ART IN MANUFACTURING

RADICAL PAIRINGS

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In Blackburn in 2022, five female artists exhibited new work created during residencies with manufacturers in the North. Ranging from three months to two years, the residences of Hannah Leighton-Boyce, Liz Wilson, Nicola Ellis, Jacqueline Donachie and Raisa Kabir were developed through the National Festival of Making's headline commissioning programme, Art in Manufacturing, conceived in 2016.

Art critic and writer, Elizabeth Fullerton, was invited to document these artists' residencies, resulting in the essay *Artists and Factories Make Radical Pairings.* Discussing their practices and the unique nature of working as an artist within the industrial setting, Fullerton introduces work created in response to and alongside workforce communities. Providing introduction, context and conversational insights are pieces by Elena Jackson, Jamie Holman and Claire Mander.

A work of people, place, art and industry, this publication seeks to highlight the limitless potential when artists are invited onto the factory floor.

With thanks to all participating artists and manufacturing partners.

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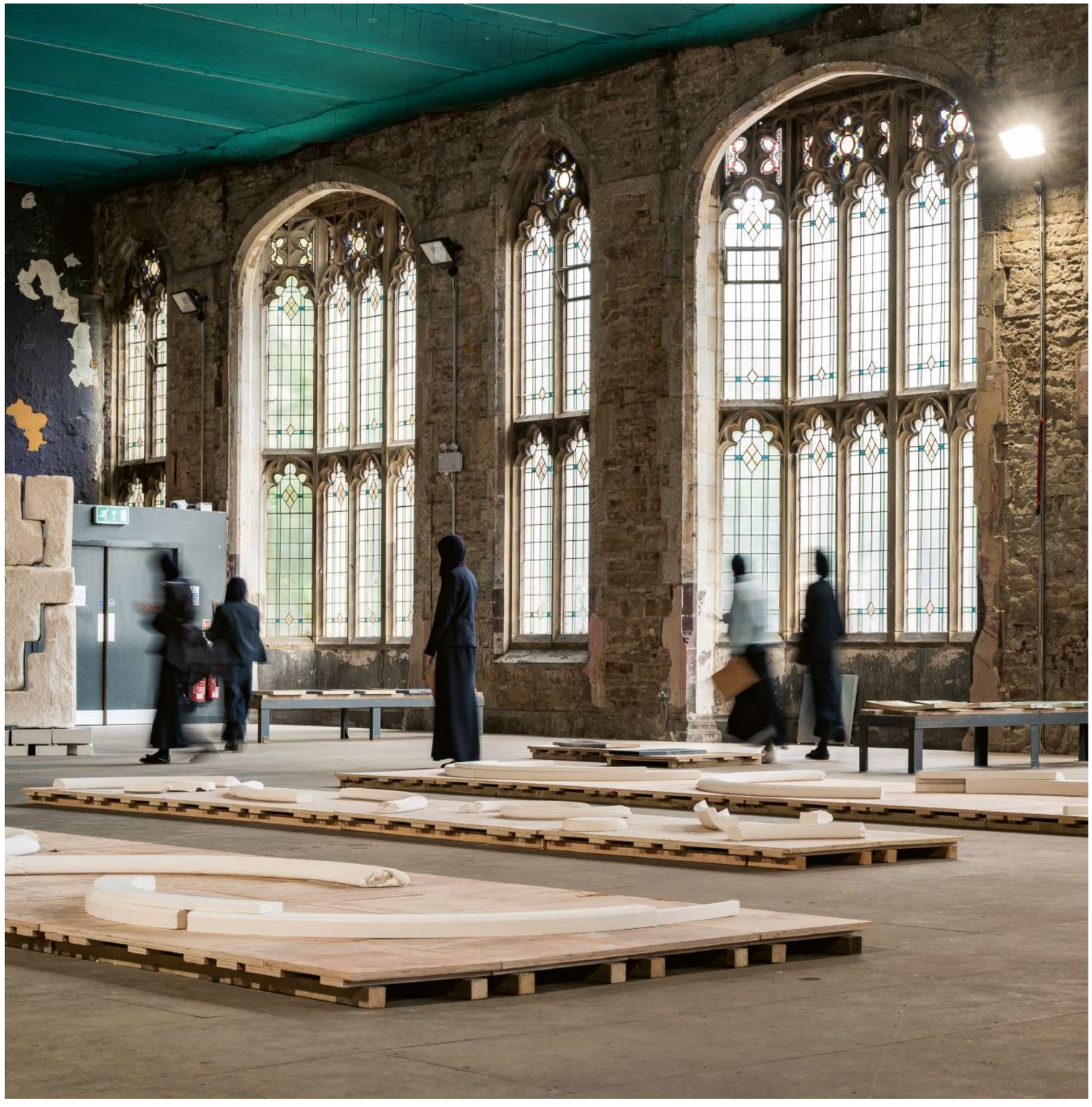
INTRODUCTION

Words by Elena Jackson

Elena Jackson, Programme Curator for Art in Manufacturing and Co-Founder and Director of the National Festival of Making introduces the origin of the commissioning programme, its place within the wider Festival and the impact of residencies for artists and manufacturers.



Art in Manufacturing is the National Festival of Making's headline commissioning programme. The initiative was developed in parallel to the Festival and became our unique proposition to engage the manufacturing sector and formed a commissioning partnership with The Super Slow Way, an Arts Council England Creative People and Places programme. Conceived in 2016, Art in Manufacturing is based on three guiding principles - to develop a creative dialogue between the National Festival of Making as an arts organisation and the industrial workforce operating in Lancashire; to create a unique platform for emerging and established artists to make new, original and ambitious work; and to present a celebratory programme of commissions for Festival audiences and project participants to experience, reflective of Blackburn and Lancashire's place-based making narrative. It is the evolving connection between these three anchors - industry, art and place - that inform Art in Manufacturing.

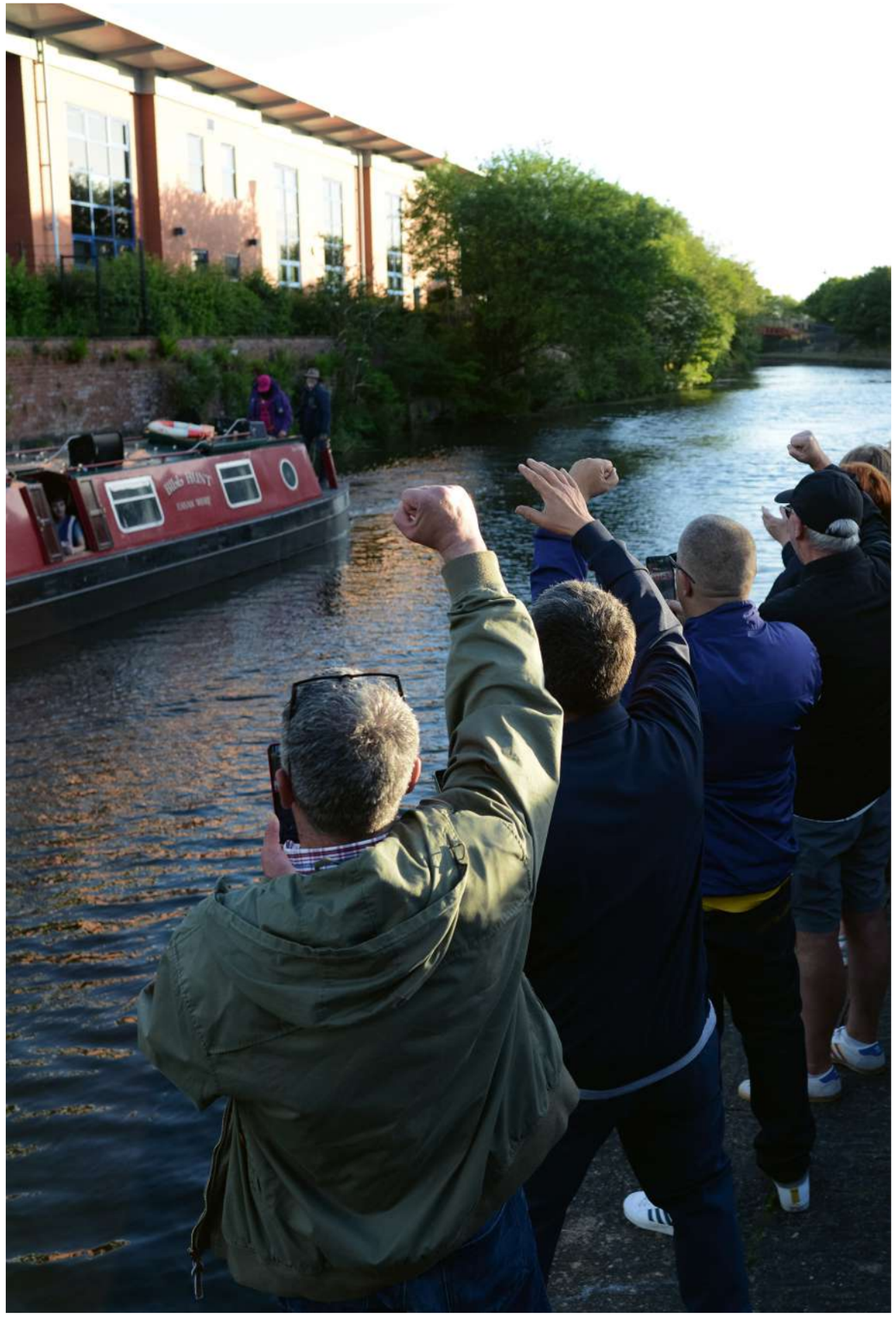
The residency programme facilitates access to cutting-edge technologies and unearths hidden heritages. The resulting artworks are presented as part of the National Festival of Making's programme in venues from Blackburn's grandest, historic spaces to repurposed town centre shops. Since the first residencies, we have commissioned over 30 artists to work with more than 20 factories where they have created remarkable outcomes from sculpture to film and installation to choreography. The Festival, and the works created during residencies, make visible the culture made here, and forms an invitation to experience this place through an alternative lens.

Like Art in Manufacturing, the National Festival of Making is built on a series of principles and goals - critical layers of impact centred on cultural regeneration that sit underneath the spectacle and celebration experienced by an audience of 40,000.

The Festival programme, **'a celebration of making and manufacturing – from the kitchen table to the factory floor'**, brings together hundreds of artists, makers, communities and partners each year to present a melting pot of making activity. Workshops, markets, talks, street food, live performance, artistic commissions and more are expressed in a year-round programme and a participatory free festival for all to enjoy.

The Festival weekend is a joyful and exploratory gathering where families try a skill for the first time, established makers work with artisan crafters, music and performance is enjoyed across the town centre, thousands of people make things with their hands, and audiences experience new work in spaces previously unknown to them. These strands interact with, and happen alongside each other, as we purposefully present new contemporary work alongside family-friendly content. This challenges the hierarchical norm of differentiating and separating the excellence of biennial content and the accessibility of family content, and in doing so we warmly invite a more connected, social and cultural exchange.

The National Festival of Making grew from a simple yet astonishing statistic: in Blackburn in 2016, the year the Festival was founded, almost twice the national average of people still worked in manufacturing industries. This knowledge gave rise to a contemporary reflection, an opportunity to look to the locale where manufacturing had been part of the culture since the industrial revolution - the town's motto is, 'Arte et Labore', 'By Skill and Hard Work'. The Festival's inception became a chance to look forward, at how a return to a celebration of the region's shared making identity could be transformative for communities who live and work here, and could welcome visitors to experience Blackburn and Lancashire anew.



The National Festival of Making and Art in Manufacturing helped to shape a place-specific narrative for much that has followed, leaning into generations of making heritage and towards a contemporary making future. Where in 2016, Blackburn was cited as a town with some of the lowest arts engagement across the UK, the borough now boasts four Arts Council England National Portfolio Organisations; the National Festival of Making along with Blackburn Museum & Art Gallery, British Textile Biennial and Culturapedia. Working in partnership with each other and a wide network of cross-sector stakeholders has been critical to the successful expansion of Blackburn's cultural ecology, underpinned by the support of Blackburn with Darwen Borough Council and its commitment to cultural regeneration.

