

Building revisit

CHECKING THE SHELF LIFE

Ready meal maker Charlie Bigham hired Feilden Fowles to design his firm's Somerset base. Five years after its completion, *Hayley Chivers* pays a visit in the company of architect Edmund Fowles and Bigham himself. Photography by *Stefania Miravalle*

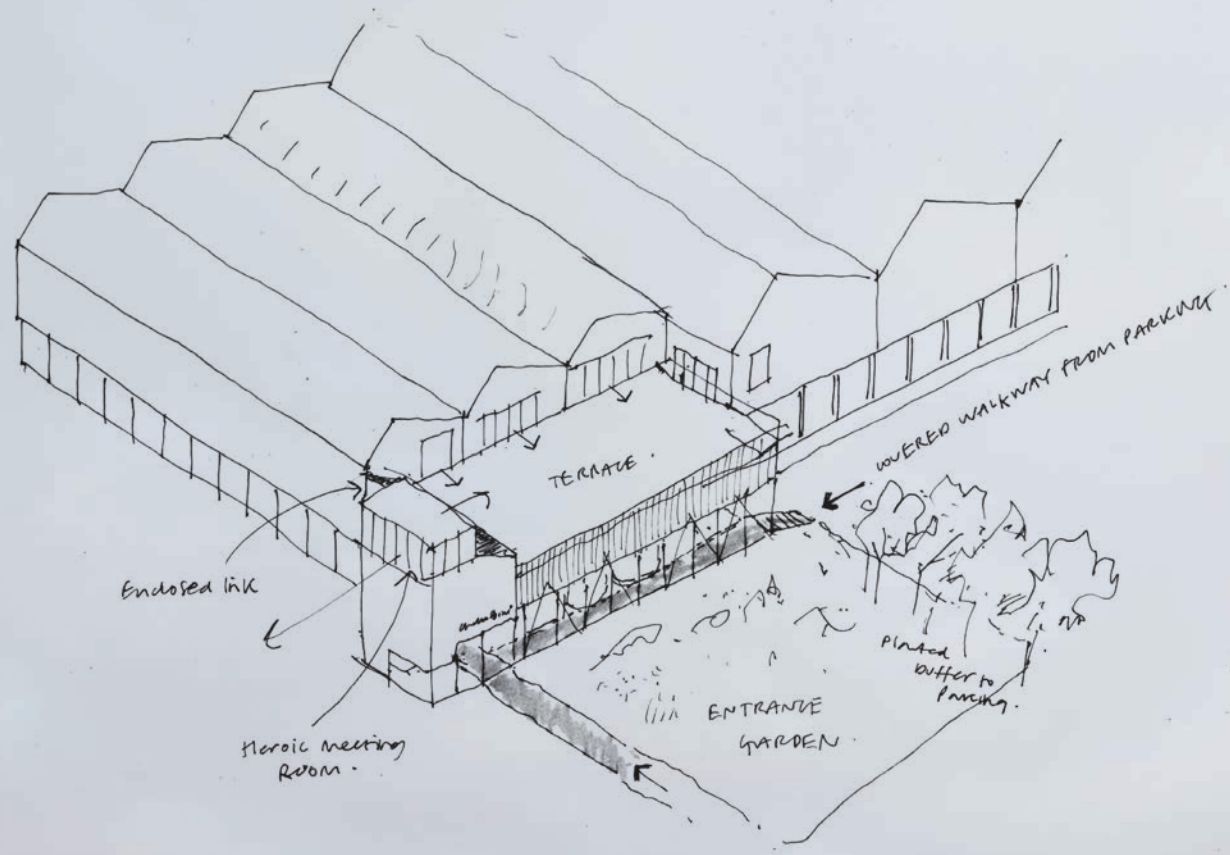
'Do you ever drive down the A303?' Charlie Bigham is hosting us in his office, a timber-framed, glass-fronted, open-doored room off the main office space in his factory in Dulcote Quarry. Feilden Fowles director Edmund Fowles nods. 'Well, they've been building loads of warehouses there,' says Bigham. 'It's not a bad site for a factory, it's right next to the road ... but I thought, my god this is depressing. Then you come round here, it's uplifting!'

