

THE FUTURE

HOW TO RE-ENERGISE OUR COLLECTIVE IMAGINATION

How should we dream or imagine in ways that are useful? What methods encourage and quicken imagination, or help us in utopia-making? What are the options for a political leader, a funder of research, a social movement or a city that wants to expand its horizon of possibilities?

We know that creativity can be learned—it's not a unique attribute of a handful of people. And we know that innovation and creativity can be institutionalised, made part of people's jobs, as they are in TV and film, science and business. Creative people in other fields—like visual artists or filmmakers—depend on tools, palettes and paints, cameras and special-effects software. For society's imagineers, there are not so many obvious tools, the raw materials being life and society themselves; and there are few academies or colleges that teach the craft of change.¹

But there are methods that can be used for the two steps essential to any process of imagination: first, distancing and questioning current reality; and second, designing an alternative.

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These are designed to put into action Albert Einstein's comment that 'Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.' Such methods offer a palette of tools which I think should be used much more widely to help us explore possible futures.

The universal grammars of creativity

Artists can draw on many frameworks for creativity that both describe and prescribe the steps that can lead to a novel, painting or film.² I like to use a simple one which mirrors those used in other fields of art. I think of this as a universal framework for creativity. It can be used to widen the possibility space for composing music, designing a home, doing graffiti or creating a recipe. It offers powerful tools for opening up new social possibilities. These help us to see both the constructed nature of the social world around us and how it could be changed.

The essential idea is to take an existing activity or function—like childcare, local bus services or the work of the United Nations—and then imagine a series of transformations being applied to it:

Extension

Grafting

Inversion

Addition

Subtraction

Mobilising metaphor and analogy

Using randomness.

Let's look at each of these in turn. *Extension* of an aspect of existing practice means taking it further. Examples from the arts include Bach's extension of fugues to six voices or expansion of the size of the orchestra. Something similar has happened

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repeatedly to ideas. A big strand of thinking on the radical libertarian right has played with extending the market into as many fields as possible. Others have expanded the range of fields where the concept of rights can be used (with rights themselves being an extension of theological ideas about human uniqueness). Extending school could mean adding on new hours to the day or weeks to the year. Extending suffrage might mean giving the vote to sixteen-year-olds, or six-year-olds. And much of our social imagination involves scaling up concepts from daily life—the camaraderie of friends, the competition of sports (the 'level playing field') or the care of the family—to the level of organisations and whole societies.

Grafting (or *combining*) involves taking an idea from one field and applying it to another. Again, this is very common in the arts—for example, grafting ideas from photography back into painting—and it's also common in the social field. Examples include the way that the idea of auctions was grafted onto the management of the electromagnetic spectrum (the radio waves used for mobile phones, satellites or television), or how the idea of the jury was grafted onto democracy in the form of citizens' juries. Thinking about grafting can also quickly generate new ideas. What if schools became places for health; what if democracy was introduced into the workplace; what if the provision of childcare or care for the elderly was managed on platforms like Amazon or Uber?

Writing on technological evolution, George Dyson commented that:

sudden leaps in biological or technological evolution occur when an existing structure or behaviour is appropriated by a new function that spreads rapidly across the evolutionary landscape, taking advantage of a head start. Feathers must have had some other purpose before they were used to fly. U-boat commanders appropriated the Enigma machine first developed for use by banks. Charles Babbage

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envisioned using the existing network of church steeples that rose above the chaos of London as the foundation for a packet-switched communications net.³

This insight is a good prompt for any exercise in social imagination. Are there interesting patterns in other fields that could be appropriated or adapted? What could be taken from airports and applied to hospitals to help the flow of people through the system; from the provision of food that could be applied to schools, such as calorie counts or diets; from healthcare that could be applied to relationships?

A more radical approach is to use *inversion*, as practised in the Middle Ages during Carnival, when for a day the poor pretended to be rich and vice versa. Inversion is a common theme in Christianity ('the meek shall inherit the earth') and has also prompted much radical innovation more recently. What if farmers became bankers (as happened with the microcredit provided by Grameen Bank); patients became doctors; or social care were provided by people who had themselves been recipients of care? What if the young taught the old? What if consumers became makers of things? What if data were used by citizens to oversee governments, not the other way around?

Addition and *subtraction* are also useful. Baroque and traditional Hindu architecture are good examples of extreme addition, and any social service can easily add on new elements—like a family doctor who also offers advice on welfare. Much modernist art and music favoured subtraction, leading to Kazimir Malevich's painting 'White on White' in 1918 or the silence of John Cage's 1952 composition 4'33''. This way of thinking can also be generative in social contexts: what if you took away half of the roles in a hierarchy or introduced a maximum income? Or what if you had to cut a budget by half, or could double it? What options would most preserve value? I've worked with public parks that faced a 50 per cent budget cut and were prompted to come up

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with dozens of creative ways of raising money, through events, music, festivals and food, leaving the parks more vibrant than they had been before. The cheap prices of today's supermarkets are only possible because Clarence Saunders in Memphis in the early twentieth century had the inspired idea of subtracting service staff and letting customers pack their own bags.

Sometimes, not doing things is better than doing them. A surprising example of this was found in the military's experience that taking immediate action to treat soldiers suffering from PTSD tended to make it worse. It proved better to let people mobilise their own resources and then to focus on the 4 or 5 per cent for whom that approach hadn't worked. Less can be more.

An interesting recent study showed that we find it much easier to add than to subtract when solving problems, even when this is less efficient.⁴ But subtraction may be essential to the needs of our times. Veganism is an approach which subtracts—excluding meats and dairy products from diets—and much law and regulation is now focused on reducing energy use, carbon emissions and travel, rather than increasing them.

