

5 MARTLESHAM HEATH: NOSTALGIA, FUTURITY, AND IT PARKS

Above the entrance to BT Labs in Martlesham Heath, Suffolk, is a plaque engraved “Research is the Door to Tomorrow.” BT Labs is now the center of a science park, Adastral Park, but it was not always so. The plaque is a token from BT Labs’ predecessor, the Post Office Research Station, in Dollis Hill, northwest London. The Queen formally opened BT Labs in 1975 as the Post Office Research Centre, after moving from Dollis Hill in North London, but Adastral Park is not Martlesham Heath’s only distinctive feature. From 1975, an “instant village,” built like “an unspoiled traditional village,” was also constructed on the heath, in part to provide housing for Post Office research staff.¹ Martlesham Heath thus seems an anachronism, containing a future-facing plaque inherited from the past and a “traditional” village built in an instant. These temporal contradictions appear to emerge from several spatial changes: the relocation of the Post Office’s Research Department, the construction of a new village, and the development of the science park, a quintessential “information age” development. In 1964, Martlesham Heath was not a place. Now, it is a place with its own sense of space and time.

How did this patch of scrubland in rural Suffolk turn into a science park and new village? Answering this question exposes how the relationships among digitalization, spatiality, and political economy have changed. The digital industries have been at the center of several novel spatial forms in the latter twentieth century, which have both shaped and been shaped by wider political economy. Silicon Valley looms large in this history, thriving on military patronage, ties to higher education, and a friendly entrepreneurial environment.² The US government, both state and federal, played an

essential role in growing these digital districts, from Silicon Valley to Minnesota's "digital state" and Internet Alley outside Washington, DC.³ These histories show that these spaces were never purely business endeavors, but were also shaped by political and urban history. Silicon Valley reinvented itself with Ronald Reagan's free-market politics, while highways and shopping malls shaped Internet Alley. These spaces also stand in for the nation. Silicon Valley's Mission Revival architecture, for example, ties it to a wider regional campaign of naturalizing settler colonialism in California.⁴ This holds true not just for the digital industries, but all industries of national importance. French nuclear sites at Marcoule in the Gard region and Chinon in Touraine, for example, became regional spectacles that "brought the nation into the region," reconciling modernity and tradition in narratives that portrayed the French national nuclear industry as uplifting these regions.⁵ But to return to digital industrial spaces, these histories show that they are more than simply stories about the economic successes or failures of industrial clustering. They also show that these places provide a greater understanding of how national politics and economies manifest themselves spatially and narratively. The history of Martlesham Heath thus offers a richer understanding of the relationships among national ownership, privatization, and digitalization.

This means looking at the history of Martlesham Heath and Aadastral Park not just as an industrial space but also as a deliberately planned residential-industrial space. Recent history is full of examples of such spaces. Throughout the twentieth century, towns and cities across the Western world, from British garden cities to Italian "città di fondazione," were constructed as "techno-cities," which attempted to reconcile industrial advances with the "lost virtues of village life."⁶ In the UK, "brave new towns" reconstructed urban spaces and dispersed the population from the 1940s to the 1960s.⁷ These new towns have been called a "concretopia," hamstrung by utopian delusions of scientific planning and high modernist architecture, but it would be a mistake to see Britain's new towns as purely modernist projects. The new towns movement, and its intellectual ancestor, the garden city, were also shot through with nostalgia and conservative values. For example, the neighborhood unit concept of Clarence Perry, the influential US urban planner, projected a "seductive vision" of family-oriented villages built into cities.⁸ Even those projects that were unabashedly modernist, such as Milton Keynes, the swansong of Britain's new towns movement, were dynamic and mutable.⁹ Milton Keynes did not reaffirm scientific, welfare state urban

planning but rather shows how the welfare state evolved and adapted to reactions against planning. In doing so, it shows how social democratic actors adapted to the market turn.

With the market turn came new approaches to urban planning and industrial space. The “enterprise zone” and the “new village” characterize the Thatcher era. Enterprise zones were the “purest policy expression” of the neoliberal city and began in Britain in 1981 in places like London Docklands, which, as the following two chapters discuss, also had a minor starring role in BT’s international and commercial ambitions.¹⁰ Enterprise zones suggest a neoliberal transformation of Britain’s urban spaces, but “new villages” complicate this narrative. New villages, planned as small private-sector new towns that would take advantage of planning permissions deregulation, were planned in the 1980s. Tillingham Hall, a pioneer new village in Essex, became a “cause célèbre.”¹¹ The new villages failed, however, because developers overestimated the support from Thatcher’s governments in overriding stringent local planning practices. Martlesham Heath shows a successful “new village” almost ten years before Tillingham Hall, a new village that shaped and was shaped by the parallel development of a science park. So Martlesham Heath was neither a company town, like Lever’s Port Sunlight or Cadbury’s Bournville, nor a public-sector new town, like Harlow or Milton Keynes. Instead, it demonstrates a new settlement between public and private urban planning. Its history thus gives greater insight into the Post Office and BT’s role in remaking Britain’s residential and industrial spaces through the market turn.

