

## THE LETTERS OF THE STREET

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This paper provides a framework for analysing letters of the alphabet within the English writing system, focussing on written street signs as a rich and readily available source of data. It assumes that written letters should be analysed separately from the spoken language: ‘The sound system and the writing system are the two modes of **expression** by which the lexicogrammar of a language is represented’ (Halliday and Matthiesen 2013: 7). It thus maintains the functionalist distinction between spoken and written norms of language (Vachek 1973), opposed to the mainstream linguist’s view that ‘Writing is not language, but merely a way of recording language by means of visible marks’ (Bloomfield 1933: 21).

Any linguist can describe the phonetic characteristics of a consonant phoneme in terms of aspiration, plosion, friction, voicing, nasality and other features: few linguists can describe a consonant letter in terms of serifs, line width, x-height, counters, typeface and the like. Written letters are as complex as spoken phonemes, intrinsically bound up with the physical and psychological differences between lasting signs marked on a background, by diverse tools, and fleeting sounds in air produced by the human articulatory apparatus.

Letters often feature in current neurolinguistic research into word recognition. In his account of the neuronal recycling model of reading, Dehaene (2009: 139) claims ‘We did not invent most of our letter shapes: they lay dormant in our brains for millions of years and were merely rediscovered when our species invented writing and the alphabet’. This ‘cortical alphabet’ interprets the similarities of shape among human writing systems as recycling a built-in brain capacity. Fiset et al (2008) pinpoint line terminations as the most important feature in letter identification. Alternatively Changizi et al (2006: 1160) declare that ‘visual signs have been culturally selected to match the kinds of conglomeration of contours found in natural scenes because that is what we have evolved to be good at visually processing’, claiming that the configurations L, T and X are prominent in alphabetic and non-alphabetic writing systems and in non-linguistic symbols and correlate with those found in natural scenes. Letters are also used to investigate the rhythm of handwriting, finding that it ‘fits perfectly the constraints of our biological architecture’ (Pagliarini et al 2017; reviewed in Cook, V.J. 2017). Yet letters are barely mentioned in journals of linguistics, psycholinguistics or applied linguistics.

Just as speech sounds reflect the physical properties of the voice and of air as a transmitting medium, letters reflect the physical materials of which they are made and the tools used to make them: ‘For most of the five thousand years of writing history, all our techniques and technologies have been aimed at making visible marks stick to surfaces’ (Levy 2001: 34). The choice between letter forms is in part dictated by the materials that are used and their function (Cook, V.J. 2015). A letter < B > printed by a computer on paper, like *Press Buzzer* (Fig. 1), differs from the same letter inscribed on stone by a stone-mason as in *Northumberland House* (Fig. 1) or written in felt-tip, as in *Mother’s Day Bouquets* (Fig. 4), because of how they are made and the necessity to accommodate letter forms to particular sizes; details about letter legibility can be found in Beier (2012). The ways of producing letters described in Haslam (2011) amount to semiotic choices about how different letter forms project permanence/durability, temporality/newness, quality, and, above all, identity (Cook, V.J. 2015), at the moment chiefly matters of subjective judgment. Stone signs come with the cost of materials and the skill of the stonemason; throw-away paper signs involve little expenditure and skill, utilising familiar fonts; in between come signs written on glass, tiles, wood, metal, plastic, and many other materials.

This paper marks one step in a developing research programme into the language of the street (Cook, V.J. 2013; 2015; 2018 to appear); the earlier papers should be consulted for the background and for other aspects of street language. This programme started from a corpus consisting of all the fixed street signs visible over four months in 2012 in Leazes Park Road and Stowell Street in Newcastle upon Tyne, which are city centre streets with mixed uses of dentists, offices, shops, restaurants, flats and clubs. Extending the scope has meant supplementing this data-base with other signs, chiefly from Newcastle and Colchester. While these reflect the letter forms typical of streets in England described in such sources as Gray (1960), Kinneir (1980), and Bartram (1976; 1978), they are far from comprehensive. Though the signs were photographed in the 2010s, many survive from the mid-nineteenth century onwards: contemporary street signs reflect centuries of English history. On the other hand some signs have disappeared since being photographed, not only ephemera but also names of shops, restaurants and clubs<sup>1</sup>.

The approach here draws primarily on writing system research (Cook, V.J. and Other 2016), typography (Bringhurst 2005), linguistic landscape research (Backhaus 2007), and social semiotics (Scollon and Scollon 2003). The descriptive terms are mostly taken from typography; definitions are cited from Hill (2010: 184-186). Letters to be discussed

are enclosed in angle brackets <Gibson Street>, while slant brackets show phonetic script /gɪbsən stri:t/. Extra spaces are sometime added to make a single symbol stand out more clearly, as in < G >. Signs are cited as short labels in italics, e.g. *Gibson Street* (Fig. 1). The term ‘letter’ has been preferred to ‘grapheme’ – ‘any minimal letter string used in correspondences’ (Carney 1994: xxvii) – as graphemes are defined in terms of correspondences with phonemes, not in their own right.

Though street signs are often discussed using the print jargon of typefaces and fonts, as in say *The Field Guide to Typography* (Dawson 2013), they come from a different tradition to the printed book relying on epigraphy, sign-writing and calligraphy. Street signs have to be read from different angles and distances with variable lighting, unlike the fairly standard reading distance, angle and level of illumination for reading a book or newspaper. The letters of street signs are also often purpose-made for a particular location, rather than standardised, complete typefaces.