The Art in Manufacturing proposition intentionally locates the industrial sector at the centre of the commissioning programme. Across 30+ artists placed, the residencies are all unique. Each project is distinctive to the particular artist and manufacturing partner, however the structural framework and artist brief is the same. Artists are engaged to spend a period of time in a making or manufacturing setting ranging from three months to two years, with agreements made as to duration and frequency of visits. While in residence artists are invited to investigate their industrial setting and to allow the identity of the space to inform the project - exploring the factories' products, processes, materials, workforce community, architecture, heritage and technology.

Often bursting with ideas during the R&D period, artists begin to refine their research towards a proposition, with access to skilled staff, archival material and informed by conversation and learning. In line with the brief in which we ask artists to make a new work to be presented at the National Festival of Making, artists and factories move into the making phase, collaborating to combine their vision and expertise to craft extraordinary artistic responses.

Since the first residencies, artists have brought a hunger for experimentation with proposals that eschewed expectations, testing their own boundaries, those of their partner manufacturers and that of exhibition space and site.

Amongst the breadth of commissions, works include Ruth Jones' choreography "Traysway" with Cherrytree Bakery which spoke of Rudolf Laban's historic performances with industrial workforces; Lazerian's "Chromatogram", the first work made in what has become an eight year long partnership with Cardboard Box Company; Dawinder Bansal's "Making of a South Asian Wedding" that time travelled through cultural traditions across family generations; Martyn Ware's sound and performance work at Tony's Empress Ballroom "Church of Rare Souls", a catalyst in the reinterpretation of the space for contemporary cultural programming; and Margo Selby's "Breathing Colour", a sculptural celebration of Standfast & Barracks' centenary year that featured a colour palette selected by the workforce to create a 160-metre suspended textile work.

Through Elizabeth Fullerton's essay, 'Radical Pairings', we return to 2022, to reflect on a series of commissions with female artists, Liz Wilson; Hannah Leighton-Boyce; Nicola Ellis, Jacqueline Donachie & Raisa Kabir who each present completely individual responses through their own unique lens encouraging us as the audience to see and experience something new each time. →

An artist's practice is often to test, and to either intentionally or unintentionally be disruptive within their own practice or within the space they occupy. The five artists featured in this publication typify this; exploring human-machine relationships, the nuances of productivity for artist and factory, interweaving archival material across time and place and making visible hidden histories.

Through Art in Manufacturing we are inviting and welcoming the unknown which can stand in opposition to the precise and formulaic way that the commercial sector can operate. Because of this unknown, we appreciate a huge amount of trust that all manufacturers have placed in us to respectfully and considerately collaborate with them, with a shared aim that, through the programme, we might connect their story to a much wider and unexpected audience and create experiences with their workforces that fall outside of the everyday.

Within the nuances of each residency there is a huge amount of creative opportunity for both manufacturer and resident artist. The artists commissioned have grasped everything that working in partnership with a factory can offer as a platform to push their practice into new spaces. Art in Manufacturing often creates a sense of returning to something more playful and experimental, which is mirrored in the reflections from industry who share that they were invited to, or sometimes forced to, think differently about themselves, their workplace, their products and processes.

Embracing the invitation to be experimental, one partner manufacturer expresses a common theme we see recurring across the collaborations, that the project and the artist's presence in the facility made them push the boundaries of what they can do.

As the outcome was non-commercial they were released from the confinement of industry standardisations allowing the factory, the workforce and the machinery itself, to be more creative. Pushing what is normally considered possible or appropriate to realise the artist's ambitious vision, made the business work more closely together - new bonds not only between artist and factory are formed but within the workplace setting too. **Whilst Art in Manufacturing doesn't lead with commercial product goals, the components of the programme create fertile ground for innovation, coming back to the sentiment from factories, that working with an artist invites them to think and do things differently.**

For the commissioned artists, the programme offers a unique opportunity to take risks and be ambitious in the development of new work. Within this space, the workforce is the creator alongside the artist, challenging perceptions of who makes art, and who it is experienced by. Putting artists in residence with manufacturers can be disruptive but the outcomes for artist, industry and audience are remarkable. ■

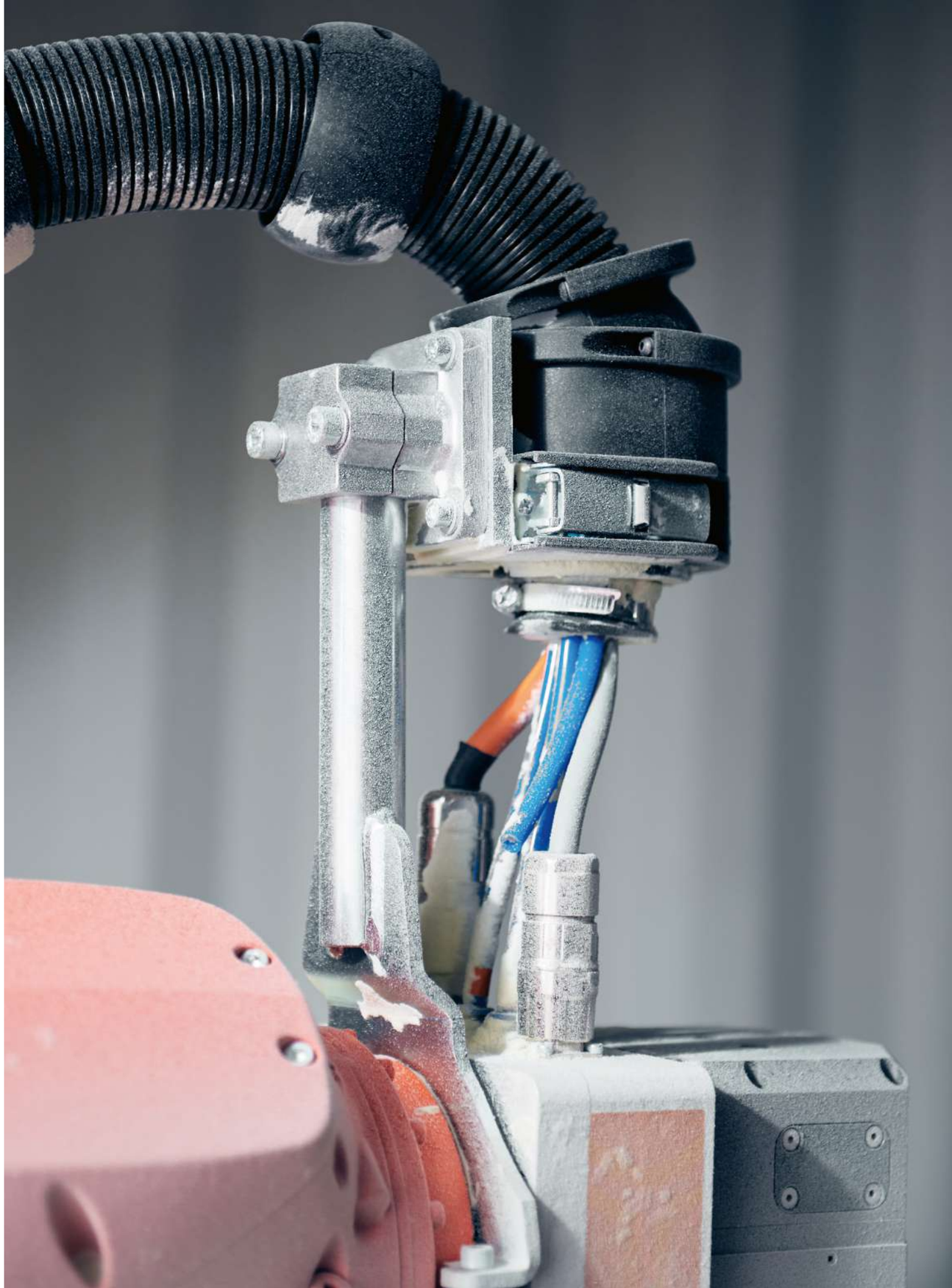
ARTISTS AND FACTORIES MAKE RADICAL PAIRINGS

Words by Elizabeth Fullerton
2022

In this central essay, critic and writer Elizabeth Fullerton focuses on the residencies of five female artists commissioned forArt in Manufacturing Season Four - radical pairings which inspired the title of this publication.

The factory occupies a site of mystery in the public imagination; often coloured by films and literature, it evokes a futuristic place of gleaming machines manned by robots at one end of the spectrum, and at the other, an airless building crammed with assembly lines of workers. Laypeople rarely have the chance to enter this hallowed mechanised world, often considered, moreover, a male preserve. In the 2010s, a quarter of Blackburn's population was employed in manufacturing and cultural curators Elena Jackson and Lauren Zawadzki were tasked with helping to regenerate the town.

They had the vision to pair artists with manufacturers, suspecting that a unique alchemy might occur if creative experimentation were combined with a skilled workforce and cutting-edge machines. They were not wrong. Jackson and Zawadzki launched Art in Manufacturing in 2016 as a commissioning platform for artists to expand their practices through residencies with manufacturers in the North West of England.



Now in its fifth season, Art in Manufacturing has organised 31 artist residencies with manufacturers working in materials from clay and textiles to robotics and steel. The art produced has been of museum quality and resonated strongly with the local communities when presented at the National Festival of Making in Blackburn, an annual festival which the curators co-founded in partnership with a network of contributors at the same time as the residency programme. This twin-pronged approach has played an important role in reinvigorating the region's art scene.

In June 2022, I was fortunate to visit three remarkable women artists at the factories where they had been embedded and was struck by the sheer scope of visual and sonic possibilities offered by these environments. At Darwen Terracotta, a specialist in architectural tile restoration and designing handcrafted sinks, each room presented a cornucopia of intriguing forms - from stacks of pallets, shods and hollow plaster tubes to rows of sinks and tiles of all shapes and sizes. In one particular room, a forest of truncated columns turned out to be vertical chimneys used for pouring slip into sink moulds which stretched upward like upside-down tables. Another marvel was the paint shop at Ritherdon & Co Ltd, a family-run maker of steel enclosures. Steel sheets suspended on hooks from a conveyor seemed to fly through the air and into the booth to be coated with paint from moving spray guns before floating back out.

Such spaces are a gift to an artist; they can harness complex machinery to unleash their ambitions, drawing on the expertise of the workforce, without which their creations could not materialise. **In each of the places I visited, the artists had forged enduring bonds with members of the largely male workforces based on mutual respect - the artists appreciating the workers' technical and creative knowledge accumulated over years and the workers impressed by the artists' inventiveness in transforming objects they encountered every day in the workplace into art.** "It keeps you humble," one of the artists said of the experience. "The best thing is just to be connected to the factory floor at all times."

This text will focus on five women artists' residencies with manufacturers, ranging from a few weeks to several years, to give a sense of the variety of Art in Manufacturing experiences. Liz Wilson at Liverpool-based CNC Robotics and Hannah Leighton-Boyce at Darwen Terracotta spent between one and two years at their placements and Nicola Ellis's extended partnership with Ritherdon & Co Ltd spanned four years. Shorter but no less fruitful were the residencies of Jacqueline Donachie at Lancashire Saw Company, and Raisa Kabir with the Burnley-based Queen Street Mill and family-owned weaving mill John Spencer Textiles. Encompassing film, performance, installation, sculpture and painting, the artworks that have resulted from these placements have been outstanding in their innovation and diversity - testament to the strength of collaboration built through these Art in Manufacturing pairings. ■

LIZ WILSON:
CNC ROBOTICS

"...a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints."

Donna Haraway,
A Cyborg Manifesto,
1985[1]

Liz Wilson's practice is concerned with the relationship between humans and machines. She was the recipient in 2019 of Art in Manufacturing's first digital art commission and embedded with Spiroflow, a Lancashire maker of mechanical conveyors. From her placement, Wilson produced a hypnotic video installation "The Optical Mechanical" (2019) that reflected on the evolution of industrial and machine processes through time. Eleven monitors featured stylised animations relating to the tempo and energy of different apparatuses at Spiroflow, accompanied by a syncopation of modulated notes sung by the artist. The work riffed on art historian Rosalind Krauss's concept of the "optical unconscious" relating to the post-modern tendency to collapse time - in this case the industrial revolution to the post-industrial age - through mechanical reproduction. Modernist ideals of artistic autonomy and transfixing motion are dissolved, in Krauss's view, by the repetition of libidinal rhythms such as "the beating of the zoetrope, cranking up to speed, the beating of the gull's wings within the imaginary space, the beating of all those mechanical devices through which the real appears to burst into life from the shards of the inorganic and deathly still."[2]

In 2020 Wilson received a second Art in Manufacturing commission, this time at CNC Robotics, a robot designing and building business run by Jason and Medina Barker. Here Wilson further explored ideas of time's elasticity and human-machine kinship. On the factory floor, robots would be in different stages of being built, tested or performing a function, prompting her to reflect on how integrated our lives are with technology. "I started thinking about the machines gesticulating and having conversations with you," she said.[3] Fascinated by the robots' capacity to excavate intricate patterns in different materials, she decided to see if one could be programmed to create her sculptural designs.

