

## Leeds South Bank – a report from the future

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*Leeds has an established city centre that has been evolving for hundreds of years. It also has a huge area on the south side of the River Aire that was dominated by heavy industry but has already changed to be less industrial: engineering works, warehouses and the brewery have closed; flats, offices, hotels and other uses have been introduced. There are many other buildings and sites that are either already derelict or likely to change use. But to what? **How might Leeds South Bank look and work by 2150 and what will people think of it? How will they live, work and have their being in that quite distant time and familiar place?** We can all think about the influences on our city, **consider possible alternative futures** and think about whether we could and should help to move towards or away from the multitude of possible options for our future.*

*Here is one vision. As with most visions of the future, it probably overdoes the wishful thinking, underestimates the baser elements of human nature, fails completely to imagine some technical changes that will already seem commonplace by 2150 and leaves yawning gaps where imagination simply fails. But this timescale is long enough to imagine some fairly fundamental changes to the way that society functions and it does take on board some of the very significant challenges that we are definitely or highly likely to be facing. The vision is of a city centre that has adapted pretty well. It's quite a resilient, safe and inclusive place, full of people and activity. It's not self-sufficient, but its 'footprint' has shrunk. It is not dominated by robots. Humanity has had time to recognise the need to be selective in the application of technology and to rediscover and revalue some of the timeless qualities of real interaction. Cities continue to have a *raison d'être* and have become much better places to live in as well as much less damaging to the planet.*

At 8.30am on a May morning in 2150, Carlotta Duval, heavily pregnant with her second and final baby, is gazing over the city from the viewing platform on the 10<sup>th</sup> floor of the 'Feed Leeds' vertical farm near historic Elmet College in Hunslet. Between the branches of mature trees, she can see an **aerozip** pod easing its way onto the earth station not far from the 18<sup>th</sup> century riverside granary that is now a wildlife and waterways management hub. The **aerozip** was a novelty in the early adult life of her great grandmother, who was born in 2015. There had been a proposal for a high-speed train but before the scheme could be properly implemented, technology had moved on and long-distance travel was by this new mode: a vertical ascent, rapid horizontal movement in zero friction at the edge of space and then descent to the destination. All Leeds is left with is a length of high-level line that got converted into a linear park after the 10,000 Flowers Revolution in 2050. (I'll tell you more about that amazing upheaval later, because I also want to tell you about the centenary celebrations. You won't be surprised to hear that it involves bees!)

For local and regional travel, trains are still useful. The whole rail system, the most aged parts of which are now more than 300 years old, has been upgraded to take the latest rolling stock, all powered by solar-generated electricity, as are most kinds of machines. An extensive tram system, integrated with heavy rail, makes for a useful network connecting the city centre with outlying neighbourhoods.

Students of various ages are already at work in the farm, learning hydroponics, protein simulation, algae culturing and farm maintenance and turning out a small but useful percentage of the city's food supply. The district greywater system meets all the water needs

of the farm so Carlotta's filtered morning shower water is making its way to the vegetable roots. Carlotta herself has just dropped off her toddler at the College Nursery and is about to begin her flexi-shift mentoring the students and helping them shape up their learning plans for the next 5 years. They are all part-timers who fit learning into their schedules around various other streams of work. 'Pay' is in the form of spendable points into their Globank accounts.

Globanking was devised in the middle of the last century when yet another financial crash paralysed traditional banks. All the supposedly sophisticated trading mechanisms were abolished and globanking is simply an electronic means of transferring and safeguarding spending power. It's more like an e-piggy bank. There are no coins any more, nor is there currency trading because there are no national currencies. Local spending is encouraged because all transactors, being geo-coded, can choose to trade with someone within their city region. A local transaction uses up fewer carbon credits, so is obviously preferred. To raise funds for investments, there are even smarter versions of crowdsourcing.

Steady streams of students of all ages are walking, cycling (on Zìxíngchē bikes) under the statuesque acacia trees of 'Hunslet Stray' towards the College. Commuters are moving along that route, along other paths and by tram to places of work dotted around amongst the new and converted buildings that cluster in the whole of the area between the River Aire and the motorway.