As the quote on the BT Labs’ plaque suggests, however, this is a question not just of space but also of time. Digital industrial sites and new towns, from Silicon Valley to Milton Keynes, are stereotypically future-facing spaces, but as Silicon Valley’s Mission-style architecture, France’s nuclear sites, and Clarence Perry’s neighborhood units show, tradition and conservatism also mattered. Indeed, without historicity, neither organizations nor their places would exist. Organizations need historical discourses to support a lasting organizational culture, but this, in turn, requires maintaining and controlling material artifacts and sites, from paper records to brick-and-mortar buildings, that support these discourses.¹² Similarly, place-identity is constructed, in part, through retrograde temporal expressions, such as historically evocative architecture.¹³ It would be easy to see sites like Adastral Park and Silicon Valley as placeless “spaces of flows,” characteristic of a new flexible, networked,

digital world.¹⁴ This view misses, however, the centrality of place and historicity to making these sites. Without regional histories and identities, from the North Virginians' Civil War to the chateaux of the Torangeaux, there would be no Internet Alley in Tysons Corner, North Virginia, nor Chinon Nuclear Power Plant in Touraine—at least, not in the forms that they are now known. Exploring the role of historicity and place, from region to nation to organization, gives a way to see Adastral Park and Martlesham Heath as more than just instant, flexible spaces, but as places that are as much a part of BT's history as BT is part of theirs.

This chapter first explores the relocation of the Post Office's Research Department from Dollis Hill to Martlesham Heath, showing how central government used the Research Department as an instrument of spatial reordering. The second section analyses the construction of the research center at Martlesham Heath, showing how the new universities of 1960s Britain and the US postwar corporate research campuses shaped the new site. The third section moves on to the history of Martlesham Heath new village, showing how the village and the research center shaped each other, while also showing how the village's novelty and instantaneity referenced English "tradition." Finally, the chapter addresses Martlesham Heath's recent history by exploring the creation of Adastral Park, which showcased a new transnational spatial strategy for research in the wake of BT's privatization, but which was also rooted in novel representations of the place and history of Martlesham Heath.

RELOCATION AND DISPERSAL

By the late 1950s, the Post Office wanted to relocate its research department from Dollis Hill, northwest London, for two reasons. First, the research station was over capacity. By 1958, 1,200 staff worked on a site built for eight hundred, and studies projected that, by 1974, numbers would increase to almost two thousand.¹⁵ Second, London's suburbanization had brought electrical and vibratory interference.¹⁶ The Post Office had built Dollis Hill in rural environs in 1919, and although it sat close to the Metropolitan Railway, it was distant enough to avoid interference from passing trains.¹⁷ By the 1950s, however, the surrounding population had reached around 316,000, from around 140,000 in 1906, and from the mid-1930s, the London Underground's Bakerloo line began to run more services through the area, taking over for the Metropolitan line's congested Stanmore branch.¹⁸ As figure 5.1



FIGURE 5.1

Dollis Hill in 1914 and 1936. The box shows, in the top map, the planned site for the research station in 1914, the same year its purchase was originally authorized, and, in the bottom map, its actual site, surrounded by suburban London, in 1936. Maps from the Ordnance Survey 25-inch County Series for England and Wales reproduced with the permission of the National Library of Scotland.

shows, between 1914 and 1936, Dollis Hill turned from rural farmland into suburban London.¹⁹ Gordon Radley, the Post Office's director-general, decided to relocate the research station in 1958 and set three requirements for a new location. First, it should be close enough to maintain good contact with the Engineering Department, especially development, in London. Second, it should be close to towns with residential facilities and good day schools. Third, there should be a technical college nearby for further

education for staff.²⁰ Each of these requirements—the boundaries between research and development, the relationship with housing developments, and the links between research and higher education—shaped the place that Martlesham Heath would become.

The Post Office general directorate's first choice was the Harlow new town.²¹ Harlow did not pan out, but its selection is suggestive of the Post Office's search philosophy. Harlow was one of the first wave of postwar new towns, which became vehicles for visions of a modern, reconstructed Britain. As noted in the *Architects' Journal*, Harlow was one of the foremost examples of novel town design concepts, including Clarence Perry's "neighborhood unit," where residential neighborhood units were isolated from arterial traffic routes to engender community spirit.²² Other electronics companies had relocated to Harlow, including A. C. Cossor, later acquired in 1961 by the US defense contractor Raytheon in 1958, and Standard Telecommunication Laboratories, the UK-based research center for STC and its parent company, International Telephone & Telegraph (ITT), in 1959. Harlow clearly held some appeal for electronics R&D, so it may have been on the Post Office's radar as a potential cluster of expertise. Dollis Hill staff rejected Harlow, however, claiming that it lacked adequate housing and education and that the Post Office had not explored alternatives.²³ The Post Office thus formed a joint management-staff relocation working party in 1962. While Harlow did not meet staff's expectations, it does show that, from the beginning, the relocation and construction of a new research center were, for the Post Office, bound up with the colocation of corporate research, as well as contemporaneous visions for a "new" Britain.

The search for a new site also became embroiled in central government initiatives to develop employment opportunities around Britain. In 1963, the Flemming report, "Dispersal of Government Work," identified Civil Service departments suitable for relocation outside London.²⁴ The report identified the Post Office research department as a prime candidate, forcing the Post Office to commit to a site outside London. A relocation memorandum produced after the report noted that dispersal's goal of relieving regional unemployment "was a secondary consideration which has recently assumed perhaps more importance."²⁵ One potential factor that might have motivated dispersal was the changing ethnic makeup of London and other British cities. The 1962 Commonwealth Immigrants Act, intended to reduce immigration, had led to an influx of women and child migrants, who were exempt

from immigration controls if they were accompanying a family member who already resided in the UK. This led to media hysteria about ghettos, inspired by the Jim Crow South and South African apartheid, and various racialized dispersal policies, such as bussing immigrant school children and Birmingham City Council's illegal social housing dispersal policy for Black Caribbeans.²⁶ But the dispersal of middle-class government work also evokes the image of "white flight," and both the influx of people of color and efflux of white middle-class workers from cities influenced the postwar rise of rural and suburban industrial sites for skilled workers in the US.²⁷ Dispersal was not always just about employment, but also about race and class. In Dollis Hill's case, the motivations—inadequate space, electrical interference, regional unemployment—appear to have been more pragmatic, but as these other histories show, race and class cannot be so easily dismissed as factors in dispersal.

