

A long, narrow, and dilapidated hallway with peeling paint and overgrown plants, leading to a bright light at the end.

# FORGOTTEN HERITAGE

— Matthew Emmett —

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# National Gas Turbine Establishment

*Fleet, Hampshire, UK*

Towards the end of 2011, a friend bought his first DSLR and asked me to show him the basics of photography. The first lesson took place in his back garden and when I asked if he found it useful, he suggested that he might learn faster if we did the next one on location. A few weeks later, he came back with the suggestion that we climb the fence into a now derelict ex-Ministry of Defence complex. "It'll make for some interesting pictures," he said. I have already described in the introductory chapter the morning we first approached the National Gas Turbine Establishment (NGTE). Beyond its two layers of fencing were a series of hangar-sized structures: these housed what had been a highly secretive defence research establishment dealing with military jet engine development throughout the Cold War from 1950 to 2000.

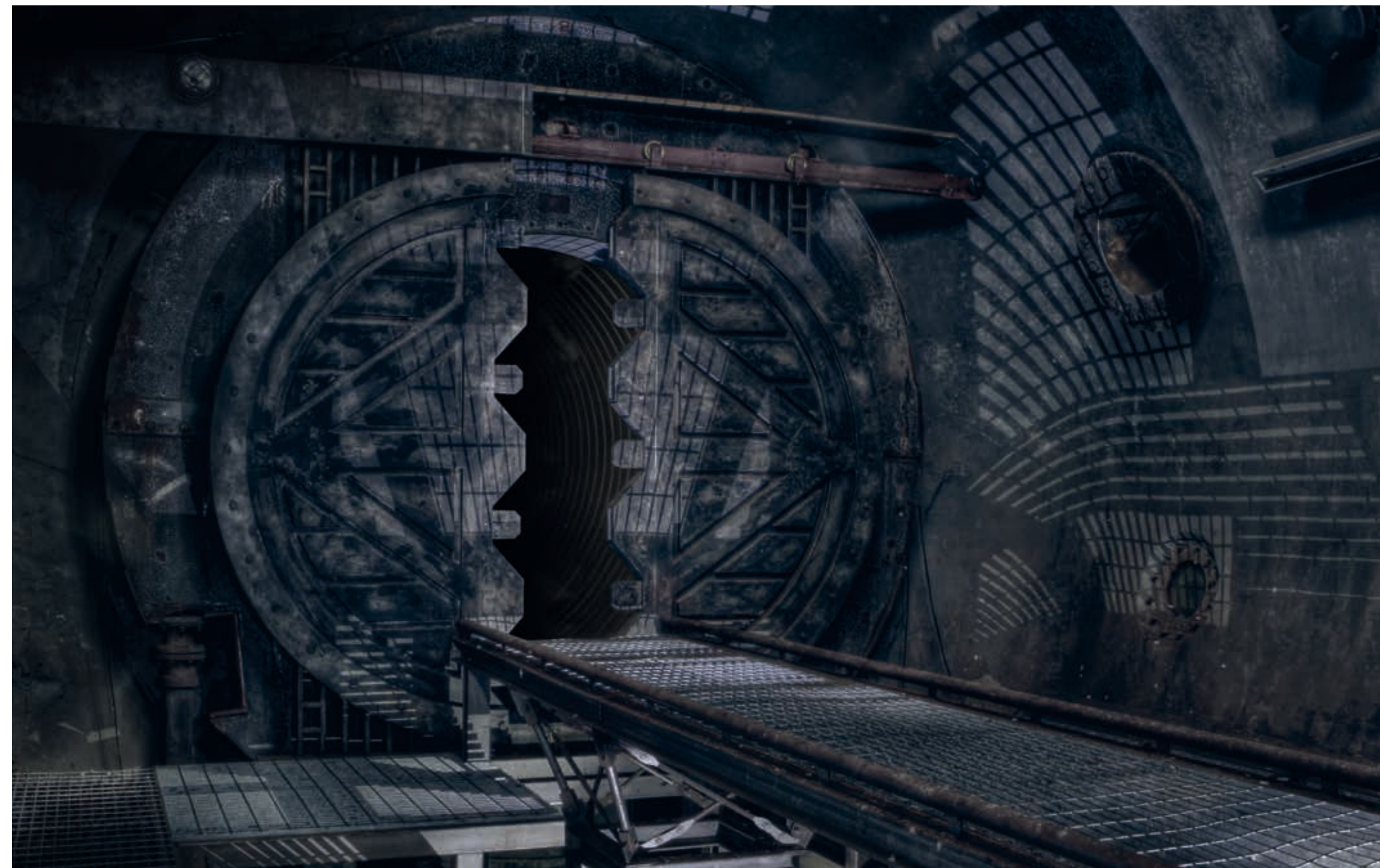




Back in 1940, Frank Whittle and his company Power Jets developed the first British-made jet engine to power a plane in flight, the Gloster Meteor. Over the next six years, during which time Whittle had great success developing his technology, the company was effectively taken from him through a process of nationalisation – this was due to years of heavy government investment. The company was merged with the gas turbine wing of the nearby Royal Aircraft Establishment, a location was found for this new company a few kilometres away from the RAE in Farnborough, and the National Gas Turbine Establishment in Fleet was born.

By this time, the Second World War had ended and the threat of the Luftwaffe had passed, but in its place a new potential enemy, the Soviet Union, had been growing in strength. The NGTE (or Pyestock, as it was also known) had become a focal point in the efforts to counter this threat. New planes with new capabilities were needed, able to outperform whatever the Russians were developing. This secret arms race was essentially the driving force in pushing forward British science and engineering know-how at an incredible pace.