Creative thought is often helped by *mobilising metaphor and analogy*—seeing one thing and thinking of another (a variant of the grafting process described above). Much of social change comes from shifts in metaphors. Do we see society as a war, a body or an organism; a building, a machine or a family? Do we think in terms of journeys, or defence against threats? Is the economy analogous to a household, which means being very careful not to spend more than you earn, or is it more like an entrepot or trading post, in which case debt may be essential?

We automatically think in metaphors. We talk of ideas as illuminating and bright, fizzing and incisive, or flat and dull. We see our world in spatial terms—rising and falling, moving forward or back. We speak metaphorically, too—we 'ride' bicycles, though not cars; we 'harness' ideas to a new purpose; we let our imaginations

'take flight'. Biological metaphors are particularly powerful and universal—seeing social change through the metaphor of the butterfly and chrysalis, spring after winter, or planting seeds. These can be potent because we all know the everyday wonder of how nature can transform a barren place fast.

So, one approach to fuelling imagination is to deliberately use metaphors as tools. For example, take a live question or field and then reimagine it using a metaphor, perhaps seeing it as a journey, a landscape or a building. Or you can use combinatorial metaphors: reimagine your farm as if it were a factory or vice versa, or reimagine a house as an energy generator. This kind of exercise dislodges, throwing up surprising insights, combinations and angles, like a gym for the creative mind.⁵

Using randomness can be a way of throwing in surprise. In the arts, aleatory or randomising methods were widely used in music and painting in the first half of the twentieth century, from Arnold Schoenberg to Jackson Pollock. Similar methods can also help to generate new ideas. For example, pick a page on a website or a billboard, and find ways to use it to inspire novelty. The last billboard I saw before writing this was for an Evangelical Gospel church. Think of ten things your organisation or family might borrow from how they work.

Painting has an interesting history of encouraging such lateral, random methods. Leonardo da Vinci endorsed using random patterns such as the damp on a wall to spark inspiration ('by indistinct things the mind is stimulated to new inventions'), while Chinese painters recommended using the patterns of a falling-down building in the same way.

All of these tools generate ideas quickly, and the more you use them, the easier it is to expand the possibility space. They echo the transformations we see in the natural world: plants extend, add and graft. Hurricanes and forest fires subtract. The child becomes a man or woman, and then the elderly become child-like. Evolution throws in randomness.

These methods are only a starting point and a means to grow a bigger menu of imaginative options. Later on, I will turn to how to weave them together. But they can take you a long way, and they also serve as a kind of code for understanding past social change, which always involved applying some of these transformations to what already existed: inverting, extending or grafting the social materials already lying around.

Collections of tools like these can be found in many fields. Design has been particularly adept at gathering up methods and packaging them.⁶ Some are conventional and mainstream, others exotic. For example, the 'mass dreams of the future' approach adapted 'past-life' therapeutic methods, which tried to help people explore their previous lives—a technique that only makes sense if you believe in reincarnation. Building on this, practitioners of this approach tried to prompt people to access their own lives a few hundred years into the future.⁷ Susan Long and W. Gordon Lawrence have advocated what they call 'social dreaming' in a similar spirit. I'm quite sceptical of these approaches (and not wholly convinced of reincarnation of souls). But I like a related idea that comes from the Iroquois and other North American First Nations about the need to imagine those seven generations ahead in the future, as well as those seven generations behind in the past.⁸ Reflecting on what they might think, say or suggest can serve as a useful corrective to the intense 'presentness' of generations immersed in digital media.

Psychodrama and embodiment

We can try to grasp future possibilities rationally. But we can also grasp them viscerally—feeling or even tasting them, as well as seeing. Methods from theatre can tap into the insights of the body, and participants are often surprised by the roles or ideas they find in themselves, stumbling on new insights that are out

of reach when we only engage with issues cognitively. Some of these methods involve dance; groups interacting and making patterns; and occupying streets and bridges.⁹ There are also methods that help people to see the world through others' eyes. In the twentieth century, psychodrama pioneers Jacob Levy Moreno and Zerka Toeman Moreno advocated spontaneous outdoor street theatre to enact arguments and explore political issues. They encouraged what they called 'doubling', in which a person's experience or thinking is clarified by someone else standing next to them. They also used role reversal techniques, as well as 'empty chair' methods, where an empty chair is placed in the room and participants take it in turns to try to speak for a missing person or interest. These methods can misfire, but at their best they help us to grasp possibilities below the neck as well as above it.

Patterns and pattern languages

The world is made up of patterns. The social world around us is the result of the various transformations of extension, grafting, addition and so on. Together these gave us the schools, hospitals, police forces, businesses and web services we use each day.

The architect Christopher Alexander took a similar approach when he analysed what he called the 'pattern language' of architecture and places, the elements of which can be assembled in different combinations. He advocated this idea in the 1960s, arguing that to design a new neighbourhood or city, we should avoid overcentralised planning because the city needs to be organic and multi-dimensional ('a city is not a tree', in his formulation). He encouraged looking at people's expressed preferences and behaviours—for example, drawing on where people actually chose to gather in a home, perhaps in a corner that caught the sun, or how they used public spaces—rather than an architect's assumptions about how the city should be built.

Alexander developed pattern language as a tool and believed that he was describing a universal lexicon. But his ideas make more sense as descriptions of particular cultures rather than as a generalisable language. Most places have developed their own pattern languages for designing buildings, towns and cities, finding particular ways of using available materials to shape doorways and rooms—the white stucco of southern Spain, or the elegant tiled roofs of rural China. Indeed, any new movement in architecture is in part the invention of a new language.

