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## Editorial

A recent Newsletter announced that Bob de Vekey (ed) will share knowledge of recent developments which postdate Trevor Horton's book on the IMP story. In truth what I would like to do is to gather together as much data on developments in all areas of interest to PMSC members and then to use the meeting to weave as much of this data into the many threads that are still incompletely understood or not sufficiently clearly backed by comprehensive data sets. While I realise that a complete listing for subjects with a very limited data set may never be realised, I optimistically carry on the quest.

Examples of threads still open and that could be worked upon are:-

1 The Luton outward translation code list. Data is hard to come by but I still occasionally have a new item to share and if I still find the occasional example then others must.
2 The Luton inward translation code list. (a review needed to recheck the alphabetical order relationship (of street names, sub-districts, businesses ?)
3 The Norwich outward translation code list. (Marked improvement over the last 7 years but data flow is slowing up and accurate unambiguous listing is frustrated by the degree of 'operator sporting'.
4 The Norwich inward translation code list. (Marked improvement since last update but could be usefully improved by collection of more example based data).
5 The IMP story post Trevor Horton's book: a structured listing of the early trials with examples.
6 The IMP story post Trevor Horton's book: an updated event calendar picking up from 1999.
7 The IMP post 1999 full listing of machine placements and movements.
8 It would be useful for any other members could contact me with further topic suggestions or data concerning my suggested threads

**Editor**

# SORTING LOCAL MAIL WITHOUT A POSTCODE

AT CAMBRIDGE MLO 1972 – 1988

Stafford May

This article explains a unique method for machine sorting local letters which do not include a postcode as part of the address which was developed and applied at Cambridge Mechanised Letter Office (Cambridge MLO) in the 1970'sand 80's. Sorting machines, prior to the introduction of standard postcodes, used an extract code based on the post town for outward mail and street information for inward mail. The use of extract codes for post towns, explained later, continued in use for mail without a postcode after standard postcodes were introduced late in the 1960s.

The extent, to which the unique system used at (Cambridge MLO in Mill Road for sorting local mail, and incoming mail from other MLO's without a postcode was a surprise to me. It was introduced during the early 1970s, had a significant modification in 1976 and was still in use during 1988 when the MLO functions were transferred to a new building in Clifton Road.

Before getting too deeply into the system used it is necessary to explain the types of codes, their machine language and where the printed evidence appears on the envelope.

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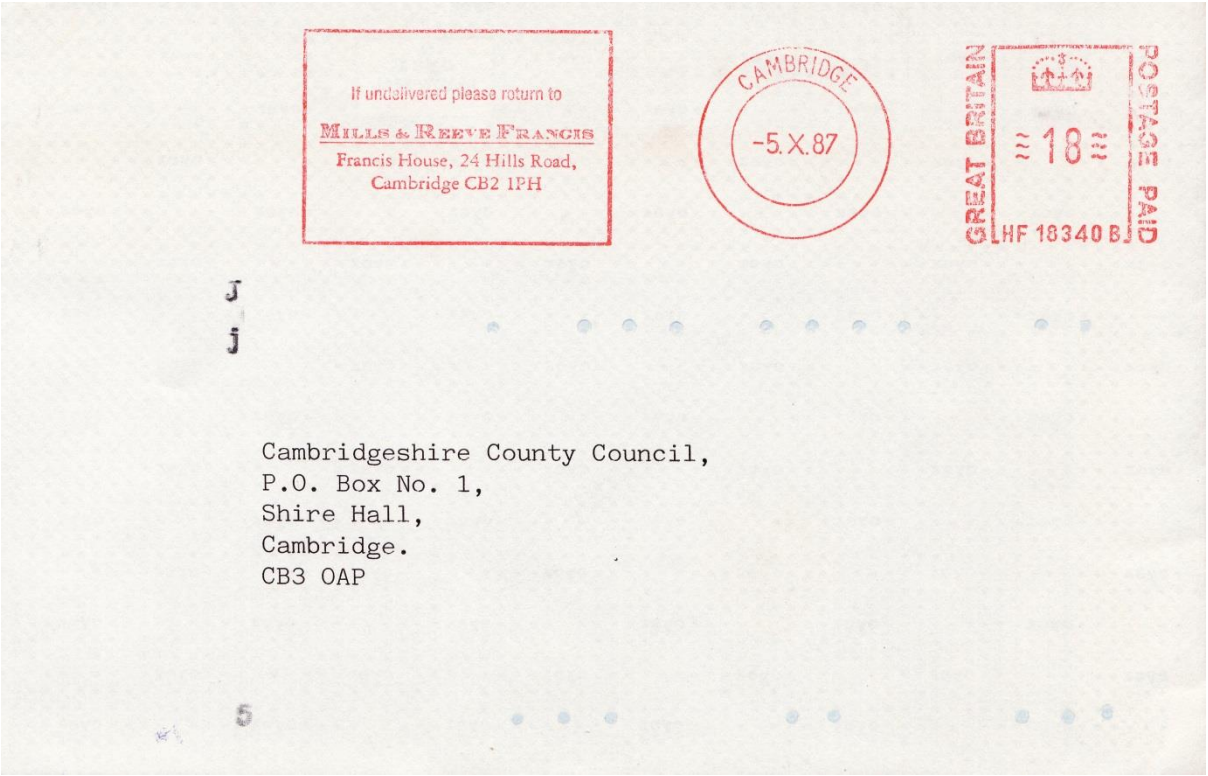