During its lifespan, the NGTE was the leading institution of its kind in the world. Between its conception and the start of the next millennium, Pyestock was responsible for the design, testing and development of virtually all the UK's military fighter jet engines as well as naval gas turbine engines. Five pressure-sealed altitude test cells were built on-site to provide a testing environment for subsonic and supersonic flight. These closed-loop systems used compressed air generated in a vast turbine hall known as the "Air House". From this building, a mass of high-pressure pipes snaked outwards and across the site, which was the size of a town; the fast-moving airflow within could be redirected to any of these five testing environments – here it could be controlled to create simulated "air speeds", enabling the engines to be tested without leaving the ground. The Concorde project even had its own test cell on-site, "Cell 4". Extra power plant was built to accommodate this marvel of engineering, which was capable of flying the plane's Olympus 593 engines at Mach 2 and at a simulated cruising altitude of 57,000 feet (17,374 metres). Even with the Air House and the extra on-site power generation, Cell 4 engine tests could only be carried out at night due to the demand it placed on the national grid. People living nearby experienced the effects of the tests – house lights dimmed, images on TV screens shrank and a deep rumbling roar could be heard from up to several kilometres away.







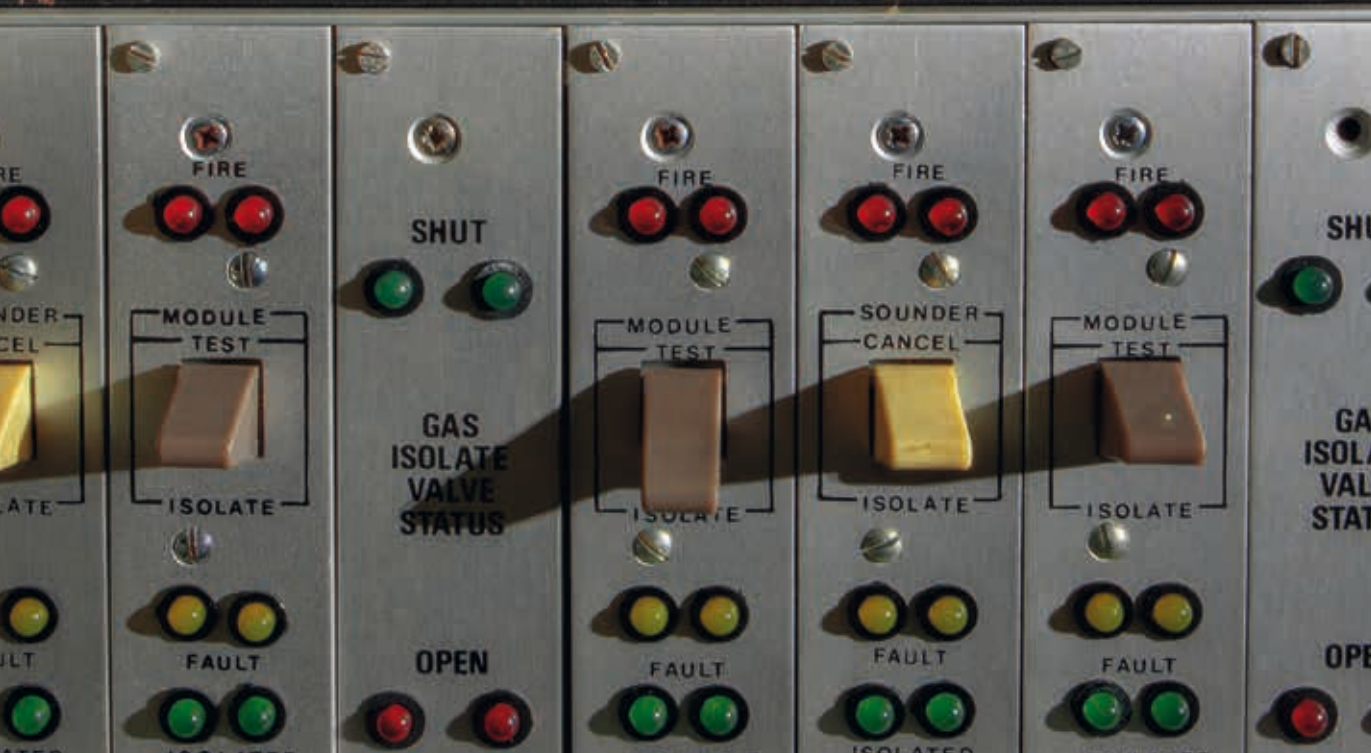
The numerous buildings on-site all existed to provide an engine-testing function or an essential service for another building. In this way, the NGTE could be seen as a huge and incredibly complex machine. For testing to take place, everything had to run in unison, and the fact that it worked as well as it did was an incredible accomplishment. The work carried out there over its fifty years of operation placed Britain at the forefront of aerodynamics and gas-turbine engine development. Its legacy can be seen around the world every day by simply looking up at the vapour trails that criss-cross the skies.

Over time, new technologies such as computer simulations advanced to the point that they were able to accurately predict some of the data previously provided by physical testing. With the huge cost of running the site becoming hard to justify, it was gradually closed down in stages: the last staff left the site in 2000.

A short while after the close-down, the first of a growing number of photographers and urban explorers began infiltrating the site, eager to capture images of somewhere radically different to anything they had photographed before. They often climbed over the fences before sunrise to avoid detection by the security personnel who patrolled the site, then waited it out quietly inside one of the buildings for the sun to rise and the work to begin.

On first entering the site, I was overwhelmed by its size and complexity, its palpable sense of place in Cold War history and the almost alien scenes that confronted me. It changed me instantly and I knew straight away that it had to be my subject. The main and most obvious attractions were the five engine test cells, although the site had a vast array of buildings – it would take many trips to see it all. During our first visit, we headed for the Air House, a huge building dominated by eight rows of machinery; each row featured one motor, one turbine and three compressor sets. This machinery was designed to generate phenomenal amounts of pressure: air was blown out of the east side of the building and sucked in on the west. The site's trademark blue pipes snaked outwards from either side of the building and delivered pressurised air to the nearby engine test cells.