Alexander's ideas were influential in computing as well as in architecture, but this was partly because they were creatively misunderstood. Software evolved with modular methods and object-oriented programming that echoed the pattern language idea but didn't copy it.¹⁰ The languages of software, as of architecture, turn out to be distinct rather than universal.¹¹

But his essential insight—that every real building or city is an assembly of patterns and existing elements—was surely right and is useful for demystifying the creative process. Alexander also provided another insight that's relevant to social imagination. Throughout his work, he tried to explain which patterns had a more or less living structure and was often acute in showing why certain kinds of physical architecture feel more vivid and alive than others. As he put it, 'The more living patterns there are in a place—a room, a building, a town—the more it comes to life as an entirety, the more it glows.'¹²

Alexander's aim was to make it easier for us to feel at home in our homes and the places where we spend time. Again, there is an analogy in the social field: some societies are warmer, more convivial, full of feedback and life, while others are cool, detached and less engaged. The former will tend to have more centres and more living patterns; the latter may be neater and more logical, but they will be less alive.

Thought experiments

Thought experiments can help with the distancing and estrangement that are vital for more radical imagination, and they can unravel the logic of a new possibility. *Gedankenexperimente* have played an important role in science, like Einstein imagining trying to catch a ray of light, a thought which opened up lines of inquiry that ended up transforming physics. Good thought experiments take a small number of variables and play with how they might interact; in economics, they tend to imagine a world with one or two commodities, buyers or sellers, and then adjust variables. The imagined world is deliberately unrealistic but can throw up insights all the same. Such thought experiments can also go wider to address more fundamental questions: what if a society had to operate with no money but all the feedback tools of modern digital media? What if all pay levels were set collectively? What if there were zero growth for many decades?

The good experiments challenge dominant orthodoxies and take us through the discomfort this often brings. Another approach is to think four or five decades into the future and imagine relaxing key constraints or introducing new ones. Exercises of this kind show current orthodoxies more clearly and can spark more creative leaps into the mentality of other possible societies.

The work of synthesis

These methods all generate sparks, building blocks, elements for seeing and thinking in new ways. That may be enough to spark action and practical learning. But it can be useful to go further. A next stage involves merging or combining them, going beyond grafting or adding in order to create something new. This is what Samuel Taylor Coleridge called 'esemplastic power', the

ability to shape disparate things into one, to take combinations and make a new whole.¹³ The great educationalist and thinker John Dewey saw this as the purpose of imagination, which, he wrote, 'is a way of seeing and feeling things as they compose an integral whole. It is the large and generous blending of interests at the point where the mind comes in contact with the world.'¹⁴

There is a long philosophical tradition of thinking about synthesis and integration. Immanuel Kant wrote of 'the action of putting different representations together with each other and comprehending their manifoldness in one cognition.'¹⁵ The synthesis captures the truth more accurately than a mere description of parts. Hegel was even more influential with his idea of a progression from thesis and antithesis to synthesis, where the synthesis contains the truth of both a thesis and an antithesis.

How to do this? Synthesis usually involves some analysis and then some recombination, breaking things down and putting them back together in a new way. So, a first step might require mapping all the relevant factors, inputs, ideas, models and relationships; then there is a stage of ranking them in terms of how useful they are; then of attempting mergers of combinations; and then of trying to leap up to a higher level of understanding or action.

This is often a circling process of trying things out, exploring and interrogating, seeing what works together. It can't be done as a one-off exercise and it usually requires a mix of methods, some analytic, others visualising how the pieces fit together. Our brains often find it easier to see new patterns and wholes than to work them out through logic.¹⁶ The hope, then, is that a newly synthesised idea will be more useful, and more compelling, than the parts it is made up of.¹⁷ What comes out may be a full synthesis, and something genuinely new, or it may be a new assembly of multiple elements. As Brian Arthur showed, this is how most technologies evolve—through shifting assemblies and sub-

assemblies of elements that are put together to make a mobile phone, a truck or a ship. They don't all have to be similar or operate in the same mode. Indeed, the opposite is usually the case. Much the same is true of social and political innovations, which generally combine multiple elements into a rough synthesis rather than following a single logic.

This has big implications for attempts to create more ambitious, more structural propositions for transforming our societies. What if we moved to an entirely different way of organising property? What if accumulated privileges were dismantled? What if capitalism were replaced by an entirely different system?

Such synthetic visions help to free us from the unrealistic realism which presumes that our current arrangements will persist for ever—a perspective as misleading for capitalism now as it was for empire and monarchy two centuries ago. But it's quite wrong to believe that any society will be derived from a few simple principles. All real societies are assemblies of multiple elements. Capitalism as it actually exists includes large states, large religious organisations, publicly funded science systems, families organised on very non-capitalist principles and often a large social economy. A truly pure capitalism would quickly implode.

So, in thinking about the future, it's instructive to imagine radically different guiding principles and operating systems, but then to return to a more plausible picture of how multiple different elements may co-exist. Indeed, this is vital not just for plausibility, but also for ethical reasons. To impose a single logic on a society is a kind of violence. In 1925, Mahatma Gandhi famously included 'science without humanity' and 'knowledge without character' alongside 'politics without principle' and 'commerce without morality' in what he called 'Seven Social Sins'. He might have added 'singular solutions to complex problems' to these admonitions for anyone involved in social change or the design of social futures.

Forecasting, scenarios and futures

Another set of integrative tools tries to present synthetic descriptive pictures of the future. Many methods are used by companies or governments to help them cast their collective minds into the future. Older methods included astrology, the study of tea leaves or chicken's entrails, and even tyromancy, the study of cheese to find insights into the future. Newer ones include foresight, scenarios and simulations.¹⁸ Scenarios are most commonly used by large companies, governments and NGOs. They help to acclimatise big organisations to possible patterns of change, though they are less good for imagining radical possibilities and tend to be bland rather than inspiring. Foresight methods try to map out what's likely to happen to technologies (such as quantum computing) or fields of application (such as mental health), primarily drawing on expert analysis and discussion.