### 1. Serif Roman capital letters

Figure 1 shows some typical modern street signs with serif capital letters.



**Figure 1. Street signs in serif capital letters** (Newcastle upon Tyne)

In Figure 1 *Gibson Street* uses the ubiquitous Kindersley font recommended by the Department of Transport (2015), expressly designed for street-name signs. *Press Buzzer* is an informal word-processed notice using the 1930s Times New Roman typeface.

*Northumberland House* displays the name of an office building, its stately incised letters in gold emphasising its respectability and quality (Cook, V.J. 2015). The formal inscription on a War Memorial *Non sibi sed* has letters raised out of stone. The function of *Northumberland House* and *Gibson Street* is to name objects for legal and access purposes

(Cook, V.J. 2018 to appear); *Press Buzzer* informs the readers and affects their actions; *Non sibi sed* commemorates bygone heroes. All of them have only capital letters, as do a high proportion of street signs; about one third of the original corpus in Cook, V.J. (2013) are either all-capitals or prominently feature phrases in all-capitals.

To many, the Roman capital letter, otherwise known as upper case or majuscule, is the Platonic ideal that underlies other forms: ‘When in doubt, use Roman capitals’ (Johnston 1906: 233). Many of the capital letters in modern English building and street name signs revive the letters on the inscription on Trajan's Column (113 AD) in Rome, a massive influence on twentieth century British letters. Written signs occurred everywhere in Rome and were the status form of writing (Petrucci 1993).

The alphabet for Roman inscriptions was ‘unicameral’ in having only capital letters, while the modern English alphabet is ‘bicameral’ in having two cases, upper and lower (Bringhurst 2005, 322). The term ‘case’ itself is anachronistic when applied to Roman inscriptions since it refers to the later era of printing with its two wooden ‘cases’ of metal letters, an upper for capital letters etc, a lower for lower case letters etc.

The characteristics of Trajan-based letters are:

- they normally fit within rectangles, varying in width between wide letters < G M O > etc and narrow letters < B E P > etc, but unvarying in height (Beier 2012, 117), seen clearly in *Northumberland House* (Fig. 1).
- their shapes are based on squares and circles. Their geometrical properties have been endlessly discussed (Johnston 1906; Evetts 1938). They are often divided into wide letters like < O Q D > and narrow like < B E F > (Johnston 1906),. and into round, < O >, symmetrical < A >, and non-symmetrical < P > (Haslam 2011: 136).
- they have varying line width, usually thickest for vertical strokes as in < T > and < L > and downward left-to-right diagonal strokes as in < A > and < M >, and thinnest for horizontal strokes, as in the < G > and < L > above or in *Non sibi sed* (Fig. 1), known as vertical stress – ‘the angle of variation between thick and thin stroke width’ (Hill 2010: 109). Catich (1968: 99) claimed that ‘the basic identifying trait’ of the Roman alphabet is its 2 : 1 proportion of line-width.
- they have serifs at the ends of strokes, serifs being ‘the broadening of triangular forms at the terminals of letters’ (Hill 2010: 186), for example the feet of < A > and < L > and the ends of the arm of the < G > in *Gibson Street* (Fig. 1) or the < R > and < X > in *Press*

*Buzzer* (Fig. 1). The accepted reason for serifs is that the stonemason's chisel followed the marks that a square-cut brush makes when lifted from a surface (Catich 1968). Serifs lead to better spacing between letters such as < I > and < L > than letters without serifs (Kinneir 1980: 34), say <ILLINOIS RAILWAY> versus <ILLINOIS RAILWAY>. Lines of capital letters naturally have more even spacing between them (known as 'leading') than lines of lower case letters as they lack the comparatively irregular ascenders and descenders of lower case (Brown 1921).

The Trajan Roman alphabet had twenty-two letters, lacking < H J U W > necessary for modern English, while < K Y Z > occurred only in Greek words in Latin. Modern versions of the Roman alphabet not only need to create compatible capital letters to fill the gaps for English, achieved for Trajan letters in Johnston (1906, 373) and Evetts (1938), but also require lower case letters to go with the Roman capitals, one solution being Times New Roman, used in *Press Buzzer* (Fig. 1). The modern English alphabet sticks to its 26 letters without much use of extra letters or diacritics, unlike many scripts derived from the Roman alphabet such as French or Swedish.

Up to 1963, the Ministry of Works in England recommended a Trajan typeface based on Evetts (1938) for street-name signs (Gregory 2016). However, Gray (1960) warned that the classical Trajan Column forms are too thin for street letters. The ubiquitous typeface in modern English street-name signs is Kindersley, recommended in the Department of Transport circular (1993) and visible in most streets in England today, as in *Gibson Street* (Fig. 1). Kindersley indeed solves Gray's problem by having bolder or fatter letters. Nowadays the Department of Transport (2015) recommends 'The relationship of the stroke thickness to letter height ... should not be more than 1 : 7 and not less than 1 : 4, to ensure adequate legibility'.

Other types of serif capital letter have been used historically for streets and buildings, as seen in Figure 2.