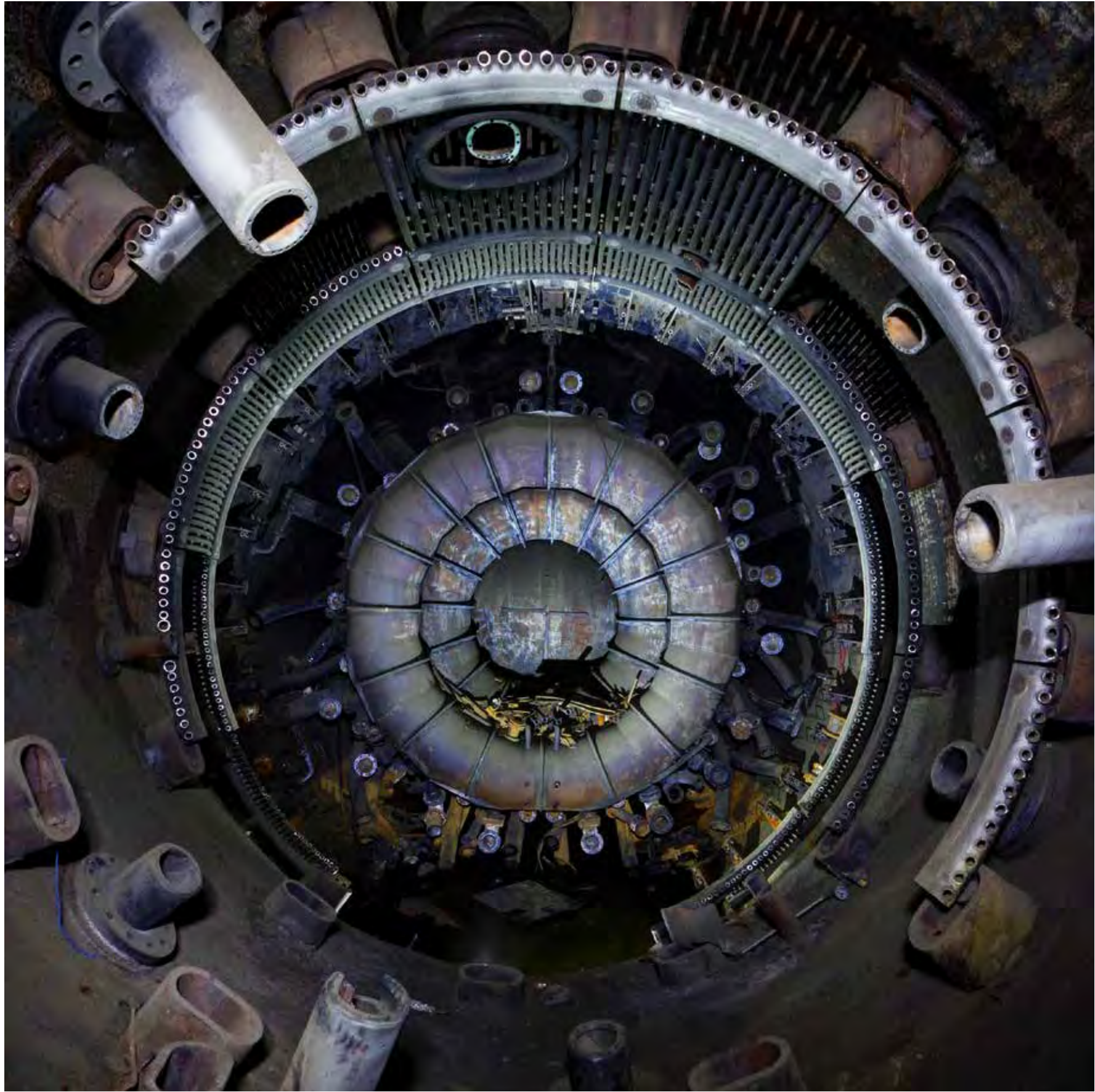












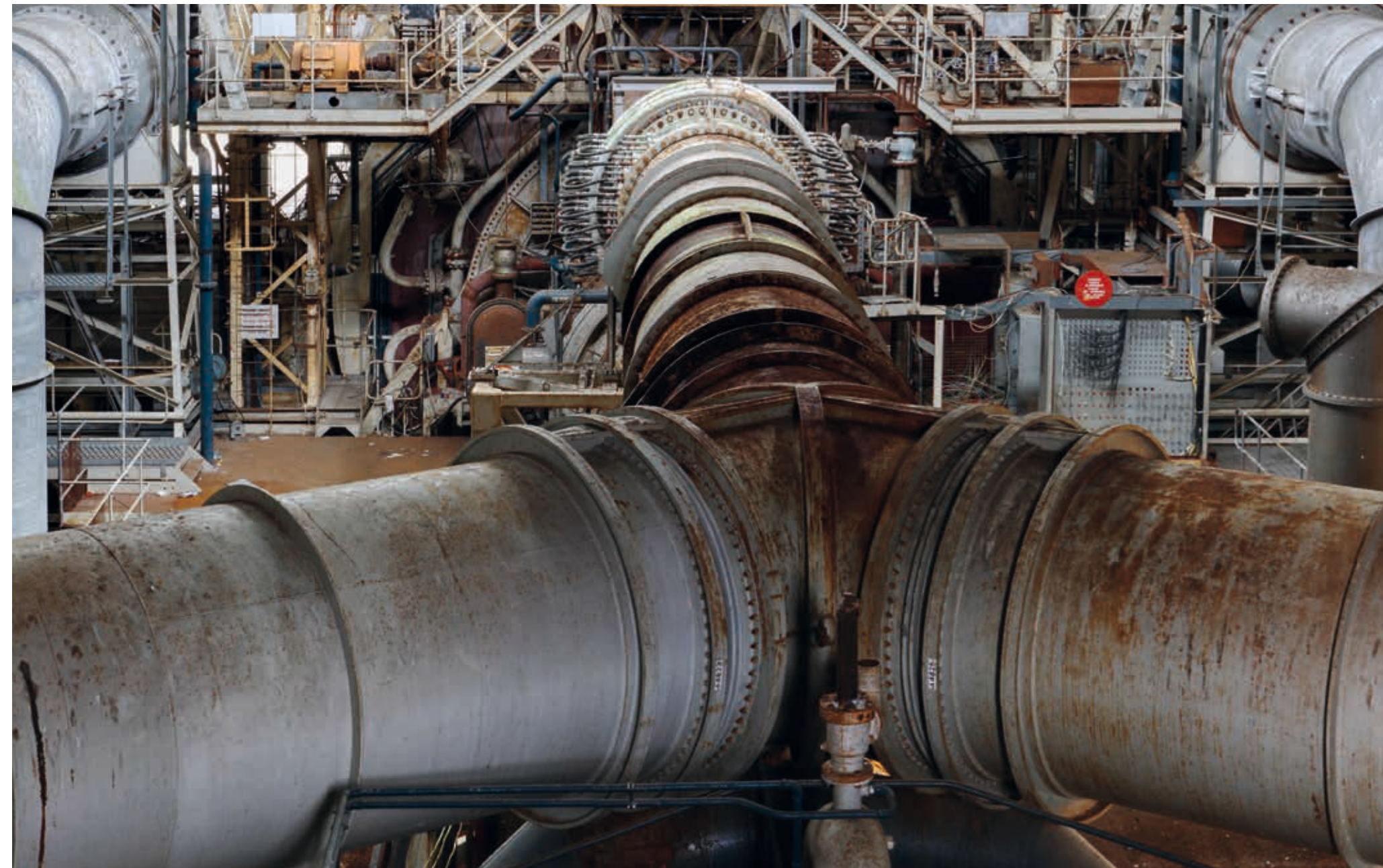


Arriving at dawn inside this large industrial space was a spooky and magical experience; we were on edge and paranoid that security would burst in on us at any moment. The building made noises that convinced us there were other people in there too but, as time would tell, this was mostly rats in the ducting, pigeons roosting high above us or just the wind making the building creak. The Air House provided a great vantage point for photography: by climbing up a set of ladders and then moving carefully along an elevated rolling crane carriage positioned close to the roof, we could get a symmetrical pigeon's eye view of the entire hall and its repeating rows of machinery. From then on, we were prepared to take calculated risks to get the best angles for our shots.

After the turbine hall, we navigated north, using a simplified printout map of the site to reach engine test Cell 3. This particular cell was housed under a long shed-like construction that had another crane carriage – this had been used to load heavy jet engines into the testing tunnel. The tunnel itself was situated below ground level for noise reduction. As its lower-floor access doors had been welded shut years before, access was now only possible via the upper loading hatch in the roof of the tunnel. The drop onto the metal gantries below was around 4–5 metres and looked far enough to cause serious injury if we messed up and fell. We found some old fire hose located in a nearby corridor and worked out a way of tying it to some sturdy pipework. We then spent some time arguing who would be the first to climb down; in the end, I opted to shimmy over the lip and slide down the hose into the gloom.

At one end of the cell was a circular array of vented openings arranged around a central jet nozzle – this was the business end of the cell and injected the high wind speed required to test military-grade jet engines at over Mach 1. When in use, the hatch covering could be winched into place and screwed closed, creating an airtight seal; air could then be sucked out of the cell via the vented openings to lower the air pressure and thus simulate