Many new structures have been added to the city since the early 21<sup>st</sup> century, but far fewer buildings have been swept away since then than you might think. Structures put up since 2020 had to be future-proofed and the standards for this were cranked up so that by 2050, no building could be completely demolished; renovation and adaptation became the norm. However, there are very few buildings surviving from Carlotta's great great grandmother's era at the turn of the second millennium. They proved too expensive to run and insufficiently adaptable, so they have all been dismantled and the components have been re-used or recycled. There are no extremely tall buildings because they belonged to the era of private land ownership, when maximising returns from each square metre of what used to be called 'real estate' was the driving force, rather than how people prefer to live and work. As men are much less dominant now, the whole masculine symbolism of 'San Gimignano' one-upmanship has faded as an urban design impulse: there are some decorative spires but no towers. There is a great mix of places to live, including houses of red brick and flaxcrete render – pretty, quirky buildings all designed by different architects, they have features in common but all look similar in terms of their height and proportions. Just beyond South Bank in Beeston, there are still hundreds of back-to-back houses. All have super-quick broadband, real time info screens, a communal CHP boiler and clever insulation – a special film over the traditional brick. One of Carlotta's great grandfathers lived in one of these houses.

## 自行车

Zìxíngchē: A Chinese bicycle made from a light carbon fibre.

And where have all the cars gone? Since recognising in about 2020 that cheap oil was a thing of the past and that carbon taxes could minimise the use of the remaining fossil fuels, lives were surprisingly rapidly reorganised so that travel for work, education, shopping and leisure was minimised. This used to be the badly-named 'rush hour', but now many more

people work part-time or flexi-time, work from home or commute by bike, on foot or by electric vehicles. All this means that there is no congestion and very little noise or pollution. When traffic was re-routed in 2025 so that the 'loop' no longer passed through the South Bank, it opened up many opportunities for redevelopment as well as vastly improving quality of life in the area. Whereas ease of access by car used to be a major selling point for any business building, the much more tranquil feel of the city centre helped to stave off relocations to business parks and indeed, many firms moved back into the city centre.

Carlotta finds it odd when she hears the old people reminiscing about how some folk who used to live in villages up in the Dales but had jobs in Leeds had to spend hours going to and fro by car. Places in Elmet are much more self-contained than they used to be.

Nobody has more than two children. If anyone suffers the misfortune of losing a child or not being able to give birth, they can quite straightforwardly adopt a child from amongst the many climate refugees.

Students will later walk over to the local school. Many of them have been there since they were 3 years old and it has had to be extended three times since it opened in 2016 because so many families live in the expanded city centre.

Carlotta's friend Ngosi lives right next to the school, so her two children can easily slip next door. Ngosi will pick up a Véleeds zixingche from the nearby stand to pedal to her job in the West End, where she's employed in a small firm that designs building components from 100% recycled materials. (Her own great grandfather oversaw the dismantling of the one-time tallest building in Leeds, Bridgewater Place, back in the mid-21<sup>st</sup> century.) It's an example of the vastly expanded environmental goods and services sector that helped to lift Leeds and the whole Elmet region out of the doldrums. Along with various kinds of bio-technology, it's taken over from banking and finance. Her civil partner, Imtiaz, works from home, designing the latest generation of 4D printers which are prototyped here in Hunslet, one of the original cradles of engineering entrepreneurship more than 250 years ago. The designs will be exported all over the Yorscandia economic zone and probably all over the world. There are still global connections, but much more of daily life happens within a short range of home. There is now a broadly shared sense that quality of life is more important than the high growth rates that came from working long hours and buying yet more gizmos to save time.