***Fig. 1. A typical letter fully post-coded in Cambridge MLO***

The full postcode on the envelope illustrated is made up of two parts, CB3 and 0AP. The lower line of imprinted phosphor code dots, ½ inch (13 mm) from the bottom of the envelope, is a machine readable code for CB3, the outward code. The second line of dots, 2 inches (603 mm) above the lower line, is the inward half of the postcode. Also printed are the coding desk identifier "5", to the left of the lower line and the operator identity, upper case "J" above lower case j, to the left of the upper line of code dots. These identity marks are known as idents.

The two lines of code dots are interpreted independently and were used for other types of codes, such as National outward extract/short codes and inward extract/memory codes.

Non-local letters without a postcode in the address could be partially machine sorted using outward extract/short codes. Extract codes were created by a code desk operator, using a typewriter style keyboard, keying the first three letters and the last two of the post-town e.g. PETerborouGH = PETGH while that for ELY would be ELYLY. Short codes used the MLO initials e.g. IP + shortcode key = Ipswich, NR + shortcode key = Norwich but these codes relied partially on the keyer's memory. The use of short codes was not encouraged because operators could use a short code, thus improving apparent output, even when a complete postcode was present. It was known to the coders as "sporting".

The code dot machine language used by the sorting equipment is based on a binary counting system. The sorting machines find this easier to understand because they only have to identify if a dot is present (1) or not present (0). The precise position of the dots is important. To "read" the code, the dots must be translated into their numerical values. Omitting the start and parity dots, the dots forming the code fall into two groups of six. This applies to both the outward and inward lines of dots. The values can be seen on the illustrated TOOL J44 below; this was used by Post Office staff for checking purposes. "S" indicates the Start dot which is always present and when activated starts the reading cycle in the sorting machine. "P" indicates the Parity dot and is only printed, if required, to make the number of dots even. If the machine reads an odd number of dots it will reject the item as an invalid code.

To find out the binary value of the outward half of the postcode seen on the envelope illustrated, add the 1st six values (= 35) and the second (= 49). Thus 35/49 is the binary value for CB3, the inward 0AP value being 57/28. Note that the parity dot is present in each case.

