







A HISTORY OF THE FUTURE

The realm of futurism, together with future-focused art and film, helps shape the way we anticipate the passing of time. When we look back, those prophecies also serve to open a window on who we were as a culture back then, and what frightened and intrigued us most about the world around the corner. Chris Wright looks back at the future in the eyes of many great minds, plus a few twisted ones

and artificial intelligence, with accounts of acceleration and progress, of doom and imminent destruction, with scenarios, predictions, prophecies and manifestoes."

FUTURES WE'VE LOST

Our views of the future have varied from the happily technological ("when will I get a hoverboard like they have in *Back to the Future?*") to the deeply existential, about the nature of society and humanity itself. Looking at the future can mean everything from silly ray guns, to bleak worlds devastated by climate change or nuclear war.

It has got to the point, Rosenberg and Harding say, where we now get nostalgic for old views of the future, even those that never actually got around to happening. "Our sense of the future is conditioned by a knowledge of, and even a nostalgia for, futures that we have already lost."

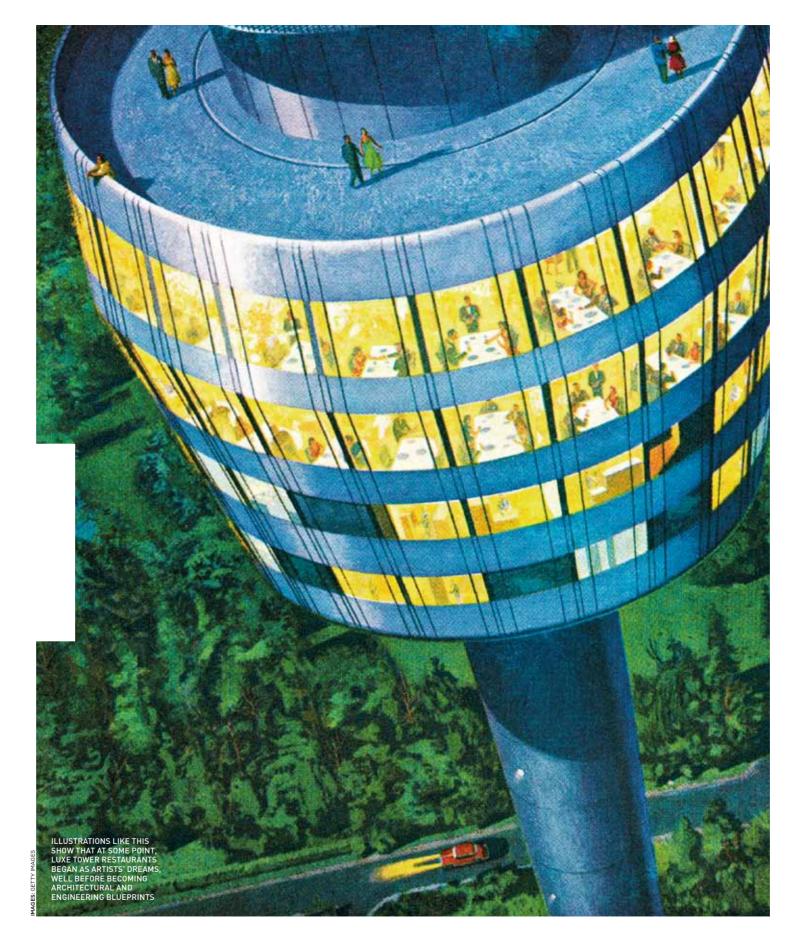
Some people are remarkably good at seeing the future. Leonardo da Vinci, whose sketches appeared to predict everything from the helicopter to the ball bearing or the diving suit, is one example. "Da Vinci is known as a great painter, but he

ONE THING'S FOR SURE: OVER THE LAST CENTURY, THERE HAS BEEN NO SHORTAGE OF PEOPLE TRYING TO WORK OUT JUST WHAT THE FUTURE WOULD LOOK LIKE, FOR BETTER OR WORSE

completed only about 25 works," writes Donna Goodman in her book, A History of the Future. "Most of his life was spent creating conceptual designs."