By July 1963, the Joint Working Party had finished its shortlist. Hastings, Sussex, was at the top, using the same criteria, as established in 1958, of towns with a suitable housing supply, a good number of schools, and a technical college for further education. Whereas previously, however, the Post Office had required the new site to remain close to engineering and development in London, this condition was relaxed to include regions up to two hours' commute from London, bringing the move in line with dispersal.²⁸ Hastings Council proved very welcoming, informally confirming to the Post Office that they would cancel a planned aerodrome development to provide space for the station and prevent interference from aircraft—although, in a display of faith in the British aerospace industry, one council member did ask whether there would still be space for a small landing pad for vertical-takeoff aircraft.²⁹

A leak, however, from the Ministry of Public Buildings and Works (MPBW), that it planned to move its offices to Hastings, stalled the Post Office relocation. This leak irritated Post Office senior management, as the MPBW had been aware of the Post Office's plans, but the Post Office was still keen to secure Hastings and avoid losing face with the staff.³⁰ Management attitudes changed once the MPBW officially announced its move in January 1964 and was, in the words of Postmaster General Reginald Bevins, "roasted" in the House of Commons by MPs from Scotland, the North-East, and the South-West.³¹ Dispersal, a program designed to alleviate unemployment, had not been created for the affluent South-East, so relocating to Hastings appeared

politically untenable. This was particularly worrying for the Post Office as other shortlisted sites were also losing viability. Sites in Christchurch and Poole, Dorset, were on difficult terrain, while a potential site near Ipswich, Suffolk, was becoming “restive” as the landowners, Bradford Property Trust, were keen to start a residential development, the soon-to-be Martlesham Heath new village. A site in Folkestone looked uncertain after the somewhat premature announcement that Folkestone would become the British end of the Channel Tunnel, which would open thirty years later.³²

MPs from the North and Scotland also courted the Post Office. Jeremy Bray, MP for Middlesbrough West, advocated his constituency to the Post Office. A delegation of Scottish MPs made an impassioned case for Scotland, pointing out that the Department of Scientific and Industrial Research had a site in East Kilbride, Ferranti had a site in Edinburgh, and National Cash Register had a site in Dundee.³³ Tam Dalyell, MP for West Lothian, even formulated research agendas, suggesting that Scotland would be ideal for researching masers. The Post Office told both Bray and the Scottish delegation that the research station needed to be closer to the Engineering Department and did not reveal that staff would not move northward, nor that the Post Office did not believe it could recruit new staff in the “less attractive” North-East.³⁴

Instead, the Joint Working Party turned its attention to Ipswich, third on the list, after discarding Christchurch because of the site’s terrain issues and because there were already two government research establishments there, the Military Engineering Experimental Establishment and the Signals Research and Development Establishment.³⁵ Again, dispersal overrode any other considerations, such as the benefits of being near other government R&D laboratories. Ipswich was suitable because, four miles east, there was a promising site on a sizeable former airfield on Martlesham Heath, an active RAF and USAF airfield during World War II and an experimental aviation site before and after the war. Furthermore, a South-East development study had earmarked Ipswich for major expansion, thus alleviating staff concerns about housing availability.³⁶ Finally, the new University of Essex, established in nearby Colchester in 1963 as part of seven “plateglass” new universities—East Anglia, Essex, Kent, Lancaster, Sussex, Warwick, and York—fulfilled far and above the Post Office’s hopes to forge links with a local technical college.³⁷ The Post Office secured staff approval in June 1964 and announced the move to the House of Commons in July.³⁸ Two of these motivations, the

development of the Ipswich area and the new University of Essex, were especially influential on the research station's subsequent development.

INDUSTRIAL VERSAILLES MEETS THE NEW UNIVERSITIES

Two different types of postwar research site—the UK's new universities and US corporate research laboratories—influenced the new research center at Martlesham Heath, particularly its rural aesthetic on the “heath.” In planning the new site, the Post Office forged explicit links with the new University of Essex while also making implicit references to the new universities program. Press releases announced the Post Office's hopes for a “university character,” which was “of a clean and quiet nature and in appearance might resemble a university area with mainly low buildings set in landscaped areas.”³⁹ These hopes echoed the aesthetic of Britain's new “plateglass universities.” Referring to their common aesthetic of plateglass facades held in steel or concrete frames, these plateglass universities were established in the 1960s as a defense of modernism and social democracy, another welfare state public project in step with the social architecture of public housing and new towns like Harlow.⁴⁰ Bearing a striking similarity to the Post Office's vision for Martlesham Heath, several early new universities—Sussex, Warwick, Kent, and York—were built on landscaped parklike campuses, composed of low-profile buildings of metal, glass, and concrete. The government launched the universities with fervent publicity that encouraged the nation to appreciate the “social importance” of these new institutions.⁴¹ The Post Office's invocations of “university character” and aesthetic visions of low-profile buildings on a landscaped campus suggest that it aspired to imitate these new, socially important institutions. This echoes the Post Office's earlier selection of Harlow, another example of its desire to align the new research center with the state's modernist, social democratic projects for a “new” Britain.