The cluster of buildings in Holbeck became one of the first exemplary 'green' developments, built to the highest environmental standards. This is just one part of a much greener scene than Carlotta's great great grandmother tells of in her memoirs about the city in her prime in the early 21<sup>st</sup> century, when development proposals rarely met sustainability criteria and hardly ever included green open space. Eventually, by the middle of the 21<sup>st</sup> century, a city centre park was completed just south of the river. It has specialised in introducing new species and special cultivars of traditional ones that are resistant to the various diseases that spread as the climate changed. Every tree in the park is adopted by people in one of the outlying communities of the city and they take an active part in tending them.

The memoirs of Cherry Duval were published in 2115, the year she turned 100. Her life had spanned an era of great changes but also some quite surprising continuity and even some turning of full circles.

She had grown up in the suburbs because her parents had not been able to find a house in the city centre at the time when she was about to be born. She herself, though, was able to live in the city centre because by 2033 the South Bank was a mature neighbourhood with a range of housing, many business premises and all the amenities that people needed for family life, including plenty of green space. Cherry was a surveyor, like her mother, and was instrumental in changing the system of land ownership when she was elected to Parliament as the MP for Leeds Central.

The Clock, based on the original built in the USA in the early 21<sup>st</sup> century, is designed to run for ten millennia. It ticks once a year, the century hand advances once every 100 years (so it was quite a special moment when 2100 arrived), and the cuckoo comes out on the millennium.

The Clock is powered by mechanical energy harvested from sunlight as well as by visitors.

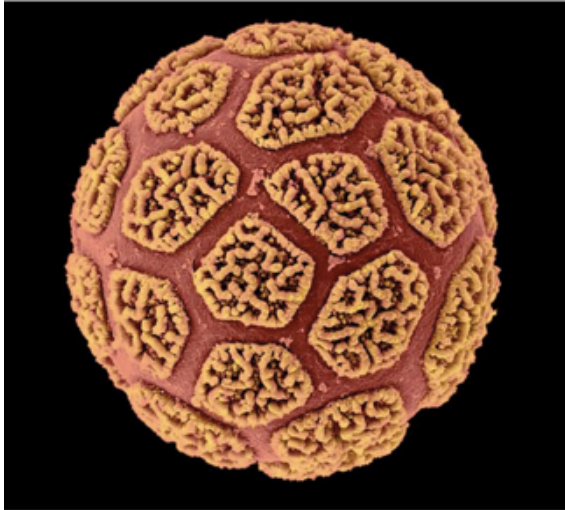
A linked phenomenon is the 10,000-year library in the Brotherton building at the university. It is a place for contemplative research and small, immersive conferences on topics of centenary and millennial scope. In the timeless reading room there is a collection in which every volume on any subject is superb. The best of human knowledge has been gathered and made available.

Brand, S. (1999) *The Clock of the Long Now*

As well as many more trees than there used to be, there are miles of green paths and many rooftops covered in sedum or turned into gardens – all helping to reduce heat on a summer's day like this. Improving the 'green infrastructure' created quite a few jobs, and there are many more gardeners tending the city centre nowadays. Greenery also takes up carbon dioxide and helps to reduce run-off during the heavy storms that are common. The flood defences of 2020 did do some good but flood risk wasn't significantly reduced until the upper slopes of the river catchments were extensively changed to allow woodland to be re-established. Now that upper Airedale (along with many moortops in the Pennines) are covered in birch trees and other native species, run-off is much slower. Too bad that grouse died out when the land was no longer managed to maximise their numbers for a global elite to shoot every August. [The Glorious Twelfth is now a celebration of sea bathing in the Bay of York]. People living and working on the South Bank feel safer and property is no longer threatened by flooding.

Not that property prices are of much interest these days because land is now held in trust by a mosaic of co-operatives. A law in the late 2080s made private land ownership a thing of the past and residential property prices are pegged to people's ability to pay. Most citizens rent their flat, town house or 'flexi-Airepod', invented in 2025 by a Leeds architecture graduate to respond to the need for households to expand and contract without moving house. Carlotta's parents, now in their 60s, live in one of them. When friends or relatives come to stay, they can rent an adjacent pod instead of having a guest room lying empty most of the time. Neighbours who live in a town house often have 'sofa surfers' staying with them.