More recently, some insights have proven highly prescient in their prediction of the information age. Theodor Holm Nelson, from whom the opening line of this article is borrowed, was writing as early as the 1960s about a new, information-led era in which people would be able to access stored text and graphics from anywhere in the world, through what he called a universal hypertext network. Today, we'd call this the internet.

"There will be hundreds of thousands of file servers — machines storing and dishing out materials," he wrote. "And there will be hundreds of millions of simultaneous users, able to read from billions of stored documents, with trillions of links among them." Despite his foresight, he didn't



CONNECTING THE DOTS

One useful way to try to see the future is through the odd results that fly up from unexpected connections. Two writers, Anna Tsing and Elizabeth Pollman, devised a game called "Global Futures" to try to appreciate the idea of these connections, which they call contingencies, and to work out where they might go next.

Examples of contingencies, they say, include: why is Thai food so spicy? And how did Arab and Chinese tools help 16th century Europeans aim their guns? (The answer to the first is that Portuguese traders brought chilli peppers to Southeast Asia from Brazil; the answer to the second is that the concept of triangulation, which is used to improve the aim on a gun, came about by combining an Arabic astrolabe and a Chinese compass.) "Contingency," they write, "surrounds us, but we ignore its power to shape the future."

Even if you never get around to playing the game, it has quite a set of tools. There are mission cards which say things like "create a revolution with a coalition of at least two unlikely allies", or "corrupt a nation's government". Or even "invent a plausible new technology that transforms the relationship between two species". There are cards to help you with ideas, with pictures of Eskimos, Fidel Castro, a baseball game and a pot of tea, among numerous other things.

And if it all seems silly, the authors ask you to consider the interconnections that led to the Asian financial crisis; or the unlikely alliance of environmentalists and labour unions that shut down the World Trade Organisation negotiations in Seattle in 1999. "And since September 11, 2001, airplanes are no longer just transportation vehicles but also potential missiles. Before each of these events, their combination of elements would have seemed unpromising as historical agents. Now they are making the future."



he future's just not what it used to be. In the oldest times, people had grand ideas while looking forward. Plato, writing some 2,400 years ago, described in *The Republic* a perfect city-state and community, and how it might come to be. In 1516, Sir Thomas More's *Utopia* created a perfect fictional island society that solved all the moral and practical challenges of the day.

Yet since then, literature seems mainly to have depicted the future as being utterly miserable — ruled by authoritarian governments, consumed by soulless corporate societies, or struggling to make sense of a ruined, post-apocalyptic world.

One thing's for sure: over the last century, there have been no shortage of people trying to work out just what the future will look like, for better or worse. As Daniel Rosenberg and Susan Harding write in their 2005 book *Histories of the Future:* "We have been living through boom times for the future."

They note, "Whether in modes of progress or apocalypse, the media flows over with anticipations of things to come, with utopias, dystopias, stories of time travel

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None of these particularly paint the future

as the sort of place you would want to spend

much time — although the latter two do at

least offer a world with highly liberal views

towards sex. even by today's standards. The two British books are probably the

Orwell's 1984 came out in 1949 — though

it was written in 1948, with the idea being

to reverse the two digits in order to pick a

totalitarian world in which not only people's

language the now-familiar expressions "Big

Brother", "Newspeak" and "Thoughtcrime".

breed babies in bottles through engineering

harvesting them specifically for their role in

society, and keeping the lower castes dim by

starving them of oxygen in the earliest years

— or putting them off books and flowers as babies through the use of electric shocks. To do otherwise, the authorities argued, would

be to create a world of unhappy competition;

better instead to have one in which everyone

Brave New World was all about

Brave New World, published in 1932,

wasn't quite as bad, but it was still very

much about control. Under its dystopian

world view, the authorities would soon

rather than childbirth, genetically

knew their place.

future year that could portray a horrible,

controlled. This is the novel that gave our

best known, and represent interesting

alternative views of soulless misery.

actions, but their minds, were being

seem to have predicted that we would also spend a great deal of time squandering this extraordinary resource, watching YouTube videos of cats falling off sofas.