**Figure 2. Naming signs in serif capitals** (*Ireton Road*, Colchester; the rest, Newcastle)

Naming signs are particularly affected by the choice of material. The *Ireton Road* sign uses letters on individual tiles with a fatter Clarendon typeface than recent signs like *Gibson Street* (Fig. 1), a style found in a handful of places in England, including Oxford, Hampstead and Colchester. The modern *Sandgate* sign is in stone, as is the mid-nineteenth century *Cordwainers Hall* sign, doubtless redone when central Newcastle was restored in the 1990s.

Both stone signs have letters that are cut into stone rather than raised, utilising light and shadow in their perception. Compare, for example, the incised capital < E > in *Sandgate* (Fig. 2), raised capital < G > in *The George* (Fig. 4), and the striking black-on-black <1909> date in *Cocktails* (Fig. 11). *Sandgate* is cut out into a V-shaped cross-section, *Cordwainer's Hall* into a square cross-section, yielding different shadows: square-cut letters usually appear stronger (Kinneir 1980: 107) and 'can have a less graphic and more sculptural quality' (Gurrey 2009: 96). Sometimes the problem of lighting is minimised by painting the incised letters, in gold in *Northumberland House* (Fig. 1), in red in the sans serif *Hospital* sign (Fig. 4), and in white in the house sign *Master Mariner's* (Fig. 3). According to Catich (1968), it is misleading to consider the letters of Roman inscriptions were designed to throw shadows, since they were originally coloured in minium, now known as red lead (Gray 1960). The use of shadows is thus a later exploitation of the happy accident when the colour faded. A further modern innovation is small caps, i.e. < AA BB EE GG LL MM OO PP RR TT >, seen in *Jane & Ann Taylor* (Fig. 3) and *The Percy Arms* (Fig. 10). As these are designed to fit the font size, they are heavier

and wider than full-size capitals, though computer versions often scale capital letters down mathematically (Hill 2010: 114).



**Figure 3. Other signs in serif capitals** (*Private* and *Master Mariner's*, Blakeney, Norfolk; *Colchester Town Trail* and *Jane & Ann Taylor*, Colchester)

Figure 3 shows the adaptability of serif capital letters to a variety of functions. The importance of the *Private* sign is proclaimed by its formal serif capitals; the age of a house is hinted through the slate-cut capitals of *Master Mariner's*. The letters of the metal pavement plaque *Colchester Town Trail* have heavy vertical/diagonal stress, presumably to help visibility as they get filled with dirt underfoot. The ornate letters of the wall plaque *Jane & Ann Taylor* give a late Victorian Arts and Crafts feel to the plaque. All of these signs rely on the Cook, V.J.ity of Roman capitals: ‘... the classical roman had the regularity and discipline of a Roman army on the march’ (Bartram 1976: 10).

## 2. Sans serif capitals



**Figure 4. Street signs in sans serif capital letters** (*Hospital, The George*, Colchester; the rest, Newcastle upon Tyne)

In Figure 4, *Leazes Lane* employs Gill Sans, the sans serif font approved by the Department of Transport circular (1993) for street-name signs, mostly used for moulded signs in minor streets; the Department of Transport (1993) prefer sans serif typefaces against reflectorised backgrounds. *Hospital* is an architectural naming sign in serif letters cut out of a portico, with the narrower letters such as < P > and < L > widened to get even letter spacing. The warning sign *Pyrotechnic Dogs* is in Arial bold, attached to an empty building opposite the former Newcastle police station. The florist's sign *Mother's Day Bouquets* informs and attracts customers, handwritten in felt-tip in confident word-initial capitals. The letters of *The George* sign on the hotel roof are large, gold-painted, three-dimensional and half-round, a traditional letter for inn signs.

The function of *Leazes Lane*, *The George* and *Hospital* is to name places, hardly less formal than the serif-based naming signs of Figure 1. The clarity of the sign in different light conditions and its endurance are crucial. Sans serif letters have less problems with shadows than serif letters due to their comparative simplicity (Kinneir 1980: 125); the raised serif letters of *The Percy Arms* (Fig. 10) are an exception. Raised letters such as those in *The George* have legibility problems from different angles since they may obscure one another.

Some characteristics of modern sans serif capital letters can be seen in Figure 5, which compares computer versions of serif Times New Roman and sans serif Gill Sans.