The Post Office forged strong ties with the University of Essex, the closest new university to Martlesham Heath. The University of Essex took on a more “integrated urban” form compared to its predecessors, and was perhaps the most high-profile of all the new universities—“none of Britain's postwar universities was launched with such enthusiasm.”⁴² The Post Office was quick to forge ties after the university opened in 1964. In 1967, the university established a chair and a lectureship in telecommunications systems with

a grant from the Post Office.⁴³ Collaborative MScs and PhDs and research grants followed, including £30,000 in 1971 to research video telephony.⁴⁴ The Research Department set up an MSc in telecommunications, in which junior engineers enrolled and senior engineers worked as lecturers. The University of Essex, compared to the other plateglass universities, later took on a more ambiguous public presence, as it became a central and controversial site for the British wing of the 1968 student protests, but the Post Office and, later BT, nevertheless continued partnering with the university into the twenty-first century.⁴⁵

The Post Office also took cues from US corporate laboratory design. In 1964, representatives from the Post Office and the MPBW, which would provide architectural services for the new research center, visited laboratories across the US, including Bell Labs, the Radio Corporation of America's laboratory, Hughes Research Lab, Fairchild Semiconductor's R&D labs, and the Stanford Research Institute.⁴⁶ Two features that the British delegation found most noteworthy, artificial lighting and air conditioning, later caused friction between management and staff at the new research center. The delegation heard that air conditioning was essential for controlling atmospheric conditions for delicate electronics work, while artificial lighting allowed a more compact building design, allowing internal rooms without windows. The Post Office report on the trip described this as "Americans have no objection to working in rooms without natural light."⁴⁷ The other significant US feature that the Post Office would emulate was flexible partitioning, which researchers could use to reconfigure rooms. Of all the visits, the most influential were to the laboratories designed for Bell Labs and IBM by the Finnish neo-futurist architect Eero Saarinen. Saarinen's research centers for GM (called a "Versailles of Industry" by *Life* magazine), IBM, and Bell also emulated the isolated campuses of US postwar universities.⁴⁸ In doing so, these corporate laboratories, as with postwar US university campuses, embodied a linear model of research that saw vast centers of basic research as generating scientific knowledge, which would later fuel technological development. This model of research influenced postwar universities and US research campuses, which in turn influenced Martlesham Heath. It would also influence the Post Office's reorganization of R&D, which accompanied the research department's move to Martlesham.

The plans and construction of the Martlesham Heath research center implemented these influences from the new universities and US corporate

research campuses. The Post Office established the main design features in 1967 with the MPBW, which provided architectural and design services to meet the Post Office's schedule of requirements.⁴⁹ The plans initially featured a lagoon, partly as a landscape feature and partly as a resource for fire engines, but the final plan dropped the lagoon for costs.⁵⁰ The lagoon plan evoked both the landscaped campuses of the plateglass universities and US corporate campuses. York and Essex had pools and lakes, and all the new universities' campuses were landscaped to varying extents to create "park" atmospheres, while Saarinen's Bell Labs site in Holmdel, New Jersey, also had a large lagoon.⁵¹ Departing from the new university aesthetic, and perhaps acknowledging the Cold War reasons for dispersing government work, which were more visible in the US, the Post Office and MPBW briefly discussed, and then discarded, plans to build a fallout shelter.⁵² Unfortunately, the plans did not explain the aesthetic decisions taken in the research buildings' architectural design, leaving the impression that form followed function. Like US corporate labs, the buildings used extensive air conditioning and flexible partitioning. Staff, however, resisted plans for artificial lighting, leading to more windows and natural light in exterior rooms. Internally, the new research center mainly re-created US corporate labs, while the landscaped, low-profile appearance on the outside evoked the new university campus.

The research center's eventual form was three main buildings: a seven-floor lab block, a three-floor administration building, and a single-story building to accommodate mechanical engineering, a drawing office, a workshop, and storage. Two towers, for radio and water, were also constructed.⁵³ The towers, which served as the primary lift shafts, sat on opposite sides of the main lab block to encourage circulation through the building. This goal echoed the idea that movable partitions would encourage "flexibility" in research.⁵⁴ A separate acoustics complex contained two anechoic chambers, a reverberant room, and a microphone calibration room, and achieved acoustic isolation with double-walled construction that fitted the inner rooms on acoustic mountings.⁵⁵ In 1968, staff arrived and construction began. A small research team worked on waveguides out of temporary huts while the contractor, Mitchell Construction, began work. The research center finally opened in 1975 after Mitchell Construction's bankruptcy caused delays, but construction resumed after Tarmac bought out Mitchell.

Building a new research center also shaped the organization of R&D in the Post Office. Before the research center's move to Martlesham Heath and

before the Post Office's corporatization in 1969, research and development were separate branches within the Engineering Department. Strictly speaking, they were on the same tier of the organizational hierarchy, but research appears to have had a higher status. In 1946, for example, the Post Office set up a combined Research and Development Subcommittee chaired by the controller of research.⁵⁶ During the relocation to Martlesham, after the Post Office became a corporation, the Post Office dissolved the Engineering Department and set up a Development Division, in which the Research Department and Development Departments became subunits. This growing emphasis on development appears to emulate trends from across the Atlantic. "Research and development" gained prominence in the US after World War II, popularized by the US Office of Scientific Research and Development, founded in 1941 for the war effort. The term followed the further integration of research into industrial "development."⁵⁷ "Development" emerged as a key word alongside research because, from the midcentury, corporations began to differentiate internally between research and development and gained prestige by combining research and development to show off gross R&D expenditure.⁵⁸ As the US corporate research campuses of the postwar era suggest, this was not simply a bureaucratic exercise but also a spatial one. The US "industrial Versailles" illustrate how GE, AT&T, and IBM literally built a linear model not of research *and* development but of research *for* development.⁵⁹