JADED VISIONARIES

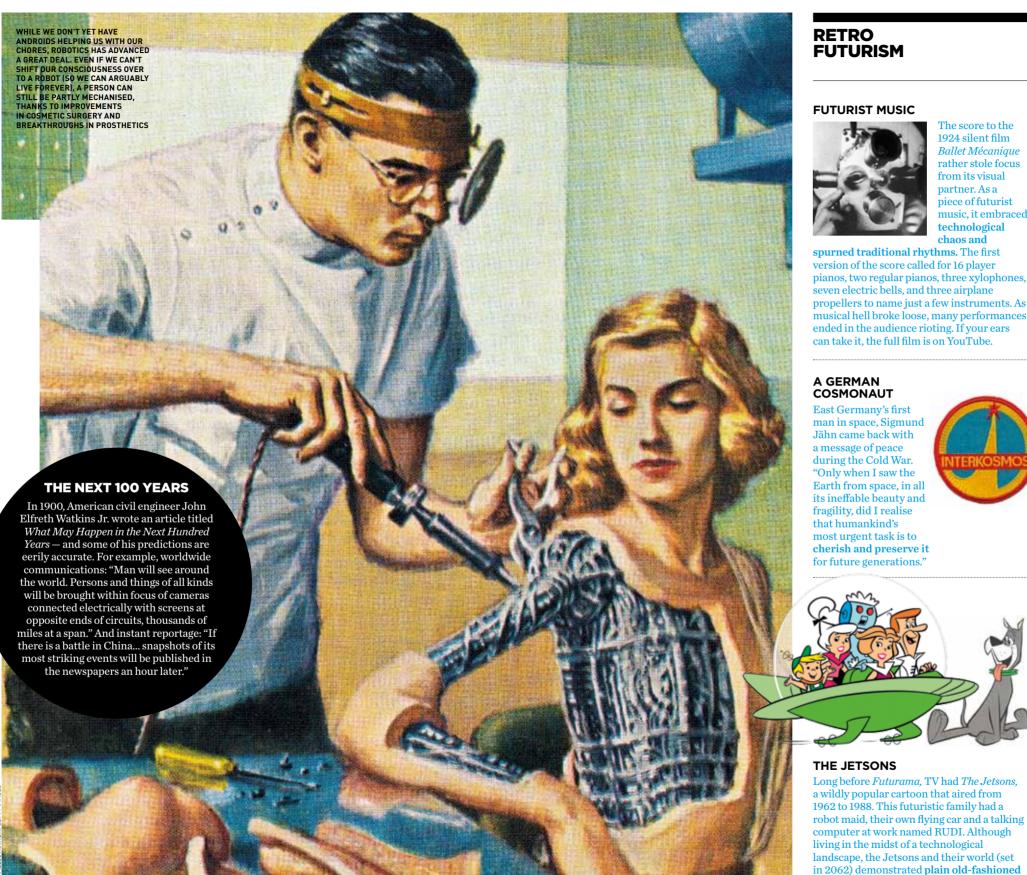
Nelson anticipated home computers before they existed, as well as word processers, and writing that could be filled with links to other things. As such, he is now considered something of a prophet in his industry. It is still possible to get hold of his book Computer Lib, which he had to self-publish in 1974 because nobody else was interested

HOW ABOUT SHARPER-THAN-LIFE ANDROIDS? LIFE ANDROIDS?
BLADE RUNNER,
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in its far-out ideas. Today, rather than odd. the volume is considered extraordinarily relevant. As Nelson himself has said, he has been "abruptly promoted from Lunatic to Visionary."

Yet what's also interesting about Nelson — and not uncommon for those with such a gift for clear thinking — is that he didn't view the future with any great sense of optimism. "Nelson regarded the future with both fear and hope," writes Rosenberg. "He envisioned the future as a coming social and ecological disaster that only the swiftest and most general change of direction might avert." Nelson would perhaps say that it is now up to us to make predictions come out wrong.

In this, he has much in common with a great many 20th century writers, who looked to the future with dread, and wrote about it as a warning about our current direction. written from the time they lived in. The three classics in this field are often held to be Aldous Huxley's Brave New World, George Orwell's 1984, and We by Yevgeny Zamyatin.