A B E G L M O P R T Times New Roman  
 A B E G L M O P R T Gill Sans

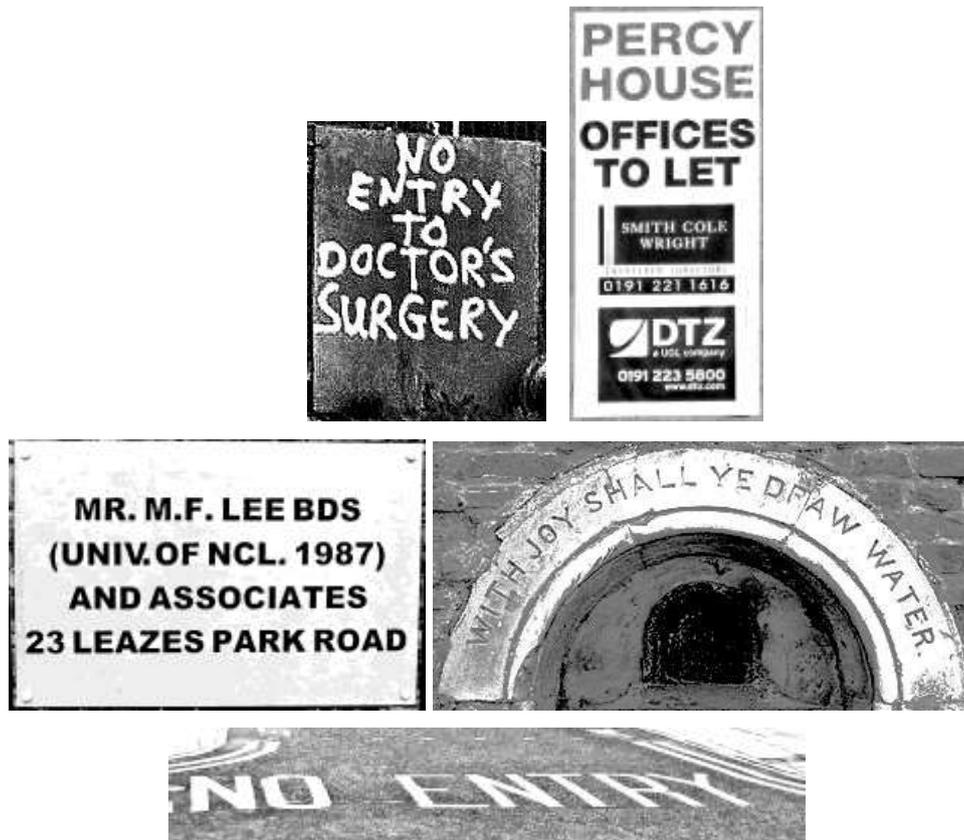
**Figure 5. Contrasting serif and sans serif letters**

Sans serif capital letters are partly defined by contrast with serif letters:

- they too normally fit within rectangles, as demonstrated by the round < O > and the square < M > in Gill Sans (Fig. 5) and the letters in *Leazes Lane* (Fig. 4).
- many modern sans serif typefaces are based on the geometry of squares < M >, right angles < L > and circles < O > as in *Pyrotechnic Dogs* (Fig. 4), others are ‘humanist’, that is to say less rigidly geometric in form, as in *Hospital* (Fig. 4).
- many have constant line width, evident in the < A > and < N > in *Leazes Lane* (Fig. 4), a characteristic of handwritten notices since Roman times, largely due to the pointed implements with which they are made, whether stylus or biro.
- they lack serifs at the end of strokes, as seen in Figure 4 and in the Gill Sans letters in Figure 5.

Precedents for sans serif letters can be found in the ‘rustic’ letters of some classic Roman inscriptions. According to Bringhurst (2005: 255), sans serif letters were ‘emblems of the Republic’, while serif letters were ‘symbols of empire’. Sans serif letters have been used for building-name signs in England since the early eighteenth century (Kinneir 1980, 36). The three-dimensional letters of *The George* (Fig. 4) are part of this native tradition, seen also in *The Percy Arms* (Fig. 10). The sans serif capitals in modern street signs mostly come from a different source, namely the early twentieth century modern movement in design led by the Bauhaus. Jan Tschichold famously declared ‘The so-called “Grotesque” (sanserif<sup>ii</sup>) ... is the only one in spiritual accordance with our time. ... sanserif is absolutely and always better’ (Tschichold 1928/1998: 73-74).

The twentieth century saw many sans serif typefaces designed for print such as Gill Sans sometimes regarded as the archetypal British font, and designed for display, such as Johnston for the London Underground. Baines and Dixon (2003) point out the inappropriateness of scaling-up letters on street signs from print typefaces, like the Garamond of *Bamburgh House* (Fig. 7). Letters for print are designed to appear on a page of text full of many other letters; street signs use short texts with comparatively few letters, altering their whole effect (Uebele 2007).



**Figure 6. Other sans serif capitals** (*No Entry to Doctor's Surgery, Percy House To Let, Mr. M.F. Lee, Newcastle; rest, Colchester*)

*No Entry to Doctor's Surgery* is an 'amateur' warning sign for drivers outside a building site, painted on hardboard in overlapping strokes. *Percy House To Let* is a giant poster covering three storeys of a wall. *Mr. M.F. Lee* acts as a brass-plate naming sign and as an informing sign to attract potential patients. The *No Entry* road-marking uses Pavement, a typeface whose elongated letters are designed for drivers to view from a low angle and which has to be applied in skid-proof paint. *With Joy* displays a biblical inscription on the arch of an 1864 drinking fountain, intended to decorate and to educate passersby. These demonstrate the flexibility of sans serif capital letters, ranging from informal notices to formal inscriptions.

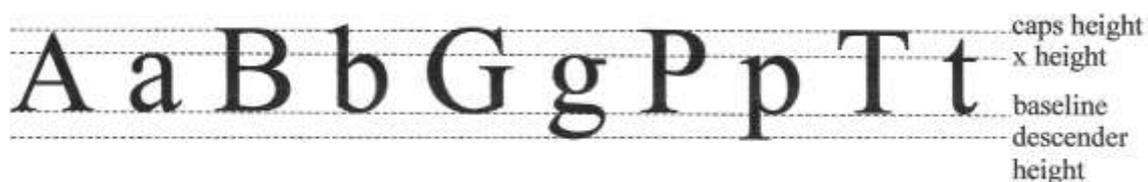
Sans serif letters are often said to be more readable in short displays, serif letters in continuous text. Smeijers (2011) claims that serifs define the areas between the letters better. The comparative legibility of serif and sans serif letters is discussed at length in Beier (2012: 123-130), who argues it depends inter alia on letter size and familiarity.