A more creative alternative is the 'backcasting' method proposed by John Robinson and offered as an alternative to forecasting. This encourages starting with a vision of the future and then projecting backwards to the steps needed in the present to achieve it. This is useful as a prompt—policymaking is always better if it works backwards from desired outcomes rather than only working forwards from current conditions. But 'backcasting' methods quickly run into the sand for the reasons cited earlier—time moves in only one direction and all real-world processes involve learning, adaptation and evolution. The ideal of working backwards from a chosen end—the engineering model—usually needs to be combined with the mindset of a gardener, who focuses on beginnings rather than endings.

Finally, there are the various methods such as 'super-forecasting' and 'crowd predictions' which claim superior insight into what lies ahead. There is now some evidence that specialist forecasters outperform experts, and that the right kinds of crowd

intelligence do so too. People too steeped in any one discipline or worldview, however expert, tend to perform poorly. However, the predictions of these new methods are still likely to be wrong more often than they're right.

The most useful methods try to bridge analysis and action, like the three horizons framework, which aims to connect the first horizon of the existing system, a second horizon of emergent innovations and a third horizon of radical possibility.¹⁹ The idea is to help people think about a pathway from the present to the future, and to ask what we might want to conserve as well as what we might want to change.

Building worlds and narratives

Scenarios are essentially stories. Most of us find it easier to digest ideas in the form of narratives, and for an imaginative idea to be compelling, it can't just be a list or manifesto. The nineteenth-century utopians and twentieth-century science-fiction writers were often brilliant at reaching large audiences because of their skill with narrative. Nikolai Chernyshevsky's *What is to Be Done?*, published in Russia in 1863, and Edward Bellamy's *Looking Backward* were both huge best-sellers.

But how to make a story compelling? I have already suggested how metaphors can give shape to a story. We talk of nations rising (and falling) and of peoples 'breaking free' from constraints and bondage. There are stories of revenge and payback; restitution and purification. There are stories of underdogs standing up to power and sometimes overthrowing it. Some of these stories amplify the darker sides of human nature, with vicious punishment of enemies who are dehumanised. Others are more generous, seeing others as ends and not just means.

Often, we have to rid ourselves of older dominant narratives before we can be open to new ones—pushing to one side stories

about the virtues of our nation, political system or economy that have become so embedded in our minds through constant repetition that we never question them (in the way that Germany had to 'unlearn' the idea of a superior master-race).²⁰ The most corrupting stories continue to be those that claim an eternal lineage for a nation, a continuity of blood and soil that not only defies all historical and genetic evidence but also justifies bigotry.

Many theorists have tried to define what makes a good story. Vladimir Propp argued that many folk stories had a similar structure, starting with a hero who seeks something, a villain who opposes them, a donor who provides an object with magical properties, and an array of helpers and hinderers along the way, with the hero being rewarded for their efforts in the end. This narrative structure has obvious echoes for anyone trying to advance a new idea, product or venture.

A few decades later, Joseph Campbell took a very similar approach, synthesising many myths and legends into *The Hero with a Thousand Faces*, a universal, archetypal story that was then used as a template for the Star Wars films and many others. It can be used to map possible journeys for new ideas, as they set out from a meagre start without resources or much hope, face down enemies and threats, and finally triumph. William Storr's much more recent book *The Science of Storytelling* takes a slightly different stance, showing how many of the most compelling stories involve a flawed person facing a unique challenge and then in some way growing as they overcome it.

If there is a common theme in all of these accounts, it is that the most absorbing narrative arcs involve struggle and barriers, enemies and demons.²¹ The drama and the dynamic come from the tension these create, the sense that victory is unlikely. This is the case for at least some stories of social imagination that describe Davids against Goliaths, the little man and woman struggling against monstrous states, bureaucracies and systems

that crush their humanity.²² Political narratives, too, often draw on ideas of healing and rebirth; long-standing wrongs that need to be righted; barriers and blockages to be removed; or liberation to be achieved.

Just offering a pat picture of a lovely utopia means missing out on this narrative power. The communist movement succeeded where the utopians had failed in part because of the extraordinary power of their narrative, which fed off Christian stories of a Second Coming. It promised drama and struggle against powerful adversaries while also being sufficiently vague that millions of different hopes could be projected onto it.²³ Folk stories have also provided material for many revolutionary movements, with legends of revolts, bandits and outlaws standing up to oppression. All of these chime with the deep human tendency to resent oppressors, bullies and free-riders. In this way, even if people had to button their lips and restrain their impulses in the face of the superior force of the ruling classes, they could at least find salvation in stories.

Many different types of stories can be found in the literature of social imagination. The brilliant social thinker Albert Hirschman once described what he called the 'rhetorics of reaction' in conservative variants. These are all about resisting reforms which might jeopardise what is truly valuable (religion, nation, family, nature); or be futile; or risk perverse consequences. These are, as it were, the anti-imaginaries: arguments for sticking with the status quo. But there are mirroring 'rhetorics of progress', which claim that we need the next reform to consolidate the last ones, to right historic wrongs or to prevent slipping back. Recently, there have been many more narratives, around climate change, for example, that fuse the two, warning that unless we reform we face annihilation.²⁴ Yet these stories of the Anthropocene struggle with their own narrative arc, finding it easier to end in destruction than renewal, opening doors into the dark rather than doors into the light.²⁵

Storytelling is instructive for anyone interested in social change, both because of the arcs that narratives form and because every storyteller has to summon up a convincing world, with forces and pressures working on their characters. Many manuals, classes and schools help people to create the fictional worlds into which they insert their characters, and some of these methods can be adapted to social thinking. They include the worldbuilding techniques that are used in film, TV and novels to create coherent environments for science fiction.²⁶ Typically, their focus is more physical than social, but some of the greatest films constructed holistic and convincing visions—like Fritz Lang's *Metropolis* or Hayao Miyazaki's *Laputa*. They're more often used for dystopias than utopias, but in a few cases, what results can be positive.²⁷ Ursula Le Guin described sci-fi as training for the imagination, and some immersion in these methods helps anyone interested in thinking far into the future.