high-altitude flight. Seeing it in the dim half-light cast from the hatch above was an awe-inspiring sight. It was like standing in the belly of some monstrous machine, the central nozzle like some great eye regarding us as intruders in its forbidden realm. The gantries on which we now stood were where the engines would have been bolted for testing to occur.

At the opposite end of the chamber was a set of futuristic doors that looked like something straight out of Hollywood ... which is exactly what they were. The production crew for *Sahara* filmed at various spots across the site in 2003 and the doors were a leftover from one of the sets. Beyond this fibreglass construction, a smaller circular exhaust tunnel headed off into total darkness. Passing beyond the doors, I twisted the switch on the side of my helmet's LED lamp and flooded the tunnel with 1,500 lumens of light.





A short distance down the tunnel, a crude arrangement of strange metal rods could be seen protruding inwards from the tunnel walls. It was only afterwards, during post-trip research, that I discovered the rods were classed as inhibitor torches and would have had gas jetting out of them in a wall of flame that filled the tunnel. Their purpose was to combust any remaining traces of fuel that remained in the jet wash, thus preventing the risk of a build-up of highly flammable chemicals further along the test cell.

After taking lots of photographs, we managed to climb back out of the cell and found a subterranean service tunnel we had heard about that linked Cell 3 with Cell 4, located further north. Walking into this vast hangar-sized structure at ground level delivered one of the site's bigger "wow" moments. Towering above us, on our left as we entered, was one of the largest single bits of cast metal you would see outside of ship production. Cell 4 was built in 1965 as a dedicated engine-testing environment for the Concorde programme. In terms of sheer size and spectacle, Cell 4 was hard to beat. Being one of the main attractions, it was also one of the more obvious places to get caught by security, who would regularly enter the building, expecting to find photographers or metal thieves hard at work inside.