We're talking about the genesis of his seemingly archetypal food factory; a steel portal frame, seven bays long and 50m deep, dubbed the Quarry Kitchen, nestled in a rewilded quarry near the Mendip Hills

in Somerset. Unsurprisingly for a man who founded his multi-million-pound business on the core belief that if you have a good process, you end up with a good product, opening a warehouse on an industrial estate was never going to cut it.

Bigham has been making high-quality ready meals since 1996, originally from a kitchen in north London. His company has found itself at the forefront of conversations about sustainable agriculture, trust and quality in manufacturing, and acceptable working practices.

Bigham's wife Claire Worthington remembers the hunt for what Bigham calls 'a little bit of magic'. 'We looked at lots of



sites that were all grassy triangles between three roads,’ she says, ‘but then we came here and kind of had to break into the site... I remember looking at Charlie and thinking “this is going to be the one”.’

Five years after the building completed, an exhausted limestone quarry that once looked like the surface of Mars, is now an Elysium field with wildflowers, a swale and a wooded grove concealing a secondary access route. Well, not right now it isn’t – the flowers won’t re-emerge for another few months, which Fowles concedes makes it look ‘like a bit of a miserable sports field’, and Bighams has just coppiced out the fledgling forest to give fewer trees more room to flourish, leaving the corpses of the fallen strewn over the quarry’s south bank. The factory itself rests calmly on its elevated footing, dual-banded façade in dialogue with the datums of the quarry ridge lines, materials blending with the shifting landscape. The building eschews perspective, sitting proud of the landscape on an off-white podium, meeting the sky with an articulated roof rhythm, tending towards saw-tooth, but not quite. The structural grid and materiality negotiates two rhythms: a garnet aluminium super-grid to house the 24-hour production

line; and a diminutive, framed timber bay for diurnal, human activities. The closer we get, the more the building reveals its edges – nibbled in places, sprouting at others – a living beast, toiling happily in its crater.

Back in 2015, this was a risky endeavour for both parties. Bigham, known for his efforts to raise the bar on ready-made food since establishing his firm in 1996, took a punt on a small practice with a few well-considered education buildings but no industrial experience, and certainly not on this scale. Feilden Fowles’ risk was trusting this smart, savvy businessman to do what he said, and not use them as the friendly face of big industry.

With a second planning application recently submitted and phase two on the cards, now seems like a good time to return to ground zero and explore what it takes to cultivate quiet, collaborative brilliance in a rocky Somerset wasteland.

One striking theme of this project is the fusion between romance and pragmatism. As we arrive along a hulking A-road, a winding inlet gently drops the visitor from the quarry perimeter on to its floor, offering a sweeping view across the depleted

limestone bowl towards the factory, resolute and purposeful in the back corner. Fowles remarks on the contrast between designing a building within an urban context, and this one ‘against a backdrop of rock ... it’s inherently subservient to nature’.

I’m not sure subservient is the word for the muscular mass we approach. Deferential perhaps – though equal in stature, the factory is out-loomed by the impressively rugged and richly seamed quarry walls. There are faint calls from the peregrine falcon nest in the north-west ridge, and I can’t shake the feeling that we should have arrived on horseback, pistols ready.

The gold-rush aesthetic is a wry yet consistent motif throughout the project. It began with Feilden Fowles’ research into the site’s history, analysing the irregular, ad-hoc structures built to house industrial machinery and the human behaviours around them. This whimsical honesty of form and materiality has been reinterpreted by Fowles and his team, into a method for teasing out every moment of joy from the synthesis of a linear production process, stringent hygiene requirements and the kindness needed to sustain a hand-crafted process.

Fowles and Bigham’s account of the design development reveals the considerable analysis, model testing and persuasion that went into carving out this exact seven-ridged form, ideal for bringing in north light and perfectly angling the PVs. There’s no mitigating the heft of an 8,000m² food production facility, yet Feilden Fowles’ ‘series of inflections’ disrupt the banality of an otherwise well-established, modular typology.

With an experienced contractor engaged early on, it was a smart move to lean into the inevitable system design constraints, massaging grids and forms to better serve the people inside the building. Even the contractor’s Fordist mentality of ‘you can use any material, as long as it’s Kingspan’ was absorbed, considered and then tweaked, slightly – ‘even the timber panelling is an embellishment of a standard system, bending the rules just a little bit,’ says Fowles.