So, stories are essential to social change. But we shouldn't rely on them too much. They are vehicles to be used and transcended, but not to be trapped in. Much of our world is influenced by powerful but deeply misleading fairy tales: for example, on the American right, the claim that capitalism has single-handedly given the world freedom, prosperity and good health, or the counterview that capitalism is uniquely wicked, the cause of all greed, inequality, poverty and environmental destruction. Many nations still take comfort in stories that emphasise the uniqueness of their values, their soul or their spirit. But we can only grow up and grasp the world as it is if we learn to transcend these stories and appreciate that stories deceive as often as they illuminate.

Institutions for imagination

Institutions sometimes seem like the opposite of imagination. They are formal and bureaucratic, stable and predictable. Yet

they can help societies to imagine, and a few institutions have been given licence to think ahead freely, helping governing systems to keep an eye on the distant horizon. Finland in the 1960s, for example, set up a new public organisation, SITRA, as its 'Future Foundation' with a big endowment. The country's parliament has also had a Committee of the Future since 1992. Hungary had a Parliamentary Commissioner for Future Generations; between 2001 and 2006, Israel had an Ombudsman for Future Generations. Britain had a Sustainable Development Commission for a few years, abolishing it in 2011. Wales in 2015 passed a Future Generations Act and created a new post of Future Generations Commissioner.²⁸

Laws can also give the claims of the future institutional form. Germany's Constitutional Court ruled some climate change policies unconstitutional because they shifted the burden to future generations.²⁹

A few cities have also attempted to institutionalise imagination: Bologna has had a civic imagination office, while Adelaide in South Australia had a Thinker in Residence programme to feed imaginative ideas into the public sector. Singapore's Centre for Strategic Foresight has for the last ten years provided a space for imagination close to the core of government, while Dubai's Future Foundation and its Museum of the Future have been able to explore fascinating ideas around issues like AI, government and ethics. The UAE has even had a Ministry of Possibilities, designed to push government to think more creatively.

I ran the UK government's Strategy Unit for a few years, which included a similar role and connected futures teams in most of the big departments. Some of our work was very practical, designing and implementing policies that could be put straight into effect. Others set medium- to long-term strategies, expanding the UK's 'possibility space'. For example, we set in motion a strategy for renewables,³⁰ and another for seizing assets

from organised crime. Sometimes we advocated inaction—like the recommendation for a five-year moratorium on reorganising the health service (my political bosses rejected that one, though I think we were right: fiddling with organisational structures all too often gets in the way of practical improvements).

Other topics we worked on were ahead of their time, like investigating the potential for fat and sugar taxes, which only became politically feasible over a decade later; designing systems for 'personal accounts' with government, which were implemented in Denmark and Singapore but not in the UK; or pioneering the ideas of behavioural economics, which became mainstream in the following decade.³¹ In social policy, too, our aim was to design and set in motion long-term problem-solving, from reducing the gap between the poorest housing estates and the rest of the country; cutting teenage pregnancy in half; and cutting street homelessness by two-thirds within two years (all were achieved).

All of these institutions are granted licence to look ahead and to think heretical thoughts, and some have strong links to power. Any government which lacks the capacity to imagine and explore is likely to be condemned to responding to the world, rather than shaping it.

Meetings for imagination

How can a group work together to make their shared imagination more compelling and more plausible? Should they gather at workshops, conferences, retreats and walks, or just contemplate alone?

There are many ways to bring a group together that make it easier for them to explore and to avoid becoming too comfortable with old habits of thought. Pre-mortems, for example, were invented as a mirror to post-mortems: a method for thinking

through everything that might go wrong in a project, but in advance. Red teams are a method developed in the military for challenging a group working on a project, again to show what they might have missed; and meeting devices like Edward de Bono's Six Thinking Hats and David Kantor's Four Player Model encourage people to play more creative roles.³²

There are also methods for using walks, silence, switching between different numbers (pairs, groups of four, whole groups), reminiscence, game-playing or simulations. All try to challenge our tendency to conformism. Most people don't like disagreeing, or introducing discomforting facts and observations. This can be as true in apparently egalitarian settings as it is in hierarchical ones. Play and fun make it easier for us to suspend our tendency to edit out sideways thoughts, and all of these methods help to cultivate a more dialectical way of thinking rather than a linear one, and so feed creative imagination. Karl Marx and Friedrich Engels, for example, wrote *The Communist Manifesto* during a ten-day drinking binge, which is one way at least of avoiding the limits of overly logical thinking.

Some of the institutions mentioned earlier have overseen attempts to bring a much larger group of people into serious conversation about what's possible. Experiencing how to think about the future, plan and shape should be a normal part of democracy. But it's still quite rare.

When a big earthquake in 2010–11 destroyed Christchurch in New Zealand, for example, the city council created a massive multiplayer online role-playing game (MMORPG) called Magnetic South.³³ Nearly a thousand people took part over two days. Players generated cards, ideas and strategies for rebuilding the city, with nearly 9,000 micro-forecasts.

Future Design in Japan, a method established by Tatsuyoshi Saijo of the Research Institute for Humanity and Nature in Kyoto, runs citizens' assemblies in municipalities across the country.

One of its distinctive approaches is to recruit one group of participants to take on the perspective of current residents, while another group are asked to imagine themselves as 'future residents' from 2060, with special ceremonial robes to help them leap forward in time.