A tactic used by the security guards to try and locate us was to send one of their team along an air-intake pipe that used to supply the main airflow into the test cell. This terminated at an opening in the interior wall of the building about 6 metres above floor level. From a hidden vantage point, we once witnessed a member of the security team creep up to the edge of this opening, squat down and wait, listening for the sounds of people inside. Even the telltale "beep beep beep" of a camera timer was enough to bring them all suddenly bursting into the building, yelling at us to come out.



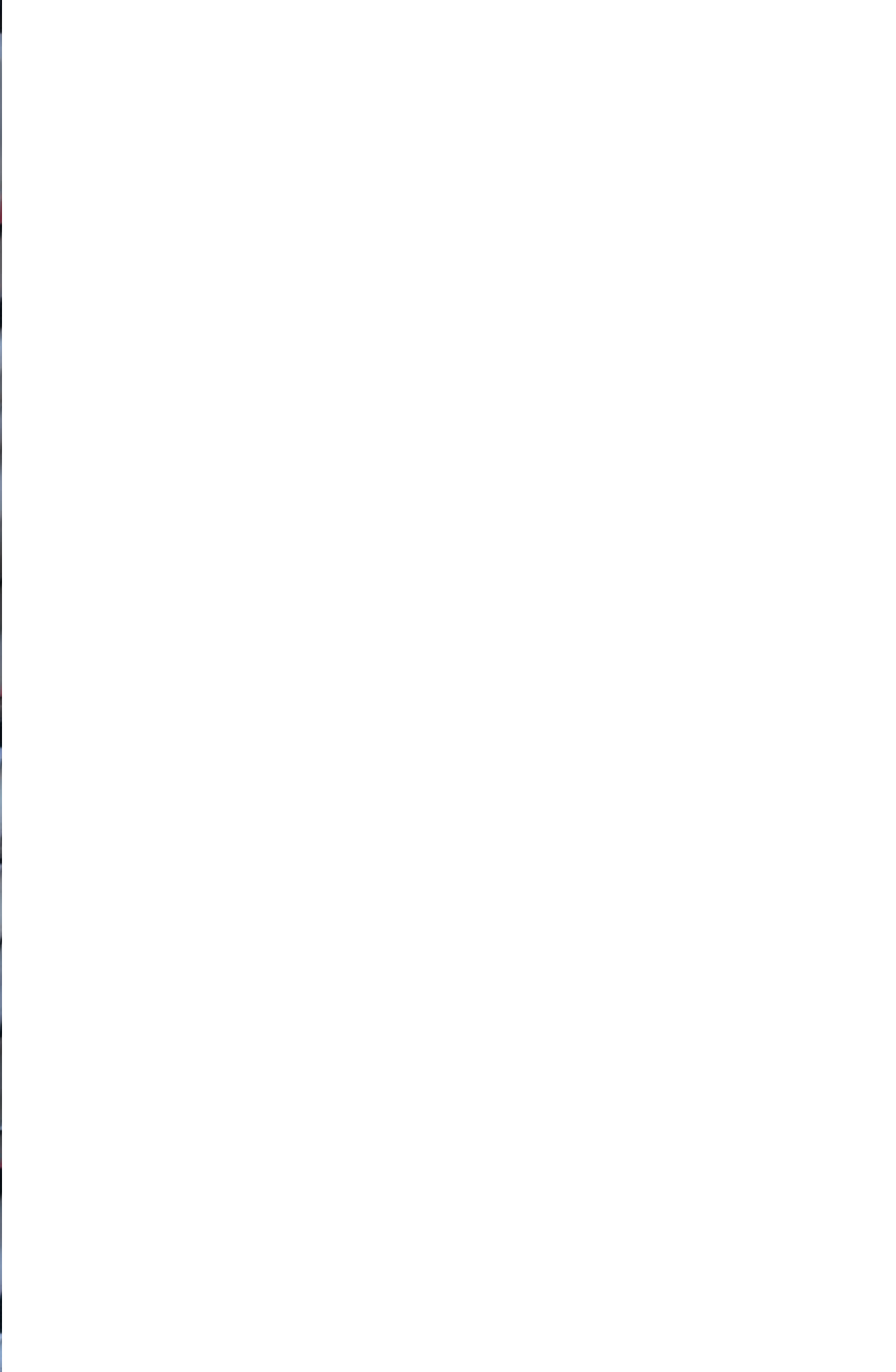
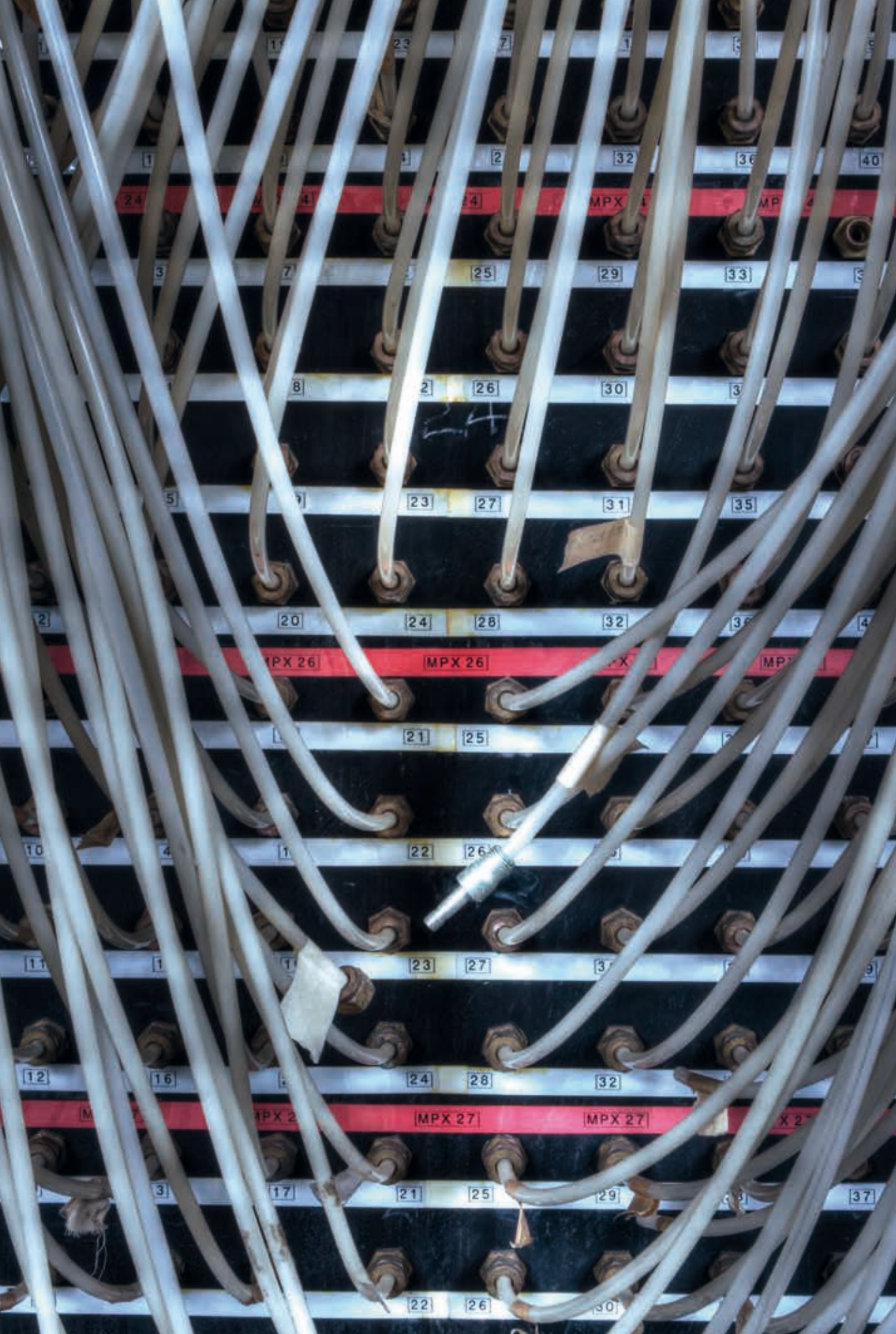