The score to the 1924 silent film Ballet Mécanique rather stole focus from its visual partner. As a piece of futurist music, it embraced technological chaos and

spurned traditional rhythms. The first version of the score called for 16 player pianos, two regular pianos, three xylophones, propellers to name just a few instruments. As musical hell broke loose, many performances ended in the audience rioting. If your ears

values and a traditional nuclear family.



consumption, with a dating system called AF, for "After Ford" — the years since Henry Ford's invention of the Model T. "Our Ford," the book's characters said in place of "Our Lord". Huxley created a preordained community of efficiency in which people relaxed with a drug called soma, something of an opiate for the masses. Those who have read David Mitchell's more recent Cloud Atlas, which binds together six different stories spanning from the 17th century to a post-apocalyptic future, will notice a lot of parallels between Brave New World and Mitchell's chapter, set in a futuristic Seoul, now called Nea So Copros. In this thread, genetically engineered clones called fabricants are bred to conduct menial tasks for a privileged elite; the fabricants in Cloud Atlas are kept in a controlled consciousness through a drug called soap.

WHICH FUTURE WON?

So are we in 1984 or a Brave New World? "Which template would win, we wondered?" asks the novelist Margaret Atwood in an essay from 2007. "During the Cold War, 1984 seemed to have the edge. But when the Berlin Wall fell in 1989, pundits proclaimed the end of history, shopping reigned triumphant, and there was already lots of guasi-soma percolating through society. True, promiscuity had taken a hit from AIDS, but on balance we seemed to be in for a trivial, giggly, drug-enhanced Spend-O-Rama. Brave New World was winning the race."

That picture changed once again, she continues, with the attack on New York's Twin Towers in 2001. "Thoughtcrime and the boot grinding into the human face could not be got rid of so easily after all," she writes. And since the time that she wrote her essay, the revelations about agencies in the United States and United Kingdom monitoring people's internet use seem to only reinforce that point. Yet there's still plenty of Brave New World around as well, with shopping malls stretching into eternity, and continuing developments in genetic engineering. "Would it be possible for both of these futures — the hard and the soft — to exist at the same time, in the same place? And what would that be like?" Atwood asks.

In all of these books, of course, the writers were partly describing their here and now. Huxley had just been to America when he wrote Brave New World, and in particular California. He had been horrified by the unified, corporate, consumerist world he saw developing there — and was in some ways depicting a highly satirized version of that. When he came to write a foreword 15 years later for a new edition of his book, the horrors of World War II having happened in the meantime, he wrote, "Then, I projected it 600 years into the future. Today, it seems guite possible that the horror may be upon us within a single century. That is, if we refrain from blowing ourselves into smithereens in the interval."

Zamyatin was writing about his own experiences in Russia when he penned his dystopian novel, in which everyone is known by a number (the protagonist is D-503) in the One State, an urban agglomeration built of glass, right down to the walls of people's houses, so they can be supervised. People march in step, wear identical clothing, and sexual jealousy has been eliminated by a strict government-controlled rota system through which anyone can sleep with anyone else, provided they put in their order forms.

As for Orwell, he doubted much of what he saw in Britain in 1948, and there is no question his book was a warning of where things were going, just as his *Animal Farm* was a clear comment on communism. In fact, if you go even further back to H. G. Wells' *The Time Machine*, one of the very first novels to take a daring look at the future, his vision wasn't really about the future at all, but Victorian England.

FINAL FRONTIERS

After Orwell's time, television became the most important medium of communication, and so visions of the future shifted there — to a far more positive view. Step forward, *Star Trek*.

With its Warp Factor Eight, Klingons and phasers, *Star Trek* may at first seem to be pure flippant science fiction: all light entertainment, no substance. Not so, as

RETRO FUTURISM

FROM YEN TO YUAN

Two of the most famous pieces of dystopian fiction of all time are the film *Blade Runner* (1982) and *Neuromancer*, a 1984 novel by William Gibson. During the early 1980s, Japan was a global economic superpower — which is why both these pieces are drenched in East Asian culture. "Modern Japan simply was cyberpunk," Gibson said. On his first visit to the city, he recalled that a man, "his face drenched with the light of a thousand mediasuns — all that towering, animated crawl of animated information — said, 'You see? You see? It is *Blade Runner* town.' And so it was."