These 'participatory futures' approaches often use immersive physical or virtual environments, allowing people to place themselves in a future world and experiment with new values or behaviours. These might be interactive exhibitions, immersive theatre or digital simulations. The play *Early Days (of a Better Nation)*, a collaboration between Coney and the Cultural Institute at King's College London, transported people to a fictional post-collapse state and charged them with rebuilding it from scratch,³⁴ rather as, in the real world, Iceland after the financial crisis created a committee of a thousand members of the public to rethink their values and rewrite the constitution.

Another technique uses physical objects that represent the future. When I worked at Nesta, we commissioned 'objects of the future': imagined objects that could help people picture what might lie ahead, mirroring the way that objects from the past can be used to gain insights into the world where they were used.³⁵

The methods of deliberative democracy can be combined with creative storytelling. In 2008, the government of the Dutch Caribbean nation of Aruba used these methods to chart a vision for the island looking forward to 2025 and addressing the existential challenges it faced, such as fragile ecosystems and vulnerability to volatile global energy markets. It aimed to generate positive visions for the future using scenarios and stories. More than half the island's 100,000 residents were involved, which meant that the national strategy that came from it could outlast the vagaries of the political cycle and a change of government.³⁶

Australia 2020 was a much larger exercise (which I worked on), initiated in 2007 by then Prime Minister Kevin Rudd. It

involved millions of people in thinking about the big issues facing the country, from ageing and climate change to water shortages. The media carried extensive sections on the issues; schools organised discussions; and a thousand people gathered in parliament with the prime minister to discuss the conclusions.³⁷

In 2020, Britain's Lottery Fund supported fifty projects in what it called an Emerging Futures Fund to support local communities doing work of this kind: exploring and shaping plausible and desirable futures as an antidote to fatalism and learned helplessness, a good example of how philanthropy can, just occasionally, spread experience of designing new worlds.³⁸

Children's imagination

Some of the most radical experiments have given children the chance to reimagine their own futures. One of the most famous was under the Polish writer and visionary Janusz Korczak, who created a republic for children with its own newspaper, court and parliament (he was later gassed by the Nazis in Treblinka, along with the orphans he looked after). His idea was that children should exercise sovereignty early on and might do a better job than the adults. Children find it easier to imagine and explore, and they will have to live with whatever futures are created. It's a cliché and, like many clichés, true that children can conjure up a world in an instant, play roles and easily immerse themselves in possible situations, just as they can more easily paint, sing, draw and sculpt than adults.

That imaginative skill is, all too often, lost as children grow up. They learn to focus but also lose some of their skill at day-dreaming. Our minds are designed to wander and to see links and analogies, but this very fertility can also be a problem. It makes us easily distracted. It makes us restless mental nomads. This is why so much learning is needed to close imagination

down or to achieve focus. It's only through the discipline of repetition that we learn to resist this rambling tendency and instead concentrate on our homework, playing a musical instrument or mastering a sport. Our world depends on millions of people who have learned to be disciplined, and we are all better off being served by surgeons, truck drivers, civil servants and bankers who can remain focused on their tasks.

But we pay a price for this as well, since if education is essentially about the transfer of knowledge, then by definition it must be knowledge of the past that is transmitted, knowledge that is held by teachers and elders or in textbooks. Success means being able to absorb and repeat that knowledge, with the maximum fidelity.

But imaginative learning can co-exist with more classical learning.³⁹ Where it takes us is to exercises or games that are more open, speculative and ambiguous. This is where we learn through questions as much as answers, and where the pleasure and satisfaction come from creating something new and uncertain, rather than alighting on the proven correct answer. We learn how to imagine 'what if?' sequences: what if the supply of water dramatically shrank, the climate worsened, or life expectancy doubled? What if we ran a hospital as if it were a school; a workplace like a playground; an economy like a garden or forest?⁴⁰

In the last few decades, it has become obvious that children should shape their own choices and lives, with a voice in everything from family law to therapy. In the not-too-distant future, it may seem equally obvious that children should have votes. The argument that they lack the mental capacity to be full citizens would, logically, imply taking the vote away from the elderly with dementia, and of course, children have much more at stake than the old, since they will have to live with the results of political decisions. But even if you're not convinced by the need

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to change the rules of suffrage, I hope you agree that the shared ability, cultivated from an early age, to explore the possible future is a vital muscle for any democracy—and one that needs to be exercised early and often.

FROM IDEAS TO ACTION

POSSIBILITIES FOR THE DECADES AHEAD

What might we do with these methods? What might the imaginative landscape of the next few decades look like? There is a near-infinite range of possible paths for societies and the world to take. But the great majority of them will not be entirely novel—they will evolve from, or in response to, patterns that are already visible in the present. They will extend, graft, invert, add to or subtract from what's already around us.

A good example is the reimagining of welfare. Welfare states grew up to address a small number of widely shared risks, such as poverty in old age, unemployment and physical ill health. But today our risks are somewhat different; they include mental illness, precarious employment and the need for intensive care in old age as our faculties decline. Welfare systems are hard to change because the beneficiaries are loath to give up their rights. But they are also fields that badly need creativity and imagination.

In 2017 and 2018, 2,000 randomly selected unemployed Finnish people became part of one of the most important experiments in recent times. They were chosen to test out whether a universal

Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life, Cambridge, MA: MIT Press, 2005. The other mechanisms are genetic inheritance and epigenetic inheritance (changes in gene expression rather than gene frequency). Many accept the ideas of Dual Inheritance Theory, that there are two main streams of inheritance in humans, one cultural and the other genetic, and that these co-evolve, although far less is understood about how exactly the co-evolution with genetic inheritance happens, whether at the individual or the group level.

12. Taylor, Helen, Brice Fernandes, and Sarah Wraight, 'The evolution of complementary cognition: humans cooperatively adapt and evolve through a system of collective cognitive search', *Cambridge Archaeological Journal* 32(1), 2022.
13. McGilchrist, Ian, *The Master and His Emissary*, New Haven, CT: Yale University Press, 2009, p. 127.