Wilson made drawings of three dimensional objects from which engineer Michele Pollastri charted thousands of points for the machine to follow, bringing her designs to life. Through trial and error they choreographed workable tool paths for three different sculptures - two in a stone-coloured polyurethane and one a bluish tooling board. **"When you allow another body, in this case a machine, to take that control away from your hands, it's exciting but terrifying,"** Wilson noted. Watching the towering robot trace repeatedly over the tool path lines was pure theatre: the insistent action appeared tender, caressing as the machine whittled away with extraordinary precision in the solace of its perspex safety cage - like a dancer performing solo. The finished sculptures had an otherworldly feel, at once futuristic and primaeval, resembling cartographic reliefs or planetary fossils from a time yet to come.

Wilson was also reflecting on traces and fragments of Lancashire's industrial history, and ways these might connect to the future. She was intrigued by the monumental machine artefacts languishing on the banks of the Leeds & Liverpool Canal, once a vital artery for transporting coal, cotton and manufactured goods cross-country. What happened to the residual energy in these vestiges of the textile mills and factories? She made sketches of relics of steam hammers, lock gates, propellers and engines which she then digitalised as looped three dimensional animations, creating a tension between the real objects and her versions. Her aim was "to liberate them or reanimate them somehow." →

For her atmospheric show “Within the Wake” at the 2022 National Festival of Making, Wilson presented the industrial artefacts as animations that flowed, glitched or rotated rhythmically on monitors. These were perched on an ascending series of stepped geometric metal frames hung with semi-circular discs - forms loosely inspired by engineering feats along the canal such as arched underpasses and Bingley Five-Rise Locks. **Accompanying the animations, Wilson devised an emotive soundtrack of repetitive minimalist structures, incorporating the sound of the robot’s movements with elongated notes of her own voice, like a call-and-response.** “I love that there’s a harmonious interconnection between the two, and that one stimulates the other,” Wilson said. A kind of mechanical orchestra, each monitor switched on in turn as the evolving composition became increasingly urgent, its echoes suggesting ripples back and forth through time. “There’s this constant momentum within the work that feels like you’re on a voyage,” Wilson explained. “I call it a performance because it feels like you’re either on a boat with these artefacts or you’re watching them leave as if they’re going off into the horizon.”

In addition, four abstracted sculptures of Shire horses’ legs referenced the transition from horse-drawn barge to steam power to motor along the canal. Wrapped in the reflective metallic vinyl used for car bodies, these uncanny leg forms simultaneously conveyed strength, speed and metamorphosis. Further compounding the sensation of travelling through time, a vast video screen projection of shimmering water, extended by a mirror, resembled a portal: as visitors walked in front of it, their silhouettes were captured and appeared to melt into the surface.

“Within the Wake” touched on themes of mortality but also rebirth and reawakening, perhaps even a sense of collective progression into a new era. So it felt fitting that the show was set in Blackburn’s legendary Tony’s Empress Ballroom, a spectacular art deco space redolent with communal memories that was once the heart of the Northern Soul scene. Wilson’s show came as a surprise to the CNC Robotics team, who initially assumed it would feature robots. “Actually, it’s about the positive impact of manufacturing and engineering, and the way that technology is transforming lives, that it’s an enabler for change,” said CNC’s former Managing Director Philippa Glover. “The journey Liz’s piece takes you on is really powerful, from the industrial revolution into the future... it shows that future is going to be exciting, harmonious and beautiful.” ■

HANNAH LEIGHTON-BOYCE: DARWEN TERRACOTTA

"We've all heard about all the sticks and spears and swords, the things to bash and poke and hit with, the long, hard things, but we have not heard about the thing to put things in, the container for the thing contained. That is a new story."

Ursula K. Le Guin,
The Carrier Bag Theory of Fiction,
1986[4]

Hannah Leighton-Boyce is interested in the unheroic, the overlooked, the containers and holders. During the two years she spent at Darwen Terracotta, she homed in on taken-for-granted materials and objects that play a supportive part in the production process rather than focusing on the finished products. **"I'm drawn to the materials that provide a quiet but important role, rather than needing to be big and physical,"** she said. The artist's show "Articulations", staged at Blackburn's historic Cotton Exchange for the 2022 National Festival of Making, centred on ideas of care and value, inspired in part by her own body's limitations in the fast-paced factory setting.

Leighton-Boyce spent months observing the factory's workings and rhythms before attempting to respond to her surroundings. Darwen Terracotta is a dream for any sculptor, every workspace effectively a gigantic immersive sculpture with stacks of layered materials, repeating forms and textures, but that is also the challenge. How to find an entry point among the myriad possibilities? The artist gravitated toward the plaster shop where she learnt to "run" plaster from master mould makers like Ian Holden, who crafts moulds by hand with exacting, rhythmic meticulousness.

Unlike the physically demanding labour in other parts of the factory, Leighton-Boyce found running plaster manageable and viscerally satisfying. **It's a mesmerising, sensual process, involving movement choreography: one slathers dollops of wet plaster onto a surface, then drags an arched metal blade over it, smoothing it down to produce a particular shape of tile.** This fluid gesture of slopping and pulling is repeated again and again in order to build up and perfect the shape. Once the correct shape is achieved, a mould of it is created with ceramic slip and the plaster becomes redundant, a mere remnant of vigorous actions. →

Leighton-Boyce was fascinated by these sinuous plaster traces and created several herself, which took on their own life, having what she describes as “an appendage or prosthetic sense to them”. As someone who lives with rheumatoid arthritis, the artist noted, “making the plaster pieces was important in starting a conversation around my health and my body, mobility and movement.” Surrounded by constant productivity, she was acutely aware of her own relatively “unproductive” pace of work. **“Every time you come in things have changed,” she said. “It’s quite hard to stay still within that.”** She began to take soundings of her own body in her work. “I have to be careful. There’s a correlation between me and things that have a supportive role, that are not the official work of the factory.”

An example of such unsung supports are the sturdy yet lightweight polystyrene steps widely used to access the kiln. Leighton-Boyce was captivated by the way these functional steps would be stored in different configurations every time she came in; discoloured and worn down by footfall, they recalled weathered stone monuments standing mute within the bustle of the factory. For her show, she displayed interlocking blocks of these polystyrene steps as a readymade sculpture that would be equally at home in a Modernist exhibition alongside Henry Moore and Eduardo Chillida. Curiously, a small pock-marked cube, also of polystyrene, ended up being the only object that she put through the full production process. This makeshift stool, which everyone kicked around, she elevated to a ceramic sculpture.

Besides the polystyrene blocks, Leighton-Boyce sought out neglected objects that hold others in place, such as delicate sheets of greaseproof paper that are placed under moulds as they dry to allow slippage and prevent them from sticking to wooden boards underneath called shods. Discarded afterward, the greaseproof paper serves as a witness of sorts, ending up with a faint vestige or shadow of the object, a record of the action of shrinking.

Another discovery in her quest for the undervalued in the highly productive factory environment were limb-like clay forms that were a byproduct of the mould-making process and usually destined for the skip. The artist had been thinking about anatomical votive offerings of body parts in need of healing that ordinary people left at temples in Greco-Roman times; such ideas fed into her final show at the Cotton Exchange where she presented these lithe clay forms that looked uncannily like arms heaped in a pile or scattered individually about the floor. These disembodied forms took on added resonance when displayed alongside hanging sheets of greaseproof paper evoking skins and a video of enigmatic hand gestures. The video was in fact an experimental recording of the artist’s hand exercises made off-site, but it perfectly encapsulated the show’s title “Articulations”, suggesting a non-verbal language of signs.

Beautifully presented within the brick and stained glass elegance of the Cotton Exchange, “Articulations” was a personal expression of Leighton-Boyce’s experience at Darwen Terracotta. At the same time, it engendered a broader, poetic dialogue about the body and value. Exalting objects rarely seen outside the factory, the artist used shods, bricks and trolleys as plinths to hold up her corporeal plaster fragments, greaseproof sheets, tiles, ceramic cube and polystyrene blocks. Together these objects posed questions: might connections be made between these materials gently supporting each other and ways of navigating the bodily demands of the factory floor? Could new value be found in what is underrated? If Leighton-Boyce’s empathetic approach seemed unusual in an environment where time is money, she and her co-workers nonetheless developed a reciprocal admiration. **“Without doubt both Hannah and our craftspeople welcomed the opportunity to work together and discuss ideas,” said Darwen Terracotta’s director Jon Wilson. “Hannah looked at some of the most simple things connected with our making process and turned these into a piece of art in itself.”** ■

NICOLA ELLIS:
RITHERDON & CO LTD

"The artist isn't there to make solutions, they're there to ask questions..."

Barbara Steveni,
The Artist Placement Group.[5]

Nicola Ellis's story at Ritherdon & Co began in 2018 with an eight-week Art in Manufacturing placement. Ritherdon's production of discreet, highly efficient metal enclosures belies an exotic past involving the fabrication of magicians' tricks. Percy Ritherdon founded the company in 1895 to capitalise on the Edwardian bicycle boom, but he also collaborated with the American illusionist Chung Ling Soo, who died on a London stage in 1918 when his bullet catch trick went wrong. This history is relevant because it explains why, when Ellis arrived at Ritherdon a century later, the company was receptive to her audacious experiments with their machinery.

Visiting Ritherdon, it is impossible not to be entranced by the Trumpf machine, a colossal mechanical system for punching shapes in metal sheets. Steel sheets are deposited onto a surface, a mechanical beetle-like component scuttles along a horizontal track, picks up the sheet using vacuum suction cups and zips back, delivering the sheet for the hulking Trumpf to stamp out squares, rectangles, slits with a brutally efficient "dadum dadum dadum". These sheets will eventually become enclosures around all sorts of things from electrical wires to water mains. Unsurprisingly, Ellis's curiosity was piqued by the Trumpf machine. Homing in on the negative "skeletons" left behind on the steel sheets once the shapes were punched out, she created two box sculptures for her show "Chemistry and Magic Straight Down the Line" at the 2018 National Festival of Making.

Ellis returned independently to Ritherdon the following year with an Arts Council England grant and embarked on a series of works that began with the question: can we reprogram the machine with an image of itself? This was against the factory's standard operation of the machine, but Ritherdon was open to the challenge and Ellis and the team worked out how to make the Trumpf machine punch out portraits of itself. These were presented as hanging double-sided artworks at the 2022 National Festival of Making. **Removed from their manufacturing context, these blue-sprayed machine self-portraits evoked giant circuit boards or street plans of a sci-fi city.**

Ellis turned her attention next to the press brake, a massive vertical machine that is programmed in intricate detail to bend steel sheets. Curious to explore the machine's capacity, she came up with the idea of seeing if it could be reprogrammed with a JPEG photo of itself. Mark Blease, in charge of Computer Assisted Design, worked out how to simplify the image, then divided it into 36 panels and made a three dimensional model of it, following the manufacturing processes as normally as possible. The result was a colossal sculpture weighing 750kg that formed the centrepiece of Ellis's solo show at Manchester's Castlefield Gallery in 2021. "It's a self-portrait of the machine translated by the manufacturing line," said Ellis. "Effectively, the press brake has bent a sculpture of itself into being."