### 3. Lower case letters



**Figure 7. Signs with lower case letters** (all from Newcastle, except *Scampi*, Colchester)

Figure 7 shows a selection of street signs with lower case letters, alias miniscules, plus some word/phrase initial capitals. The café sign *Scampi* shows handwritten lower case letters (and some quintessential greengrocer's apostrophes, *Chip's*, *Pea's* and *Bean's*). The warning sign *Keep clear* has an even-width Arial typeface, doubtless computer-printed. The *tea sutra* restaurant sign is in sans serif lower case. The building-name sign *Bamburgh House* uses applied metallic letters from the print typeface, Garamond. The way-finding *Quayside* sign has metal letters in a serif font, highlighted in different colours. *teasutra* and *Bamburgh House* are naming signs, the first suggesting a slightly alternative life-style, the latter quality and permanence (Cook, V.J. 2015). The other three signs are informing notices of different kinds, *Keep clear* a straight-forward warning sign in typical capitals, *Scampi* an informing sign to attract passing trade, *Quayside* a wayfinding fingerpost where each sign indexically points to a location.



**Figure 8. Letters Diagram.** More elaborated versions can be found in Haslam (2011: 8) and Beier (2012: 8)

The traditional description of letters uses a stave framework of four lines: baseline for the bottoms of letters, x-height – the height of a lower case < x > from the baseline (Hill 2010: 186), caps height – the height of most capital letters and ascenders from lower case letters like < b >, and descender height – the downward descent from lower case letters like < g p >. Primus (2004) uses a 5-line stave for her feature-based analysis of letters, adding a mid-line between baseline and x-height not needed here. This staves diagram is as crucial to the discussion of letters as the Cardinal Vowel diagram is for phonetics.

A B E G L M O P R T  
a b e g l m o p r t

**Figure 9. Contrasting upper and lower case letters** (Times New Roman)

As seen in Figures 8 and 9 above, the characteristics of lower case letters are:

- they vary in width between wide letters like < m > etc and narrow letters like < l >, seen particularly in *Northumberland House* (Fig. 1) and *Quayside* (Fig. 7).
- they vary in height. Some lower case letters have stems with ascenders that go above the x-height, like < b > and, to a lesser extent, < t >, and descenders that go below the x-height, like the < g > of *Bamburgh House* (Fig. 7) and the < p >s in *Scampi* (Fig. 7). Tschichold (1928/1998: 80) holds that ascenders and descenders ‘make complete words easier to recognise’, one of the arguments for basing word recognition on word-shapes rather than letters..
- the serif letters have varying line width, as in the < a >s and < s >s in *Quayside* (Fig. 7), while sans serif letters usually have even-width, for instance *Percy House* (Fig. 10).

Figure 10 shows some building-name signs in capitals and lower case involving the same word *Percy* – the family name of the Dukes of Northumberland and therefore common in Newcastle – contrasting in shape and material.



**Figure 10. Capitals and lower case in *Percy* signs** (Newcastle upon Tyne)

The painted all-capitals of *Percy St.* and *The Percy Arms* are respectively sans serif black and serif gold on black; the silvery appearance of the word-initial sans serif capitals and lower case of *Percy Building* contrasts with the gold capitals and small-capitals of *The Percy Arms*; the sans serif all lower case *Percy House* is painted on glass, raising visibility issues to do with reflection and variable back-lighting; *Percy Terrace* is apparently cut out of plaster, relying on shadows for visibility. Each of these signs conveys messages about tradition versus modernity and luxury versus simplicity, compared, say, with the functionality of the all sans serif capitals of the huge poster *Percy House to Let* (Fig. 6).

As lower case letters come from different historical and technological sources from capital letters, it is often difficult to relate their forms to their upper case equivalents. It was 1496 when Aldus Manutius first combined capitals and lower case letters into a single book typeface, Bembo. Yet the compatibility of these two distinct letter forms is still debated: ‘the two alphabets of roman are really two different styles’ (Tschichold 1928: 79). Indeed Kinneir (1980: 34) sees the concentration on these two alphabets as ‘a brake on free innovation’.

While < M/m >, < O/o > and < P/p > are recognisably the same letters, lower case < r > and < b > are open at the top rather than having counters – ‘enclosed spaces within letters’ (Hill 2010: 184); lower case < a > and < g > share little with upper case < A > and < G >. Kinneir (1980: 30) attributes this to the use of a stylus for writing on wax: ‘Strokes

were dropped (B became b), angles were slurred (M became m), and other strokes were elided (E became e)'.

In printing, lower case letters were originally an alternative form of Roman capitals, used for whole texts rather than combined with capitals. The historical sources of the modern lower case letters are complex, involving not only handwritten 'uncials' with ascenders and descenders that existed alongside the formal Roman capitals, but also miniscule 'insular' unicameral scripts devised by British and Irish monks around 700 AD, together with Carolingian letters adopted around 800 AD by Charlemagne's court under the guidance of Alcuin of York (Jackson (1981: 69). The impetus for their design was partly the demands of the quill pen and parchment rather than the brush, chisel and stone used in Roman inscriptions. Books had now taken over from inscriptions as the status form of writing and the medieval street was comparatively bare of written signs, reflecting the low level of literacy (Petrucci 1993).