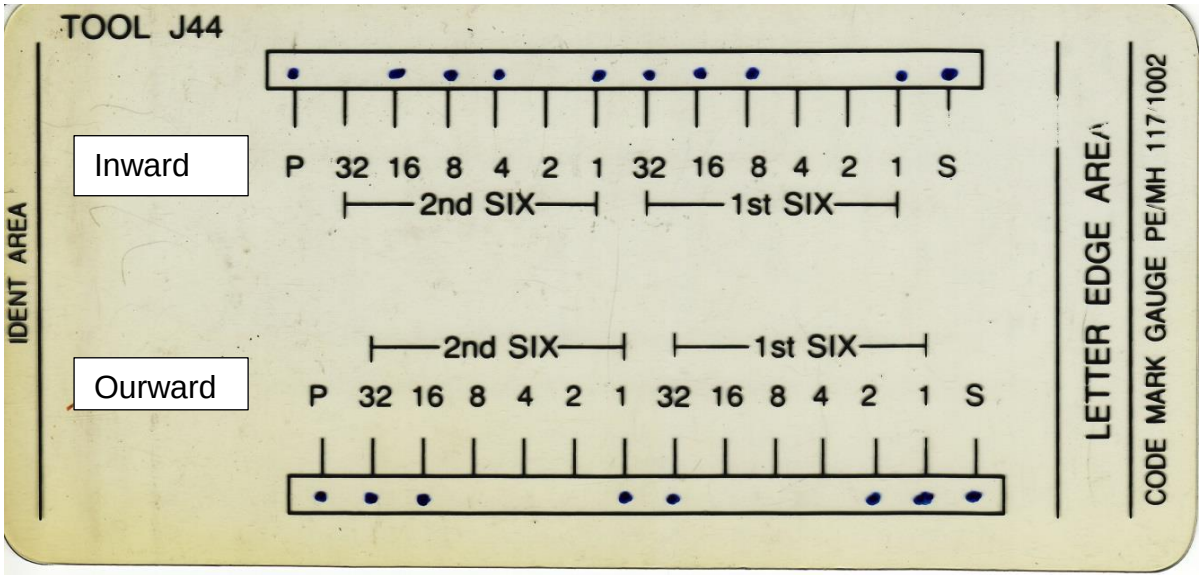


***Fig. 2. Code reading tool J44***

I have recently been given a small quantity of mailed statements from a local printing firm dating back to the early seventies. These added to the few I already had have enabled me to be more positive in how the system worked in the early days. In addition I have

found a mislaid undated document entitled ‘’POST CODES’’, plus other ‘’lost notes’’.

Considerable local publicity regarding the use of the postcodes was made following the issue, in August 1968, of the first postcode directory for the Cambridge CB1 to CB5 areas. Advance notice to businesses had given them time to prepare for the introduction of postcodes. However public response was very poor and had little improved by the time code sorting of mail started early in 1972. As a result an extremely large amount of local mail, addressed without the postcode, could not be machine sorted.

Keyboard operators had been trained on dummy mail prior to using live mail during March 1972. They soon became very efficient and finished coding Second class items early and then assisted with the hand sorting of mail. At that time there was a Union embargo on machine processing First class mail as they were against further development of mechanisation.

With the reluctance of the public to use the postcode, it was likely to be a long time before its use became common place and it was also unknown how long the Union embargo would last. As a result, local management decided they needed to find more keyboard work for the highly trained keyboard operators. Any system used would not be as precise and timesaving as using the postcode but would reduce the time taken to hand-sort local mail which did not include the postcode as part of the address.

The document ‘’POST CODES’’ mentioned earlier was a description of the history of the British system. One of the sub-headings is “Extract Codes” used to partially sort mail to other MLOs as explained earlier. A tailpiece to this reads; “A system for inward extract coding, i.e. coding the street information, has been developed but this is not expected to be a practical option”. If this was known by the engineers at Cambridge MLO, perhaps they saw it as a challenge.

Croydon and London West Central District and possibly Bournmouth sorting offices, later named MLOs, are also known to have used local inward extract codes but to a limited degree, as a result very few examples have being found. This would suggest the “trials” were short lived. However the codes were used comprehensively for many years at Cambridge MLO.

It was agreed, by the Cambridge management, that local mail addressed without a postcode would be machine sorted using this type of code. I was told management decided to adopt the system included in the “Green Book”, referred to as the “Mech. Bible”, presumably a Post Office manual, although I have been unable to discover anything about the book.

The method adopted was similar to that used in the experimental offices at Luton and Norwich, but went further. Although a few MLOs experimented with local inward extract codes, it was to a very limited degree but the Cambridge system was quite comprehensive and in use for over 16 years. The Cambridge staff referred to the work as “locals”

During the processing of outward mail, keyboard operators would use the “local” key to separate local mail without a postcode. There would be no action by the code dot printer, the mail being sent to the second stacker and then transferred to trollies for coding later. When all outward mail had been processed, about 8.30 pm, the mail would be returned for local inward extract coding. The system used the thoroughfare name and designation within the City, plus village names in districts CB1 to CB5. For thoroughfares, operators

keyed the first two and last two letters of the thoroughfare name followed by the initial letter of the thoroughfare type, e.g. Abbey Street = ABEYS. If the thoroughfare name comprised of more than one word, it would be treated as one word, e.g. Little St. Mary's Lane = LIYSL. In the case of a single word thoroughfare such as Parkside, the operator keyed in the first two and last two letters plus the last letter again PADEE.

