SCRUNCH, GROWZE, OR *CHOBBLE?:* INVESTIGATING REGIONAL VARIATION IN SOUND SYMBOLISM IN THE *SURVEY OF ENGLISH DIALECTS*

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Abstract

This paper draws on data extracted from Upton et al.'s (1994) *Survey of English Dialects: The Dictionary and Grammar* in investigating the regional distribution across England of sound symbolic phonesthemes, that is, word-initial consonant clusters which appear to carry with them a non-arbitrary relationship between sound and meaning. Using such empirical data and employing systematic quantitative analysis, this study avoids the criticism often aimed at sound symbolism research that evidence is speculative and anecdotal. In operating on the intersection between sound symbolism and dialectology, the research here addresses a field currently understudied due to the scholarly attention paid to the morphological status of phonesthemes and their universality across languages. The results suggest that phonesthemes are to some extent subject to regional variation, indicating that certain phonesthemes are more common in some areas of England than alternatives which appear to carry the same sound-meaning relationship, often producing clear distributional patterns. In turn, these patterns are discussed, and explanations offered, in light of existing dialectological and variationist theoretical constructs. The significance of these findings underlines the contribution that such exploration can make to both the sound symbolism and dialectology fields, as well as highlighting the continuing opportunities for innovative research offered by the *Survey of English Dialects* material.

1. Introduction

The concept of 'sound symbolism' designates an 'inmost, natural similarity association between sound and meaning' (Jakobson and Waugh, 1979: 178), in which 'certain sounds or sound clusters are felt to enact or to be in some way appropriate to the meanings expressed' (Wales, 2001: 363). Such sounds which recur in words that share a common element of meaning are referred to as 'phonesthemes' (Householder, 1946; Allan, 2001: 135).

Sound symbolism research is often criticised for its speculative and 'typically anecdotal' evidence (Bolinger, 1940: 73; Wichmann, 2010: 844). Accordingly, this study draws on a combination of empirical data from the *Survey of English Dialects: Dictionary and Grammar* (Upton et al., 1994) and systematic quantitative analysis in order to examine the phenomenon using real-world evidence. The sound symbolic associations between a range of word-initial phonesthemes and the notions to which they relate are examined within the semantic realms of animal noises, eating and drinking, and objects sharing hard, straight and flat physical properties. Apparent sound-meaning relationships are identified and, informed by the literature surrounding sound symbolism, potential motivations for these associations are offered. Where this study departs from the existing research is in the analysis of the regional distribution of sound clusters. The results presented here provide evidence suggesting that phonesthemes are to some extent subject to regional variation, with alternative forms for the same notion showing contrasting distributional patterns.

The insights gained from these findings demonstrate the importance of exploring the understudied intersection between sound symbolism and dialectology as well as the enduring value of lexical data emerging from the *Survey of English Dialects* (SED) (Orton et al., 1962–1971).

2. Research context

Because the notion of sound symbolism runs counter to the generally accepted consensus among linguists that the relationship between form and meaning in language is arbitrary (Ohala, 1997: 1), it is one of the most controversial topics in linguistics (Pharies, 1985: 88) and enjoys a substantial literature.

Earliest research focused on identifying potential non-arbitrary sound-meaning relationships in language. Studies aimed to ascertain whether particular vowels are associated with semantic realms such as size, darkness/lightness and distance (e.g. Jespersen, 1922; Sapir, 1929; Newman, 1933; Ultan, 1978). Resulting from these studies are now almost universally recognised relationships, such as high front vowels symbolising proximity and diminutiveness (Sereno, 1994: 246). Connections have also been made between consonants and meaning, such as phonestheme /gl/ expressing 'phenomena of light' in words such as *glow, glimmer, glade* (Bolinger, 1950: 132; Allan, 1986: 248), and /kl/, reflecting desperation to 'hold on' in *cling, clag, clench* (Jeffries, 1998: 43; Allan, 2001: 135).

Emphasis has since shifted away from proving whether or not sound symbolism exists, towards its implications for other areas of language study. A major debate is over the morphological status of phonesthemes, with some arguing that these sounds represent the smallest individually meaningful element in language (e.g. Jeffries, 1998: 37; Rhodes, 1994; Rhodes and Lawler, 1981; Abelin 1999), with others contesting that phonesthemes fall into the most troublesome areas of morphological analysis (Allan, 1986: 250). Some of the most ambitious modern theories have speculatively linked sound symbolism with the origins of language (Dixon, 1997: 64), and many studies report that sound symbolic words are resistant to sound change, thus complicating historical linguistic study (Bhat, 2001: 44–5; Kaufmann, 1994; Campbell, 2003: 273). There has also been focus on the important role sound symbolism can play in language acquisition (e.g. Imai et al., 2008; Nygaard et al., 2009; Parault and Parkinson, 2008), and its application in product marketing and branding (e.g. Klink, 2000; Yorkston and Menon, 2004; Argo et al., 2010).

However, as Wales (2001: 363) notes, the largest preoccupation of sound symbolism scholars is the extent to which sound symbolic phonetic correspondences are universal across languages. Jakobson and Waugh (1979: 186–7) implored linguists to discover 'what, if anything, is universal', and this objective is still being pursued decades later (e.g. Wichmann et al., 2010: 845; Auracher et al., 2011). This preoccupation has regrettably led to the interaction between sound symbolism, phonesthemes and regional varieties of the *same* language being largely overlooked. Despite Abelin's (1999: 271) recommendation that a study into the dispersion of phonesthemes in dialect lexica would be a valuable one, there remains a marked dearth in such efforts. It is to this end that the present study makes an original contribution to the fields of both sound symbolism and regional dialectology.