Visitors and city centre residents enjoy the range of museums and cultural events that have been opening at a steady pace over these last few years. Temple Works is one of several sites of the West Yorkshire museum of textiles, clothing and fashion. The European version of The Clock of the Long Now in the



Himalayan Iris pollen – Kew Millennium Seedbank

Town Hall brings many visitors, especially those who are taking a year out of their career to go on the Round Britain Zixingche Tour. The Tetley is now a gallery specialising in late 21<sup>st</sup> century Thousand Flowers art, for which Leeds has become a specialist centre. It's a mix of calligraphy and greatly magnified 3D models of pollen, illuminated and animated in various ways. There are many small galleries and studios creating and selling these works for public and private display across Yorscandia.

A mid-21<sup>st</sup> century church, built for climate refugees from central Africa, is now a museum of religion. Armley Gaol has become a Museum of Freedom and The Thackray Medical Museum

has continued to tell the story of disease and healthcare, including the way that cancer became much less prevalent after China banned the use of a wide range of chemicals and enforced the ban across their whole jurisdiction. This spawned efforts to find, manufacture and market substitutes for all the cleaning fluids, preservatives, paints, varnishes and other preparations that gave off noxious fumes. All food is grown only with natural fertilisers and pest control.

Back to Carlotta. She comes down from the vertical farm and drops in on her mother, Maryam, who is of course carrying on with part-time work. She has devoted increasing amounts of her time over the last decade to 'downloading' accumulated experience by helping younger people to learn the timeless skills required for success in the work place and in civil society. Maryam, who has been an extra-mural professor for many years, is still engaged in research on the ever-changing city. The university (which became one, much smaller, institution back in the mid-21<sup>st</sup> century) has become much more closely linked into city life and the economy, particularly via the now well-established Innovation Zone. She also volunteers as a guide at the 10,000-year library in the Town Hall.

Carlotta's partner Victor has a number of meetings this morning. The first is in the 'virtual' city hall at 9:30 in which anyone who wants to comment on the latest proposals for new earth stations can join in a 3D webinar. Then he'll meet up with a student doing a research project on the history of local procurement of food for city centre restaurants. Carrying out the literature review has surprised this student no end. He can hardly believe what long supply lines there used to be even for ingredients that could easily be sourced more locally. He can't imagine having to import bananas. (The main source now is Lancashire, because I know you'll ask.)

After lunch in one of the independent cafés in City Square, he'll meet with a firm of surveyors who have sponsored another survey of the green buildings of Leeds. Next month, Leeds is hosting the largest Yorscandia conference on green building, having gained a reputation in this field and put in place excellent conference facilities. It is still remarked upon that even in this era of remote connections, there remains a demand for face-to-face gatherings, especially for parties.

In the evening Carlotta and Victor take the toddler to her grandparents to stay the night and go to meet friends at a waterfront café. As usual they see an otter, this one with cubs. They feed on a rich diet of golden pike and other exotic and a few native fish species. Though Carlotta's family does eat some animal protein, they are typical in having a mainly vegan diet (or 'vegect', as it's now called, because it also includes insect-derived protein). Meat and dairy products became very expensive more than a century ago because of the environmental implications of rearing animals. Everyone has to part with personal carbon credits as well as globank points for every purchase, so they tend to avoid these costly items and demand has shrunk. The south Indian chef and his partner, whose family came from Hull when that city finally became part of the Bay of York, serve stunningly tasty and well-presented food, some of it, such as the coriander, spinach and chillies, grown in the vertical farm. These chefs, like many other local restaurant operators, studied at the local college of Food Science and Art and they return there to teach others.

After a concert in the park, powered by electricity from the local Combined Heat and Power system, they mix with people of all ages, some of whom are campaigning for the local elections. [There are no national ones; Britain is a mosaic of autonomous regions]. Others are enjoying various games and dancing in Briggate. Dǒudòng de bug (a Chinese version of jitter bug) is the latest craze. They may well move on later to one of the five-a-side football pitches dotted around the city centre. Rushing around kicking a ball is still, oddly, an appealing pastime.

