
THE POSTCODE
CONNECTION

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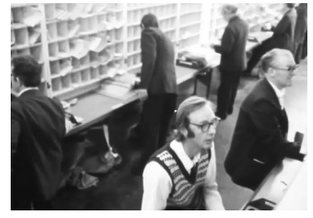
film by Ronald Dunkley for the Post Office (1979)
text by Rebecca Ross

In the UK postcode system, all addresses which receive mail are allocated a two-part alphanumeric code which locates the delivery point to a relatively high degree of precision, e.g. a single large building or row of houses. The national rollout of postcodes across Britain and Northern Ireland during the 1960s and 1970s incorporated historic address codes established in London and other large cities. The postcode remains in place as a feature of daily life in the UK, used for a wide range of purposes beyond the delivery of mail.

The Postcode Connection, released in 1979, was written and directed by Ronald Dunkley and produced for the Post Office by Anthony Barrier Production Ltd. Selected stills from the film reproduced here are provided courtesy of The Royal Mail Group, The Postal Museum (15–20 Phoenix Place, London, WC1X 0DA). Their catalogue identifier for the film is: POST 17/627. Further materials related to the film's production and distribution are available in POST 118/FS009, POST 153/382, POST 154/43, POST 153/376 and POST 153/498. The original 16mm master is held by the British Film Institute, BFI identifier 91686. The stills are accompanied by transcriptions of the narration and dialogue from the film interspersed with brief excerpted material from *Postcode: Addressing Humans & Machines*, a forthcoming monograph published by UCL Press.

A pair of the world's most advanced feet.



In the past, with around 1,200 sorting offices all over Britain, handling posted letters, every letter has had to pass through as many as a dozen pairs of hands, in three, four, or even more different places. There's postmarking and sorting at the office of origin. Then further sorting en route, sometimes in travelling post offices. More often, in a succession of sorting centres, splitting the mass into progressively smaller areas, and then sorting yet again at the destination town. A skilled job this. Its final stages always having to be done by people who know every step of every postman's walk.

London's history as an agglomeration of cities and parishes meant that most designations of land as streets, street names and building numbers prior to the mid-nineteenth century, had been determined over a long period of time through local custom. It was only during the middle of the nineteenth century that the wider totality of these began to be considered in-depth.

At the time of the establishment of the Metropolitan Board of Works, it was famously reported that there were at least sixty-two George Streets, fifty-five Charles Streets, forty-five John Streets, forty-four King Streets, thirty-eight Queen Streets. There were five hundred and seventy-one street names designated by seventeen names only: George Street, Charles Street, John Street, King Street, Queen Street, Church Street, New William Street, High Street, Union Street, North Street, Duke Street, James Street, York Street, Park Place, Edward Street, York Place.[1] Conversely, there were also many examples of continuous roads that were frequently referred to with different names with no regard to points of intersection.

By the middle of the nineteenth century, street numbers were commonplace but there were gaps and instances of significant disorder and redundancy. Oxford Street, as an example, had fifty-four buildings without their numbers marked and a further twenty-three with no numbers designated. Other house numbers repeated. People moving house were on occasion known to take the number off their previous dwelling and re-install it at their new location.

The first steps to fine tune the sorting process were taken in fact as long ago as 1857, when the first post-codes were introduced in London. These were nothing more ambitious than compass points.

To help with the delivery of mail, London was divided into a network of ten districts. The districts were named according to their compass directions relative to Central London in a way that would prevent confusion with other kinds of existing divisions. In addition to functioning as independent "towns" for the purposes of mail coming from outside London. Within London, they would be connected to one another, and to two central districts, via a network of mail carts which would facilitate high speed deliveries within London. The system of districts was designed to work in conjunction with a set of abbreviations to be used by the public when addressing letters to or within London:

Eastern Central District	E.C.
South-Eastern District	S.E.
Western Central District	W.C.
Southern District	S.
Northern District	N.
South-Western District	S.W.
North-Eastern District	N.E.
Western District	W.
Eastern District	E.
North-Western District	N.W.