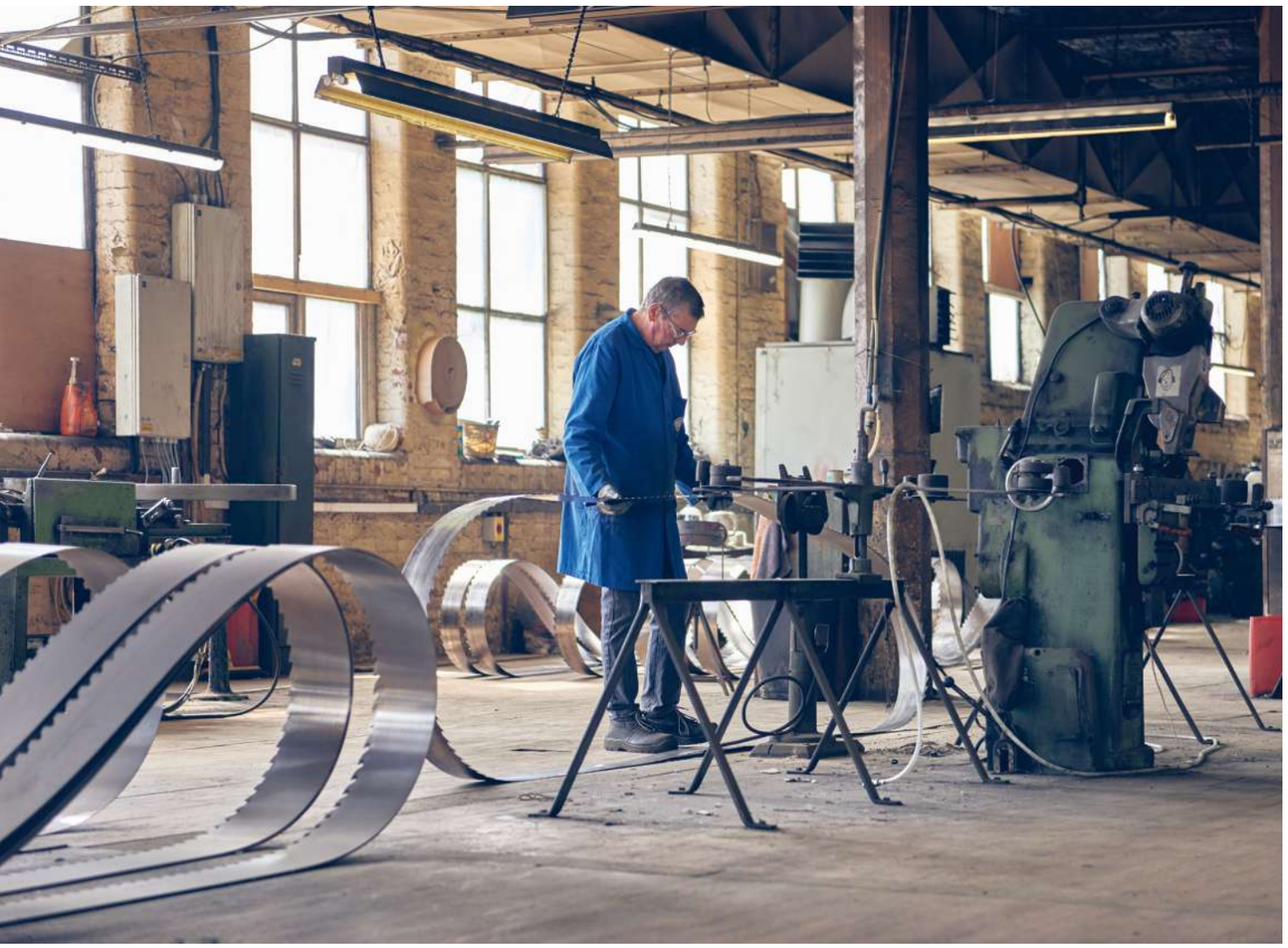
Ellis's time at Ritherdon has not simply been about disrupting traditional manufacturing processes. Some of her inventive artworks also have a data visualisation function. One such was an installation for the Castlefield show comprising two sets of lights in the gallery that were twinned with light sensors above two workers welding at Ritherdon. The lights would illuminate in real time as they welded, marking out their working rhythms and effectively commemorating their labour in lights. →

Additionally, Ellis has experimented with combinations of colour finishes, using the “dead powder” left from the day’s paint jobs. She has created a series of steel paintings that call to mind Mark Rothko’s hallucinatory floating banks of colour, but far from being expressions of an internal emotion, these are literal records of the pigments that have gone through the paint shop on a given day. Normally different colours would never be combined on the same sheet to avoid contamination. Thanks to Ellis’s material research, however, the factory now knows that it uses roughly three colours a day on average and how these powders interact together.

With all these works, Ellis has made a point of removing “the artist’s touch”. The manufacturing line has decided the colours of the panels, the welders’ workday determined the operation of the light sculptures and the machines created their own self-portraits. “Everything that I make is completely interwoven with the workflow,” she explained. “When the manufacturing context is deciding the aesthetics, that's much more interesting.” She has also made videos of the spray paint booth and a soundscape of the factory floor. At the core of her practice is the relationship between people, processes and materials.

Together Ellis and Ritherdon have pushed the boundaries of creative possibility. The partnership has been so successful that together, the artist and factory have gone on to receive European grant funding to produce new finishes from waste powder. They are now exploring a new range of exuberant finishes and have coated a steel enclosure outside a Blackburn pub with LGBTQ+ Pride colours, turning it into a vibrant street feature. **“Creative thinking in problem solving and innovation is so important to us and the stimulation people get from working with Nicola helps us develop those skills,”** said Managing Director Ben Ritherdon. The experience has surpassed their expectations. “We thought it would be fun and diverting working with Nicola,” he added. “We didn’t expect to be getting new products from it.” ■

JACQUELINE DONACHIE:
LANCASHIRE SAW COMPANY

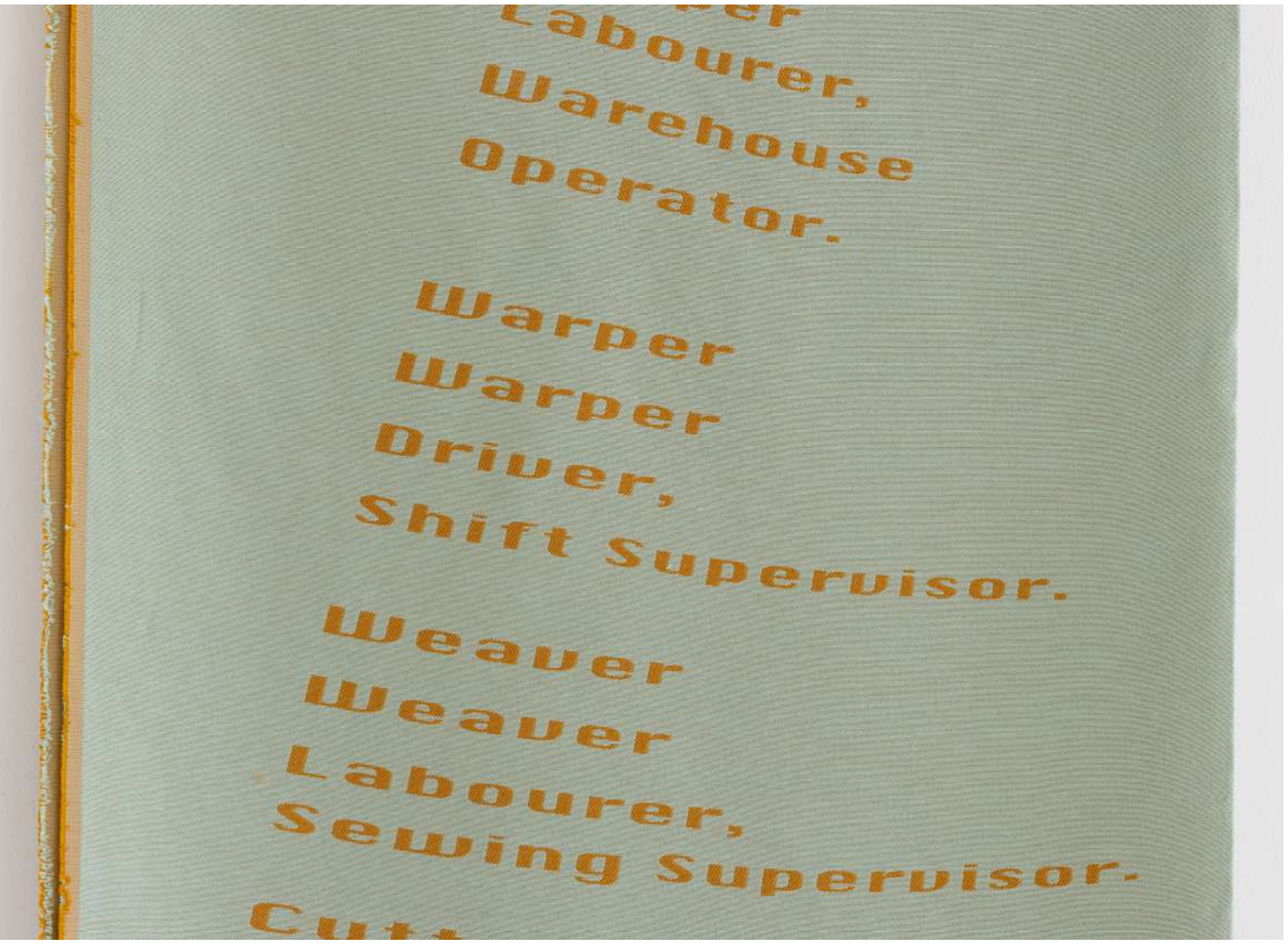


Jacqueline Donachie is known for her socially engaged, multidisciplinary work around collective identity and the structures and sites upon which it is formed. She spent around two months with Lancashire Saw Company, which is one of the largest bandsaw blade manufacturers in the world and is housed in the listed Imperial Mill on the banks of the Leeds & Liverpool Canal, a magnificent relic and a monument to the industrial era. Donachie was immediately struck by the rhythms of the saw blade machinery - a stark contrast with the deafening rattle of looms that would have pervaded the mill in Victorian times. “One of the machines that presses out bits of metal makes this incredible noise. It’s got a really strong beat that’s quite musical. We were always dancing when we were walking round the factory,” Donachie said. On learning that the area’s disused mills (although not Imperial) had been the cornerstone of Blackburn’s underground dance scene in the late 1980s, Donachie decided to incorporate these diverse histories into a video work that wove a connecting thread of sound through these different histories and communities. “I was really taken with that crossover of the sounds of the machines and the music of the time,” she said.

Donachie’s exuberant video “IMPERIAL”,[6] was commissioned by Art in manufacturing and featured as part of The Super Slow Way Linear Park pilot programme. Produced by Andy McGregor, it splices footage of the bandsaw manufacturing process with scenes of clubbers, set to an original pulsating soundtrack by Hamish Brown that blends repetitive beats from the factory floor with acid house music. The camera follows the saws through the various phases of production. “You get these big rolls of very thin sheet steel that are 10cm wide; they come in at one end, it goes through about eight stages and it comes out the other end as a sharpened saw blade,” said Donachie. The press, the machine that makes the loud musical beat, punches out teardrop shapes from the roll so the top of the saw blade looks, in Donachie’s description “like a kid's’ drawing of a wave.” Then the blade tips have to be welded with a super high strength metal and polished, and the two sides of the saw are seamlessly joined together. “IMPERIAL” reveals the intricacies of the saw-making process in a spellbinding transformation. Machines cut, harden, polish and grind, sparks spray and coolant drenches the metal parts, converting rolls of sheet steel into saw blades; in between these factory shots, clubbers’ arms flash up, at first so quickly the images feel subliminal. Dancers whistle, machinery hisses, colourful strobes blur with the intense blue and red flames of the production process. As the spectacular 30ft saw blades progress through the stages of making, expertly guided by the workers, the club scenes become longer and the rhythm more upbeat, evoking a sense of communal release and euphoria.