The Post Office's growing emphasis on "development," placing the research department and, by extension, the research center, within a development division, was not simply a matter of emulating the US model, however. This reorganization collected a series of spatially dispersed departments. Previously, Research Branch and Development Branch were both in London. By the mid-1970s, various development division departments were strewn across London and the East Anglia Complex, composed of Martlesham Heath and a long-range planning unit in Cambridge.⁶⁰ Emphasizing the "D" of R&D was not a matter of organization charts, but rather a way to give these departments a group identity across space. The spatial dislocation of Post Office research had created the need and opportunity to form new organizational identities for research and development. This was clear in how Martlesham Heath aspired to appear like a new university, how it imitated US corporate laboratory design, and how the Post Office emphasized development. That said, these were not the only influences on Martlesham Heath's

place-identity. In 1975, a new village began construction right next to the Post Office Research Centre.

THE INSTANT TRADITIONAL VILLAGE

The Research Department's relocation to Martlesham Heath created a local need for housing. In 1964, a government study of the South-East identified Ipswich as a potential major development area. The owners of the Martlesham Heath site, Bradford Property Trust, which had sold a section of their land to the Post Office for the new research center, also planned a residential development and, in 1965, commissioned development plans from the architectural firm Clifford Culpin.⁶¹ The proposed development was for ten thousand people, and the relocation of the Research Department took a prominent place in the report. The proposed town encircled the research site, which "would allow the GPO to be related to the heart of the town."⁶² The report also pointed to the Post Office's emphasis on university character as a "splendid basis on which to build a new community" and suggested leaving room to develop light industries in keeping with the "university background."⁶³ The role of new infrastructure in developing the Suffolk region also featured. The proposed development's layout accommodated future transport infrastructure, including a monorail station in Martlesham Heath.⁶⁴ The developers also envisioned an exclusive, communal atmosphere, seeing an opportunity to use "the best forms of social and architectural planning in order to relate the needs of the individuals to those of the community." They thus proposed a community trust to safeguard the development.⁶⁵ Landscaping, as with the research center, would also create and preserve this unique atmosphere. Tree planting and earth mounding would "maintain and enhance existing views" and would also "screen certain development" around the village.⁶⁶ A contradiction thus emerged, wherein the research center and proposed industrial development were central to the plan, yet the community vision was best served by screening those spaces.

Central government, however, did not pursue the South-East expansion proposals for Ipswich, delaying the new village. East Suffolk County Council then had to choose between approving the *de novo* Martlesham Heath development or expanding Kesgrave, an existing village slightly farther east.⁶⁷ These delays led to the Research Department's Move Committee lobbying

the County Planning Officer to accelerate the decision-making process and choose Martlesham Heath over Kesgrave.⁶⁸ In December 1972, the county council finally approved the new village, and construction started in 1974. But between the initial development plan and the construction of Martlesham Heath, the vision had changed substantially. The new plan embodied design ideals that had not appeared in the 1964 plan. Martlesham Heath would be, on the one hand, a “traditional village,” and on the other hand, an “instant village” or a “new village.”⁶⁹ The new aim was for a “twentieth century village” that reflected the region’s design traditions by using Suffolk vernacular stylings, while also deliberately changing scales, street patterns, and rooflines to give the appearance of having developed organically over time, as “is so evident in many villages in the country.”⁷⁰

Martlesham Heath’s lead architect, Christopher Parker, described the village as a “revolt against convention,” specifically against the highly planned postwar housing of new towns that he argued had failed through an “insistence on control and careful avoidance of any design function.”⁷¹ Parker chose the village concept instead, using an “incoherent” architecture that would emulate real villages. The “instant village” concept would put “as much village character into the design as possible” while also using contemporary building techniques to accelerate construction.⁷² Parker also achieved the traditional village concept through broader planning and landscaping. There was a central village green with a cluster of commercial units for a village store and pub.⁷³ There were still some continuities with the earlier plans. Parker kept the neighborhood unit concept, organizing the new village into various “hamlets” built off the village’s arterial loop road. Despite this conceptual lineage from US interwar planning and postwar new towns like Harlow, which also used the neighborhood unit, these hamlets also served the village’s chaotic aesthetic choices. Each hamlet had distinctive and varied design concepts while still adhering to the traditional English aesthetic and Suffolk vernacular style.⁷⁴

The developers also achieved this aesthetic by limiting technology’s intrusion into the traditional village aesthetic. Bidwells, the site developer, used earth mounding and tree planting to exclude road noise and screen the research center, which magazine features on Martlesham Heath described as a “huge concrete toadstool of a research centre” giving a “totally unbalanced impact” to the new village.⁷⁵ Through the community association set up by Bradford Property Trust, residents had to sign covenants banning them

from putting up TV aerials and from parking caravans in the village. Villagers instead received TV reception via an underground cable carrying a television signal from an aerial atop the research center's radio tower. A block of flats in the village center had "their parking courts discreetly positioned to avoid the visual intrusion of the car."⁷⁶ Martlesham Heath's development thus captures one of the essential characteristics of the twentieth century's "techno-cities," a "techno-nostalgia" that combined high technology and preindustrial Eden through practices such as concealed television infrastructure and vernacular styling.⁷⁷