Initially there were 77 villages within the CB1 to CB5 districts when inward extract coding was brought into use in 1972. Foxton was added during March 1980 after its transfer from the Stevenage postcode area [(ref1)]. The keying for villages was the same as was used for city thoroughfares*.*

Unfortunately I did not become interested in automatic letter sorting until the late 1970s, so did not know about what was happening until several years after local inward extract coding started. I was told to look for items where code dots were printed in the upper line only, which is normally used for the second half of the postcode.

At the time I was subscription secretary for Cambridge Lawn Tennis Club so when sending subscription reminders out would deliberately omit the postcode and ask the member to keep the envelope for me. A study of the code dot patterns, and their values, on these and many others gave an indication that they were allocated to thoroughfares in alphabetical order. To back this up I decided to send letters to the first two beginning with the letter ''A''. When Abbey Road came back with binary value 02-02 and Abbey Street 01-01 it suggested it wasn't as straightforward as I had thought. At some point it dawned on me that Abbey Road was in the CB5 area and Abbey Street CB1. It then became apparent that all thoroughfares beginning with the letter ''A'' were together but in district order i.e. CB1 followed by those in CB2, 3, 4 and 5.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 01-01 to 02-04 | A | 07-46 to 08-32 | G | 12-32 to 12-36 | N | 17-43 to 18-37 | T |
| 02-05 to 02-18 | B | 08-34 to 09-08 | M | 12-39 to 12-43 | L | 18-23 | U |
| 02-19 to 02-36 | D | 09-09 to 09-33 | G | 12-47 to 13-12 | M | 18-28 to 18-32 | V |
| 02-37 to 02-57 | E | 09-37 to 10-49 | H | 13-13 to 13-32 | N | 18-33 to 18-35 | Y |
| 02-60 to 04-14 | B | 10-51 to 10-54 | I | 13-33 to 13-49 | O | 18-36 | Z |
| 04-15 to 05-62 | C | 10-55 to 10-60 | J | 13-51 to 14-37 | P | 18-37 to 18-47 | * |
| 06-10 to 06-17 | E | 10-61 | I | 14-39 to 14-47 | Q | 18-57 to 19-27 | W |
| 06-18 to 06-20 | F | 10-62 to 11-03 | J | 14-48 | R | 19-31 to 22-17 | # |
| 06-21 to 06-39 | C | 11-05 to 11-26 | K | 14-50 to 15-24 | W | | |
| 06-40 to 06-60 | D | 11-33 to 12-06 | L | 15-29 to 16-10 | R | | |
| 06-64 to 07-45 | F | 12-17 to 12-22 | M | 16-13 to 17-42 | S | | |

*Various city firms and ambiguities. # Additions in no particular order.

***Fig.3. Binary value - designation initial from 22 March 1976.***

However the list in Fig.3. is not exactly in alphabetical order; although there is no reason why it should be, it did make me wonder why it wasn't: perhaps changes had been made prior to the period of the letters which I had collected. The list was created from nearly 500 (confirmed) items.

I had the odd cover from the early seventies but didn't understand why these did not follow the alphabetical/binary value listing in Fig.3., (one addressed to Gilbert Road has binary value 43-22). I assumed this, like the rest, was a case of miss-keying. A short while ago I was given the mailed statements mentioned earlier. They were all from the 1970s; most of them fell in line with the thoroughfare binary values already recorded. However, all

those dated prior to 17 March 1976 had a different binary value from those previously recorded e.g. Longstanton 44-43 prior to change, and 12-39 after, Hills Road 17-52 prior to change and 11-51 after.

Listed in Fig.4 is a summary of the thoroughfare binary values found on items prior to 17 March 1976 but only where I had more than one example. These are also in alphabetical order but separated into their respective districts.

DISTRICT 1

| | |
|---|---|
| 03-17 | Burleigh Street |
| 04-05 | Cavendish Road |
| 04-14 | Cherry Hinton Rd |
| 04-29 | Coldhams Lane |
| 04-30 | Coldhams Road |
| 04-46 | Cromwell Road |
| 05-46 | East Road |
| 06-05 | Gresham Road |
| 06-49 | Fulbourn |
| 07-03 | Hartington Grove |
| 07-12 | Herons Close |
| 08-01 | Jesus Terrace |
| 08-14 | King Street |
| 08-32 | Linton |
| 09-59 | Mill Road |
| 10-54 | Parkside |
| 11-36 | Rickard Close |
| 12-06 | Seymour Street |