Lower case letters are sometimes claimed to be more legible than all-capitals. Classic research by Tinker (1963) found print lower case was easier to read but upper case could be read at a greater distance; Arditi and Cho (2007) established that capitals are read better in smaller sizes, particularly by those with visual impairment; Sheedy, Tai and Hayes (no date) found x-height and sans serif letters both contributed to legibility. Influential research into motorway signs commissioned by the then Ministry of Transport (Kinneir 1980) found that a mixture of capitals and lower case is more recognisable from a speeding car, leading to the current UK regulations for motorway signs and the complementary rule that street name signs should be all-capitals (Department of Transport 2015). Beier (2012: 122-123) sums up modern research in terms of advantages associated with x-height rather than case, conceding an overall advantage to lower case in some situations.

#### 4. Italic letters



**Figure 11. Examples of street signs in italics** (Newcastle)

Figure 11 displays some typical italic letters in modern street signs. According to Hill (2010: 185), italics are ‘Sloping letters ... originally based on handwritten forms’. On the other hand, Kindersley and Cardozo (1976: plate 20) describe the italic as ‘a shape of letter that does not necessarily lean’, and Bringhurst (2005: 56) claims ‘flow, not slope, is what really differentiates the two’.

Italic street signs are comparatively rare, perhaps because their dynamic movement is incompatible with their static nature. The signs in Figure 11 show their use on shop and restaurant fascias. *Great Grub* has a painted, shadow italic with word-initial capitals in a fat face, with a more conventional sub-heading in italic capitals, <*THE QUALITY SANDWICH*>. Painted shadows get the benefit of incised or raised letters without depending on the vagaries of lighting. The bilingual restaurant sign *Jasmine* emphasises the handwriting origins of italics with a cursive font. Interestingly the Chinese characters also slope, though italics are frowned on in Chinese printing (Multilingual Typesetting 2016), so that the two systems are visually compatible on the same sign. The modern bar sign *Cocktails* has sans serif, square-cut, shallow italics barely casting shadows, contrasting with the older black-on-black raised numbers above it.

Figure 12 contrasts italic and non-italic lower case letters in typical serif and sans serif computer typefaces.

*a b e g l m o p r t* Gill Sans italic  
 a b e g l m o p r t Gill Sans  
*a b e g l m o p r t* Times New Roman italic  
 a b e g l m o p r t Times New Roman

**Figure 12. Examples of italic and non-italic fonts**

The characteristics of italic letters illustrated in Figures 11 and 12 are:

- a distinctive flow or slope, most slanted in *Jasmine*, least in *Cocktails*, more in Times New Roman than in Gill Sans.
- the use of distinctive letter forms, such as the ‘single storey’ < *a* > in *Great Grub* and *Jasmine* and in both Times New Roman and Gill Sans (Fig. 12), the over-lapping strokes of < *p* > in Gill Sans, and the elliptical counter of < *e* > in *Great Grub* and Times New Roman (Fig. 12), though also found in the non-italic < *e* > of *Percy House* (Fig. 10).
- some letters are made to look like handwriting with cursive ‘hooks’ as if linked to the next letter, as in the < *m* > of *Jasmine*, the < *t* > of *Great Grub*, and the < *m* > and < *l* > of Times New Roman, reminiscent of the brush origins of the serif.

Italic letters started as a distinct calligraphy-based alphabet designed by Aldus Manutius in Venice in 1501, when he needed a typeface to fit the series of pocket-sized books he was promoting for everyday reading (Glen 2001), foreshadowing the Penguins of the 1930s. While italics is a cursive script (i.e. based on handwriting but without actual links between letters (Hill 2010)), Manutius’ letter-cutter Francesco Griffo steered it more towards engraving than handwriting (Glen 2001), and combined it with Roman capitals as a lower case typeface for setting whole books (Hill 2016). Claude Garamond then added italic capitals, seen in the bottom line of *Great Grub* (Fig. 11).

The combination of italics with Roman lower case in the same printed text is also credited to an individual, Robert Granjon (Clayton 2014). Like the shotgun marriage of lower and upper case, it has proved difficult to design compatible italic and non-italic partners within the same typeface, as illustrated by the advice ‘vertical brackets should be used, no matter whether the text is roman or italic’ (Bringhurst 2005: 85), i.e. < (*language*) > rather than < (*language*) >. The conventions for using italics to emphasise words are then of later origin. Again the status form was books rather than inscriptions.

The occasional use of italics in street signs gives individuality to business names. *nevisport* (Fig. 11) for example has lower case italics without initial capitals, the slant suggesting modernity and movement, helped by the arrow-like forms above and below the letters. The italics of *Great Grub* suggest both ‘greatness’ from the font and informality from the word *grub*.

## 5. Other symbols

In addition to the conventional modern print alphabet and punctuation marks, other letters and symbols occur in English street signs, whether numbers, other keyboard characters, relics of by-gone ages, or modern innovations.