3. Data and Method

The data used here are extracted from Upton, Parry and Widdowson's (1994) *Survey of English Dialects: The Dictionary and Grammar* (*D&G*), to ensure that

results are based on empirical, objective and reliable evidence. The SED data were collected from 313 localities across England between 1948 and 1961 from elderly, local-born informants (Upton and Widdowson, 2006: 2), producing the most comprehensive study of (English) English dialects to date. Furthermore, the subsequent *D&G* lends itself readily to the investigation of sound symbolism. Jeffries (1998: 37) hints at the usefulness of using thesauri in the analysis of sound and meaning as they group words together according to their relationships of meaning. In the SED fieldwork, respondents' regional words or expressions for particular concepts were elicited by a carefully designed questionnaire. 'Notion words' were given in this questionnaire as 'a guide to the fieldworker as to the concept for which an expression is being sought from the informant' (Upton et al., 1994: 4). Following this, the 'core entry' (Upton et al., 1994: 4) design of *D&G* presents all of the words given by informants nationwide for particular notion words or concepts together, offering the same advantage as thesauri. Further, the counties from which particular terms were elicited can be retrieved from headwords, allowing for the frequency of words and sound clusters to be quantified and presented geographically. The results presented in this paper are done so on a map of England with pre-1974 county boundaries (Upton et al., 1994: 12) in order to align with the county names used in the SED (Appendix 1).

Sound symbolism occurs as a feature of groups of words rather than individual words (Jeffries, 1998: 44), and therefore attention was paid to all core entries in *D&G* for which there were two or more elicited words with the same initial sound cluster. It is far beyond the remit of this study to discuss all such core entries (n=279) and so the results analysed here necessarily relate to a focused selection of semantic fields: 'animal cries', 'eating and drinking noisily and greedily', and objects with 'hard, solid, straight and flat' tactile properties. These particular semantic groups were selected based on the frequent recurrence of at least one initial sound cluster in elicited words and because they represent different 'types' of sound symbolism, ranging from direct onomatopoeic 'imitative sound symbolism' to the less direct more arbitrary 'synesthetic' sound symbolism wherein sounds are chosen to consistently represent properties of objects (Hinton et al., 1994: 2–6).

4. Analysis

4.1. Animal cries

D&G contains a number of notions relating to animal sounds, elicited by the question: *now tell me your words for the usual cries animals make* followed by the animal in question (Upton et al., 1994: 33). Table 1 shows the regional words submitted for the cries of bulls, cows, sheep and horses.

Initial /b/ is particularly common being found in 43% (56/130) of all of the words elicited for sheep, bull, cow and horse cries. More specifically, the initial consonant cluster /bl/ is particularly recurrent (bold), occurring 27 times, accounting for 21% of all elicited words for these animal cries, some of which appear for more than one animal. This proportion indicates a potential sound-symbolic relationship in which the phonestheme /bl/ carries with it some non-arbitrary association with 'animal cries', especially of sheep, bulls and cows (/bl/ is not found at all for cat sounds [MEW] or horse cries when in the field [NEIGH]). Furthermore, Table 2 shows that of all verbs in *D&G* that have initial /bl/, 55% (27/49) belong to the animal cry notion words. This majority further substantiates the case for there being some sound-symbolic connection between this phonestheme and the meaning 'animal cries'.

Table 1. Regional words submitted for animal cries

Notion word	Animal	Words elicited
BLEAT	Sheep	baa, bawl, bellow, **blake, blake out, blare, blart, blate, blay, bleak, blurt**, cry, holler, maa, mark, mawl
BELLOW	Bulls	baa, baa out, bawk, bawl, beal, beal out, belder, bell, bellock, belve, **blare**, **blart, blodder, blore, blort, blother,** croon, cry, growl, holler, moan, moo, mully, roar, rout
MOO	Cows (during feeding time *and* in the fields)	baw, bawk, bawl, beal, belder out, bell, bellock, bellow, bellow about, belve, **blake**, **blake out**, **blare, blare out, blart, blate, bleat, blore, blort, blother, blow**, boo, brawl, boller, burr, call, croon, elve, grain, groan, grunt on, holler, hoot, hum, low, maw, mew, moan, moan out, moonage, mumble, murr, nim, rawt, roar, sing
WHINNY	Horses (during feeding time)	**blore, blow**, bray, frinny, holler, hum, hummer, laugh, moan, murr, mutter, mutter out, neigh, nickerm nucker, nutter, snicker, snort, snuffule, stortle, whicker, whine, whinny out, whistle, winker

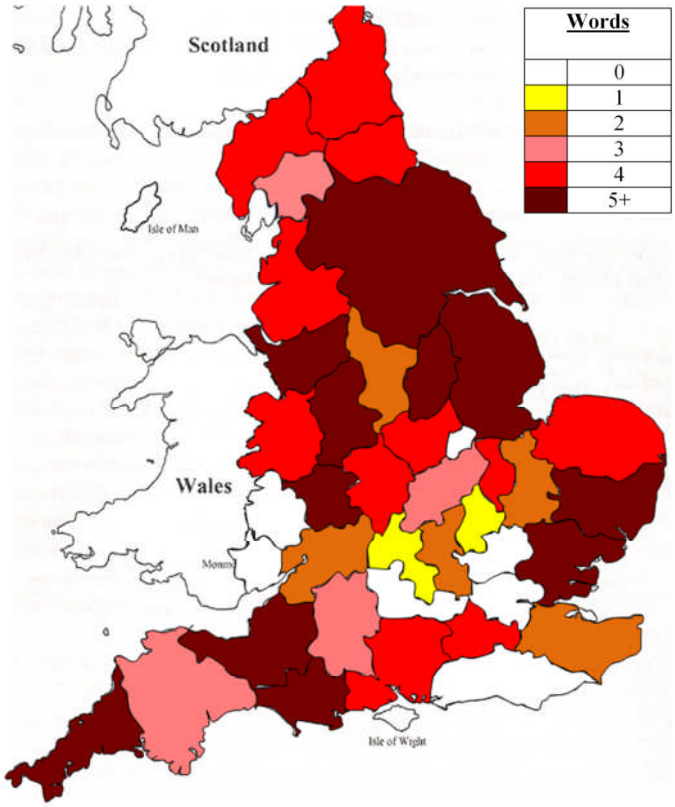
Table 2. Notions which elicit /bl/ verbs in D&G