DISTRICT 2

| | |
|---|---|
| 17-52 | Hills Road |
| 17-58 | Homerton College |
| 19-08 | Long Road |
| 20-51 | Sidney Street |
| 20-62 | Stapleford |
| 21-23 | PO Box 33 Heffers |
| 21-45 | Sawston |
| 22-07 | Trinity Street |
| | |

DISTRICT 3

| | |
|---|---|
| 26-24 | Barr Hill Stevens Ltd |
| 26-58 | Barton |
| 27-17 | Churchill College |
| 29-60 | Gough Way |
| 30-30 | Haslingfield |
| 31-50 | Lolworth |
| 34-26 | Shirehall |

DISTRICT 4

| | |
|---|---|
| 27-17 | Chesterton Hall Crescent. # |
| 04-14 | Chesterton Road * |
| 41-22 | Cottenham |
| 43-22 | Gilbert Road |
| 44-18 | Highworth Avenue |
| 44-43 | Longstaton |
| 45-30 | Milton |
| 46-45 | Oakington |
| 49-21 | Victoria Road |

DISTRICT 5

| | |
|---|---|
| 51-53 | Bottisham |
| 56-24 | Priory Road |
| 56-58 | Riverside |
| | |
| | |
| | |
| | |

* Ambiguous with Cherry Hinton Road (District 1). # Ambiguous with Churchill College (District 3).

***Fig 4. Binary value - designation before 17 March 1976.***

Arranging them within each district may have proved to be restrictive and led to the situation where there was no room for expansion. However it is more likely that a method was needed to deal with the large number of ambiguities there were, which may have been the reason for the change to the system. To overcome these a different system was needed which would reduce the hand sorting of mail still further.

The problem was solved by using inward “memory codes” similar to national outward short codes as referred to above. The system used two,, three or five keystrokes. A few examples are: four High Streets within the city, Cherry Hinton (HCY), Chesterton (HCH), Girton (HIG) and Trumpington (TPN). Churchill College (CC) and Chesterton Hall Crescent have the same extract (CHLLC) with the villages of Harlton (HL), Hauxton (HX), and Harston (HR) all sharing the same extract (HAONN). Also there were over 30 destinations beginning with Saint (ST). The problem was overcome by ignoring the word. Another word ignored was “The”. These types of codes were also used for letters addressed to large firms and businesses such as: Ministry Departments (MN), Brooklands Avenue, Spicers (SPI), Sawston, Stationery manufacturers , PO Private Boxes (POBOX) and Unwins Histon, seed merchants (UNW), see Fig. 5 overleaf.

Every year during the two weeks immediately prior to Christmas, (notorious for the non-use of postcodes by the public) and when the workload was at its height, inward extract coding of local mail addressed to individual villages was suspended, or only occasionally used. However letters addressed to villages were partially sorted by using local outward (memory) codes. The use of local outward codes was permitted providing the binary

codes used were within a specified range.


***Fig.5. Extract/short coded 11-1 at Bournmouth MLO (desk 05 sideways). Inward extract coded at Cambridge MLO (desk B1 upright) Unwins Seeds Ltd, binary value18-23 (upper line).***

Instead of coding villages individually they were divided into two groups, those with initial letters A to K and L to Z. AK plus short code key and LZ plus short code key were the keys used, Figs.5/6. This method was used from the first Christmas after the office became operational in 1972. The binary values were 38-42 for A to K and 38-43 for **L** to Z. However they were changed the following year to 49-56 and 49-57 respectively and again in 1978 to 57-64 and 57-01, these remained in use until 1987. This was the last Christmas before the Mill Road MLO ceased to code-sort mail and became a delivery office. A new MLO situated a short distance away in Clifton Road became operational during August 1988.

There was another significant advantage in using the local inward code system. It could also be used for mail received from other sorting offices both non-mechanised and other MLOs. (Fig.7). This was another way of speeding up the sorting process thus reducing the amount of time spent sorting letters manually.

Letters addressed to villages without a postcode arriving from other MLOs were likely to have been extract/short coded (National system) to Cambridge in the outward position, explained at the beginning. As a result during the Christmas period, mentioned earlier, it would not be possible to use the local outward memory codes. However the local inward extract coding system was activated for use on this type of mail during the two week Christmas period, when time allowed (Fig. 8).