The simple device, one or two-letters to be appended to an address for post office use, would provide a direct reference to the sorting office nearest the destination.

One commentator saw the Post Office's measure of introducing a new language of sorting and conscripting the public into it use as 'a comparatively novel and desperately vulgar expedient.'[2]

Sixty years later, during the First World War, we started adding district numbers to the postcodes as well, to define areas a little more precisely. There were grumbles about this newfangled nonsense — London is London, isn't it?

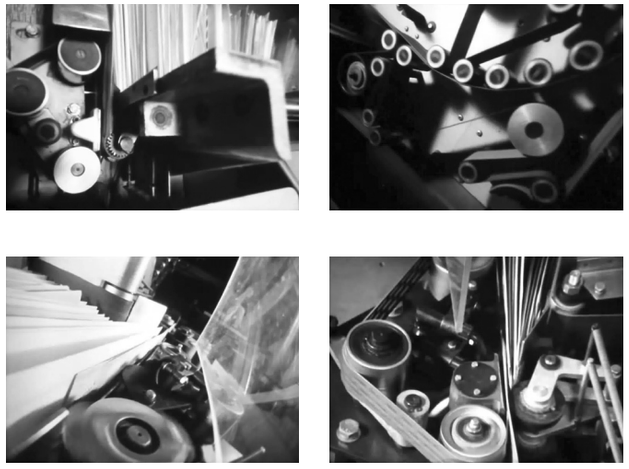
As the number of letters in circulation per year grew, inward sorting in London became increasingly complicated and necessitated the establishment of sub-districts. By 1916 there were one hundred and eight sub-district offices in London. However, sub-districting was carried out more-or-less out of view of the public prior to the outbreak of World War I, in 1914. During the first few years of the war, large numbers of postal workers were called up to military service and replaced by temporary personnel, including the Post Office's first cohorts of female employees.[3]

The need to deploy less experienced sorters at such a wide scale revealed the extent to which mail delivery in London was dependent on the memorisation of large numbers of street names as well as sub-district boundaries by its workers. The war provided an acceptable rationale for the Royal Mail's request that the public begin incorporating sub-district numbering when addressing letters and parcels to London. At the same time, this decision is difficult to separate from the context of decades of increasingly strained relations between the Royal Mail and its labour force — the idea of an operation less dependent on experienced workers had likely become attractive to Post Office leadership and government.

News about the plans as they were forming reached the *Evening Standard*, which published two articles, each describing the new system and anticipating a degree of strife on the part of the public.[4] 'How is it we are asked, to remember all these different numbers?'[5] In response, the Post Office undertook an extensive publicity campaign and in 1922, following the example of London, numbered postal sub-districts were established first in Glasgow and then in other larger British cities during the 1930s.

London, and our other cities, were getting steadily bigger, and so was the volume of mail being poured into them. In 1857, the old GPO had handled 5 million items of mail a year. In 1917, when they added numerals to the codes, the total had risen to 3,500 million.

Today, the annual postal load has topped a towering 10,000 million.



So what does any modern business do to meet a rocketing public demand like this? It turns to machines. For it's a commercial fact of life, machinery is the only way for any busy enterprise to maintain its service and contain its costs. In consultation with the unions, the Post Office is streamlining the 1,200 sorting offices that handle postage letters down to some 80 modern centres. Each equipped with devices that can sort more than 260 letters a minute, around eight times as fast as the fastest hand-sorting process.