Notion word	Number of /bl/ words elicited
MOO	**11 (22%)**
BLEAT	**8 (16%)**
BELLOW	**6 (12%)**
PUTTING TONGUE OUT	3 (6%)
SWEARING	3 (6%)
CURSING	2 (4%)
SCREAM	2 (4%)
SHRIEKING	2 (4%)
BELCHING	2 (4%)
WHINNY	**2 (4%)**
SHOW SIGNS OF CALVING	1 (2%)
GOSSIPING	1 (2%)
STOCK	1 (2%)
COUGHING	1 (2%)
WINNOW	1 (2%)
PANTING	1 (2%)
BREAK WIND	1 (2%)
CLEAR	1 (2%)
Total	**49 (100%)**

Given their nature of articulation, plosive consonants are generally thought to represent abrupt, explosive sounds (Hinton et al., 1994: 9; Shisler, 1997b: 3; Pharies, 1985: 99). More specifically, Rhodes (1994: 280) suggests that /b/ is suggestive of a 'relatively loud' sound and Shisler (1997a: §1) labels /b/ as carrying the meaning of 'imitative of sound made when mouth is opened' and /bl/ as 'vocal, air-induced sound'. It can be argued, therefore, that the origin of this sound-meaning association is onomatopoeic, that is, /bl/ may be an imitation of the noise made by the animals. This is perhaps more obvious in *baa* and *boo* for sheep and cow cries respectively than /bl/ initial *blodder* for example. However, it is believed that if an initial sound of a word, in this case /b/, is similar to the sound being described, then the remainder of the word need not be such a straightforward reproduction for the sound-meaning relationship to be maintained (Bolinger, 1950: 63; Jeffries, 1998: 40; Nuckolls, 1999: 237). Therefore, /bl/ may have evolved originally from an attempt at onomatopoeia, and although not purely imitative now, still carries with it an association with animal cries. Indeed, *the Oxford English Dictionary* (*OED*) reports that *bleat*, derived from Old English *blǽtan*, is 'of imitative origin' and *blurt* is 'apparently a modern onomatopoeia'. In comparison, however, *blother* is said to derive from Old Norse *blaðra*, echoing the argument by many (Householder, 1946; Bolinger, 1968; Nuckolls, 1999: 237–8) that sound symbolic phonesthemes group semantically similar words together regardless of their etymology and language of origin. This holds true as far back as Old English and Old Norse. Although it may be that these words share Indo-European roots, such historical exploration is beyond the scope of this study, and so focus here is on the etymological explanations offered by the *OED*.

Initial /bl/ is found in words referring to animal cries across the whole of England and Figure 1 shows the number of words elicited for these notions that begin with /bl/ in each county. For quantitative purposes here, a word is counted only once even if it is attested in a county with a number of different *vowel* pronunciations. White or no shading in the map means no words at all are attested in *D&G* for /bl/.

Figure 1. Number of /bl/ initial words attested for 'animal cries' across England



Counties in which /bl/ is most frequent tend to cluster together. Within these high frequency /bl/ areas, adjacent regions tend to be 0-2 numbers of words apart from each other. This is exemplified particularly well in the similarity between Yorkshire, Lincolnshire and Nottinghamshire, with 10, 9 and 8 words respectively, as well as Dorset (8) and Somerset (6); Norfolk (4), Suffolk (5) and Essex (6); and Cheshire (6), Staffordshire (8) and Worcestershire (6). The same is true of the low-frequency /bl/ area in the south-east of England, in which the adjacent counties of Bedfordshire, Hertfordshire, London, Berkshire, Oxfordshire and Buckinghamshire are all very similar, and range from zero to only two /bl/ words being attested. Thus, the pattern emerges that adjacent regions are more similar to each other than random pairs of regions. In turn, these findings reflect Chambers' and Trudgill's (1998: 5–8) 'dialect continuum' concept, which holds that 'the further we get from our starting point the larger the [linguistic] differences will be'. This type of 'spatial autocorrelation' has also been found at the level of *languages*; Holman et al. (2007: 7–8) for example, observed that 'difference [in linguistic features] is least between languages less than 1000 km apart, and then increase with increasing distance'.

A comparison of the regional distribution of /bl/ with that of /bɛ/ in words such as *bellow* and *belder* (n=11, Table 1) and /m/ in *mawl* and *mumble* (17) reveals that while there are areas in which all sounds are attested fairly frequently, there are some noteworthy differences (Figure 2 and 3). First, /bɛ/ is attested very infrequently or is absent altogether from the most high frequency /bl/ areas, namely Yorkshire, Cheshire, Nottinghamshire, Suffolk and Dorset. However, the region in which /bɛ/ most commonly occurs is Herefordshire (5) (with one occurrence in Monmouthshire), where /bl/ is not found. Similarly, initial /m/ does not appear at all in the major /bl/ areas of Cornwall and Suffolk but instead has Berkshire as one of its most productive areas.