CAMBRIDGE INWARD LOCAL SHORTCODES

| | |
|---|---|
| MINISTRIES | MN |
| UNIVERSITY DEPTS | UD |
| PO PRIVATE BOXES | POBOX |
| BUSINESS REPLY | BRP |
| ADDENBROOKES HOSPITAL | AH |
| GENERAL MANAGER | GMO |
| GRAFTON CENTRE | GRA |
| CLIFTON ROAD INDUSTRIAL ESTATE | CLI |
| NUFFIELD ROAD INDUSTRIAL ESTATE | NUF |

THOROUGHFARES

| | |
|---|---|
| BARTON ROAD | BTN |
| CHESTERTON HALL CRES | CHC |
| CHERRYHINTON ROAD | CRY |
| CHESTERTON ROAD | CHN |
| HIGH ST CHERRYHINTON | HCY |
| HIGH ST CHESTERTON | HCH |
| HIGH ST GIRTON | HIG |
| HIGH ST TRUMPINGTON | TPN |
| HOBSON STREET | HBN |
| MILTON ROAD | MTR |
| MILLINGTON ROAD | MIL |

COLLEGES

| | |
|---|---|
| CB COLLEGE OF ART & TECHNOLOGY | AC |
| CHURCHILL COLLEGE | CC |
| GIRTON COLLEGE | GT |

| | |
|---|---|
| BABRAHAM | BB |
| BALSHAM | BL |
| BARRINGTON | BR |
| BARTON | BT |
| BURWELL | BU |
| COMBERTON | CM |
| CONINGTON | CN |
| COTON | CT |
| ELSWORTH | EW |
| FEN DITTON | FD |
| FEN DRAYTON | FT |
| GREAT SHELFORD | GS |
| GRANTCHESTER | GC |
| HADSTOCK | HD |
| HARDWICK | HW |
| HARLTON | HL |
| HARSTON | HR |
| HAUXTON | HX |
| HISTON | HS |
| LITTLE WILBRAHAM | LW |
| SAWSTON | SW |
| WEST WICKHAM | WW |
| WEST WRATTING | WR |
| HASLINGFIELD | HF |

FIRMS IN RURAL DISTRICTS

| | |
|---|---|
| AGRICULTURAL RESEARCH COUNCIL OF ANIMAL PHYSIOLOGY | APB |
| CADBURY SCHWEPPES HISTON (PREMIER FOODS) | CAD |
| CIBA AGROCHEMICALS WHITTLESFORD | CAW |
| CIBA GEIGY DUXFORD | CGD |
| FBC HAUXTON (SCHERING AGRO CHEMICALS) | FIS |
| FULBOURN HOSPITAL | FBH |
| GRANT INSTRUMENTS BARRINGTON | GIB |
| IDA DARWIN HOSPITAL | IDH |
| OAKINGTON BARRACKS | OBK |
| REEDS HISTON | REE |
| ROYAL ENGINEERS WATERBEACH | REW |
| SPICERS SAWSTON | SPI |
| UNWINS HISTON | UNW |
| WELDING INSTITUTE ABINGTON | WIA |

***Fig.6. Memory jogger listing attached to the coding desks***


***Fig.7. Extract/short coded 11-1 at Romford MLO (desk B7 sideways). Inward extract coded at Cambridge MLO (desk B5 upright) Trumpington Street, binary value 18-04***