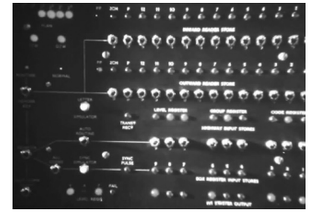
At a 1935 lecture to the Post Office Telephone and Telegraph Society of London, F. Lane (Postmaster Surveyor, Newcastle-on-Tyne) and J. Davidson (Assistant Controller, London Postal Service) pointed out that the automatic sorting of letters and packages presented a significantly greater engineering challenge than newer communication technologies, even if it seemed less technically complex:

> On the face of things the sorting of letters and parcels seems a simple problem compared with the handling of telephone and telegraph traffic. Possibly the seeming simplicity of postal traffic is part of the trouble, but the fundamental difficulty is that a letter or a parcel is a physical entity which has to be collected from a specific point, transported and delivered to a given address, its original physical elements, shape and size being preserved, or at any rate protected, throughout the journey and processes. It cannot be converted into sound, light or electrical waves for transmission through wires or the ether. Again, postal packets are of so many shapes, sizes, forms, surfaces and weights that the traffic in the mass almost defies mechanical handling, and sympathetic or adaptable hands seem almost a necessity.[6]

The lecture coincided with Britain's purchase of a Dutch Transorma sorting machine, which was installed in Brighton.[7] The Transorma worked via a keyboard, operated by a sorting worker, used to input a destination code for each a letter as it was loaded into the machine. This would result in the letter being directed through a series of chutes and deposited in the corresponding box at the other end of the process.

To an extent, the Transormas were understood to function as more efficient replacements for familiar sorting frames. However, their presence frustrated workers. Operators were situated in a way that exposed them to undue heat, particularly in warmer months. The loud noise made by the machine eventually earned them the nickname "rattler", with postal historian Duncan Campbell-Smith describing their impact on the workplace as 'profoundly alienating'.[8] At the same time, the Transorma pilot was largely seen as the first point 'at which mechanical sorting of letters [in Britain] began to show promise and the Post Office began to attack the problem in earnest', though commencement of work on a British-designed prototype was slowed by World War II and associated supply chain issues, which impacted the availability of parts.[9] Except for in Brighton, workers returning to the Post Office following military service during World War II encountered the same types of sorting frames which had been in use in sorting offices since the nineteenth century.[10]

The first British prototype, which was designed to be run by six workers, was slow to develop, consumed significant effort and resources, and ultimately performed poorly at testing. Beginning in 1953, a design for a more agile single operator machine was prototyped, tested and refined, in Mount Pleasant, Bath and Southampton.[11] By 1956, the single-operator model was ready to become the basis for a further set of experiments. These entailed the integration of a suite of 'well-tried mechanical and electronic units or "building bricks"', which had the potential to support the development of large-scale end-to-end 'complex mail-handling systems.'[12] In addition to the simultaneous use of multiple single-operator units, experiments in Luton and Norwich were focused on the coordinated use of coding desks, code-mark readers with sorting equipment, and the design of a public facing coding system.



Yet even the cleverest hardware, stands to reason, needs programming to tell it what to do. And that's the purpose of today's postcodes.

The Norwich experiment was focused on human factors related to the design of a proposed national postcode. It was intended to surface operational difficulties associated with the assignment of codes, as well as to understand the reaction of the public. The ambition was to strike a considered balance between machine compatibility, human readability and making intuitive geographic sense.

A large part of the process entailed composing lists of existing addresses as well as anticipating space for new addresses to be added in the future. The final decision taken was to break Norwich up into sections based on the existing system of radial roads using geographic features such as rivers or market streets as points

to begin and end counting.[13] In 1959, around 150,000 people and businesses in the town were assigned postcodes and requested to incorporate them as part of their ordinary addresses.[14] Use of the code by the public was considered a primary metric of success. By around July 1961, it was estimated that an average of around 45% of mail addressed to Norwich included the postcode.[15]

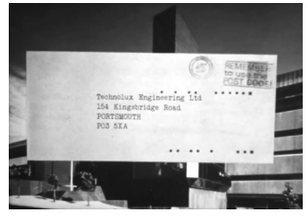
The process of allocating postcodes to all addresses in the UK commenced in 1966, beginning with Croydon. The intention had been for the public to be introduced to their postcodes, and become habituated to their use, ahead of the installation of mechanised sorting equipment in each district. By 1974 the whole of the UK was assigned postcodes, but it wasn't until around 1979 that mechanical sorting reached all of the UK.