Look at science fiction today, and you'll see a future coloured by China's rise to power. For example, the 2012 movie Looper saw a time-travelling crime boss tell a younger version of his minion to abandon his plan to learn French. "I'm from the future. You should go to China." Could that be because a Chinese company named DMG was rumoured to have funded 40 percent of Looper's budget?

SKETCHING THE FUTURE

In the late 19th and early 20th century, the French illustrator Albert Robida illustrated many works that visualised the future. He and his partners envisioned many developments that would be common in the coming years: aerial warfare, pollution, the downfall of horse-drawn transport in favour of cars, and the Telephonoscope, a 24-hour television. But one of his most whimsical drawings, *Maison tournante aérienne*, has yet to become reality — it pictures your average house as rotating in the air and festooned with carnivalesque add-ons (*below*).



any true Trekkie (or Trekker), and anyone else with sense will tell you.

The series' creator, Gene Roddenberry, was actually writing about America at the time. A look at those early William Shatner and Leonard Nimoy episodes show the series confronting many of the major issues of America of the day: dope smoking, civil unrest, Vietnam, feminism, social discord. Roddenberry pitched the series as "wagon train to the stars" to networks when he was trying to sell it, but told friends from the outset that he wanted it to be like Jonathan Swift's Gulliver's Travels, so that each episode would work both as a self-contained adventure story, as well as a morality tale.

He once said, "By creating a world with new rules, I could make statements about sex, religion, Vietnam, politics, and intercontinental missiles. Indeed, we did make them on Star Trek: we were sending messages, and fortunately they all got by the network." Indeed, Star Trek was very adept in terms of seeing the future in one absolutely crucial respect — the integration of cultures and races.

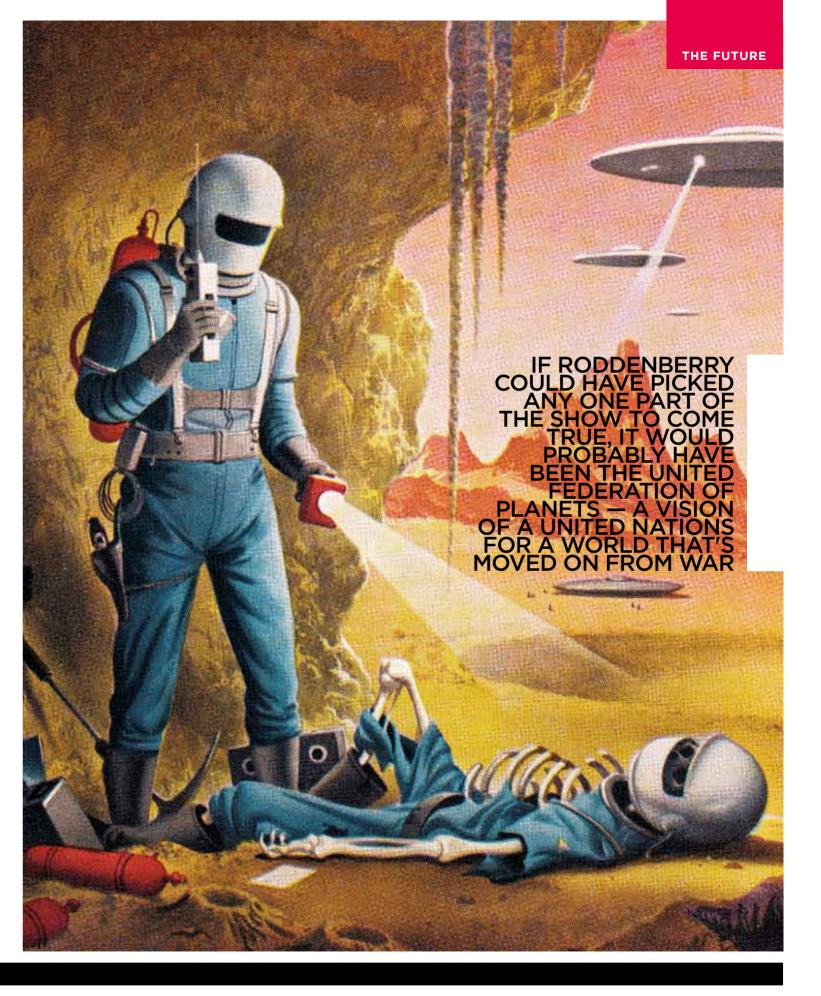
It was unusual back in the mid-1960s to see a cast combining a white leading man like William Shatner with a black woman (Nichelle Nichols as Uhura), a Japanese man (George Takei, whose family had been incarcerated in America during World War II, as Sulu) and a Russian man (Walter Koenig as Chekov). To say nothing of a Vulcan and various Klingons. When Kirk and Uhura kissed in one episode, it was often said to be the first interracial kiss on American television; it wasn't, but it was hugely influential.