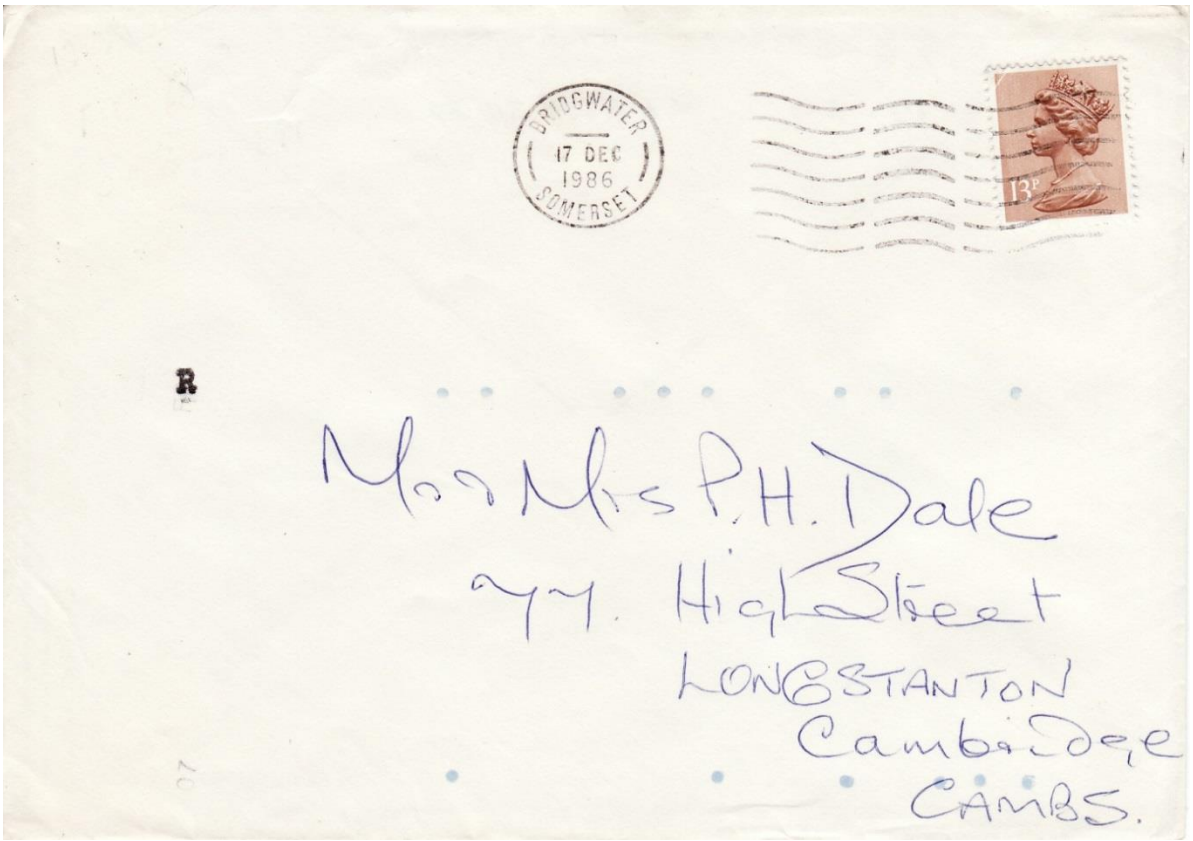


***Fig.8. Extract/short coded 11/1 at Bristol MLO (desk 07); Inward extract coded Longstanton 12/39 at Cambridge MLO Operator ident "R" (no desk number).***