To cover these 22 million addresses in the British mainland and Northern Ireland, the country has been divided up into 120 postcode areas each one identified by one or two initials, such as: EH for Edinburgh, NR for Norwich, CF for Cardiff, ST for Stoke-on-Trent, L for Liverpool.

Let's take an example. A letter posted in Liverpool, addressed to Technolux Engineering, 154 Kingsbridge Road, Portsmouth, PO3 5XA. Cracking the code is simple. The first two letters, PO, stand for Portsmouth and its surrounding area. Every area is then subdivided into numbered districts. In the case of Portsmouth, from PO1 to PO41. This letter is addressed to PO3. So that three homes it in on the correct district. District PO3, in its turn, is subdivided into numbered sectors. Our letter is coded for Sector 5. Now a bird's eye view of Sector 5 shows the final stages of subdivision into streets and parts of streets: XH, XB, XD, XA. And since our letter ends its code with the letters XA, these finally pinpoint its target to an accuracy often measured in mere metres. For each of Britain's one and a half million postcodes covers an average of only fifteen addresses.

The Post Office has the machinery, the customer has only to supply the postcode to make it work. So let's watch it at work. A firm in Liverpool posts a letter to a firm in Portsmouth. The letter comes in, along with a few hundred thousand travelling companions, at the Liverpool Sorting Office.

The letters come to ALF [Automatic Letter Facer], facing every which way. ALF scanners locate the stamp on each one, and activate twist-over devices. These turn the envelopes right way up, or front to back, positioning the stamp every time, in the same corner. Another scanner then casts an eye over each envelope, and notes whether it's stamped for first or second class. Then the machine diverts the mail, into first and second class streams. Cancels their stamps, and drops them into first and second class stacks.



It's here at the coding desks, that the customer's contribution, the postcode, starts to be important. As the letters pass in parade at each desk, an operator punches their codes on a keyboard. Electronic impulses from the keyboards, feed into a computer-like gadget, and an instant later, two lines of phosphorescent dots, are impressed on the envelope itself. The bottom line here, represents the PO3 part of the code, district number three of the Portsmouth area. The top line represents the 5XA, the local delivery sorting instructions, that will take the letter accurately to its target. These dots from now on, become the key to mechanised sorting. The programme that makes it all work.

The coding desks worked by translating alphanumeric codes into binary numbers which could be discretely imprinted onto the sides of envelopes as a sequence of machine-readable phosphorescent ovals.

Once applied, these markings meant a letter would be able to pass through sorting equipment multiple times — for outbound and inbound sorting — without the need for further manual processing.

The disassociation of coding from sorting meant that far greater consideration could be given to the human experience of encoding handwritten and typed addresses. A consistent coding system across different scales and configurations of sorting offices would allow for postal workers to be deployed across different locations without the need for specialised training associated with specific sorting equipment.[16]

Here, in the pre-sorting machines, scanners now read from the bottom line of dots, the town each letter is bound for. And so stream it into one of a number of sorting plans. Each plan covering a fairly broad area of the country.

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At this point in the process, each bag departing Liverpool consists of letters already travelling to the same postal town, in this case PO for Portsmouth. Depending on facilities it is possible that they will already have been pre-sorted into separate bags for PO1, PO2, PO3, etc., prior to leaving the Liverpool office.

Here at Liverpool, the mail starts its journey in automated ease. A continual underground flow from the sorting office, through a tunnel, straight to the trains in Lime Street station.

There was a preference to co-locate major sorting facilities with railway stations to enable more automated and bulk deliveries by train between cities, but the sorting system was compatible with all forms of transportation allowing mail to reach every part of the country.

[The machinery] can adapt at the turn of a knob, from outward to inward sorting. Right down to individual postman's walks. For the walk of course, remains the logical sharp end of the whole system. All the postman has to do now, is put his letters in the order that fits his route.

Once arrived at the Portsmouth sorting office, sacks of coded and presorted letters would be loaded onto another sorter alongside letters originating from elsewhere in the country. The inbound code, 5XA, having already been marked on the envelope back in Liverpool, would determine the precise path taken by the letter along a network of twisting belts. Controlled by a series of switches within the machine, the belts would direct each letter to the correct pigeon hole for the relevant postal walk.