### • Numbers



**Figure 13. Numbers** (*Clock*, 1914-1918 War Memorial, Nos 12, Newcastle; Nos 187, 149, 274A, Colchester)

Figure 13 gives some examples of numbers found in street signs. Numbers display dates of older buildings, whether Roman numerals <MDCCCXXXVIII> (*Cordwainers Hall*, Fig. 2) or the *Clock* face <I II III IIII ... >, and the numbers of buildings, whether the serif <187 >, the painted, incised <1796-1811 > (*Jane & Anne Taylor*, Fig. 3), or the art nouveau <1909 > (*Cocktails*, Fig. 11). Roman numerals in street signs are restricted to dates or times on clock faces, with a convention that <IV > can also be represented as <IIII >. Since Roman numbers were letters of the alphabet, i.e. <MDCXLVI >, the so-called Arabic numbers <0123456789 > did not stem directly from classic Roman letter-forms but were adapted from North African scripts, appearing in England from the fifteenth century onward. The war memorial inscription <1914-1918 > and the dates <1796-1811 > (Fig. 3, *Jane & Ann Taylor*) show non-lining or ‘old style’ numbers (Hill 2010: 114), characterised by the descenders of <9 > and <7 > and by the extra height of <8 >, i.e. <01233456789 > rather than lining numbers <0123456789 > in which numerals range from the baseline to caps height, now most common in print; these

complement the carved Roman capitals through varying line width and serifs. The legibility of the two styles of numbers seems to depend heavily on context (Beier 2012: 135-136).

The number signs show the variety of styles for houses available at the owner's whim; currently Amazon.uk have 5822 types on offer. Buildings are required to display their numbers, except on country roads, traceable to Clause 65 of the Towns Improvement Clauses Act (1847), embodied in local regulations such as 'Every number, name, or number and name, of any building in any street, shall be marked' (City of London 2014). Here the materials include brass (18), concrete (187), tiles (149), and paint on brick (274A). The styles similarly range from classic incised Roman serif (187) to informal hand-painted (274A) to decorative art nouveau (149).

Phone numbers are also prominent on some signs, such as < 01206368100 > in *Food @ the Mercury* (Fig. 17), interesting for the stroke at the top of sans serif < 1 >, intended to overcome the problematic overlap of numeral < 1 > and letter < l > in fonts such as Gill Sans. *Pie & Mash* (Fig. 14) disambiguates the letter by adding a dot to capital < l >.

- **Non-alphabetic symbols**



**Figure 14. Non-alphabetic characters** (*Frankie, Paid and Displayed, Parking, Newcastle; Cock & Pye, Pie & Mash, Colchester*)

Figure 14 shows non-alphabetic symbols used in street signs. The ampersand < & > started as a ligature for Latin < et >: the remains of the two letters are sometimes visible in its many italic and non-italic print forms, for example the italic versions in

Garamond < & > and Goudy < & >. Ampersand was appended to the alphabet in Victorian readers (Scholfield 2016), apparently explaining its name *ampersand* as an abbreviation for *and per se and* (OED 2016), i.e. ‘and in its own right’. In street signs it connects two words of the same class; *Jane & Anne Taylor* (Fig. 3) shows a decorative example. It features prominently in shop or restaurant names joining nouns like <frankie & tony’s>, and occasionally in non-official signs like *Cock & Pye Court*. The use in the parking sign *Paid & Displayed* seems odd, not to say ugly. The odd ampersand in *Pie & Mash* demonstrates that ampersand is no longer taught in primary schools.

These symbols connect directly to meanings rather than corresponding to sounds (Cook, V.J. 2016). < £ > is as baffling to those who have not encountered it before as the Chinese character < 寢 >. It is a one-off association between a symbol and a meaning, not between a letter and a phoneme; its pronunciation cannot be worked out from its form. Other meaning-based signs are money symbols like the < £ > in *Parking* (Fig. 14), arithmetical signs like < + > (*Scampi*, Fig. 7), and abbreviations like < Mr. > in *Mr. M.F. Lee* (Fig. 6).

- **Historical letters**



**Figure 15. Historical letters** (*Ye Olde Marquis* and *Law Covrts*, Colchester; *Waltons*, Newcastle)

Figure 15 documents some historical letters of English still found in street signs. Pub signs assert their antiquity by using *ye* for *the* as part of ‘Olde Tyme’ spelling, as in *Ye Olde Marquis*. Caxton’s edition of Chaucer’s *The Canterbury Tales* (1473) shows **þ** as the first printed form of the word *the*, combining the traditional Old English letter thorn < þ > (originally a rune) corresponding to the voiced ‘th’ /ð/ with a minute diacritic < e >. The word *the* was pronounced with /ð/ in Middle English, as in Modern English; **þ** was one of a conventional set of Middle English ‘near’ abbreviations (Roberts 2005: 10), otherwise now extinct. By the time of the *King James Bible* in 1611, the straight line of

thorn < þ > had changed to a curve, <sup>e</sup>þ̄, leading to confusion with the letter < y >. By 1716, it had become a full capital < Y > with the < e > still above it <sup>e</sup>Y, ushering in its modern use as a quaint archaism. Nowadays *ye*'s link to thorn is invisible and it is undoubtedly read aloud as *ye* /ji:/.