Outside the buildings, moving around the site was complicated by the ever-present threat that the “Land Rover”, or even someone on a bike or on foot, would round a corner and spot us. But usually, it wasn’t too difficult to keep a low profile and remain on-site for the whole day. Certainly, if you were seen from a distance, it was simple enough to quickly move out of sight and then into a hiding place, where it was unlikely you would be found. The one and only time I got caught was on my final (eleventh) visit, when the “Land Rover” came round a corner without me hearing the few seconds of engine noise that allowed me to get out of sight. He pulled up alongside me and, with a rather confused expression, asked, “Are you supposed to be here?” As I was wearing a red helmet and attached lamp, I suppose I might have looked like a surveyor or an inspector. When I confessed that I was a photographer, we spent a while talking about the security guard’s first weeks in the job and how he had been told that 99 per cent of the people he would come across would be photographers. On his first day, he had been shown the pictures taken of the site and posted online. After we had chatted for a while, he said, “I don’t have an issue with people taking a few pictures. If you haven’t seen me, then I haven’t seen you, OK?” and I was then on my way again. Avoiding getting caught by the security team added an exciting element of cat and mouse to the often less adventurous activity of photography. The main reason people came, however, was to see a historic part of Britain’s industrial heritage – something that only a few years before had been classed as a top-secret defence establishment.

My final trip took place just a few weeks before demolition began – I was on-site from late morning until nightfall. As it got almost too dark to shoot any further, I set up a shot of the iconic blue pipes, something I had neglected to do over the previous ten trips. As I shot my brackets, I said a fairly emotional goodbye to a place I had grown very attached to. After all the history and technologies developed there, and which have continued to revolutionise the world we live in, the National Gas Turbine Establishment deserved better than to be bulldozed into the ground.