Of course, technological revolution can take a while. A modern letter office, like Ancient Rome, isn't something that you build in a day.

The introduction of postcodes to the UK was complicated by some dismay on the part of the public. A point of frustration was the fact that, in most cases, coding proceeded the installation of mechanical mail sorting equipment. The idea of expending extra effort in adding a not-yet-meaningful string of characters to the familiar activity of posting a letter in the service of optimising conditions for not-yet-existing electronic equipment was a difficult case to make.

There was also an insistence that the alphanumeric codes were unwieldly to the point that it made them difficult to use, even for a short time while copying them out. Inconveniently, at approximately the same time that postcodes were being introduced, the practice of using letters within telephone numbers was phasing out, to conform with emerging international telecommunication standards. This created a degree of confusion and mistrust.[17]

In a letter published in *The Times*, the Post Office's Deputy Director for Mechanisation and Buildings attempted to re-assure the public regarding the choice to move forward with alphanumeric postcodes:

> A letter-number code was chosen because it was shown that this could be more accurately memorised and transcribed than an all-number code. It needs fewer characters. It allows us to include a useful memory aid in the first part of the code (e.g. OX = Oxford) and to use the existing district numbers as part of the London codes. Letter codes based on STD telephone dialling codes were considered but rejected for various reasons. One factor was that telephone exchange areas and postal delivery areas seldom coincide.[18]

Several follow-ups, also published in *The Times*, questioned why the arguments favouring alphanumeric codes did 'not apply to telephone system', and, 'if rationalisation plays any part in our nationalised industries', why 'postal delivery and telephone exchange areas seldom coincide' in the first place?[19] Another letter inquired as to why the Post Office chose to design an altogether new system rather than the existing national grid coordinates printed on ordnance survey maps. In general, the Post Office struggled with a lack of understanding on the part of the public regarding how postcodes would work and why they were being asked to use a new system that didn't seem to correspond with existing and established forms of addressing.

Most people today, happily accept a mass of numbers and letters, as a normal part of their daily work. "Assembly, E, S, double three, six, five, O. And the address?" So it's strange really, how some of them regard the postcode as some kind of weird, bureaucratic whim. "Oh, never mind that, but your postman knows where to find you." His postman probably does, but the whole country-wide sorting organisation that gives him the letters for his walk, most certainly doesn't.

This scene emphasises that in contrast to conventional imaginaries of correspondence as connections between locations facilitated by people, the postcode relates to a less visible and less comprehensible national infrastructure. The film's identification of 'a mass of numbers and letters' as a part of normal working life in 1979 is accurate, but minimises the extent of the postcode's technological transformation. Unlike relatively newer telephone or part numbers, the postcode was a change that generated a significant and uncomfortable slippage between long-established and emerging cultures of correspondence.

These feet were made for walking, and no amount of modernisation, thank goodness, will ever replace the time-honoured postman's walk, his daily contact with his customers. Yet, as we said, they're also a pair of the most technologically advanced feet ever known. For they're guided on target by a backup control of quite extraordinary precision. And it's a combined control. The customer supplies the postcode, Post Office machinery does the rest.

The question of correspondence was made more complicated by the passage of the Local Government Bill which came into effect in 1974. The act included a significant reorganisation of county and district boundaries in England and Wales, with the overall effect of reducing the total number of counties and consolidating new metropolitan areas. A significant question was whether the public should be encouraged to use new county names for the purposes of mail. This would be alongside postcodes but at a time when only a few mechanised sorting centers were operational.[20] The changes came too late to be incorporated into the design of postcodes, but perhaps the Local Government Act can be seen to have cemented the impossibility of a rational alignment between postcodes and other forms of address ever existing. There would never be a full correspondence between British postcodes, telephone numbers, city and county boundaries and political jurisdictions. This led to a new degree of defensiveness on the part of the Post Office regarding postcodes and postal addressing more generally.