It seems to have paid off, both initially and in the long run. The iterating of the brief fostered a long-term working relationship between architect, contractor and client. Fowles is clear that their ‘strategic small wins’ were largely possible because Bigham

was in their corner the entire time. For Bigham, it was about giving the team space to flourish. ‘When you employ someone who you think is brilliant at what they do, you have to let them be brilliant,’ he says. ‘You can’t say: I’m going to employ you to make an amazing building, but I’m going to tell you what it’s going to look like.’ He seems unaware of how radical a stance that is.

Right from the start, Feilden Fowles set itself apart from the invited shortlist by establishing an open dialogue with Bighams. The practice’s willingness to hear the client out, test ideas collectively and dig around for alternative inspiration for its poetic pragmatism seems to have fostered an amiable, even familial, relationship. It’s distinctive in the way they speak to each other, and in the jovial atmosphere at the factory. An evident draw for Bigham, even when some big names offered to work for free. ‘It was very flattering who wanted to work with us,’ he says. ‘But I think if we’d worked with Hopkins, we’d have got their building, not ours.’

Feilden Fowles’ pitch to Bighams was also attractive for taking the long view, treating the site like an education campus and

engaging with the romance of both its past and its potential. ‘What was really powerful was the enthusiasm with which ideas were met,’ says Fowles. ‘We would come forward with some old pictures of quarries. Some clients would think “What the heck are you doing?” But Charlie understood there’s a value in situating the visual identity of the building in the past of the site, it gives it more weight somehow.’ These photos now line the meeting room walls; clearly this approach chimed with Bighams’ commitment to embedding itself in the timeline of the place.

The project’s ambition is subtle, evident mostly in curated moments of architectural flair: the timber entrance ‘folly’, the ‘heroic space’ where ingredients are assembled into meals, and the staff canteen that looks on to it. Even as he points out dust gathering in the roof apex, or finishes that haven’t withstood repeat pummellings from forklift trucks, Bigham has a glint in his eye when talking about the architectural agenda of his facility. ‘The two biggest buildings in this locality are here and Wells Cathedral – an extraordinary building,’ he says. ‘This space is about the same size and about the same height you know, just ... coincidentally.’ And the



Project data

Start on site October 2016
Completion November 2017
Gross internal floor area 7,860m²
Construction cost £17 million (excluding land value, production equipment)
Construction cost per m² £2,160
Architect Feilden Fowles
Client Bighams
Structural engineer (pre-planning) Structure Workshop
Structural engineer (post-planning) PEP Civils & Structures
M&E consultant TSL Projects
Quantity surveyor TSL Projects
Project manager TSL Projects
CDM co-ordinator PB Safety Consultancy
Civil engineer PP Construction
Landscape architect Grant Associates
Specialist timber sub-contractor Timber Workshop
Main contractor TSL Projects

Sustainability data

Percentage of floor area with daylight factor >2% Not calculated
Percentage of floor area with daylight factor >5% Not calculated
On-site energy generation 6% from 320kW PV array (906 panels). Reduction of 57 tCO₂ per annum
Total energy load Total for building and production processes 1,945 kWh/m²
Carbon emissions (all) Building only 21.2 kgCO₂eq/m² (TER modelled all including production processes at 364 kgCO₂eq/m²)
Annual mains water consumption Not calculated
Airtightness at 50Pa Not calculated
Overall thermal bridging heat transfer coefficient (Y value) Not calculated
Overall area-weighted U-value 0.195 W/m²K
Embodied / whole-life carbon Not calculated
Design life 50 years





Left (from left to right) Hayley Chivers, Edmund Fowles and Charlie Bigham



connection between the two spaces? ‘Have you ever been to the Covent Garden Opera House? If you go upstairs, there’s a window, looking over the floral hall. I remember going there just after it reopened and saying: This is quite cool. We must do this.’ And so they have.