Oh, and the gadgets were pretty compelling too. Trekkies argue that the Palm PDA and the handheld mobile phone were both inspired by *Star Trek*, while the chief technologist of Google Earth has also cited the show's tricorder as an inspiration. NASA's prototype space shuttle was even named *Enterprise*, after the show's starship. But that was never the point: if Roddenberry could have picked any one part of the show to come true, it would probably have been the United Federation of Planets — a vision of a United Nations for a world that has moved on from war.

A MODERN ORWELL

What do the following movies have in common: Total Recall, Blade Runner, Minority Report and The Adjustment Bureau? All of them — in addition to at least six more big-budget films — are based on novels by Philip K. Dick, an American novelist who some even consider the finest-ever science fiction writer.

Despite the Hollywood reputation of the films, Dick was a writer somewhat in the



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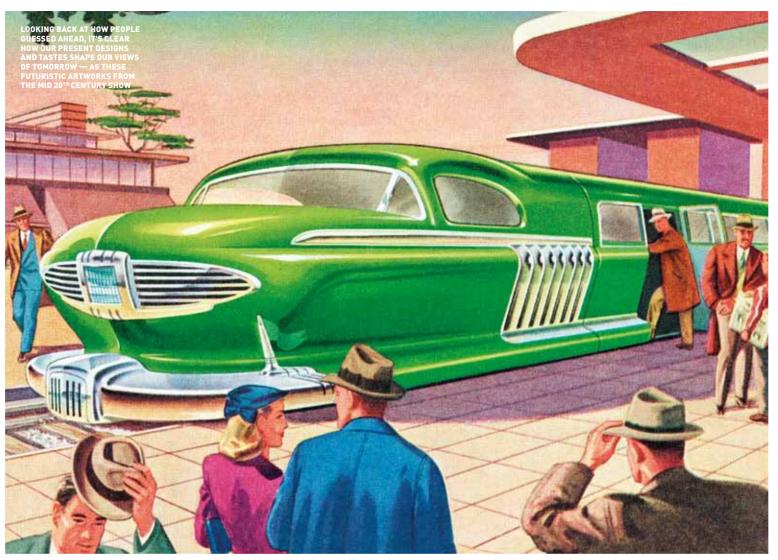
spirit of Orwell, writing about monopolistic evil corporations and authoritarian governments. And also, like Orwell, he was generally stone broke. Much of his work revolves around the basic question, what is real? Which is perhaps very much a question for our evolving future, particularly as it relates to personal identity. Identity theft is a scary reality today, which one could argue Dick was writing about decades ago.

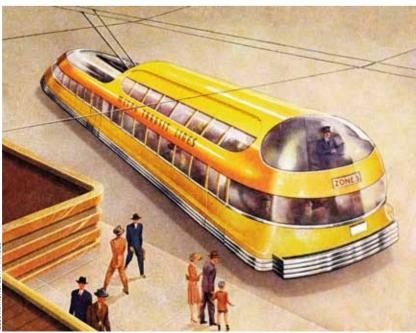
The writer's fans find evidence of his visions coming true everywhere, though Dick himself didn't like the idea that science fiction had to be a realistic vision of the future. If you look at the films though, they

"UNLESS MAN QUICKLY LEARNS TO CONTROL THE RATE OF CHANGE IN HIS PERSONAL AFFAIRS AS WELL AS IN SOCIETY AT LARGE, WE ARE DOOMED TO A MASSIVE ADAPTATIONAL BREAKDOWN"

do tend to contain some very interesting and often quite accurate views of how the future might look. For example, in *Minority Report*, Tom Cruise uses gloves to sweep information to and from a holographic screen in front of him — that technology is well on its way, and the sweeping and sorting mechanism is already somewhat in evidence in the iPad. The film also shows eye recognition as a method of verifying identity, something that's already being used in many airports. In the film, it led to a black market in other people's eyeballs; don't discount that happening, either.