Other historical letters are absent, such as the long 's' < f > found in printed English till the early 19th century (Scholfield 2016), the letter ash used in Old English consisting of a ligatured < æ >, and the yogh < ȝ > found in Middle English with a number of spoken correspondences. A ligature is 'a compound form combining two letters' (Hill 2010: 185), as in the < AW > in *Law Covrts* or the < NK > in *Space.NK* (Fig. 17). The double < VV > was combined into < W > about 1300, superseding the Old English letter wynn < ƿ > (also originally a rune) that previously corresponded to /w/ (OED 2015). A ligatured double-V form is sometimes found in modern logos, such as the mosaic shop floor sign *Waltons* (Fig. 15). The pairs < I/J > and < U/V > separated into distinct letters in the mid-seventeenth century, though occasionally < V > is used for < U > in formal inscriptions, such as the Edwardian *Law Covrts* (Fig. 15).

### Symbols from other writing systems than English

Given the multilingualism of most English cities, it is hardly surprising to find signs using other writing systems than English.



Figure 16. Signs using other written symbols (Newcastle)

In Figure 16 *Halal* is a commonly-seen sign in Arabic script outside food shops, read from right-to-left; *fáilte* is a ubiquitous painted welcome sign outside Irish pubs in England; *Push*, a door sign, and *BreadPoint*, a baker's sign, are in Chinese characters, both found in Newcastle's Chinatown. *Halal* and *Push* are functional everyday notices for the multilingual communities they serve. *Fáilte* is more an atmospheric attention-getter for non-Gaelic speakers, < á > be, the word-medial capital < L > seems to have no significance. The letters of the bilingual sign *Push* are brush-drawn, hence the widened lines at the ends of the upright strokes. *BreadPoint* is painted on glass in a one-off design.

- **Innovations**



**Figure 17. Innovations in signs** (*Food @ the Mercury*, Colchester; *Space.NK*, Newcastle; *Fresh Fish*, Blakeney)

A modern trend is to extend the uses of old written symbols, as seen in Figure 17. The traditional use of < @ > in English accountancy, for example 5 @ £1.64, meant ‘at/for/per’. Its origins are obscure, possibly deriving from an abbreviation for Latin *ad*. However it gained a new life in the 1970s in e-mail addresses and social media, imitated in the *Food @ the Mercury* restaurant sign. *Fresh Fish* shows an invader from texting, namely the use of numbers for syllables, < 4 > for <for>. Other intruders are < # >, the hash mark also known as octothorpe, and the use of < . > as a separator in <Space.NK.>

### **Conclusions**

This paper has shown how tackling a single specialised aspect of the language of the street has involved lettering, typography, government regulations, prescriptive manuals, and the history of English, inter alia. Expanding to a fuller range of signs in England, to other English-using countries, and indeed to other writing systems, will doubtless require modification. For instance the qualities of paper and ink have a considerable effect on the appearance of letters and on their mass reproduction (Ambrose and Harris 2011: 144-162; Müller 2014).

The paper suggests that the study of writing has been biased by its concentration on the printed book. The letters of the book brought together epigraphy and calligraphy into set formats of typeface, letter-types and so on, suitable for printing. The letters of the street arose from long alternative traditions of inscriptions and public lettering, as adaptable to their physical context as books are constrained, produced by a variety of means. Now that printed pages are being superseded as a status medium by computer monitors and smart-phones, which have different demands, the study of letters needs to be on a broad base, not confined to print alone.

A sine qua non for the study of the written language is a knowledge of the written symbols such as letters through which it communicates, much as a knowledge of speech sounds is a prerequisite to the study of the spoken language. An acquaintance with the properties of letters should be as much taken for granted in a linguist studying written texts as a knowledge of phonetics is assumed in one studying speech. There need to be descriptive and theoretical foundations for written letters parallel to the disciplines of phonetics and phonology for the spoken language. While some attempt has been made to rescue ‘graphology’ as a general cover term (McIntosh 1961; Gómez-Jiménez 2015), few have included the analysis of letter forms.

It should nevertheless be borne in mind that letters are just one form of human scripts alongside characters and syllabaries. The emphasis on letters in word recognition is slewing research towards alphabetic writing systems at the expense of other systems. Dehaene (2009) for example perpetuates the ‘alphabetism’ started by Gelb (1963) that regards alphabetic writing systems as the pinnacle of writing development, a view that probably says more about the type of writing first learnt by the researcher than about objective merits. Share (2014) deploras:

The use of alphabetic terminology (e.g., letters, graphemes) to describe and label the functional architecture (and even the anatomical brain structures) of reading (‘letter detectors’, ‘letter- box area’, ‘universal letter shapes’, Dehaene, 2009) purported to be universal in reading.

This outline suggests that some of the mundane aspects of letters such as how they are produced, their uses in writing systems, their historical tradition and the meaning of their variant forms may need to be taken into account before attributing aspects of letters to the human brain. To make proper use of letters in brain studies means ensuring that they deal equally with syllable-based and character-based systems and that they allow for the many sides of written letters, some of which have been described here.

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<sup>i</sup> I am grateful to Scott Windeatt for additional photos, namely Figure 10 (Percy Arms, Percy Terrace).

<sup>ii</sup> There is a minor disagreement over whether it should be *sans serif* or *sanserif*. Mosley (2007) claims that *sanserif* is a mistake unwittingly made by the OED when transcribing a text in their own library. Nevertheless, *sanserif* is the form in Bringhurst (2005), Haslam (2011) and Tschichold (1998, English translation). A disadvantage of *sanserif* is perhaps that it divorces the word *sans* from its meaning ‘without’ – ‘Second childishnesse, and meere obliuion, Sans teeth, sans eyes, sans taste, sans euerything’ (*As You Like It, II, vii, 166*).