The important point is that although the frequencies being dealt with are relatively low, there seems to be some geographical patterning. In many areas where /bl/ is frequently attested alternative word-initial sounds are either considerably less common or not documented at all. Conversely, in areas where /bl/ is rare or not used at all, /bɛ/ or /m/ are more common. In dialectological terms it may be that 'animal cries' represents a semantic variable and the different phonesthemes are regional linguistic variants. The implication of this for sound symbolism is that it suggests particular phonesthemes do not have the same strength of sound-meaning association across the whole country. Rather, distinctive patterns of regional variation emerge where particular phonesthemes are more common in particular areas.

4.2. Eating and drinking

4.2.1. 'Eating noisily and/or greedily'

In the SED, two notions words relate to eating noisily and greedily: CRUNCH and GOBBLE. CRUNCH words are elicited by the question *when, in eating, we crunch apples or biscuits noisily with our teeth, we say we ... (them*), and words for GOBBLE are elicited by *[if a man drinks noisily and greedily, you say he...] And if he eats in the same way?* (Table 3). Focus here will be only on word-initial sounds which occur across both notions, the consonant clusters /tʃ/ (although /tʃ/ is strictly an affricate, corresponding <ch> is a consonant cluster), /gr/ and /skr/. /tʃ/ is the most common, accounting for 18% (23/130) of all words given for these notions, while /gr/ and /skr/ are found in 14% (18/130) and 7% (9/130) of the words respectively.