That joyful spirit of collectivity was harnessed for the opening night of the 2022 National Festival of Making. Bobby Singh, a legendary DJ from the Blackburn raves (known locally as “The Parties”), was brought in to blast acid house music from a canal barge that led a jubilant procession of revellers and art goers up the canal to the factory for an on-site screening of “IMPERIAL”. **Visitors sat in the time-worn building surrounded by beautiful undulating saw blades resembling Modernist sculptures and watched Donachie’s tribute to the expertise of the saw workers.** “Being in the same job for close to thirty years, I guess I became unaware and ignorant of how unique our work is,” said Stephen Quinn, a Saw Doctor from the mill. **One of the highlights for Donachie was the reaction of the workers’ children who were bowled over by seeing their fathers’ labour - five decades in some cases - recognised on film. “I think it gave the people who worked there a sense of pride in what they did,”** she said. When everyone emerged afterward, the summer night was still light and the former hardcore clubbers felt they were reliving the bleary sensation of coming out of the raves at dawn after a night of nonstop partying. ■

RAISA KABIR:
JOHN SPENCER TEXTILES AND QUEEN STREET MILL



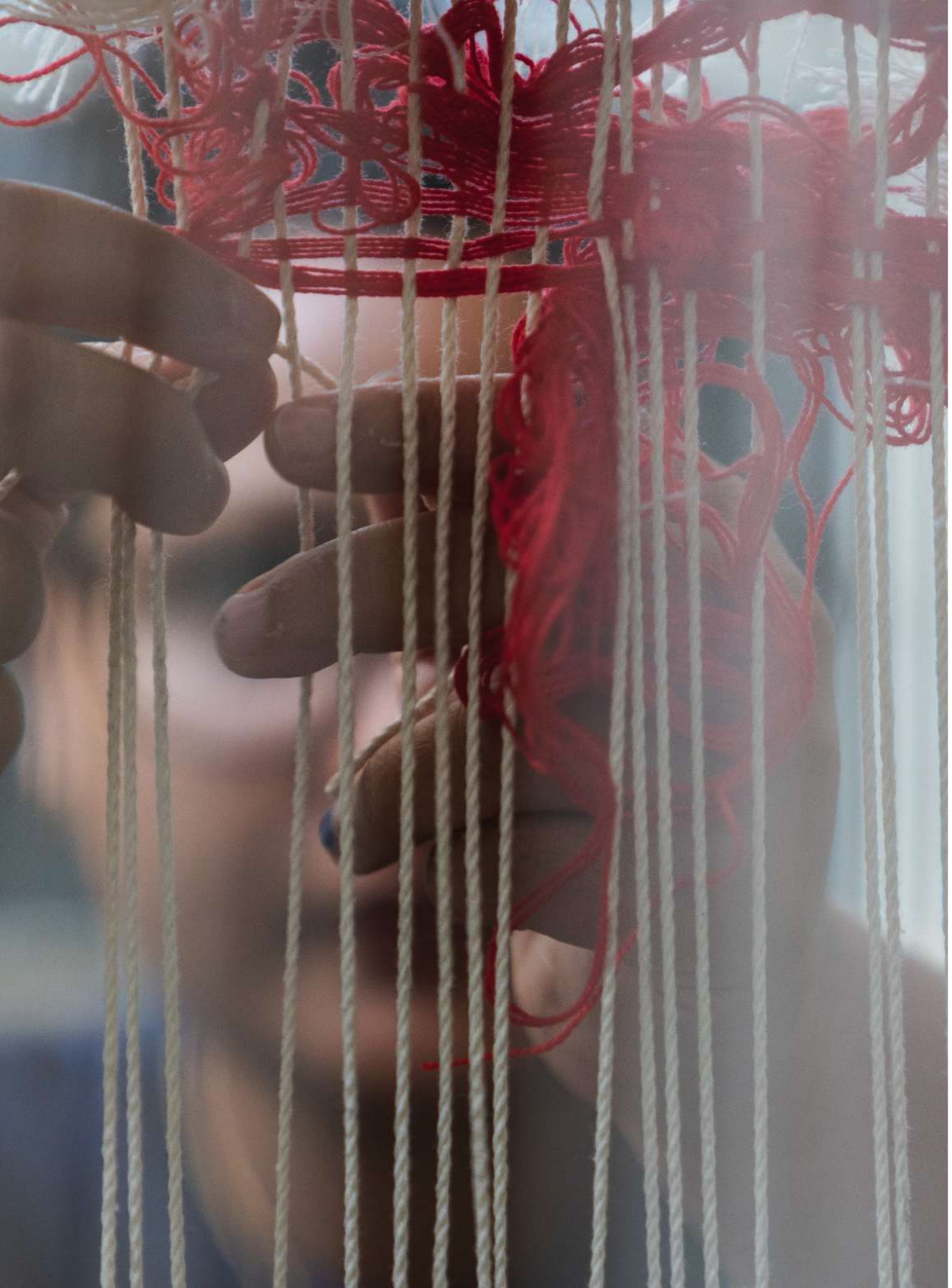
In her multidisciplinary social practice rooted in weaving, Raisa Kabir is concerned with the politics of cloth and associated themes of labour, power, nationhood, and diaspora. As a co-commission for Art in Manufacturing and the British Textile Biennial, she spent time at the sixth-generation family weaver John Spencer Textiles and Grade 1 Listed Queen Street Mill, the world's last surviving 19th century steam powered weaving mill, now a museum. Although her residency was disrupted by Covid lockdowns, Kabir produced two shows. The first, an installation titled "Treadle Softly. Binding her Braids Tightly" (2019) for the British Textile Biennial, combined swathes of cotton waste selvages from John Spencer with beautiful historic machinery from Queen Street Mill. Feathery tresses tumbled down one side of a sturdy drawing-in frame, pooling at the bottom; this juxtaposition of lightness and solidity between materials was further enhanced by the use of squat, cast iron loom weights on the other side to hold the fine white threads in delicate tension. **Connecting these two historic Burnley weaving sites, the sculpture celebrated the heritage of textile production, while reflecting on the environmental and labour cost of industrialisation and capitalism. "My work is about this in-between between craft and industrialised technology, what tensions happen between those spaces."** Kabir said.

For her show "Resistances"[7] for the 2022 National Festival of Making, she took as her starting point The Textile Manufactures of India 1866, an 18-volume colonial archive of 700 fabric samples. One complete set of the archives, which were cut from South Asian fabrics in the nineteenth century by the botanist-physician John Forbes Watson, Director of the India Museum, created by the East India Company, is housed in the Harris Museum and Art gallery in Preston.

Kabir, who is of Bangladeshi heritage, was thinking about questions around what a textile archive is and who has ownership over textile history. "There's a bit of violence there. You'd think the books would be categorised by geography but they're named by gender and what people would be wearing. The people were not able to archive their own artworks or textiles, and they've been taken out of context," said Kabir. Moreover, the textiles had been cut up and destroyed to create the books in a brutal action that disregarded their cultural value or purpose. "It feels like colonialism, the way that peoples' cultures and lives were torn apart and categorised and sectioned. That is really echoed in these archives," she noted. **In response to the archives, the artist created an exquisite - uncut - textile woven with the coded words "The art and language of weaving resistance" in Bangla. This she presented alongside prints of fabric samples from borderland cities such as Lahore, Kashmir, Calcutta, Dhaka, and Sylhet, which saw massive emigration due to Partition and civil war, tracing connections between those places and diasporic weaving communities that emerged in East Lancashire and West Yorkshire due to labour shortages after the Second World War.**

Kabir created a second textile poem at John Spencer. Her original plan had been to bring a craft loom into the highly industrialised and technologically advanced weaving shed and invite all the employees to physically create a joint archive, but the pandemic thwarted this. Instead, she decided to gather everyone's job titles in a spreadsheet and weave them into a giant panel on the Jacquard loom. "The labour of so many people is invisiblised. I thought it was a beautiful way to weave that together and still do it collectively," she said. **Thus this democratic fabric panel cascades down the wall and onto the floor, paying tribute to all the workers at John Spencer and their weaving histories; the words warper, weaver, driver, labourer, sewer, cutter and all the other job titles dance in vivid orange across the teal background, evoking the rhythm of the weaving shed. It also hopes to connect to all textiles workers globally, to pay homage to the skills and labour of weavers and textile workers across the world. "Each of these works is a document and a record of people, their communities and their heritages,"** said Kabir. For the National Festival of Making, Kabir invited visitors to try out a craft loom at her show "Resistances", collectivity being a fundamental element of her practice. "They would tell me their stories - 'Oh my dad was a weaver for a mill down the road, and he was from Pakistan', for instance," said Kabir. "That process of using the loom to weave together as a community collaborative archive was really important."

It takes a brave enterprise to open itself to an artist's interrogations and experiments. Equally, it is a huge privilege for an artist to have access to the inner sanctum of the factory floor, which most members of the public never get to access. Having visited three of the factories that hosted placements, I can appreciate how challenging it must be for artists to craft a response, faced with the dazzling variety of forms and textures at a manufacturer like Darwen Terracotta or with the hi-tech machinery and specific processes at Ritherdon. One might have expected the artists to incorporate tiles or steel enclosures or robots or saw blades in their final works, but each one responded in uniquely personal, unexpected ways to their assigned manufacturers, to produce works of astonishing imagination. ■



Liz Wilson employed CNC's robot to create sculptures within an immersive, futuristic diorama about time and technology; Hannah Leighton-Boyce learnt plaster-running skills and salvaged waste products from Darwen Terracotta to envisage a fragmentary landscape that spoke of care and scales of value; Nicola Ellis, who actually arrived with welding skills, made it her business to study every aspect of production at Ritherdon, the better to subvert different processes to produce her uncanny artworks. Jacqueline Donachie homed in on the visual and sonic rhythms of Lancashire Saw Company, pairing these with acid house beats to tell resonant histories of local factory workers; through her residencies at John Spencer Textiles and Queen Street Mill, Raisa Kabir commemorated workers at those factories as well as weavers in pre-Partition India in her textile poems, making connections across geographies and time with diasporic communities in the north of England.

The spheres of art and industry are so often envisaged as distinct, the former associated with the realm of emotion, ideas and inspiration, the latter with traditionally "masculine" values of reason, order and systems, but these are old fashioned clichés. **The innovation resulting from these Art in Manufacturing pairings has exploded fallacies about manufacturing being a male domain and sends an important message about the essential role of creativity in industry.** Indeed the feedback from the manufacturers has been overwhelmingly positive, hailing the artists' ability to bring fresh perspectives to the factory. MD Ben Ritherdon said the experience of working with an artist "has made us look at ourselves differently and observe things more like artists do." Likewise, Philippa Glover, formerly of CNC Robotics, said: **"The tension and stretch that you get from working with an artist really helped with the creative thought process. It has expanded our vision and enabled us to say, 'this is our potential and if we play the next things right, that impact will be enormous'."** As cultural curators Jackson and Zawadzki understand, these partnerships between artists and manufacturers could be transformative not only for the artist and their practice, but for industry and society at large, changing perceptions and inspiring future generations. It just takes thinking outside the box. ■

Notes:

All details and dates are correct at time of writing in 2022

1 Haraway, Donna J, "A Cyborg Manifesto: Science, technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149-181.

2 Krauss, Rosalind E, *The Optical Unconscious* (MIT Press, 1993).

3 All quotes by Art in Manufacturing artists are from conversations with the author. Similarly, quotes by manufacturers are from my conversations and email exchanges.

4 Le Guin, Ursula K, *The Carrier Bag Theory of Fiction* (Ignota Press, 2019).

5 Steveni, Barbara, Art 360 Documentary Film by David Bickerstaff, 2017, atomictv.com @atomictv, www.art360foundation.org.uk/barbarasteveni
The Artist Placement Group was launched with the idea that artists should be given salaried placements in industry and government agencies. Members were placed within organisations such as British Steel, an Esso Petroleum Ship and the Scottish Office.

6 "IMPERIAL" was part of the Pennine Lancashire Linear Park pilot project delivered by The Super Slow Way.

7 "Resistances" was an Art in Manufacturing co-commission between the National Festival of Making and British Textile Biennial.

LIZ WILSON
HANNAH LEIGHTON-BOYCE
NICOLA ELLIS
JACQUELINE DONACHIE
RAISA KABIR

In Conversation with Claire Mander

Claire Mander, Director of theCOLAB and a Non-Executive Director of the National Festival of Making, gains insight into the appeal of the factory floor, the harmony between artist and manufacturer and the resulting impacts on practice and workflow.

ARTIST:
Liz Wilson

MANUFACTURER:
CNC Robotics

RESIDENCY:
2021-2022

EXHIBITION:
***Within the Wake*,**
Tony's Empress Ballroom,
Blackburn, June 2022

LIZ WILSON

Within the Wake

Liz Wilson works at the intersection of machine, human and site, exploring automated culture and our perception of accelerated time through sculptural, digital and sound installations. She completed the first digital commission for her first Art in Manufacturing residency in 2019 and her second in 2022 with CNC Robotics, a manufacturer of robotic systems and robotic integration for manufacturers, based in Liverpool.

CM: Why do you think you thrived in the factory environment and made such successful work?