Another film that took an interesting practical view of the future was the Michael Winterbottom film Code 46, starring Tim Robbins and Samantha Morton, which is little remembered but very interesting. In the film, one of the most powerful instruments of society is insurance. Nobody is allowed to go anywhere without first insuring their health documents, as cover for their trip. Shanghai is now on the edge of a desert, and when one goes to Dubai. which is now called Jebel Ali (a town that exists in reality, and is where Dubai's port is and the new airport will be), people speak a hybrid language including bits of English, Spanish, French, Arabic, Italian, Farsi and Mandarin. They only go outside after dark because direct sunlight is considered hazardous; and the gadget of the day is a memory scrapbook, something like a tablet







RETRO FUTURISM

BIG DATA AND BIG FORECASTS

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In his 2012 book
The Signal and the
Noise: Why So Many
Predictions Fail —
But Some Don't,
data analyst Nate
Silver uncovers the
scientific nature of
trying to foresee
future events.
How can statistics
and analytics
help or hinder

our forecasts? What role does blustering confidence play in forecasting a future president? Most of all, Silver discusses how seemingly high-level analysts have gotten it wrong during some of history's biggest turning points. "If political scientists couldn't predict the downfall of the Soviet Union — perhaps the most important event in the latter half of the 20^{th} century — then what exactly are they good for?"

METROPOLIS

Released in 1927, *Metropolis* envisioned a dark future for cities, where the rich lived opulent lives above-ground, while workers toiled beneath the streets. Its huge budget went towards fantastic set design and hiring a whopping 36,000 extras. Still hailed as a masterpiece of cinematography and special effects today, *Metropolis* was also the first film to ever feature a robot.



FORETELLING A SOFT LANDING

1483: Leonardo Da Vinci scribbled a design for a pyramidal parachute, adding, "If a man is provided with a length of gummed linen cloth with a length of 12 yards on each side and 12 yards high, he can jump from any great height whatsoever without injury."
2000: Adrian Nicholas, a British man, dropped 3,000 metres from a hot air balloon and landed safely with the help of a parachute modelled after Da Vinci's.

computer, although this version can record video from the user's mind. Which is handy.

Code 46, like so many future-set movies, rests fundamentally on issues related to cloning and its knock-on effects. Another influential book about the future. Michel Houellebecg's Les Particules Élémentaires, published in English as Atomised, concludes (spoiler alert) with a future in which there is nobody left who isn't a clone. And if we're not thinking about cloning, how about sharper-than-life androids? Blade Runner, the first movie based on Dick's books to make the big screen, rests upon the question of whether the lead character is a real human or some sort of android — he himself doesn't know. A.I. Artificial Intelligence deals with the emotional tangles around a synthetic child manufactured for grieving parents. And Alien (together with some of its sequels) has crucial questions at the centre of its plot that revolve around the lovalty of an android.

The future has proven fertile ground for comedy too, particularly on television. The British series *Red Dwarf*, which takes place on a mining ship three million years in the future, at a time when the surviving members of Earth are comprised of a slob called Dave, a pain-in-the-backside hologram called Arnold and a cooler-than-Elvis creature, who evolved from the ship's cat. *Red Dwarf* has proven so popular it has now gone through 10 series.

TOFFLER AND COMPANY

But this is all fiction. What of those who want nothing more than to study our real future and its challenges? There is a whole genre called futurism, associated with names like F. T. Marinetti, considered the founder of the futurist movement. His Futurist Manifesto was written in 1909 meaning futurism is now more than a century old — and consisted more of artistic philosophy than prediction. Celebrating speed, machinery, modernisation and even violence. Marinetti also published The Futurist Cookbook in 1932 in a curious multiform publication that appears to take on the failings of contemporary Italy, through a scathing attack on pasta.