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1. I'm a great admirer of the many organisations that do work in this, albeit often with very thin resources, such as Dark Matter Labs, Atlas of the Future, Doughnut Economics Action Lab, Constellations and others.
2. One of the most famous frameworks for creativity was developed by Graham Wallas in the 1920s. He divided the creative process into four stages: a stage of preparation (gathering materials and data); a stage of incubation (working on a problem and sometimes leaving it for a while); a stage of illumination (a sudden spark of insight); and finally, a stage of verification. This frame has worked quite well for some fields, particularly direct problem-solving in maths and science or the arts. But it has been less useful in fields where both the problems and the solutions are less specified and where the work of creating is collective. Wallas, Graham, *The Art of Thought*, New York, NY: Harcourt Brace, 1926.
3. George Dyson, quoted in Rhodes, Richard, *Visions of Technology*, New York, NY: Simon and Schuster, 2000, p. 180.
4. Meyvis, Tom and Heeyoung Yoon, 'Adding is favoured over subtracting

in problem solving', *Nature*, 7 April 2021, <https://www.nature.com/articles/d41586-021-00592-0>, accessed 20 January 2022.

5. Henri Poincaré, the French mathematician, made a striking comment: 'Could anyone think that they have always marched forward, one step after another, without having any clear idea of the goal they were trying to reach? It was necessary for them to guess at the proper route to get them there, and to do so they needed a guide. This guide is primarily analogy.' Henri Poincaré, quoted in Hofstadter, Douglas and Emmanuel Sander, *Surfaces and Essences: Analogy as the Fuel and Fire of Thinking*, New York, NY: Basic Books, 2013, p. 438.
6. Design tools can also help open up new spaces; the world of design prides itself on its ability to imagine and enable non-linear leaps in thinking, or to embody ideas in objects as tools for thinking. I've already mentioned some of the speculative design approaches that try to imagine how, for example, data-driven healthcare could evolve, producing objects, images and videos to crystallise the choices that might arise.

There are many collections of tools that can help with this kind of work, often drawn from consultancies working with multinational companies. They include companies like IDEO and the work of John Seely Brown and Ann Pendleton-Jullian, who gathered some of these in their collection 'Design Unbound', encouraging a playful approach to emergence, ambiguity and environments of rapid change. These are full of useful vignettes; they encourage rapid prototyping, testing and visualisation of ideas, rather than overreliance on prose. They can be useful as prompts and sparks, though a common weakness of designers is to ignore deep knowledge, whether from social sciences or experience, which often limits the usefulness of their ideas.

Very different design traditions argue that these methods risk an overgeneralised view of the future. They prefer to emphasise the particularities of place and context, or prioritise the ideas and views of the people who use goods and services, particularly those excluded by the mainstream. Involving people with disabilities in design, for example, often throws up radically different solutions to problems. Sandford, Richard, 'Located futures: Recognising place and belonging in narratives of the future', *International Journal of Educational Research* 61, 2013, pp. 116–125.

7. Snow, Chet, *Mass Dreams of the Future*, Crest Park, CA: Deep Forest Press, 1989.
8. I was first introduced to this idea by Stephen Huddart at Wasan Island in Canada. See ‘What is the Seventh Generation Principle?’, Indigenous Corporate Training Inc. blog, 30 May 2020, <https://www.ictinc.ca/blog/seventh-generation-principle>, accessed 2 February 2020.
9. See, for example, the work of body>data>space: <http://www.bodydata-space.net/2019/03/the-weave-co-creation-collaboration-process-the-incredible-beauty-of-interauthored-outputs>, accessed 1 February 2022.
10. Blackwell, Alan F. and Sally Fincher, ‘PUX: Patterns of User Experience’, *Interactions* 17(2), 2010, pp. 27–31.
11. There have also been some attempts to adapt the pattern language idea to social design. But these attempts are more interesting as failures than as successes. Again, any particular society can be described through a set of dominant patterns—ways of organising families, firms, care or friendship. Describing the common patterns and modules can be useful for a task like setting up a new organisation. But these patterns are not universal, and they evolve over time. Indeed, much of the work of social imagination is valuable precisely because it helps with the design of new patterns that might become common: new ways of looking after children or organising extended families; new interpretations of the roles of coach, mentor, teacher or carer; new rights of decision or choice; or new types of ownership.
12. Alexander, Christopher, *The Timeless Way of Building*, New York, NY: Oxford University Press, 1979, p. 10.
13. Coleridge was borrowing from Friedrich Schelling’s concept of ‘*Einbildungskraft*’, which formed part of a grand theory of imagination. Coleridge liked to contrast fancy with imagination, fancy being decorative and incremental, whereas imagination was a true act of creation. Lachman, Gary, *Lost Knowledge of the Imagination*, Edinburgh: Floris Books, 2017.
14. Dewey, John, *Later Works of John Dewey, 1925–1953*, Jo Ann Boydston (ed.), vol. 10, Carbondale, IL: Southern Illinois University Press, 2008, p. 271.
15. Kant, Immanuel, *Critique of Pure Reason*, New York, NY: Collier, 1900.