These design choices also reflect postmodernist trends in architecture and urban planning. The emphasis on vernacular and regional style came as part of a postmodern neo-Vernacular movement in 1970s British architecture, which was "the style to fall back on when there were no other clear directions" and a "dreamscape" for an old English palette.⁷⁸ In this sense, Martlesham Heath resembled other developments, such as Woodham Ferrers, Essex, and Poundbury, Dorset, that aimed to capture the traditional English aesthetic. These developments also earned critics. Woodham Ferrers was called a "pastiche," and Poundbury's revivalist aesthetic, designed by the postmodern architect Leon Krier and supported by Prince Charles, was called both "radical" and a "cottagey slum."⁷⁹ These attempts to engineer history and tradition in brand-new developments reflect the notion that postmodernist styles, such as vernacular housing, responded to accelerating times by turning to the stability of the past.⁸⁰ A review of Martlesham Heath in the *Royal Institute of British Architects' Journal* articulated that "the perceived stability of the vernacular idiom in housing design is an understandable reaction to a rapidly changing world."⁸¹

Martlesham Heath's contradictory combination of "incoherence" and "stability" captured the essential tensions of postmodernism, well-put by a 1983 *Chartered Surveyor Weekly* feature on Martlesham Heath titled "Controlled Chaos Proves a Winner."⁸² Herein lies a key point about the new village. Superficially, the village represented incoherence, but this aesthetic required various strategies of control, some of which drew on the research center, to give the appearance of organic evolution and natural integration into the Suffolk region. These strategies were organizational, forming a householders' association; spatial, deploying a neighborhood units/hamlets concept; architectural, in the incoherent yet local vernacular style; environmental, in the landscaped screening of the research center; and technological, using

the research center for TV reception. As these last two strategies show, this aesthetic was not independent of the Post Office Research Centre. Martlesham Heath's place-identity was a dialogue between the new village and the research center. This dialogue would continue with the research center's transformation into a science park after BT's privatization.

ADASTRAL PARK: HISTORY IN THE MAKING

Liberalization and privatization affected both the research center and the new village, bringing new ways to historicize Martlesham Heath's place-identity. Liberalization and privatization meant that the research center, renamed BT Research Laboratory in 1981, became more oriented toward business markets and commercializing research. In 1981, the financial advisers Lazard Brothers proposed a subsidiary called Martlesham Enterprises to BT's board.⁸³ Martlesham Enterprises, founded in 1982, sponsored and secured financing for research spin-off projects that were peripheral or irrelevant to the telephone network but still commercially viable.⁸⁴ The Thatcher government's emphasis on innovation, small enterprise, and the "sunrise" IT industries particularly influenced the proposal, which was a common strategy in the 1980s and 1990s. BP and ICI also founded similar subsidiaries, BP Ventures and Marlborough Technical Development.⁸⁵ Another 1980s industrial strategy, interlinked with the Thatcher government's IT boosterism, was the "science park," a special-purpose cluster of industrial and academic research centers. Indeed, science parks' early 1980s popularity was significant enough that the *Financial Times* ran a special section on science parks in 1983 and referred to Silicon Valley as a prime example, emphasizing its relationship with Stanford University's research campus.⁸⁶ Again, the links between postwar universities and research sites inspired new spatial forms, but it was not until the 1990s that BT drew on the science park concept.

Throughout the 1980s and early 1990s, Martlesham Heath became a site for collaborative commercialization of research. BT ran open days, called Innovations at Martlesham, showcasing research to financiers from the City of London to garner investors. BT Labs also began to offer consultancy services in which research staff would consult for other companies on research and development. BT embarked on various collaborative ventures and contractor arrangements with companies from across the world, including DuPont, Corning, Mahindra, and AT&T, all of which brought work to Martlesham

Heath. BT started a collaborative venture with DuPont, BT&D, in 1986 to manufacture optoelectronic components for fiber-optic communications.⁸⁷ BT also set up a joint venture, Tech Mahindra, in 1986 with the Indian conglomerate Mahindra & Mahindra to provide technology outsourcing, which was colocated at BT Labs.⁸⁸ In 1994, BT acquired 20 percent of MCI, the US long-distance telecom provider, for \$4.3 billion, and also bought the Minnesota-based Control Data Systems for its global services organization.⁸⁹ As part of this global services arm, BT formed a \$10 billion joint venture, Concert, with AT&T in 1998 to provide network management services.⁹⁰ In 2000, BT also began a collaborative research partnership with Corning, the US glass manufacturer, which acquired BT's photonics lab at Martlesham Heath as part of the deal.⁹¹

In 1999, BT distilled this spatial collocation of its partners in and around Martlesham Heath into Adastral Park, a new science park. Adastral Park was part of BT's broader ambition to turn the site into a high-tech hub.⁹² Adastral housed BT's technology and research partnerships, mentioned above, but also housed subsidiaries and spin-offs, such as Ignite, an e-business and communications solutions subsidiary; Napoleon, a joint venture with the private equity firm 3i to provide network management software; and Quip!, a web-based international phone call provider.⁹³ In 2000, BT set up a technology incubator, Brightstar, that took minority stakes in companies and provided advice, management services, and on-site accommodation.⁹⁴ BT also set up the East Anglia High Tech Corridor in partnership with Vision Park, Cambridge, where BT based a subsidiary, Internet Designers, which provided BT with internet, IP, and multimedia support services.⁹⁵ At present, Adastral Park houses many companies, including 3M, Cisco, Intel, and Huawei.⁹⁶ Huawei's partnership with BT has been controversial. In 2013, the British Parliament's Intelligence and Security Committee criticized BT's decision to award critical infrastructure contracts to Huawei, which the government saw as a security risk given its rumored associations with the Chinese government. Since then, the UK has announced a ban on new Huawei installations in its 5G networks, effective from September 2021, while the Australian government has excluded Huawei from involvement in Australia's National Broadband Network, and the US government has banned it from bidding for government contracts.⁹⁷