There will be a major event at midsummer: the Thousand Flowers Festival to commemorate the centenary of the event of that name. In case you don't know, I have to explain that the Chinese had tired of trying to negotiate with the old democracies and various rogue/failing states over sustainability. Having recognised the mortal danger that humanity was in, with



fearsome climate change taking hold, water stress across many regions, species extinction and ecosystem collapse, they devised a way to bring about a bloodless revolution by taking control of the vast majority of electronic communications across the world and shifting decision-making towards sustainable options, instituting a more or less completely circular economy and influencing behaviour in all spheres of life towards lower consumption of primary resources. This was backed up with a programme of re-planting and re-wilding,

plus the introduction of new strains of plants developed by an international team of botanical engineers (led by a descendant of the famous 21<sup>st</sup> century botanist, Meriel O'Connor) to provide food, pollution processing, ground stabilisation, natural fibres, honey and beauty. Every city was incentivised to plant 1000 flowers in each neighbourhood and a legion of Chinese beekeepers travelled the world to teach apiculture. So a massive cultural change was brought about towards active and positive engagement with life support systems that had been largely ignored or poorly understood and widely abused. The festival this year will include a renewal of many of the fields and forest gardens initiated in 2050, with a whole month of planting and associated merrymaking. New beehives will be built and positioned in the flax fields and orchards that surround the city. A special feature will be an enactment of

'News from Nowhere' and some other performances based on historic examples of 'futures' scenarios. Revisiting past times may not be physically possible even in 2150, but an appreciation of insights from the past has grown – hence the 10,000-year library.

#### A 'circular economy'

End-of-life products are reused, remanufactured and recycled. Responds to resource scarcity and higher costs for energy and waste disposal.

- Reuse: redeploying a product without the need for refurbishment
- Remanufacturing: returning a product to its original performance specification
- Cascaded use: using a product for a lower value purpose, for example turning used clothes into pillow stuffing or redeploying computers within a business for less demanding applications
- Recycling: extracting the raw materials and using them for new products
- Recovery: re-using materials for a low value purpose such as road base or combustion to produce heat.

<https://www.gov.uk/government/publications/future-of-manufacturing>

Other less significant reforms have made a difference to the quality of life in cities. A minimum price for a unit of alcohol that took effect in 2016 meant that binge drinking and its associated anti-social behaviour are distant problems. Another factor has been that all young people now do a stint of six months as a community warden, either in the city centre or in some other part of the city. Another six months is spent helping to manage green spaces or working in retirement communities. Credits for this work that go into young people's Globank accounts cannot be spent on alcohol or drugs. (It's said that up in the Dales there are some quite wild parties fuelled by homemade alcohol. Forms of prohibition still spawn illicit alternatives.)

Back at home, allotments are still being tended in the twilight and parakeets are coming home to roost in the numerous trees. It's now quite hard to remember what the neighbourhood used to look like when so many sites were unused or were glittering with parked cars and the traffic made it a noisy and dangerous place.

#### Postscript:

*Back in 2015, some people thought that it might be a waste of time to think about the sort of future we could all help to build. They thought that we needed to knuckle down and try to get back to 'business as usual' as soon as possible, not acknowledging that the world was becoming a different place. But others, fortunately, realised that we needed to be far-sighted, ambitious and innovative, even if our ideas turned out to be wide of the mark in many ways. Unless notions of the possible are stretched, we are highly likely to miss opportunities and make mistakes because we've failed to dare to look over the horizon and engage with the forces of change. People are always resistant to change, but it happens anyway. Better to steer toward the future with open eyes than to be swept towards it with blinkers on? The South Bank of Leeds could be such a wonderful place to live, work and have your being and this could start well before the middle of the next century, if we were pulled forward by a clear and compelling vision.*

*I am grateful to Jamie Saunders for years of informal tuition on 'futures' thinking and to Andy Graham for some ideas about how Leeds South Bank might evolve.*