Figure 2. Number of /bɛ/ initial word attested for ‘animal cries’ across England

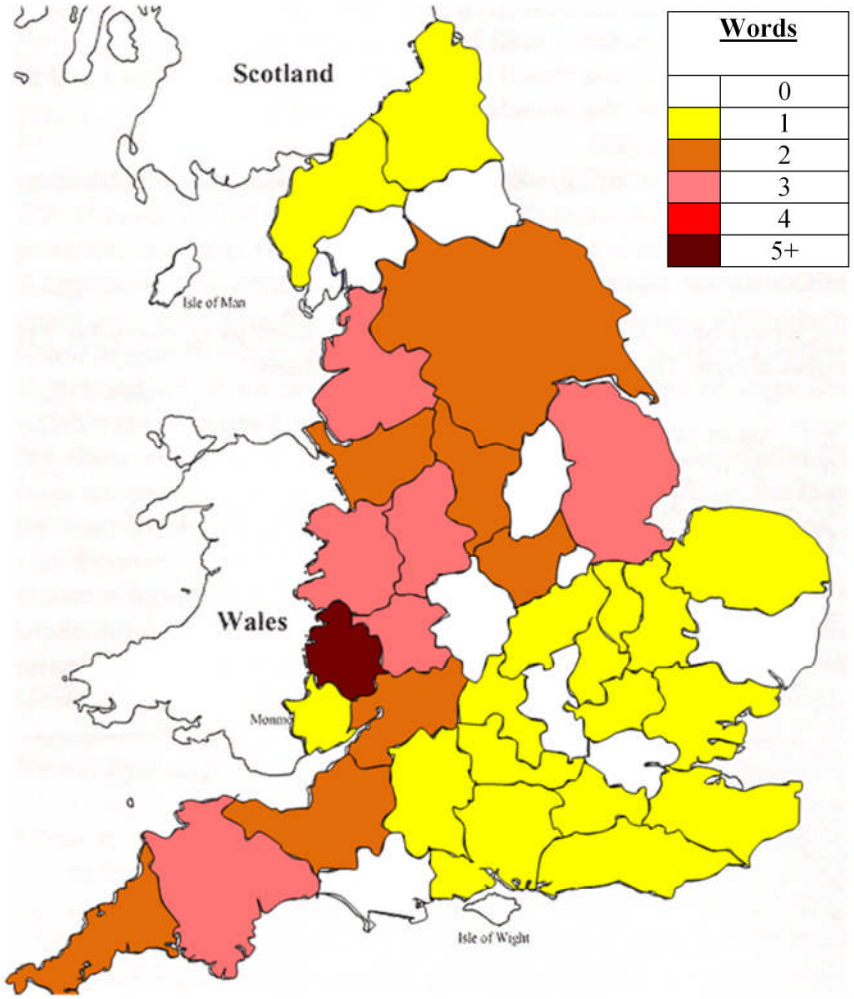


Figure 3. Number of /m/ initial words attested for ‘animal cries’ across England

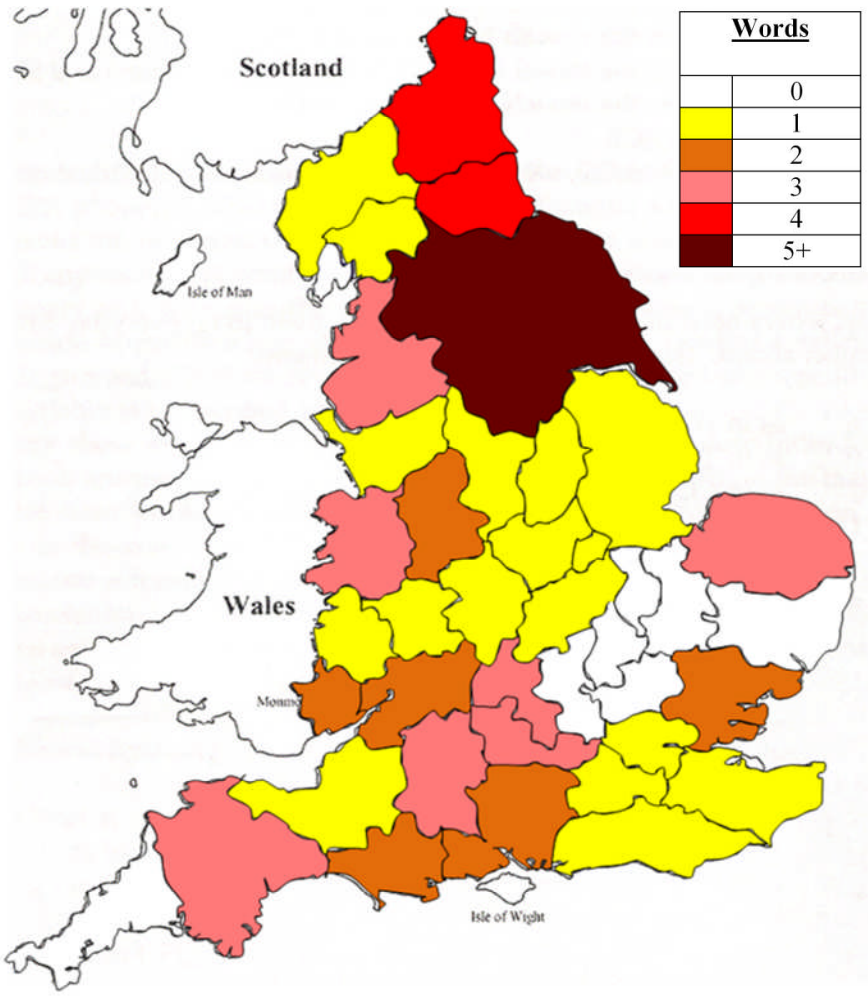


Table 3. Regional words submitted for CRUNCH and GOBBLE

Notion word Notion word	Words elicited
CRUNCH	**cham, cham up, chammer, champ, champ up, chank, chaw, chaw up, chew, chew up, chomp, chomp up, chop, chump,** crack, crank, cranch, craunch, cronch, crouch, crounge, crump, crunge, crush, crush up, fraunch, gnaw, **granch, graunch, graunch up, graunt, graze, gresh, grind, grind up, gronch, gronch up, growdge, grump, grump up, grunch**, hanch up, maunch, munch, munge, raunch, s**caunch, scranch, scraunch, scrounge, scrump, scrunch, scrunch up, scrunge,** scunch,
GOBBLE	bolt, bolt down, **cham, champ, chobble, chom, chomble, chomple, chop, chops, chop up**, gabble, gallop, gaunge, gawp, glut, glutch, glut, glutton, glutton down, golk, gollop, gollop down, gollops down, golp, golsh, gorge, gormandise, **granch, graunch, growdge, growze**, gubble, guggle, gullet, gulf, gullop, gulp, gut, gut back, gut down, guts, guts down, guttle, gut up, guzzle, hog, hog down, larp, maunch, munge, munch away, pig, push down, rattle down, scoff up, **scrump, scrunch**, slabber, slawp, slobber, slop, slawp, slotch, slother, slubber, slush, sluther, smack, smacking your gills, soss, stuff, sup, wolf, wolf his food.

The frequent recurrence of these consonant clusters in words for both CRUNCH and GOBBLE indicates that they are phonesthemes carrying some association with the act of ‘eating noisily and/or greedily’. All of these consonant clusters are found in CRUNCH words more frequently than in GOBBLE words, suggesting that they relate to more strongly to ‘noisiness’ of eating than ‘greediness’.

In the *D&G* as a whole, CRUNCH produces more /tʃ/, /gr/ and /skr/ words than any other notion. In addition, combined with GOBBLE words, 35% of all /tʃ/ words, 33% of all /gr/ words and 22% of /skr/ words relate to the meaning ‘eating noisily and/or greedily’ (Table 4) These two factors highlight the affinity between these sounds and this meaning. /g/ is well documented in the literature, and is thought to express ‘gurgling of the throat’ (Bolinger, 1940: 69; Shisler, 1997a: §2) likely due to its voiced velar plosive articulation, and Allan (2001: 136) adds that words with initial /gr/ are ‘deprecatory’. /kr/, meanwhile, carries the meaning of ‘jarring, harsh, grating’ (Shisler, 1997a: §4). Based on these proposals, it is likely the sound-symbolic status of these phonesthemes is in part an onomatopoeic one, imitating the sounds produced when a person eats noisily and greedily, combined with the negative evaluation of eating in such a manner. While the literature suggests this may be more direct in /gr/ and /skr/, it is perhaps not too ambitious to recognise /tʃ/ as mimicking the sound made by the collision between teeth and hard foods when a person eats ‘noisily’. Such imitation is credited with the emergence of some of these words. For example the *OED* suggests that the origin of *champ* is onomatopoeic, representing the ‘sound of the jaws’, and describes *scranch* as being ‘apparently an onomatopoeic formation’. As with animal cries, the meaning carried by these phonesthemes bonds together words with different ancestries. While *chew* is derived from Old English *céowan, chomp* is thought to be derived from *stampian*. Similarly, *graze* is a derivative of Old English *grasian*, while *grind* has developed from Old English *grindan* (*OED*).

