in universal human progress was reaffirmed. Spurred on by the theories of evolution, the triumph of scientific invention, and the celebration of materialism, the idea of endless change was gaining psychosocial acceptance in society. Cornucopianism emerged in response to Malthus taking its name from the cornucopia, or *horn of plenty*, a symbol of abundance and overflowing riches. Cornucopianism is unbridled optimism about the future and confidence that technology will meet all the demands of society. Lindsay Grant tells us that Cornucopians argued either that population growth is good because it will solve itself or that shortages can be made good by technology. Their theory was that the population predictions of Malthus did not adequately take into account the potential for exponential growth in scientific inventions to overcome the problems.

These philosophical ideas were being integrated into the new forms of science fiction, which began to include both utopian and dystopian narratives. The new genre, which became the dominant mode of future narrative for the next few decades, was science fiction. Some outstanding contributions were published in the 1870s, including Jules Verne's ecological utopia *Twenty Thousand Leagues under the Sea* (1870); George Tomkyns Chesney's dystopian science fiction novel *Battle of Dorking* (1871); Edward Bulwer-Lytton's *Vril: The Power of the Coming Race.* Each of these has been credited with contributing to the birth of the science fiction genre.

A few years later Edward Bellamy (1850–98) published *Looking Backwards* (1888), a visionary socialist novel; William Morris published *News from Nowhere*, in part a response to Bellamy's brand of utopian socialism. Morris was more focused on changing the quality of work to make it more useful, creative, and artistic than quantitatively reducing the number of hours of labour.

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↲ Before the end of the century H. G. Wells had published *The Time Machine*. Within a decade, Wells established himself as a significant writer of 'true science fiction', in that his writing was based on sound scientific knowledge. In addition to science fiction, more serious notions on the reorganization of society were arising, precipitating the beginnings of more formal kinds of forecasting. Wells was in the forefront of it. He launched modern social and technological forecasting which took another fifty years to become fully established.

Building on the embeddedness of futuristic fiction within the human psyche for at least a century, inspired by technological and scientific progress, and still wedded to the theories of progress, a new kind of forecasting was beginning to emerge. For twenty-five years, from 1890 right up until the declaration of war in 1914, forecasts about all manner of subjects appeared in newspapers and magazines. Dozens of books were published in Europe and the USA, most of which were full of techno-optimism. In the early 20th century pioneering, futures-oriented, education approaches were developed by Maria Montessori and Rudolf Steiner in Europe, and John Dewey in the USA to name just a few. Radically new scientific and philosophical ideas also appeared. Leading physicists such as Albert Einstein and Max Planck, and philosophers such as Alfred North Whitehead and Henri Bergson, turned the concept of linear time on its head. Their new theories of relativity, quantum mechanics, process philosophy, and multiplicity of time offer more of a sense of time freedom, which can empower us to choose our own time and our own futures.

The social Darwinism of Comte and Spencer came under attack from social scientists after they were used to rationalize many racist and ethnocentric social abuses—including slavery, colonialism, ethnocide, and the horrors of totalitarian eugenics. Early 20th-century cultural anthropologists developed powerful critiques of these models.
p. 41 Their critiques included claims that ↲ social engineering ideologies are ethnocentric, unilineal, and privileging progress rather than preservation.

Suddenly after the outbreak of war an explicitly dystopian turn broke through. A new generation of futurists appeared who rejected the techno-optimism of the 19th century, and began to seriously question the progress narrative. The rose-coloured utopian glasses turned to black and the genre of the dystopian novel was born, warning about the dangers that confront technological civilizations, and full of fear that humans will invent and use weapons to wipe out the human race. John Stuart Mill (1806–73) coined the word *dystopia* in the British Parliament in 1868, but the dystopian literary genre proper did not begin until the 20th century.

Gregory Claeys opens his chapter on the origins of dystopia in the *Cambridge Companion to Utopian Literature* with the subtitle ‘malice in wonderland’ presaging his discussion of the dystopian turn from the late 19th to mid-20th century. He claims that dystopia became the predominant expression of the utopian ideal, and he linked this to the failures of totalitarian regimes. The era of the dystopian novel encompassed visionary narratives of so-called utopias that turned into dystopias through their obsession with control. The fiction of the post-First World War period was decidedly dystopian, presenting fears and anxieties that a further great crisis was looming. Like the Last Man genre a century earlier, it reawakened fears that the final catastrophe was on its way. Notable dystopian novels of that period included Cicely Hamilton’s *Lest ye Die* (1928), Aldous Huxley’s *Brave New World* (1932), and H. G. Wells’s *The Fate of Homo Sapiens* (1939).

After the First World War the future also became a subject of growing interest to a wider range of professions. From 1923 for almost a decade, British publishers Kegan Paul, Trench, Trubner & Co. commissioned an innovative series of small books called the *To-day and To-morrow* series. Over 100 of these concise
p. 42 ↲ monographs were published to describe the current status of science, technology, and/or society. Their intention was to forecast a *mostly* progressive long-range future view of the next century or so. Because this series emerged after the optimistic pre-war era, it reflected the post-war age of future anxiety. Some of the monographs expressed the controversies associated with this biological, technological, and sociological anxiety. The authors included a full spectrum of scientists, philosophers, and poets, as well as novelists, sociologists, and theologians, many of whom became well known in their own right. The first in the series was *Daedalus, or, Science and the Future* (1923) by British scientist J. B. S. Haldane. It is referred to by transhumanists as a seminal text.

War planning or peace creating?

In response to the First World War US President Herbert Hoover created a Research Committee on Social Trends in 1929, headed by William F. Ogburn. Using past statistics to chart trends and extrapolate to the future, Ogburn pioneered technology assessment, producing the first report *Recent Social Trends in the United States*. In 1928, one year prior to Hoover’s initiative, the USSR began its five-year economic plans (Gosplan), which continued until the collapse of the Soviet Union in 1991. In 1933 Hitler initiated the first four-year plan for Nazi Germany, followed by the Goering Plan including control over wages, production, and working conditions.

Planning had entered the global geo-political psyche followed by the quest to find more complex ways to predict or understand the future. By 1939 when the Second World War broke out, heads of state all over the globe were making plans. After the war, national planning blossomed everywhere. Capitalists and communists alike introduced forecasting work, mostly the predictive variety, into their planning and decision-making processes, which were tightly linked with the war efforts.

p. 43 ↲ Throughout the 1930s until the outbreak of the Second World War most forecasts spelled destruction and devastation in line with the themes of the dystopian novels. The simple and unidimensional notions of utopian societies came under attack in the aftermath of the Second World War during which the dangers inherent in the ideological utopianism of a Hitler became all too evident. Simple dystopian figures such as medieval dragons were replaced by more complex dystopian metaphors. These were found in the science fiction of George Orwell's *1984* (1949), Isaac Asimov's *I, Robot* (1950) series of short stories, and Ray Bradbury's *Fahrenheit 451* (1953).

The next three decades (1940s to 1960s) saw the future becoming the focus of increased state planning efforts related to military-industrial interests. Building on President Hoover's planning efforts, the RAND Corporation was founded in 1945 as a leading think-tank to assist with US war efforts. RAND produced reports on the future of military technology, strategy, operations, and the containment of communism. Financed by the US Air Force it was the foremost organization focused on developing prediction and forecasting methods for military and industrial goals. Paradoxically, the dominance of the military emphasis inadvertently provoked a counter-movement that led to the rise of alternatives focused on peace research.