Through their deliberations on the Local Government Act, the Post Office came to articulate more explicitly that, from their point of view, the purpose of a postal address is to direct the flow of mail through a series of processes, rather than provide a geographic description of the recipient's location. 'The basic purpose of the postal address is a routing instruction and must therefore first be evaluated in operational terms before any public reactions and emotions are involved.' The sentiment that letters should be addressed to large-scale sorting infrastructure, rather than to people or locations, was likely the larger matter at the core of public discord around the postcode rollout. 'Postcodes are seen as a threat to personal identity. They smack of the computer age.'

1 'Report of the Committee on Street Nomenclature' (Metropolitan Board of Works, 1856), 14, MBW/2407, The London Archives; Also see 'Street Nomenclature', *The Times*, 5 April 1856, p.5; 'Street Nomenclature', *The Times*, 13 December 1856, p.13; 'Coming Post Office Reforms', *The Spectator*, 13 December 1856, p.9.
2 'London Street Names', *The Spectator*, 23 January 1869, p.12.
3 For more on female replacement workers in public service, see 'Woman's Year', *The Times*, 3 January 1916. Also, see Duncan Campbell-Smith, *Masters of the Post: The Authorised History of the Royal Mail* (Penguin, 2012).
4 'Numbers on Your Letters', *The Evening Standard*, 21 July 1916; 'New Book of Numbers', *The Evening Standard*, 24 July 1916.
5 'Numbers on Your Letter', *The Evening Standard*, 24 July 1916.
6 F. Lane & J. Davidson, O.B.E., 'Mechanical Aids in Sorting Offices', Post Office Green Papers Number 19, 1935, The Royal Mail Archive (POST 92/1513, GB 813).
7 Brigadier K.S. Holmes, C.B.E., *The Development of Mechanical Sorting in the Post Office* (Manchester Statistical Society, 1959), p.3. For a contextual overview of the introduction of the Transforma from the perspective of operations and labour reform, see Campbell-Smith, *Masters of the Post*, pp.394–98.
8 Campbell-Smith, *Masters of the Post*, p.395.
9 Brigadier K.S. Holmes, C.B.E., The Development of Mechanical Sorting in the Post Office, p.3. See also, *Reports on Progress in the Engineering Department* (1947–1954), The Royal Mail Archive (POST 17/462).
10 Campbell-Smith, *Masters of the Post*, p.398.
11 'Letter Sorting Machine Working Party of the Mechanical Aids Committee: Progress Reports Nos 1–10', 1947–1955, POST 17/461, The Royal Mail Archive; *Single Position Letter Sorting Machine: Report on Trials at Offices Where Only One Machine Was Installed* (1962), The Royal Mail Archive (POST 17/82).
12 T. Plling and P.S. Gerard, 'Automatic Letter Sorting — The Luton Experiment', *The Post Office Electrical Engineers Journal* 54, no. April (1961), p.31.
13 'Mechanisation: Development of Machine for Sorting Inward Letters Using the Post Code', 1956–1964, loc. Paper 4 (1959), The Royal Mail Archive (POST 153/439).
14 'Norwich To Use Postal Codes', *The Times*, 29 July 1959.
15 'Mechanisation: Development of Machine for Sorting Inward Letters Using the Post Code'.
16 J.D. Andrews, 'A Code Translator for Letter-Sorting Machines', *Post Office Electrical Engineers Journal* 52, no. October (1959), p.205.
17 Malcom Imhoff, 'Wrong Number', *The Times*, 11 October 1971; 'British Postcodes', 1970, sect. 4, The Royal Mail Archive (POST 17/261).
18 D. Stewart, 'Why Britain's Postal Code Is Best in Europe', *The Times*, 7 April 1972.
19 Gulbekian E. V. *et al.*, 'Further and Final Views on Postcodes', *The Times*, 13 April 1972.
20 *Local Government Act and Postal Addressing Policy* (1972–1974), The Royal Mail Archive (POST 157/143).