Table 4. Notions which elicit /tʃ/, /gr/ and /skr/ verbs in D&G

/tʃ/		/gr/		/skr/	
Notion word	**No. of words**	**Notion word**	**No. of words**	**Notion word**	**No. of words**
CRUNCH	**14 (22%)**	**CRUNCH**	**14 (27%)**	**CRUNCH**	**7 (17%)**
GOBBLE	**9 (14%)**	GROPE	9 (18%)	SHRIEK	6 (15%)
GOSSIPING	9 (14%)	**GOBBLE**	**3 (6%)**	COLLECT	5 (12%)
TOP AND TAIL	3 (5%)	HIRE PASTURAGE	3 (6%)	RAKE	5 (12%)
WHITTLE	3 (5%)	MOO	3 (6%)	CLIMB	3 (7%)
CHIP	2 (3%)	DITCH	2 (4%)	SCRATCHING	3 (7%)
FORK	2 (3%)	DRAIN	2 (4%)	CHIP	2 (5%)
PITCH	2 (3%)	FEEDING	2 (4%)	**GOBBLE**	**2 (5%)**
OVERTURN	2 (3%)	ACHE	1 (2%)	PULLING	2 (5%)
THROWING	2 (3%)	CULLING	1 (2%)	SCREAM	2 (5%)
UNLOADING	2 (3%)	CURDLE	1 (2%)	WRING	2 (5%)
CHOKE	1 (2%)	CUT	1 (2%)	MEW	1 (2%)
CLEAR	1 (2%)	GOSSIPING	1 (2%)	REMOVE STALKS	1 (2%)
COLLECT	1 (2%)	LAUGHING	1 (2%)		
COUGHING	1 (2%)	PULL	1 (2%)		
CULLING	1 (2%)	RAKE	1 (2%)		
CURDLE	1(2%)	ROOT	1 (2%)		
GUZZLES	1(2%)	SCREAM	1 (2%)		
KITTEN	1(2%)	SHRIEK	1 (2%)		
LAUGHING	1(2%)	STOCK	1 (2%)		
LOAD	1(2%)	WAX	1 (2%)		
SHEARING	1(2%)				
SUCK	1(2%)				
TED	1(2%)				
THIN OUT	1 (2%)				
TIP	1(2%)				
Total	**65 (100%)**	**Total**	**51 (100%)**	**Total**	**41 (100%)**

The three phonesthemes have contrasting regional distribution in words (Figures 4–6). First, /tʃ/ is most common in Cornwall (6), with occurrences stretching eastwards to Gloucestershire, as frequency decreases with distance. This sound is also more common than the others in Yorkshire and East Anglia. In contrast, the west of England from Cheshire to Gloucestershire and as far east as Lincolnshire is dominated by /gr/ words. This appears to spread from the cluster of three core counties in the west Midlands where /gr/ is most common, and /tʃ/ is attested twice at most and /skr/ is absent. Finally, with the exception of the two words shared by Northumberland and Durham, /skr/ is predominantly a 'southern' phonestheme covering a group of counties in the south east from Oxfordshire to Cambridgeshire where /tʃ/ and /gr/ words are not found. Combined with the geographical patterns emerging in animal sounds evidence is building to support a claim that sound-symbolism and phonesthemes are subject to regional variation. This suggests that particular sounds only 'contain' a non-arbitrary association with the meanings they express in certain areas, at least as is observable in the lexis of the region. One possible explanation for this regional variation is based on Jespersen's (1922: 408) and Bolinger's (1950b: 134–5)

Figure 4: Number of /tʃ/ initial words attested for ‘eating noisily and or greedily’ across England

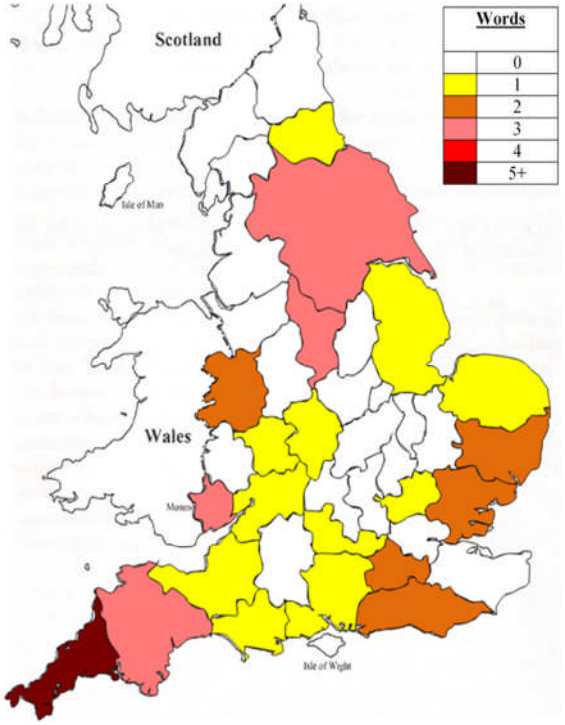


Figure 5: Number of /gr/ initial words attested for ‘eating noisily and or greedily’ across England