LW: The factory environment was incredibly collaborative – it is engineered as a community (of about 25 people) – administrators, engineers, electricians, managing directors – all working together, manoeuvring between different roles to achieve something by the end of the day. When you're in your studio, it can be really solitary. You spend a lot of time researching and thinking and work often ends in failure. Factory environments are all about how to make the best out of the time, to make something by the end of your day. I was learning about how to be productive, about structuring my day and being more regimented. These environments are really healthy for artists to work in; they are like achievement factories.

CM: How did the factory community react to you as an artist and what benefits sprung from it from both sides?

LW: I was naturally a disrupter, asking questions that wouldn't ordinarily be asked, trying to work out how I could push machines to their limits beyond the very specific functions they were made for. There was always an open dialogue – they were curious about my role as an artist and we became a team of problem solvers. The automation engineers were really interested in working with new materials and ways of producing work - I pushed elements of their creativity and they amplified my technical knowledge. I was asking how the materials or cut pieces feel, how light are they? How heavy? Will it look the same scaled up? We only had one go at cutting (the materials are very expensive), so I often felt quite anxious. But I had these incredible engineers working with me so they became really quite euphoric moments.

Engineers and artists both rely on creativity as a fundamental tool within their practice. During my residency, I embraced the process of interrogating and exploring ideas, viewing failure as a valuable learning opportunity. This approach encouraged the engineers to reflect on their own practices within the manufacturing process. I've taken away so much from that residency, which I'm still using in my practice now. It was amazing to work with Philippa Glover, the former MD. She is an extraordinary leader, who has worked hard to create a level playing field for women in engineering and robotics.

As I was making work about the Leeds & Liverpool Canal, and the workforce lived in the immediate area, the work became personal to them. Art needs to connect with communities – It needs a way of accessing people's imaginations, because everyone is creative, it's just unlocking that potential.

CM: What was one of the most influential and appealing aspects of your residency at CNC Robotics? Can you describe what it was like to be on the factory floor and can you describe the allure of the robots?

LW: The fact that the factory was always in a state of flux or movement. So, for a couple of weeks, the robots would be fully assembled on the factory floor, and the engineers would programme them to dance and move around for me. They built these large clear perspex cages around the robots called 'guardians' for health and safety reasons, and I'd peer in from each side as they gesticulated their functions. They had this performative element, it was like watching a ballet - absolutely mesmerising.

I also spent time tracing and recording the sounds the robot made when cutting or twisting its head or moving its neck. I embedded the repetitive sounds within my installation alongside elongated notes of my voice like a call and response. Then, the robots would disappear from the factory floor, and they'd rebuild and reformat another. There was always this beautiful cyclical production cycle going on.

It was such a privilege to be able to get so close to the robots, to make a piece of work about where people live and to share it with the communities who inhabit these spaces. ■

ARTIST:
Hannah Leighton-Boyce

MANUFACTURER:
Darwen Terracotta

RESIDENCY:
2020 - 2022

EXHIBITION:
***Articulations*,**
The Cotton Exchange,
Blackburn, June 2022

HANNAH LEIGHTON-BOYCE

Articulations

Hannah Leighton-Boyce's work spans a variety of sculptural formats which considers material, environmental and sensory relations and the politics of the body and labour. Her work expresses ideas of presence and absence from the liminal state informed by living with a chronic auto-immune condition and the extended periods of 'suspended' recovery it demands. Leighton-Boyce was the recipient of the Art in Manufacturing residency at Darwen Terracotta, Blackburn, which produces elements of traditional terracotta restoration, bespoke architectural facades, abstract ceramic glazes and handcrafted faience tiles.

CM: Can you tell us about your impressions of the Darwen Terracotta factory and what aspects inspired you?

HL-B: Walking into the factory was like entering a different dimension; an environment that operates so differently to my usual places of work. I was interested to see the effect this might have – how working within the context and architecture of a busy terracotta factory might make me feel, and how and what I might make while I was there. The factory is an interesting combination of structure and transition, yet there is a softness in the layers of materials in their different states and the movement of bodies at work on the factory floor which give the impression of a fragmentary and undulating incompleteness.

Amongst the finished works existed other beautiful objects, DIY and improvised tools, props, steps, and systems made by individuals to support their work and making of the finished products. Each area of the factory has its own energy and methods that were tuned to the material in its current state, it was inspiring to see the stages of the production processes, delicate and aesthetic skills meeting with the precise and practical demands of each product.

CM: As an artist who is invested in process and materials, how did you go about making work in the factory context?

HL-B: I spent time observing and learning from the experts in each of the different production areas. I arrived at the residency having recently made cast works in salt that remain sensitive and vulnerable to environmental changes. The residency allowed me to explore ideas emerging from my previous work but in such a different context that challenged some of those ideas and relationships.

It took time to understand the complexities and reality of how things are made there and the endless possibilities in terms of materials, processes, scale, and production. There were moments where materials would slip out of control, disrupt a stage of process, and show their singularity - these were often the moments around which I found points of entry into new ideas. Developing complex moulds and 'running' plaster; working with my movement, restriction, form, and ease, informed a large series of telescopic floor works. It was within these processes where my body and ideas met with the capabilities of the factory and vulnerability of the materials and process.

CM: How did the factory alter your way of working and what aspects were fulfilling?

HL-B: Everything in the factory is about control and efficiency but you're also really engaging with the guts and the rawness of things too, the reality and costs of production, environment, and waste. I usually work in my studio, at home, or collaboratively within the wider art world so being and working within a busy factory was a very different context, but I found a way to slip into a different, peopled environment.

I was given a space to work and production support. I always had ideas for what I wanted to observe, record, or make but I adapted how I needed to work around the demands of the factory. Working on the edges of the factory's day-to-day production, conversations developed with the people I worked alongside, through our intrigue and interest in each other's work, process, and materials. Friends would leave 'things' that had 'happened' in the kiln or that they had found and thought I would like to see.

They placed their generosity and trust in me, giving me a key and letting me come and go as I needed - the director said, "You are part of the family now!". The duration of the residency meant I became entwined with the factory and people's lives, seeing how many friends from the factory came to my exhibition reinforced those genuine experiences and friendships. ■

ARTIST:
Nicola Ellis

MANUFACTURER:
Ritherdon

RESIDENCY:
2018
Continued independently

EXHIBITION:
***Chemistry and Magic Straight Down the Line*, Blackburn, 2018;**
***Return to Ritherdon*, *Blackburn*, June 2022**

NICOLA ELLIS

Chemistry and Magic Straight Down the Line

Nicola Ellis's work is shaped by the relationships between people, materials and processes. She studies complex ecosystems and environments in order to understand how their internal workings interact to function as a 'whole', observing and subverting intended functions of processes and communications within manufacturing and scientific research organisations. She undertook the Art in Manufacturing residency in 2018 with Ritherdon & Co Ltd, a manufacturer of steel enclosures based in Darwen, Lancashire.

CM: Your Art in Manufacturing: residency started a collaboration with Ritherdon & Co that continues to this day. What first appealed to you about the residency back in 2018?

NE: At the time my practice was studio-based and focused on disrupting individual fabrication processes like welding. I used to walk into factories a lot and ask for scrap material and there are a lot of steel profiling machinery operators in my family history, so the residency in manufacturing was a natural next step.

CM: How did you approach working at Ritherdon and how did you fit in?

NE: I would start each day with a full walk-around of the factory. The workflow planning system is quite agile so things can change quickly.

I often flipped back and forth between working on the factory floor and in the office, sometimes sitting in on meetings with sales and marketing, learning from the CAD team or using machines if the workflow allowed. It's a small team – about 38 overall - so I was always working in collaboration with someone.

Having prior knowledge of fabrication, and having a good sense of humour meant I was absorbed into the team. Everyone would always have a conversation with me and you build relationships with people in all job roles if you just keep showing up.

CM: So, you became interested in the hierarchies as much as the processes?

NE: From my perspective as a welcomed outsider, the organisation is like a series of discs in a Venn diagram, there is a structure but there are overlaps and some flexibility for movement. I wanted to understand what makes it so well managed and I think it is that communication is good and people in management

roles are very approachable: the door is always open, and the Works Director always has his hands on the machines. The system is effective for constant production which means people are confident and comfortable in the work they do.

CM: Where does creativity sit within your work, and theirs?

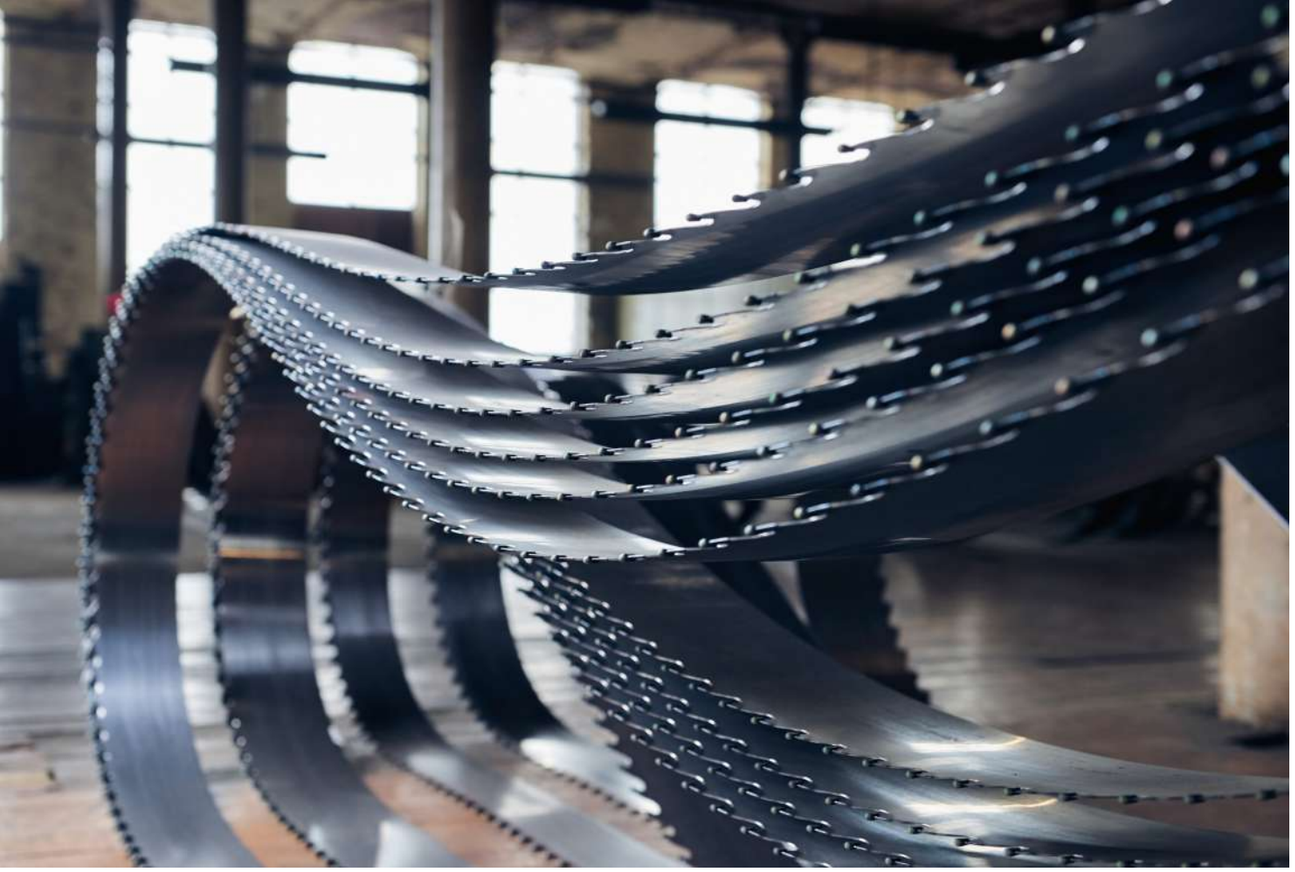
NE: Theirs is a very practical mission: to get from A to B on the basis of a set of specifications or requests. Everybody in the building is constantly problem solving which is a creative act.

Maybe that kind of creativity is less visible when it takes place inside the factory walls. Also, the fabricators are making identical functional objects using manual and semi automatic processes, which requires a lot of parameters being managed.

For Art in Manufacturing, I wanted to bring something out of each part of the factory floor which wouldn't normally leave the factory or that had been made by using processes a little bit differently.

CM: What was your role as an artist within the factory and how has your perception of making changed?