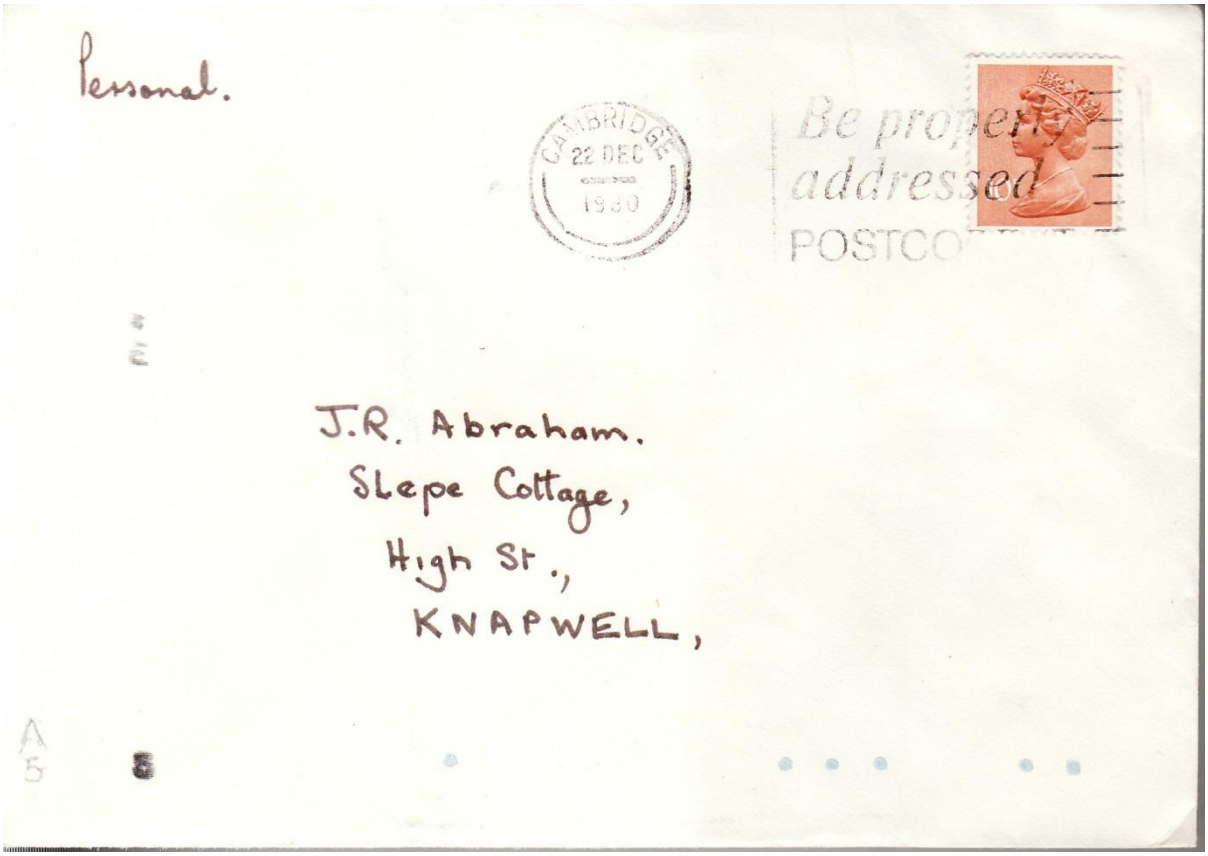


***Fig.9. Initial letter of village name A to K binary value 57-64. Code desk A5 (A not printing) operator ident zE***

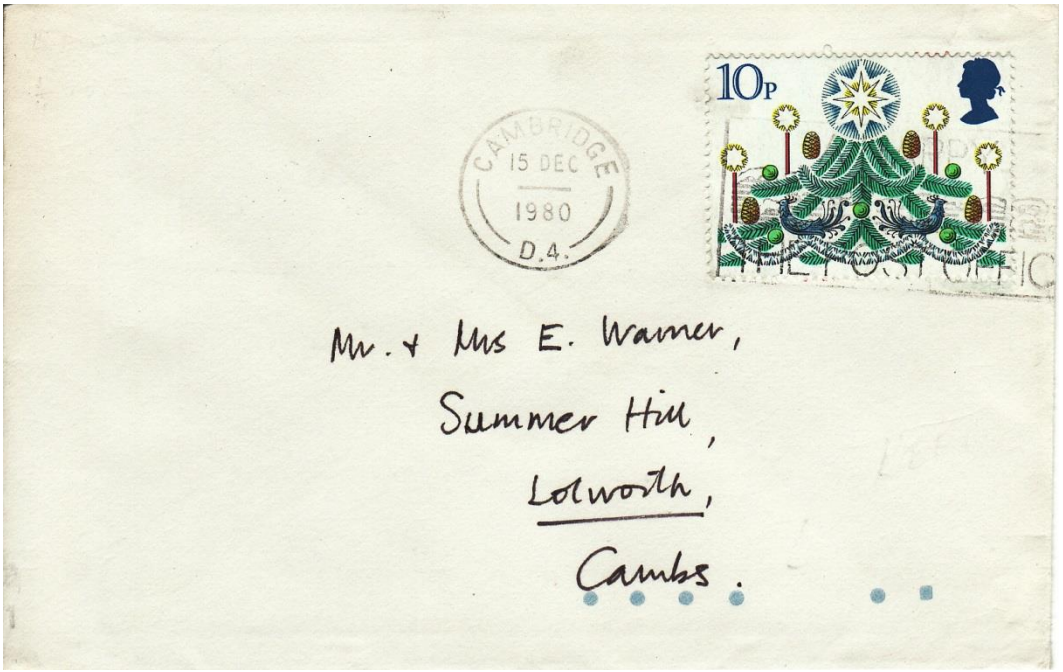


***Fig.10. Initial letter of village name L to Z binary value 57-01.***

The improved changes that occurred over the 16 year period could not have been implemented without a great deal of co-operation. Management and staff, particularly the engineers, could see the benefit of machine sorting local mail addressed without a postcode and also increasing the output of code desk operators by reducing the number of keystrokes required to process items.

The MLO was considered a very efficient one and as a result visits to the office were made by staff from Cardiff, Southampton MLOs and possibly others to see how it functioned. However it is not known if the visits were made to see how the system of local inward extract coding worked. No other MLOs followed Cambridge's unique system for processing local mail addressed without a postcode.