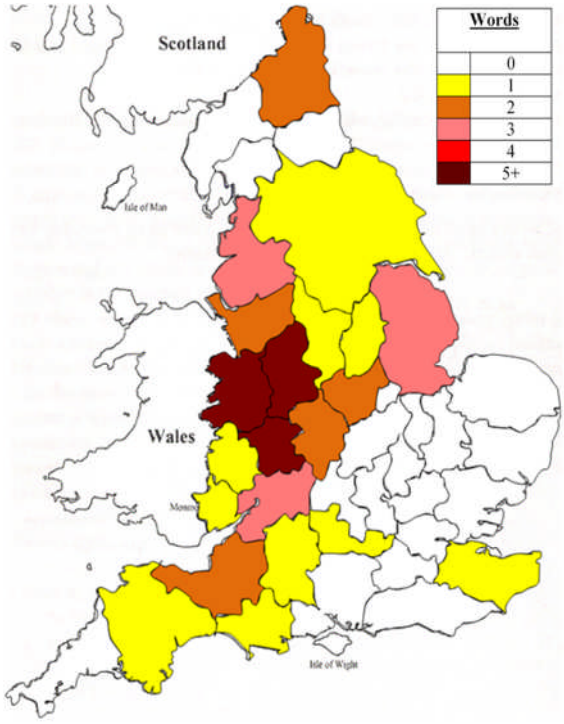
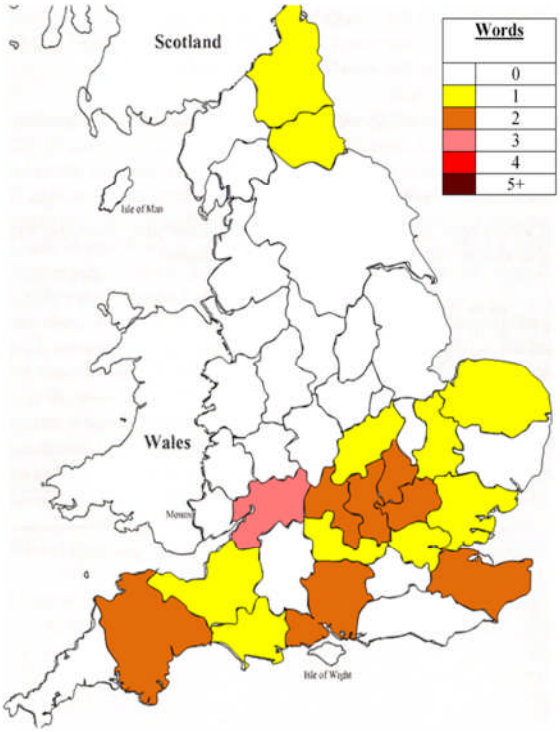


Figure 6: Number of /skr/ initial words attested for ‘eating noisily and or greedily’ across England



proposals that if the sound of a word is in some way suggestive of its meaning, then speakers will prefer it over alternatives for the same notion. Furthermore, it is thought, that over generations, speech communities readily create and adopt sound-symbolic words (Jespersen, 1922: 410; Nuckolls, 1999: 238; Allan, 2001: 133). As such, once a region identifies a sound-meaning relationship expressed by a phonestheme, this sound will dominate over alternatives and give rise to new semantically-related words. In turn, as the number of words containing this phonestheme expands, its sound-meaning association strengthens at the expense of others.

4.2.2. 'Drinking noisily and greedily'

As well as eating greedily, the SED collected regional terms for GUZZLES, evoked by the question *If a man drinks noisily and greedily [indicate] you say he...* (Upton et al. 1994: 187) (Table 5).

Table 5: Regional words submitted for GUZZLES

Notion word	Words elicited
GUZZLES	balk, bezzle, bolt down, chops, draw in, flobbers, gaunges, gawps, gluts, glutton, **gobble down, gobbles, gobble up, goggles, goggles down, golk, golk down, gollops, golp, golp down, golp up, gubble, guddle down, guddles, guggle down, guggle in, guggles, gulfs, gulp back, gulps, gurgle, guts, guts down, guttle,** glutton, hog, quilt, **slabbers, slapes, slatches, slawps, slobbers, slodders, sloops, sloop up, slooshes, slop down, slops, slawps, slotches, slothers, slouse down, slubbers, slurrup, slurrup down, slush down, slushes, slutches, sluthers, slutters**, snorks, soss, sossles, such down, sucks, sucks up, sup in, sups, sup up, swabbles, swallows, swig, swill

Two word-initial sound clusters very frequently recur and appear to carry with them some meaning of 'drinking greedily'. The voiced velar plosive followed by a back vowel, (represented orthographically by <go> and <gu>) is found in initial position in 33% (24/73) of all GUZZLES terms, and the voiceless alveolar fricative combined with alveolar lateral approximant /sl/ occurs in 32% (23/73). Indeed 41% (24/59) of all verbs beginning with /g/+back vowel and 35% (23/65) of all /sl/ verbs in *D&G* belong to the notion of GUZZLES (Table 6). As noted above, /g/ is imitatively expressive of gurgling in the throat and as such it is probable that, again, the origin of this sound meaning relationship is imitative. However, Rhodes (1994: 287) describes *sl-* as being a 'classifier for liquids' and Shisler (1997a: §3) presents a range of /sl/ words with the shared general meanings of 'sliding movement' and 'slime, slush, liquid'. Therefore, it may be suggested that /sl/, rather than being obviously imitative or onomatopoeic, is more arbitrarily expressive of the sliding movement of liquid in drinking. Further, it appears that /sl/ is particularly associated with the 'noisy and greedy' movement of liquid, rather than the act of drinking itself, as the notion of DRINKING, elicited by the question *What am I doing now [indicate drinking]?* (Upton et al., 1994: 125) did not produce any /sl/ words at all (Table 6).