Despite these partnerships and ambitions, Martlesham Heath did not become the UK's Silicon Valley. Neither did Silicon Glen in Scotland, nor

Silicon Fen in Cambridgeshire, with which BT Labs forged ties along the A14 road's East Anglia High Tech Corridor, from Ipswich to Cambridge, perhaps attempting to emulate Boston's Route 128 or North Virginia's Internet Alley. If any site has a claim to that in the UK, it is perhaps Silicon Roundabout, a cluster of digital industries in East London that started growing around Old Street Roundabout in the late 2000s. But that timing reveals the fallacy of comparing Martlesham Heath and Adastral Park to Silicon Valley. Martlesham Heath was never planned to be like Silicon Valley. Silicon Valley was no accident of the market, but an intentional "city of knowledge." It was funded by the US Cold War defense complex, which invested in economic development around a powerful university, Stanford, and was maintained by private-sector venture capital that replaced the public sector after the Cold War ended.⁹⁸

Martlesham Heath, on the other hand, was not intended as a center of economic development. Much more modest were the ambitions of engineers, bureaucrats, and town planners to find a place for one research center and build a village for both engineers and locals. It never had the public-sector investment of Silicon Valley, and the partnership with the University of Essex was nowhere near the same scale of intervention as Stanford University's in the Bay Area. Even after privatization, when BT began to consciously emulate Silicon Valley by building a science park, setting up incubators, and attracting high-tech partners and venture capital, the effort was always that of just one firm. The creation of Silicon Valley shows how the spatial intersections of digital industries and capital changed in the US across and after the Cold War. That of Martlesham Heath, on the other hand, shows that the UK was never especially interested in these spatial intersections until after the public sector retreated from the digital industries. Instead, the UK's preferred approach was industrial, rather than spatial, creating national champions like ICL, through forced mergers.⁹⁹ The irony therefore is that Britain's telecom business tried to make its own Silicon Valley only after the window of opportunity provided by public-sector investment and intervention had ended.

This fact has not stopped a temporal process that tries to extend Adastral Park backward in time, back to the Research Department's relocation and before. The process has historicized Martlesham Heath as an innovative place and collided the place-identities of the research center and the new village. BT often describes Adastral Park as a "science campus," echoing the "university atmosphere" of the original Post Office Research Centre.¹⁰⁰ In 1967, a

Post Office report on relocation titled “Martlesham Heath: Home of Experimental Units” turned the heath’s prior history as an experimental aviation unit into a further cultural justification for the move.¹⁰¹ In January 1917, the Experimental Flying Section of the Royal Flying Corps’ Central Flying School moved to Martlesham Heath, and the site remained an experimental aviation site until World War II, at which point the RAF used it as a forward base until 1943, when the RAF loaned it to the USAF. After World War II, it housed the Bomb Ballistic and Blind Landings Unit until 1961, when it was put onto care and maintenance status, finally closing in 1964, and the land reverted to the Bradford Property Trust. BT reiterated this experimental history in 1999 when it created Adastral Park, celebrating “30 years of BT research” at Martlesham Heath to inaugurate the creation of Adastral Park, but positioning this celebration within a longer lineage of research. An internal BT magazine described how RAF pilots had flown “research missions” from Martlesham Heath, narrating that “in those days, pilots like Sir Douglas Bader could be seen testing the latest Spitfires to destruction.”¹⁰² The relocation of the Post Office, readers were told, meant that Martlesham Heath “once again became a focus for leading-edge technologies, with Spitfires being replaced by circular waveguides and optical fibres.” Tellingly, this publicity celebrated the establishment of Adastral Park as “history in the making.”

This World War II heritage has become prominent in the historicization of Martlesham Heath. The thirtieth anniversary celebrations described the initial move to Martlesham Heath as an “expeditionary force” and played up Martlesham Heath’s role in allied bombing raids.¹⁰³ The name “Adastral Park” is a deliberate reference to the RAF, referencing the force’s motto “*Per Ardua Ad Astra*,” which translates as “through adversity to the stars.” Further invocations of World War II heritage have since appeared. Adastral Park now also houses the Tommy Flowers Institute, referencing Flowers’s and the Research Department’s role in World War II codebreaking at Bletchley Park.¹⁰⁴ The institute aims to foster collaboration between the ICT industry and academia in the UK, an ironic goal given the fractious relationships Flowers, a working-class engineer with no higher education, had with his academic Bletchley Park colleagues Alan Turing and Max Newman. The Tommy Flowers Institute, with its emphasis on academia, is thus a highly selective invocation of the past.