The tower, however, was driven by Feilden Fowles, a combination of providing an entrance sequence that didn’t interrupt production and indicated human scale on such a vast building. After ‘getting really into it, with a tonne of models pushing and pulling the form’, the resulting articulated timber encasement is itself a candidate for a portrait by Hilla and Bernd Becher. Again, while the form supports pragmatics like a lift, stairs and a meeting room, the arrival sequence is elevated with playful details, hinting at the joviality within. For Fowles, expressing the wind of the stair, cutting out windows to direct your gaze between factory and quarry wall, or staggering the profiles of the timber cladding to play with perspective are all traces of former Feilden Fowles architect Elli Farrant’s ‘style and sensibility’ – another joyous layer in the extended timeline of the site.

Today, Feilden Fowles’ pervading interest in what Fowles calls the ‘real nature of materials’ is evident throughout the building. We circle around it, first at high level on the old quarry access road, then at low level in the dormant wildflower meadow, taking in the shifting sunlight as it illuminates the ridged cladding, complementing the flashes of yellow, burgundy and violet in the marbled quarry walls behind. Conversation turns to how his practice positions itself as an alternative to the High Tech movement which ‘pushed things too far towards machine-made perfection’, causing buildings, and processes, to be cold, even sterile. It’s a stance not unlike Bigham’s ethos for founding his company in the first place.

We notice a patina forming on the upper levels of the Kingspan panels and under the photovoltaics – something to which Ed is more averse than I am – and the timber has silvered out, apart from a hoop under a protruding window sill. Even the raised concrete plinth – struck at a datum to give a view out over the cars and filled with leftover aggregate from the site – is starting to pick up the terracotta tinge of the bedrock, bleeding up from below.

All of this grounds the building in its situation – it seems both strikingly new and as if it has been here forever. ‘If we’d had our own way, we wouldn’t have used Kingspan panels,’ says Fowles. ‘We would have used a more changeable material ... galvanised or unfinished tin that can be left to weather on its own.’ A seductive narrative but one that carries the potential for technical problems down the line. Not unlike the north-facing timber cladding, which will hopefully be dismantled and reassembled for the proposed 12-20m extension to the packaging hall. Bigham is kicking stones out of the subsoil and squinting up at his building, taking an interest in our murmurings about the joys of material weathering.

‘So you might be rather liking that we’re getting this mossy roof?’

‘Yeah, I think it’s great!’

‘Whereas I’ve just said we must wash it off! Clean all the roofs! We’ve done all the others but this one is bloody hard to get to. But you’re liking that?’

‘Yeah, I do quite like it.’

Bigham pauses to consider. ‘But you see, Ed, it reduces the lifespan of the roof, which is not good from a sustainability point of view.’

Fowles smiles. ‘Well, we do need to deal with how 600 people get here every day. Did you think more about the shuttle bus?’

This shared legacy is under constant review, curation and critique throughout

our visit. There have always been plans for a central pedestrian route, a chequerboard of production kitchens and green spaces, pavilions in the landscape and even an education centre.

‘It’s just a really pleasant place to work and train people, and through that, to promote good food and a healthy lifestyle,’ says Bigham. Impossible to refute, but now Bighams has one building exceeding expected productivity and an overflow car park established in the interim, plans need to change. The core conclave are constantly revising their big vision to share with new team members. Bigham seems amused by other people’s struggle to adopt his affable magnanimity. ‘Every now and again we get someone new in here, and they say “well you could just put a mezzanine in that double-height space, use that for some storage”. And I always think: how do you really not get it?’

Fowles gets it. And he’s keen to discuss where Bighams can get more out of its spaces, such as the first-floor courtyard that is too hot in the summer and too exposed

in the winter. Design ideas like the green entrance courtyard haven’t fully emerged either, partly because although the trees are thriving, the space is exposed on three sides, making it an uncomfortable place to linger. It needs the next phase to enclose the space, mediating the scale shift from the buzzing hive of human activity and the domineering presence of the cliffs beyond. Fowles has, of course, already thought of that, working with Bigham on a new kitchen facility, welcome building and middle-scale connecting walkway between.