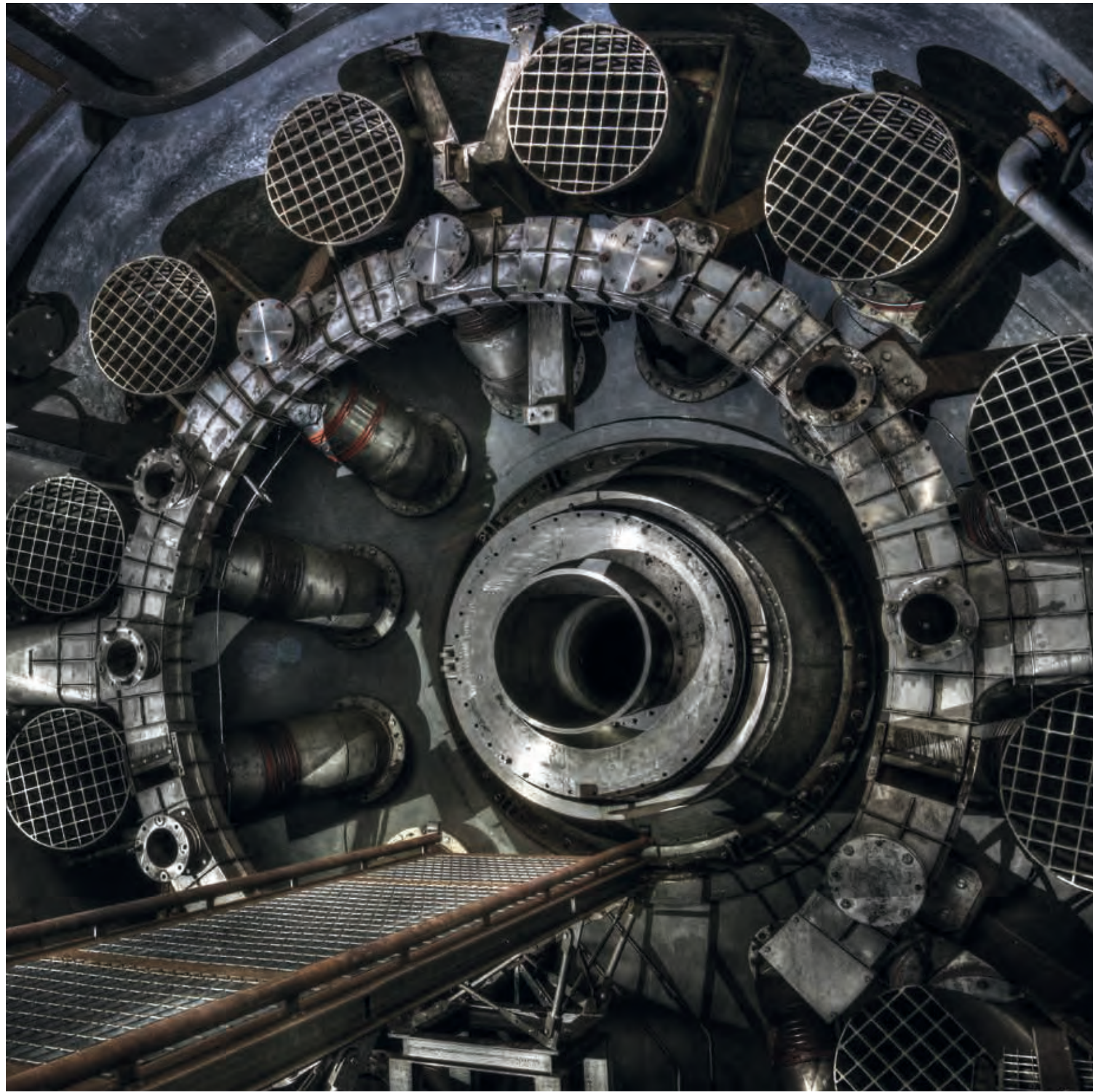




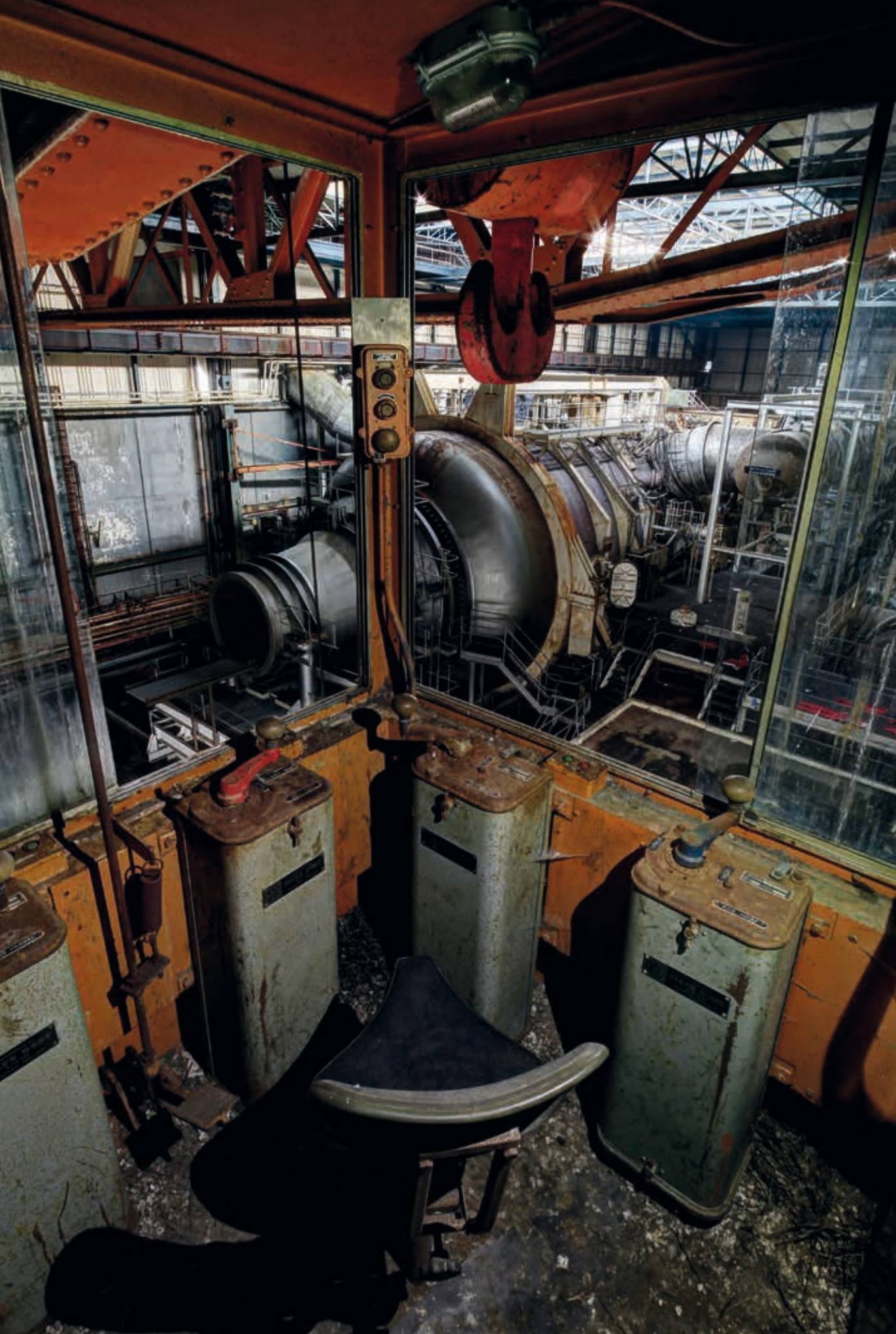


























# Italian psychiatric hospital

During a photographic trip to northern Italy in April 2015, I had the chance to visit a location that I had wanted to see for a long time. Having seen many photographs from inside this large, abandoned psychiatric hospital, I was struck with just how rich in fantastic imagery it was. Normally, a location yielding two or three high-quality images would be enough to justify the time spent travelling to see it. However, this one looked to be blessed with glorious features and vistas throughout, so a trip to this hospital was one of our main motivations for coming to Italy.