NE: As a welcomed outsider I was asking questions that wouldn't normally be asked, and I would describe what was happening in the factory in a different way to everyone else. It was an opportunity for people at Ritherdon and for myself to try different things with the standardised processes, like putting multiple colours together for powder coating. This seemed like a natural thing for me to do but it had never happened before in the Ritherdon paintshop. We tried new things together. The residency expanded what I understand by 'making'. It's not just the process of producing objects, it also includes the immediate and wider context in which the work is made. My work asks what it means to make something in a factory and re-positions it into an art context, and what is lost and gained in the process? The residency also brought about a whole new collaborative way of working for me. ■



ARTIST:
Jacqueline Donachie

MANUFACTURER:
Lancashire Saw Company

RESIDENCY:
2022

EXHIBITION:
***IMPERIAL*,**
Imperial Mill, Blackburn;
Prism Contemporary,
Blackburn, June 2022

JACQUELINE DONACHIE

IMPERIAL

Jacqueline Donachie's socially-engaged, participatory and collaborative art practice explores individual, family and collective identity and the structures, platforms and spaces (both actual and conceptual) through which it is constructed and supported. She undertook her Art in Manufacturing residency at Lancashire Saw Company, housed in Imperial Mill, a former textile mill built in 1901 on Blackburn's stretch of the Leeds & Liverpool Canal.

CM: What appealed to you about the residency? Why is it a valuable opportunity?

JD: I liked the attitude of the curators, they were enthusiastic and with a clear idea, the budget was organised and the mill looked incredible in the photographs. We were all experienced at working in unusual places with groups of people that aren't from an art background. Art in Manufacturing is a way for people to reconsider what they do, for somebody to ask questions, to be curious. It's important that artists are not isolated but work in different contexts - that's a big part of my practice.

CM: What struck you as potential material when you visited Imperial Mill and experienced the factory in action?

JD: The building, an old Victorian mill, was amazing, though the working environment seemed unchanged since Victorian times.

Then there was the repeated rhythm of each day in the factory, running from 8am to 4pm in short bursts of activity, punctuated by bells which rang for the morning tea break, lunch break, afternoon tea break and home time. Some workers had been doing the same job for 20 years, some for 50 - they're very proud of that. They walked me around and everyone took time to show me their machines, the stages and the processes that a piece of flat coiled metal goes through to become a beautiful saw blade.

Then there was the sound of the machines. One in particular was very rhythmic, with a House music beat. It was operated by a guy who wears big headphones and blasts drum and bass into his ears all day. So I was interested in the juxtaposition of the rhythm of the working day, the machines and their sounds and the music staff listened to, and marrying it with the history of local mills that were used for raves in the 1980s when young people were looking for an outlet from repetitive work, from the decline of industry. Some of the warring factions who used to organise mass battles at the football started organising dances in these old mills instead - their energy went into a different thing. I wanted to bring all this together.

CM: All these rhythms and structures, both physical and organisational, coalesced in your work. What did you want your audience to feel?

JD: I often work with quite a simple emotion that I want to instil in people and that can be really basic - so here, I chose to make a film that made people want to dance. The parade along the towpath of the Blackburn stretch of the Leeds & Liverpool Canal, led by Bobby Singh playing from the back of a canal boat, prepared the audience to be taken over. Rave music makes you want to dance - it is infectious. It was dark when we got inside, so the building looked amazing with giant coils of saw blades catching the light, almost like a sculpture gallery.

CM: How did they feel about you being an artist and a woman? What impact did your residency and work have on them?

JD: If you show an interest in what people do, they're usually happy to speak to you. Everyone was friendly, if a bit bemused as to why I would wear boots and go into a factory and I think they found my age as well as my sex unusual. At the launch event, staff came and brought their families - able to show off their workplace for once. There's a scene in the film with a man in goggles grinding the blade, and sparks are flying; I watched his sons at the opening night so excited to see their Dad's skill on screen. It was really moving. ■

ARTIST:
Raisa Kabir

MANUFACTURER:
John Spencer Textiles and Queen Street Mill

RESIDENCY:
2019-2022

EXHIBITION:
***Resistances*, Waterloo Pavilion - Blackburn, June 2022**

RAISA KABIR

Resistances

Raisa Kabir uses woven text/textiles to materialise concepts concerning the cultural politics of cloth, labour and embodied geographies.

Kabir was the recipient of the Art in Manufacturing residency which took place at John Spencer Textiles, the last remaining traditional cotton weaver in Burnley, and Queen Street Mill, now a Grade 1 listed museum with extensive archives and the last surviving 19th century steam powered weaving mill in the world, also in Burnley, Lancashire.

CM: What was it that appealed to you about the residency?

RK: What really drew me to it was that it took place within a contemporary manufacturing setting and also within a historic weaving shed and archive. It was an amazing opportunity, it was like being a time traveller.

CM: What was it like to work in these two distinct places and what new perspectives were revealed?

RK: I operated as a craft maker, as a weaver within an industrial scale weaving shed to bring in this idea of craft and making by hand and to situate it within a supersize scale. It is important to dispel the idea of what a factory is: it is a creative place, it's a human place. JST invested in new technologies in the 1980s to weave on a large scale. They have about 28 looms all with different functions: there is a scale but also an intimacy in the specialisation of skills and machines, making for the aeronautical industry right down to baby blankets.

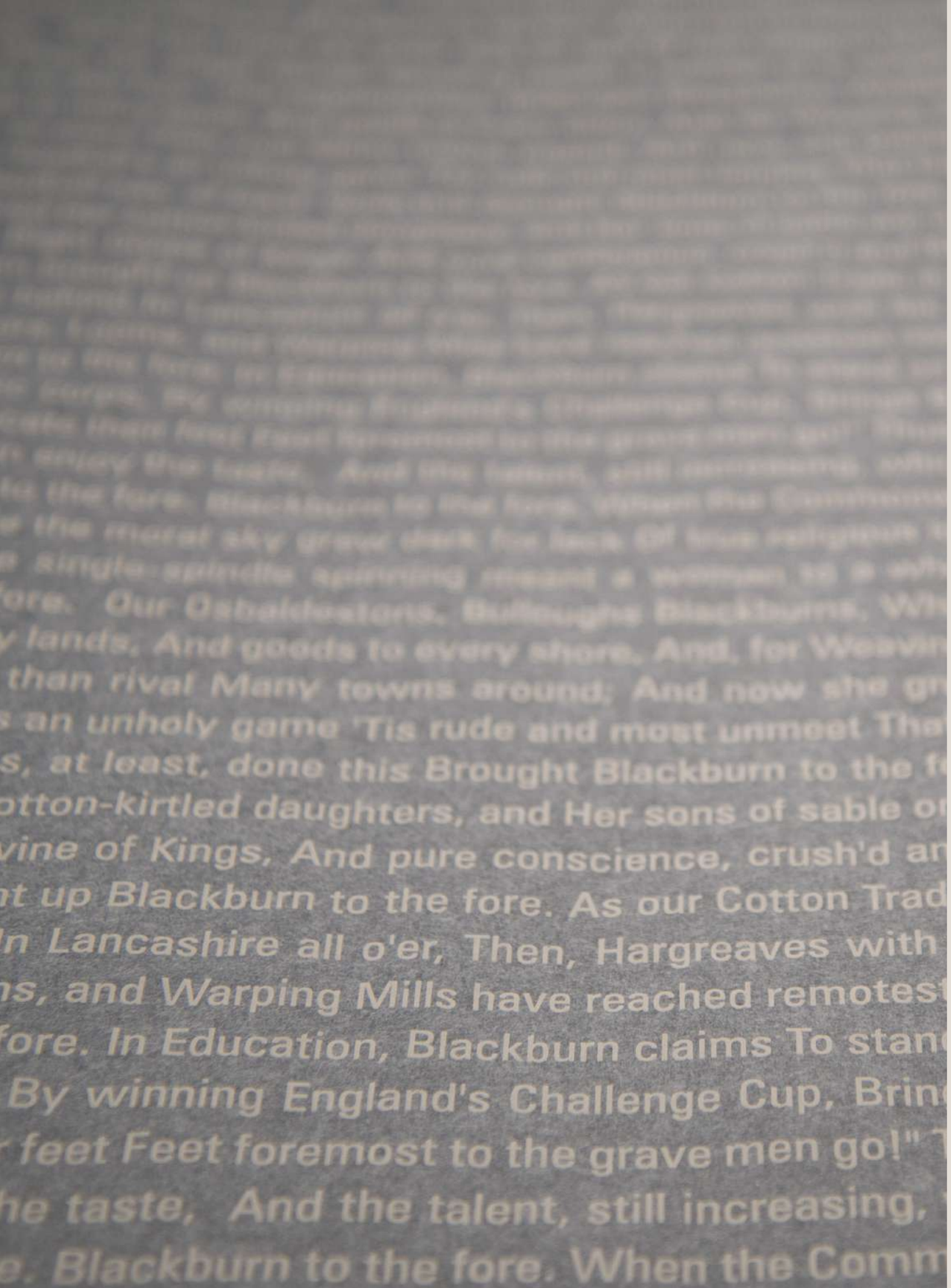
We can't imagine the maker, we think cloth and manufactured objects are made on a machine, that it's all automated because it's scaled up industrially. But that's just not true – it's intimately connected with the human hand and human experience. People working there have legacies through several generations of millworking and weaving.

My archival research at QSM looked at the ghosts of this huge industry that has dominated the region for hundreds of years and the way people get stuck in this romanticised idea of textile weaving. I wanted to bring my own loom and set it up in the lobby space but that couldn't happen because of Covid. Instead, I got people from Burnley and Blackburn to weave with me and share their stories of weaving in East Lancashire that activated these histories of manufacturing

within people's own family histories. It is a way of making a future archive of our communities, and bringing people together. A lot of people don't realise just how multicultural and diverse Lancashire is – it is a melting pot.

CM: So, in a sense, your work weaves together these different sites of textile making, bringing together their work and their stories and how it is condensed into a piece of fabric. This is particularly the case with the work relating to the pattern books you found in the QSM which tell of a shared global history with current resonance.

RK: Yes, I see the textiles as texts - they have poetry within them. Textiles communicate: their fibres, their labour processes, say so much. When I saw the cutting books, they spoke so much to me of the stories of the weavers, the makers, and the designers and the disconnect between textiles being manufactured and who gets to be the authors of their artwork. The textiles in the pattern books were brought over with physical and gendered violence by the East India Company, an unaccountable private company running a country – but they are beautiful objects. My work often sits between beauty and violence. But the history is an entangled, complex, intricate web - it's not cut and dry and we have to be open about these multi-layered webs. We can't romanticise mill workers while the mill owners amassed huge amounts of money – you see it in Liverpool and in Manchester, where I grew up. It mirrors what's happening now in other systems like China, India or Bangladesh where there are large labour forces. I wanted to make space to negotiate some of these political histories but perhaps without taking away from any of these bodies of people. The archives from the 1860s enabled me to link migration and the border regions created by the Partition of India in 1947 which displaced people from India, Pakistan and Bangladesh to the Lancashire mill towns. British textile history is linked to the extracted labour, land and design legacy of South Asia, and linked to American cotton picked by enslaved and forcibly displaced Africans. It is global textile history and everyone should have ownership over it. ■



BLACKBURN TO THE FORE

Words by Jamie Holman

Jamie Holman, a commissioned artist for Season One of Art in Manufacturing and now Chair of the Board of Directors at the National Festival of Making, reflects on his residency with Roach Bridge Tissues and contextualises Art in Manufacturing in relation to place.

I was commissioned in the first iteration of Art in Manufacturing through an open call process that invited artists to pitch for a residency with a manufacturer or factory in East Lancashire. These open calls announced the first ever National Festival of Making in 2017 and were notable for their ambition, commission value and unexpected location.

As the Festival is now so embedded in the cultural landscape of the borough, having gained visibility both nationally and internationally, it is difficult to articulate how unexpected and exciting Art in Manufacturing was as a proposition for an artist who is from Blackburn, working from a studio in the town centre.

At the time, alongside my practice I was leading Fine Art at the local college. A recurring theme amongst both staff and students was the paucity of opportunities for graduates and artists in their immediate locale.

The National Festival of Making changed this, and many other perceptions, seemingly overnight. This is due, in no small way, to the success of Art in Manufacturing. From the outset, the residency programme brought opportunity to local and national artists and provided experience for students and volunteers on the delivery of workshops, installations and events that occur as a consequence of the commissions.