‘I don’t think we’ll go radically different,’ he says. ‘We want to put the buildings in dialogue with each other and the courtyard.’ This means setting out the new building perpendicular to the existing, obeying the golden rule of staying south of the east-west centre line, and sequestering the parking away from pedestrian and cycle access. So if you’re a visitor, ‘you’d be dropped off at the west end, walk up the ramp to the entrance building, another kind of folly. Then you walk along this street, that lets you look on every



stage of the process. You get the tour even as you're arriving.' It's gentle showmanship, absorbing the first building into the context alongside the original quarry walls.

What's striking about the buildings, and the way they are co-designing them, is how deeply the team share the belief that the right process will produce the best results. Bigham is clear that they were doing the project for themselves, and that any recognition, awards or fanfare was 'the icing on the cake'. Worthington thinks they aren't alone in their sustainability, gentle pragmatism and long-term thinking. 'I think lots of the good eco projects in this country are under the radar,' she says. 'They don't want to go for awards because then they get stuck and can't evolve. So we thought: let's just be "eco" and we don't need to tell anyone about it.'

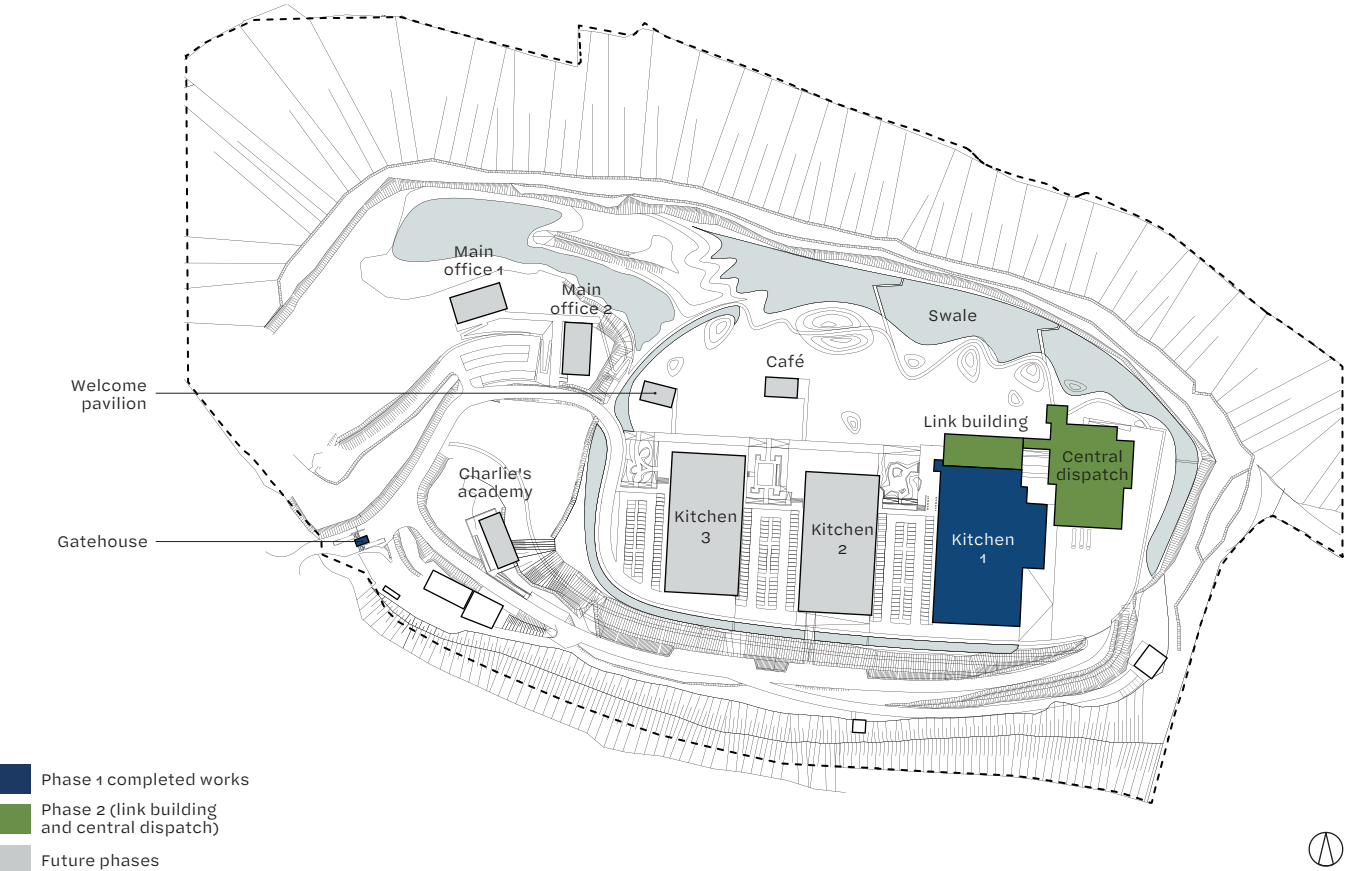
Yet throughout our visit, I notice how the gentle insistence on 'following through' has come to signify the transition from practical delivery of a building to a quietly radical stance. This building is no longer about doing the right thing because it's what they believe in; rather it has emerged as a polemic on the state of the food production system, and a proposal for how things should be done. For Bigham, this is something that evolved imperceptibly as they iterated the project, as much a product of the Feilden