Constructed in 1871 in a figure-of-eight layout around two outdoor garden pavilions, the building has three floors and covers an internal area greater than 30,000 square metres. One half of the hospital was designed for male patients and the other for female. Each pavilion was an open garden space where the patients could spend time outside while being kept secure within the walls. In the centre of the structure, separating the two pavilions, was the medical wing. Clinical research, and studies in the fields of pathology and radiology, were carried out here by some of Italy's most respected doctors. There was also a dental suite, an electrotherapy suite and an operating room, all of which can still be found on the site. Exploring these facilities and knowing their tragic history made for a strange and unsettling experience.





In the early 20th century, the hospital gained a specialist reputation for conducting some of Europe's first prefrontal lobe lobotomies on patients. The now discredited technique involved drilling two holes in the cranium, just above the eye sockets, and then inserting a metal "ice pick": this was scraped across the surface of the brain to sever nerve connections on the prefrontal cortex, an area of the brain that governs personality and social interaction. For patients suffering from severe mental illness, the procedure often had the effect of alleviating the more extreme aspects of their condition ... but at a drastic cost to their personality, emotions and decision-making abilities. In many cases, violent and aggressive patients became more "manageable" for the hospital staff, but they were left with other lifelong problems. The outcome differed greatly from patient to patient, with some improving enough to be released from the asylum to continue life outside, although around 5 per cent of patients died during the procedure. Due to its controversial nature, the procedure had all but ceased by the mid-1950s. At its peak during the two world wars, the hospital housed over 1,500 patients. The last inmates left in 1981, when the hospital finally closed its doors.

On the day of our visit, we parked well away from the hospital walls and made our way across fields to arrive at the back gates of the hospital grounds. It was very early and only a few people were around, making things a lot easier for us. Crawling through a small hole in the fence and into the compound, we emerged onto a tree-lined road that ran northwards through the site. We were surrounded by numerous derelict buildings, but we had only come to see the large main hospital at the far end of the site. After climbing a final set of gates that clanked loudly as we went up and over, we accessed the building via a basement. Next we went up a flight of stairs to emerge into a cloister corridor flanking one of the two open pavilions.

Being the only people within such an impressive abandoned and historic space, early in the morning, is a very special experience. Silence dominates and, apart from the scrape of our footfalls and the occasional sounds from the small Italian town waking up outside, the passage of time was marked only by a church bell clanging hourly from somewhere nearby. Knowing what had happened within these walls over the past 140 years made for a highly charged atmosphere. After a short group tour of the three floors, we all headed off in separate directions. We could hear the sounds of our tripods being unpacked and extended from the moment we separated.

Suddenly being alone in such a place is an exciting, but also an isolating and eerie experience. Nevertheless, it is important if you want to connect with the building and capture the best possible shots. I started on the top floor, shooting the crumbling patina and stunning light in shuttered corridors around several patient wards. Next I made my way into an attic space, where a rickety old ladder led to a high porthole window overlooking one of the garden pavilions. Finding unusual angles and shots not seen before at a popular location is a very satisfying part of photographing heritage sites.







Another part of the building that provides some fantastic imagery is within the administrative wing at the very front of the hospital. There are some floor-to-ceiling storage units, with wooden doors, in two adjacent rooms; one of the rooms has suffered fire damage and is blackened and charred. In the room without fire damage, what look like patient records litter the floor, spilling out of the cupboards. The diagnoses and treatments of the unfortunate inmates are on show for anyone able to read Italian. All across the asylum are clues to the great sadness that once filled these rooms and corridors: metal cages that held patients below a large hall; wooden gurneys with hand and foot straps; sinister-looking medical equipment that would look more at home in a torture dungeon ...

The coexistence of such stunning beauty and a strong sense of sadness in locations such as asylums makes for perfect photographic conditions. The images strongly convey my feelings while I was there. Photography is such an important medium for conveying visual information, and even feeling and mood. This location ranks as one of the most atmospheric and interesting places I have explored to date.

Before moving on to the images, I will end with an amusing story of something that happened to me while I was shooting in one of the asylum's exercise halls. I tend not to get too unnerved when alone in creepy places – I have experienced very little in the way of supernatural occurrences over the years. However, having just set up the tripod and spent a few moments composing the shot, I became aware, subconsciously at least, that a small bell had just rung out nearby. It wasn't until the second ring, a few moments later, that I became acutely aware of the sound – a definite "ding-a-ling" a short distance behind me.

I spun round, expecting to see one of my two companions but, apart from me, the hall was silent and empty. My hair stood on end and a shiver ran down my body from head to toe. I quietly crept around, looking for the origin of the sound – I had gone from non-believer to believer in a heartbeat! After nervously packing up my gear, I hurriedly left the hall and went in search of the others. I found them hard at work in the admin block. They looked both amused and concerned as I told them what had happened.

Four and a half hours after arriving at the hospital, we were back in the car, driving towards the next location, and there it was again: "ding-a-ling", the phantom bell rang out. One of my companions asked, "Was that the sound you heard?" Only then did I remember installing a new email app on my phone as we drove to the asylum. The bell was the sound of an email notification going off in my backpack, I had just never heard it before!