One of the most well-known popular examples of futurism came in the Alvin Toffler book *Future Shock*, an influential bestseller published in 1970, which shifted six million copies, but which has dated so much you can now get it second-hand on Amazon for a penny. Toffler was worried by the future: "This is a book about what happens to people when they are overwhelmed by change," his book begins.

"It is about the ways in which we adapt — or fail to adapt — to the future." By the end of the first page, it is clear his conclusions are not going to be positive. "Unless man quickly learns to control the rate of change in his personal affairs as well as in society at large,

we are doomed to a massive adaptational breakdown." At the heart of his concern was something he dubbed future shock, or "the shattering stress and disorientation that we induce in individuals by subjecting them to too much change in too short a time." Today, it's difficult to know whether the fact that Toffler's predictions came decades before laser surgery. Google and drone warfare make his ideas feel quaint or visionary.

In the meantime, just as entertaining as accurate visions of the future, are those that turn out to be hopelessly wrong.

SO WHO'S RIGHT? AND DOES IT MATTER? PEOPLE DON'T NECESSARILY PREDICT THE FUTURE IN ORDER TO BE ACCURATE. THEY OFTEN DO IT JUST TO IMAGINE, TO WARN — EVEN TO RETELL HISTORY WITHIN A NEW CONTEXT

"A rocket will never be able to leave the Earth's atmosphere," declared The New York Times in 1936. "This 'telephone' has too many shortcomings to be seriously considered as a means of communication," said Western Union president William Orton in 1876, when Alexander Graham Bell tried to sell his new invention to the company. "Computers in the future may weigh no more than 1.5 tonnes," *Popular Mechanics* supposedly predicted, going out on a limb in 1949. Or, more recently, "Y2K is a crisis without precedent in human history," wrote Byte magazine in 1998. And try this from Microsoft CEO Steve Ballmer in 2007: "There's no chance that the iPhone is going to get any significant market share. No chance."

BACK TO FRONT

Then there is the fascinating phenomenon of overtaking the

years in which past books and movies depicted the future. The vear 1984 passed, mercifully. without looking too much like Orwell's book (though some in Thatcher-era Britain disagreed). Robocop was set in the 1990s. which slipped by without the streets being patrolled by lethal robotic policeman.

And 2001 came and went without us having built a base on the moon, much less sending men to Jupiter on spaceships whose computers sing 'Daisy Bell' as they expire — as in Stanley Kubrick's iconic 2001: A Space Odyssey. Meantime, the

second Back to the Future movie, the one in which Doc Brown and Marty McFly went forward in time instead of backwards. depicted "the future" as 2015. That's now just a couple of years away — so you'd better not hold vour breath waiting for those hoverboards.

Finally, there is a whole field of literature and film that either

deals with a nearly worldending catastrophe, or its aftermath. Some of these are big budget silly (The Day After Tomorrow), some horrific, such as Cormac McCarthy's The Road or the original, vicious Mad Max. Cloud Atlas has a go at this as well, depicting a future in which most of us have gone back to territorial savagery on the islands of Hawaii.

So who is right? And does it really matter? People don't necessarily predict the future in order to be accurate. They often do it just to imagine, to warn even to retell history within a new context.

Trying to do it with precision is, after all, exceptionally difficult, and invites the possibility of being ridiculed forever if you're wrong. As with most things, the Chinese have a proverb for this. "To prophesy is extremely difficult," the saying goes, "Especially with respect to the future."

RIGHT: WHILE MOST OF US HAVE PERSONALLY EXPERIENCED FOOD DELIVERED TO OUR DOORSTEP LINEORTLINATELY IT DOESN'T USUALLY HAPPEN QUITE LIKE THIS — ALTHOUGH THE GROWING POPUL ARITY OF LUNCHTIME KITCHEN CARS IN DOWNTOWN TOKYO SUGGESTS IT MAY STILL BE AHEAD OF US



Visions of the future seemed to shrink around the year 2000. Stewart Brand, one of the driving forces behind the so-called Clock of the Long Now, a mechanical clock proposed to keep time for 10,000 years, had an interesting take on this in the late 1990s. "When I was a child, people used to talk about what would happen by the year 2000," he said. "Now, 30 years later, they still talk about what will happen by the year 2000. The future has been shrinking by one year per year for my entire life."