There is a context to Blackburn that is critical in terms of understanding Art in Manufacturing, and indeed the wider Festival. Blackburn with Darwen is consistently positioned as being a borough that has low engagement with art and culture and is also home to so-called 'hard to reach' communities, if one is to use the language beloved of funders and some commissioners.

There are of course many things that can be said about this, including questions as to how these figures are confirmed, what purpose they serve and if they are reliable in any way in terms of articulating the lived experience of people and the plurality of communities that make up place. From the point of view of an artist, the real issue is the question as to what constitutes art and culture, and to what extent are our communities visible in order to participate in the measuring of whatever this may be? It is this question of visibility that both the wider Festival and Art in Manufacturing seek a response to. **The reason the Festival exists is due to the high percentage of manufacturing active in the area. It is in the workplace that communities emerge, and where there is community, there is culture.** Suddenly then, the dominant narrative is precarious, and it becomes clear that the artists and workforces who participate in Art in Manufacturing will not only make the industrial context of the area visible, nor simply exhibit the art works that manifest when an artist is given access to the means of production, but that this visibility extends to the people and workforces themselves; those who may have previously been positioned as hard to reach. This collaboration between the Festival, manufacturing workforces, artists and the local council, suddenly and with extraordinary clarity, positions everyone involved as 'easy to reach,' and challenges the narrative attached to 'engagement.'

The industrial revolution moved the local inhabitants of Blackburn and surrounding villages, from largely rural or craft-based cultures, to cultures associated with factories - in particular cotton mills and their associated industrial infrastructure. These sites established an economic hierarchy and dominated the wider culture of the locations where they were situated. And although the shift from rural to industrial is well documented in terms of socio-economic impact, it would be a mistake to assume that art hasn't manifested in manufacturing from the start. In my own residency at Roach Bridge Tissues in Samlesbury, just a few miles from Blackburn town centre, I encountered one of our earliest mills situated on a weir designed by Arkwright, now a paper mill printing luxury brand design on tissue paper, and home to the studio of sculptor Charles Hadcock. Art and manufacturing already existed side by side on this site, regardless of the residency I would undertake. Generations of highly skilled printers working side by side with a sculptor of international profile on a site still powered by a re-engineered weir designed by one of the key architects of the industrial revolution. →

In the two hundred years or so that we've had factories, mills and forges; we've had art in manufacturing.

What I did discover however, when conducting archival research, was that the site was also the birthplace of the poet William Billington, who was published to great acclaim during his lifetime and recorded the emergence of culture from the factories and mills of the borough in his performances, pamphlets and books of prose. In his poem "Blackburn to the Fore!" of 1883, Billington directs us to the founding of the football league, the opening of the local technical school and the political organising that was emerging from the shop floor in terms of the suffragette movement, the trade union movement and even earlier - in his cotton famine poem; "I wud this war were o'er" - he protests Lancashire's relationship with the southern states of North America and the politics of cotton production by enslaved peoples. **Billington became the focus of my research during the residency, and the work I produced for that first Festival profoundly changed the direction of my practice - to the point where my work is now defined by collaboration with manufacturers, fabricators and communities associated with place and production.**

Billington wasn't alone of course, James Sharples was a blacksmith who worked on Eanam Wharf (the location of Jacqueline Donachie's canal happening over a century later in 2022), and his painting "The Forge" resides in Blackburn Museum. Sharples is well known; the painting is often loaned out or requested and is one of the jewels in the crown of the collection in Blackburn. He was also celebrated in his own time by Ruskin and other cultural dignitaries of the day, such is the importance of his painting of working men with the proposition of 'Art in Manufacturing' written large in every delicate brush stroke of "The Forge". Sharples himself was most likely captured on camera at some point by pioneering film makers Mitchell and Kenyon who filmed workers entering and leaving the same mills that some of our commissioned artists now return to for their Art in Manufacturing residencies, or the streets and squares where the National Festival of Making takes place every summer.

All four of them - Mitchell, Kenyon, Billington and Sharples - were recording the lives they knew in the spaces where they worked and where communities gathered, with Sharples and Billington both being born in 1825, and with Mitchell and Kenyon born in 1850 and 1866. In the two hundred years or so that we've had factories, mills and forges; we've had art in manufacturing.

Two centuries of industrially informed culture and seven years of Art in Manufacturing commissions, residencies, exhibitions, publications, performances and disruptions have allowed those of us who support the curatorial and operational trajectory of the residency programme to reflect on what we think might be happening when artists become embedded in the workplace. There are comparisons that can be made with the Artist Placement Group and with those individual artists who embrace industrial practices that are useful, and which inform the thinking that some of our artists develop around their own residencies. For my part, I reflect on the nature of the spaces themselves and increasingly reference the philosopher Foucault's lecture, "Des Espace Autres", published in Architecture/Mouvement/Continuité October, 1984. →

In his lecture, Foucault proposes that our understanding of space, particularly in the relationships between environments, people, and things, has changed. Foucault defines certain locations as 'heterotopias', as spaces of 'otherness', and proposes six potential definitions. I am interested in his 'Principle 1b', that the factory or workplace may be positioned as a "heterotopia of deviation."

When thinking about Art in Manufacturing, I am applying Foucault's proposition of 'heterotopic deviation' to consider both the historic cultures that have emerged within the mills and factories of Blackburn, from mill poetry to Acid House; and the research emerging from Art in Manufacturing, in order to understand how the relationship between the two can enable us to reimagine post-industrial and post-retail spaces and cultures in the future. The inherent power of Art in Manufacturing is that it allows an agreement between artists and workforces to interrogate the workplace as a space of 'deviation' from the agreed behaviours and rituals of work. This allows the time and resources for unexpected outcomes to emerge, in a 'deviation permission' pact with the bosses, locating them as key to the development of art and culture in Blackburn, through their participation during the National Festival of Making.

Art in Manufacturing inherently contests a lack of arts engagement in Blackburn with Darwen and, in doing so, challenges existing negative tropes regarding immigration, classism, de-industrialisation and what constitutes art and culture within entrenched social hierarchies. By establishing a new chronology of cultural manifestations in relation to industrial spaces, Art in Manufacturing exposes the high levels of cultural literacy, engagement and production that exists in the workplaces and communities that are outside of the accepted cultural arena, and further challenges the accepted measures of engagement with arts and culture in Blackburn; and perhaps most importantly, how we measure them.

Art in Manufacturing makes significant contributions to local, national and international culture through the quality of the work produced, as the artists re-exhibit, extend residencies and, like in the case of my own practice, acknowledge the impact the commission has had on their career.

The scale and quality of works revealed during each Festival also proposes the potential for local inhabitants to have agency through their creativity and contributions to the future of these spaces and of the borough itself, as we continue to question what might be possible when artists become part of the workforce. What we can say with certainty is that art will be made, places will be activated by people and new 'things' will emerge. As William Billington wrote back at the start of the first industrial revolution, "Blackburn to the Fore!". ■

The inherent power of Art in Manufacturing is that it allows an agreement between artists and workforces to interrogate the workplace as a space of 'deviation' from the agreed behaviours and rituals of work.

ART IN MANUFACTURING RESIDENCY CATALOGUE 2017 - 2024

SEASON ONE 2017

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8.

1. **James Bloomfield**
   + Darwen Terracotta & Faience
   Of Heart and Hand

2. **Jamie Holman**
   + Roach Bridge Tissues
   Blackburn to the Fore

3. **Jeni McConnell**
   + Cookson & Clegg
   Cordwainers and Curriers

4. **Grennan & Sperandio**
   + Panaz
   The Social Fabric

5. **Lazerian**
   + Cardboard Box Company
   Chromatogram

6. **Michelle Wren**
   + Graham & Brown
   Everyone has a Roll

7. **Robyn Woolston**
   + MGS Plastics
   Revolution

8. **Ruth Jones**
   + Cherrytree Bakery
   Traysway

SEASON TWO 2018

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1. **David Murphy**
   + WEC Group
   In Practice

2. **Dawinder Bansal**
   + Domestic Makers
   The Making of a South Asian Wedding

3. **Hannah Fox**
   + Cardboard Box Company
   The Cardboard Cinema

4. **Liz West**
   + Graham & Brown
   A Subjective Mix

5. **Martyn Ware**
   + The Manufacturers of Lancashire
   Church of Rare Souls

6. **Nicola Ellis**
   + Ritherdon
   Chemistry and Magic
   Straight Down the Line

7. **Sarah Hardacre**
   + Surface Print
   The Museum of Wallpaper / Grace

SEASON THREE 2019

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1. **Amy Pennington**
   + Heritage Envelopes
   Return to Sender

2. **Anna Ray**
   + Forbo Flooring
   Offcut

3. **Daksha Patel**
   + Blackburn Yarn Dyers
   Connecting Yarn

4. **Dan Edwards**
   + The Senator Group
   we can do more

5. **Liz Wilson**
   + Spiroflow
   The Optical Mechanical

SEASON FOUR 2022

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1. **Hannah Leighton-Boyce**
   + Darwen Terracotta & Faience
   Articulations

2. **Jacqueline Donachie**
   + Lancashire Saw Company
   IMPERIAL

3. **Liz Wilson**
   + CNC Robotics
   Within the Wake

4. **Raisa Kabir with John Spencer**
   + Queen Street Mill
   Resistances

5. **Tim Denton**
   + OEP UK
   Manufactories

SEASON FIVE 2023

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1. **Ibukun Baldwin**
   + Cookson & Clegg
   Funufactury

2. **Illuminos**
   + Cardboard Box Company
   Peddie's

3. **Sam Belinfante**
   + Panaz
   I See A Voice

4. **Sapien**
   + SWS UK
   Wave Sweeper

5. **Sarah Marsh**
   & Stephanie Jefferies
   + Herbert Parkinson
   North Light

SEASON SIX 2024

1.

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4.

1. **Horace Lindezey**
   + The Making Rooms
   We Are Gathered Here Together

2. **Margo Selby**
   + Standfast & Barracks
   Breathing Colour

3. **Nehal Aamir**
   + Darwen Terracotta & Faience
   Infinite Hands

4. **Sam Williams**
   + Cardboard Box Company
   Fabula un Facto

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Claire Mander is the Founder-Director of theCOLAB, a registered charity and independent curatorial practice, and a Non-Executive Director of the National Festival of Making. She forges collaborations to realise complex sculptural interventions in outdoor spaces including by women artists for The Artist's Garden, where the COLAB transformed a 1400 sqm hidden roof terrace above Temple tube station into a place for the public to experience large-scale artistic interventions. She sits on Westminster's City of Sculpture panel and is a member of the British Art Network.

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Elizabeth Fullerton is a critic, writer, podcaster and researcher at Birkbeck College, University of London. She writes for international publications including The New York Times, The Guardian, Art Monthly, Art in America, ARTnews and Art Quarterly and is the author of Artrage! The Story of the BritArt Revolution (Thames & Hudson (2016, 2021). She is fascinated by how artists use materials and technologies to respond to their lived experience, exploring issues of identity, body politics, labour and environment through social engagement.

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Elena Jackson is the Co-Director and Founder of the National Festival of Making and Director of culture company Deco Publique. She develops and commissions place-informed projects to create mass and intimate artistic outcomes and is Programme Curator of Art in Manufacturing.

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Jamie Holman is an artist and Chair of the Board of Directors at the National Festival of Making. His multi-disciplinary work is often fabricated or made in collaboration with industrial processes or skilled crafts makers. Jamie's practice is informed by the heritage of working class communities, in particular the impact of the industrial revolution and the cultures that have manifested as a consequence of its emergence and subsequent decline. Jamie is a Partner of collaborative creative practice Uncultured Creatives.

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ART IN MANUFACTURING

THE NATIONAL FESTIVAL OF MAKING

DECO PUBLIQUE

theCOLAB

BRITISH TEXTILE BIENNIAL

THE SUPER SLOW WAY

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BLACKBURN WITH DARWEN

Creative Lancashire

BRIAN MERCER TRUST

Art in Manufacturing is the National Festival of Making's headline commissioning programme providing artists with an incomparable platform to make new work in and alongside manufacturing and making industries.

Each season of Art in Manufacturing sees artists paired with leading manufacturers and unique spaces of making, from artisan producers to industry giants. The residency programme creates collaborations with highly skilled workforces, facilitates access to cutting edge technologies and unearths hidden heritages – all resulting in remarkable, contemporary artworks.