Martlesham Heath’s historicization of innovation has continued to the present, converging with the new village’s place-identity. Martlesham Heath

village celebrated 2017 as MH100, an anniversary of one hundred years of innovation on the heath, sponsored by, among others, BT.¹⁰⁵ MH100 was celebrated through a July weekend fete on the village green, next to the Douglas Bader pub. Attractions included full-size Hurricane and Spitfire aircraft; vintage military vehicles; historical reenactments, including a Winston Churchill actor and impersonator; representatives from the RAF and USAF; World War II songs and jive dancers; and a Battle of Britain memorial flyby.¹⁰⁶ The event's website summarizes that "the story of Martlesham Heath is one of innovation, research and development, initially for aviation and more recently for telecommunications and IT. The Martlesham Heath 'new village' itself was an innovative approach to building new housing."¹⁰⁷ Reflecting the historicist turn in British community life, MH100 shows how the special occasions of everyday life, such as fetes, can be potent and selective enforcers of the past.¹⁰⁸

The telephone business's research activity, which itself drew on a prior history of aviation research to cement its own innovative research identity, has thus created Martlesham Heath as a "place," a crystallization of time and space. The construction of place has required the construction of history, and that construction extends to this book, which began as a project, along with two others, in a joint Science Museum/BT Archives research proposal to investigate the history of the Post Office and BT's R&D. This proposal took a spatial approach to R&D, conceiving it as places, first Dollis Hill, then Martlesham Heath. As this chapter and book shows, however, R&D was a blurry and dispersed activity, including research at Dollis Hill and Martlesham Heath and long-range planning in London and Cambridge. The plaque above Dollis Hill and Martlesham Heath's entrances reads "Research is the Door to Tomorrow," but research at the Post Office and BT has, in many ways, also served as a door to a yesterday of national ownership.

CONCLUSION

Martlesham Heath's spatial transformations continue. In 2008 and 2009, BT submitted planning applications to build two thousand homes southeast of Adastral Park.¹⁰⁹ Suffolk Council rejected these plans and a group, No Adastral New Town, with ties to the Martlesham Heath householders' association, fought the development.¹¹⁰ In 2018, however, East Suffolk District Council gave outline planning permission for the £300 million development, called

Brightwell Lakes.¹¹¹ This furor over “Adastral New Town” stands in stark contrast to the 1960s and 1970s, when enthusiasm for newness, new towns, new universities, and new villages characterized central government’s social democratic reshaping of Britain, the Post Office’s move to Martlesham Heath, and private sector development of the heath. The new village’s private-sector origin shows that it was not just the social democratic state that had forward-facing visions for Britain, yet the influence of central government’s reordering of Britain cannot be overlooked. The new universities and new towns both left their mark on where and how the Post Office relocated research away from Dollis Hill, to the extent that the arrival of a few researchers working out of huts on Martlesham Heath in 1968 must be seen as another example of the spatial dimension of social democracy.

But, since then, it has been nostalgia and not just novelty that shaped the formation of Martlesham Heath’s place-identity. The new village concept departed from futuristic, new town visions of monorails and instead reacted against them, using “controlled chaos” to invoke local English tradition and heritage. The new village brought the past into Martlesham Heath, and BT wove that nostalgia into its organizational fabric. As the two sites met, embracing and obscuring each other, and as the Post Office Research Centre became BT Labs and then Adastral Park, the past took on an ever-greater role in Martlesham Heath’s organizational identity and place-identity. These histories of research sites and places cannot be separated. Just as one cannot tell the history of the *Physikalisch-Technische Reichsanstalt*, the German metrological laboratory, without the history of urbanizing early twentieth-century Charlottenburg, nor the history of Britain’s Jodrell Bank radio telescope without the history of suburbanizing postwar Manchester, so the history of Adastral Park cannot be told apart from Martlesham Heath.¹¹² This place is as much a part of BT as BT is a part of this place.

Martlesham Heath’s new village and research center departed from the social democratic visions of British space associated with new towns and replaced that with a mix of private-sector nationalism and transnationalism. The private sector built Martlesham Heath, a techno-village that built on the twentieth century’s longer tradition of techno-cities, mixtures of rural nostalgia and industrial futurism. Martlesham Heath scaled down the techno-city into a “traditional English village,” still defined by the research lab next door, and offered an alternative of postmodern national and regional vernacular architectural stylings to a public that had allegedly tired of “welfare state

modernism.”¹¹³ The creation of Martlesham Enterprises and a science park aligned with the Thatcher government’s techno-nationalist focus on the sunrise digital industries, but there was hardly much direct support from the Thatcher governments. Instead, privatization empowered BT to develop transnational partnerships that focused on network technologies and services, from AT&T in the United States to Mahindra in India, all the while deploying national narratives about the RAF and World War II to explain the *raison d’être* for research on the heath. In short, the Thatcher governments had little to do with either Adastral Park or Martlesham Heath new village. Martlesham Heath shows how an increasingly privatized political economy shaped both new settlements and digital industries, and that the denationalization of corporate R&D rested on the nationalization of historical narratives.

These changes thus show the importance of place to understanding how corporate R&D has changed. The corporate research laboratory appeared around the start of the twentieth century as an expression of the vertical integration of research. After World War II, new types of R&D campuses appeared, from Eero Saarinen’s Bell Labs to the Post Office’s Research Centre, which materialized the linear model of research.¹¹⁴ But this model no longer characterizes Adastral Park, which replaced the corporate laboratory with an R&D strategy that was spatially bipolar. In one instance, collaborative ventures took place on a “science campus” in Suffolk, and yet in another, they virtually span the globe, managing and managed through digital networks. Innovation in this model is not about the linear flow of basic research to technological development. Instead, it is about horizontal, transnational, corporate collaboration on advanced development and commercial products. Adastral Park thus shows British telecommunications’ denationalization through venture capital and corporate collaborations. The next chapter explores these partnerships and Britain’s digital denationalization further by looking at the Post Office and BT’s transatlantic communications projects.

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Market and Monopoly in British Telecommunications

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