Fowles process as the building itself.

'I do think the world would be a better place if more people used architects,' he says. 'Obviously, the qualifier for that is: good architects. There is such a misunderstanding in the construction sector about what architecture is. The default position is "we don't want to use them", and I do think the architecture profession is quite bad at selling itself... It's not just about the building and its function, it's the social role that architecture plays.'

As we leave and I reflect on the infrastructural scale and future ambition of this project, it occurs to me that the project is a mirror of Bigham himself. Thanks to Feilden Fowles' gentle experimentation, pushing the envelope of what is possible, this building does what it says on the wood-lined packet. Yet as a factory, a workplace, a rewilding masterplan or an experiment in new industrial romanticism, it is gently moving the needle, questioning our assumptions about 'efficiency' and 'value'. Without drama, urgency or accusation, this building is an invitation to observe the state of the natural and industrial world, and reconsider what we believe the reasonable minimum should be. *Hayley Chivers is a senior architect at Buckley Gray Yeoman, a Design Council expert and founder of the Vers Collective*





Architect's view

Our appointment by Bighams in 2016 presented a shift in scale and building type for our fledgling practice. We were a little in awe of Charlie's ambition to create a thriving food production campus from scratch on a former aggregate quarry, with no evidence of any services. Twenty months later, the first dish emerged from the kitchen.

Working with Charlie has been transformational for our practice. It offered an opportunity to scale up conceptual ideas previously applied on smaller £2-3 million education projects, as well as scaling up the studio's systems and procedures, enabling us to tackle a more complex £20 million project.

What's been striking about Bighams is how it differs from typical food production facilities, which often suffer from very poor working environments with no natural light and little or no connection to the outdoors. At Dulcote, a constant dialogue with the landscape is established, both physically and visually. Windows into the production area

are not typical in this industry. The addition of large expanses of glazing, rooflights and high ceilings has ensured daylight filters deep into the plan, transforming the working environment and employees' wellbeing – an attitude to excellence reflected in Bighams becoming a B-Corp in 2020.

We have stayed closely involved with Bighams, initially through building visits and tours, which gave us an informal means of assessing how the building was performing. We are now working closely together on plans for the next phase: a second building comprising a central storage and dispatch facility, linked to the phase 1 kitchen by a 'cord' building.

We intend to develop a lower carbon/low-tech construction method for future phase buildings. The sheer pace of the first phase limited the ability to be more experimental. The management contractor TSL, which specialises in large-scale production buildings, had specific supply

chains to deliver defined construction systems (steel frame, composite panels) exceptionally quickly. In the future we want to be more courageous and push more radically sustainable construction methods, such as timber or composite timber/steel frame construction, combined with bio-based cladding approaches.

In addition to the delivery of the phase 2 dispatch building, we plan to support Bighams with other aspects of the site masterplan, including enhancements to the quarry landscape, ecology and biodiversity. As the site grows into a campus of multiple production buildings, we hope to deliver the first pavilion in the landscape, to house staff canteen and welfare facilities. We are very fortunate to be working with an organisation that values design, taking a long-term and holistic view of their buildings and the responsible land management of their unique natural setting.

Edmund Fowles, director, Feilden Fowles