16. Charles Peirce called this mix of recombination and exploration by analogy ‘abduction’, a non-deductive inference which he used to describe ‘all the operations by which theories and conceptions are engendered’. Peirce, Charles S., ‘Lowell Lectures on Some Topics of Logic Bearing on Questions Now Vexed’, Eighth Lecture, ‘Abduction’, 1903, MS [R] 475.
17. For a longer paper on synthesis and its methods, see Mulgan, Geoff, ‘The Synthesis Gap: reducing the imbalance between advice and absorption in handling big challenges, from pandemics to net zero’, The International Public Policy Observatory blog, 1 December 2021, <https://covidandsociety.com/synthesis-gap-reducing-imbalance-advice-absorption-handling-big-challenges-pandemics-net-zero>, accessed 20 January 2022.
18. Demand from firms and investors keen for a crystal ball means that there are many methods in contention. They include ‘Futures Literacy’, the family of methods proposed by UNESCO’s Riel Miller to promote stronger capabilities to imagine, which has helped grow a network of futures researchers from around the world: UNESCO Global Futures Literacy Network, <https://en.unesco.org/futuresliteracy/network>, accessed 20 January 2022.
19. International Futures Forum, ‘Three Horizons’, <https://www.internationalfuturesforum.com/three-horizons>, accessed 20 January 2022.
20. See, for example, Swart, Chené, *Reauthoring the World: The Narrative Lens and Practices for Organisations, Communities and Individuals*, Randburg, South Africa: Knowres Publishing, 2013.
21. This, of course, is why narrative also so easily becomes exclusionary or xenophobic.
22. In their interesting report ‘This Too Shall Pass’, Alex Evans, Casper ter Kuile and Ivor Williams suggested three types of myths that helped our ancestors to cope with crises and that are also relevant to contemporary dilemmas. These were apocalypse myths—stories in which something is *revealed*; restoration myths—stories in which something is *healed*; and emergence myths—stories in which something is being *born*. Many of the most compelling social programmes have some elements of at least two of these. Evans, Alex, Casper ter Kuile, and Ivor

- Williams, 'This Too Shall Pass: Mourning collective loss in the time of Covid-19', The Collective Psychology Project, <https://larger.us/wp-content/uploads/2021/01/This-Too-Shall-Pass.pdf>, accessed 20 January 2022.
23. The communist arguments—which stripped away the more moderate, incrementalist thinking of the social democrats—echoed an idea that comes from graphic design: the concept of white space, i.e. that creating space around a message makes the message clearer. Uncluttering is itself part of the creative process.
 24. Within the social sciences, narratives have played a vital role in making ideas acceptable. Deirdre McCloskey has been one of the pioneers of the study of these stories, showing how many theories spread and stuck because of their narrative shape as much as their evidence.
 25. We now have a burgeoning literature on the Anthropocene, with stories of trouble, destruction and spoliation. See Haraway, Donna J., *Staying with the Trouble: Making Kin in the Chthulucene*, Durham, NC: Duke University Press, 2016.
 26. USC School of Cinematic Arts, World Building Media Lab, <http://worldbuilding.usc.edu>, accessed 20 January 2022.
 27. Project Hieroglyph, for example, tried to reignite a more positive and optimistic strand of science fiction: <https://hieroglyph.asu.edu>, accessed 20 January 2022. Various communities of sci-fi writers share methods and insights, such as the London Science Fiction Research Community: <http://www.lsfr.co.uk>, accessed 20 January 2022.
 28. Future Generations Commissioner for Wales, 'Well-Being of Future Generations (Wales) Act 2015', <http://futuregenerations.wales/about-us/future-generations-act>, accessed 20 January 2022.
 29. Oroschakoff, Kalina, 'Top German court rules the country's climate law is partly "unconstitutional"', *Politico*, 29 April 2021, <https://www.politico.eu/article/germany-climate-change-law-court-rules-partly-unconstitutional>, accessed 20 January 2022.
 30. By 2020, the UK was the world leader in offshore wind, with more installed capacity than any other country, powering the equivalent of 4.5 million homes annually and generating over 10 per cent of the UK's electricity. UK Research and Innovation, 'Harnessing offshore wind',

- <https://www.ukri.org/our-work/responding-to-climate-change/topical-stories/harnessing-offshore-wind>, accessed 8 February 2022.
31. Halpern, David, Clive Bates, Geoff Mulgan, and Stephen Aldridge, with Greg Beales and Adam Heathfield, 'Personal responsibility and changing behaviour: the state of knowledge and its implications for public policy,' Prime Minister's Strategy Unit, 2004. This was circulated within government in 2002 and published in early 2004: <https://webarchive.nationalarchives.gov.uk/ukgwa/+http://www.cabinetoffice.gov.uk/media/cabinetoffice/strategy/assets/pr2.pdf>, accessed 20 January 2022.
 32. I've written elsewhere about the science of meetings and how to run better ones. See the chapter on meetings in my book *Big Mind* (Princeton, NJ: Princeton University Press, 2017).
 33. Magnetic South, <https://www.iftf.org/our-work/people-technology/games/magnetic-south>, accessed 20 January 2022.
 34. Lyn Gardner, 'Early Days (of a Better Nation) review—your country and this play need you', *The Guardian*, 18 November 2014, <https://www.theguardian.com/stage/2014/nov/18/early-days-of-a-better-nation-review-coney>, accessed 20 January 2022.
 35. Finsbury Park's 2019 Citizen Sci-Fi Programme, 'Time Portals': <https://www.artrabbit.com/events/2019-citizen-scifi-programme-time-portals>, accessed 20 January 2022.
 36. In a similar spirit, other techniques have used digital technologies to engage people in scanning, exploring and forecasting the future, such as FutureCoast: <https://onca.org.uk/event/futurecoast-launch-help-us-hear-our-futures>, accessed 20 January 2022.
 37. Unfortunately, however, less thought had been given to what to do with this outpouring of thoughtful reflection, and within a few months, the financial crisis had sharply refocused attention back onto immediate difficulties (which, perhaps thanks to skilled leadership, Australia handled better than almost any other country).
 38. The Emerging Futures Fund, <https://www.tnlcommunityfund.org.uk/funding/programmes/emerging-futures-fund>, accessed 20 January 2022.
 39. My friend and collaborator François Taddei at the Center for Research