The strength of the sound-meaning connection between these phonesthemes and the meanings they reflect is such that it groups etymologically unrelated terms together. For example the verb *to gut*, derives from the Old English noun *guttas*, while the verb *gulfs* is

Table 6. Notions which elicit /g/+back vowel and /sl/ verbs

/g/+back vowel		/sl/	
Notion word	**Number of words**	**Notion word**	**Number of words**
GUZZLE	**24 (41%)**	**GUZZLE**	**23 (35%)**
GOBBLE	20 (34%)	GOBBLE	8 (12%)
BELCHING	3 (5%)	SLIDE	7 (11%)
GROPE *(for fish)*	3 (5%)	PUTTING TONGUE OUT	5 (8%)
has not (HELD)	1 (2%)	TOP AND TAIL	3 (5%)
ACHE	1 (2%)	TRIM	3 (5%)
BUTT	1 (2%)	PLASH	2 (3%)
DITCH	1 (2%)	REMOVE STALKS	2 (3%)
DRAIN	1 (2%)	SLIPS THE CALF	2 (3%)
DRINKING	1 (2%)	THIN CUT	2 (3%)
GOSSIPING	1 (2%)	THROWING	2 (3%)
LAUGHING	1 (2%)	BEAT	1 (2%)
VOMIT	1 (2%)	DITCH	1 (2%)
		has not (HELD)	1 (2%)
		LOP	1 (2%)
		RINSE	1 (2%)
		SHOW SIGNS OF CALVING	1 (2%)
Total	**59 (100%)**	**Total**	**65 (100%)**

from the Old French noun *golfe* (*OED*). Similarly, the original form of *slape* is Old Norse *sleip*, while *slop* is thought to have developed from Old English *sloppe (OED).* As has been observed in the other notions discussed, patterns emerge in the regional distribution of words with these intial phonesthemes (Figures 7 and 8). Presence of initial /g/+ back vowel is highest in the West Country, occurring with particular frequency in Devon (5), Somerset (5) and Oxfordshire (5). With the exception of London and Hertfordshire, this sound dominates the south of England, up to areas as far north as Nottinghamshire. In contrast, despite occurring in Cornwall and with one instance in Devon, /sl/ is largely absent from these southern counties. Instead, it is most prevalent in northern counties, with Yorkshire (7) being the most productive /sl/ region. Furthermore, /sl/ words occur more frequently than those of /g/+back vowel in the northernmost counties, particularly Northumberland and Westmorland. As has been the case throughout, the numbers and differences between counties are often very slight. Nevertheless, the results provide some basis to tentatively suggest that /sl/ may be considered a predominantly 'northern' feature in relation to 'drinking noisily and greedily', at least as far Yorkshire and beyond, while /g/+back vowel may be deemed as more typically 'southern'. The implication for the sound-symbolic status of these sounds is that /sl/ holds a stronger sound-meaning association in the north than in the south, while the opposite is the case for /g/+back vowel. In turn, if these suggestions are accepted, it may be reasonable to argue that the counties across the west Midlands, Lincolnshire and East Anglia represent a several hundred mile 'transition zone' (Chambers and Trudgill, 1998: 104–18) between the two variants.

Figure 7. Number of /g/+back vowel initial words attested for ‘drinking noisily and greedily’ across England

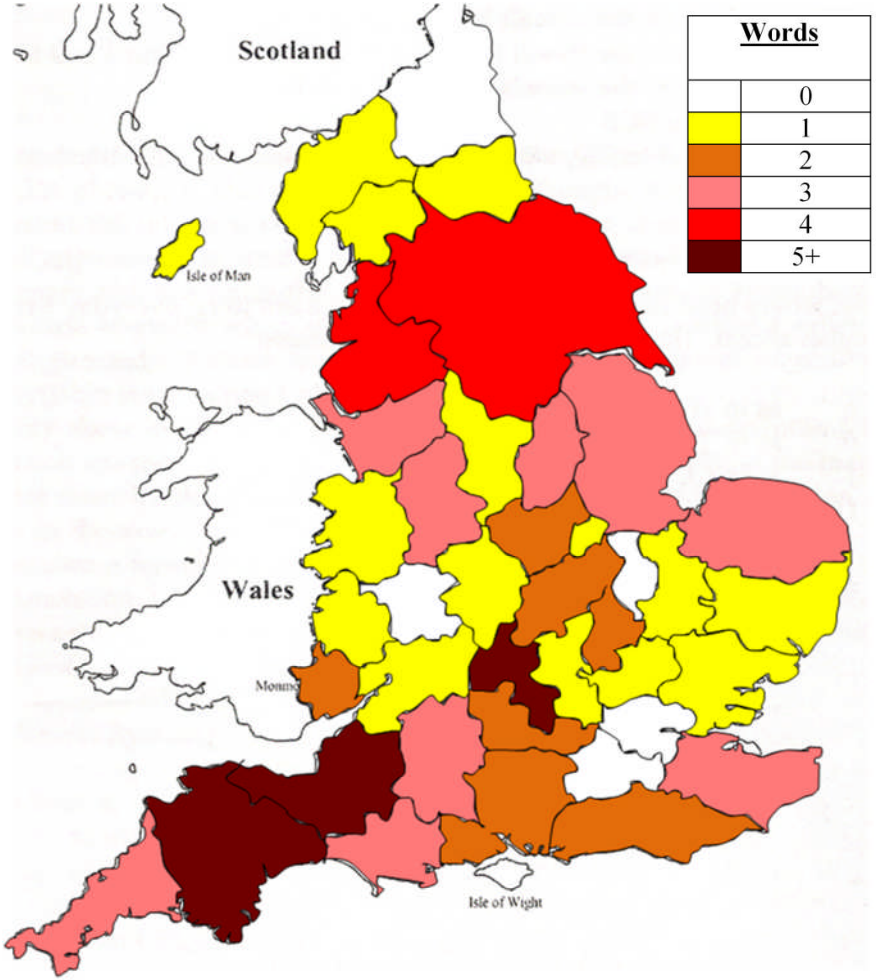
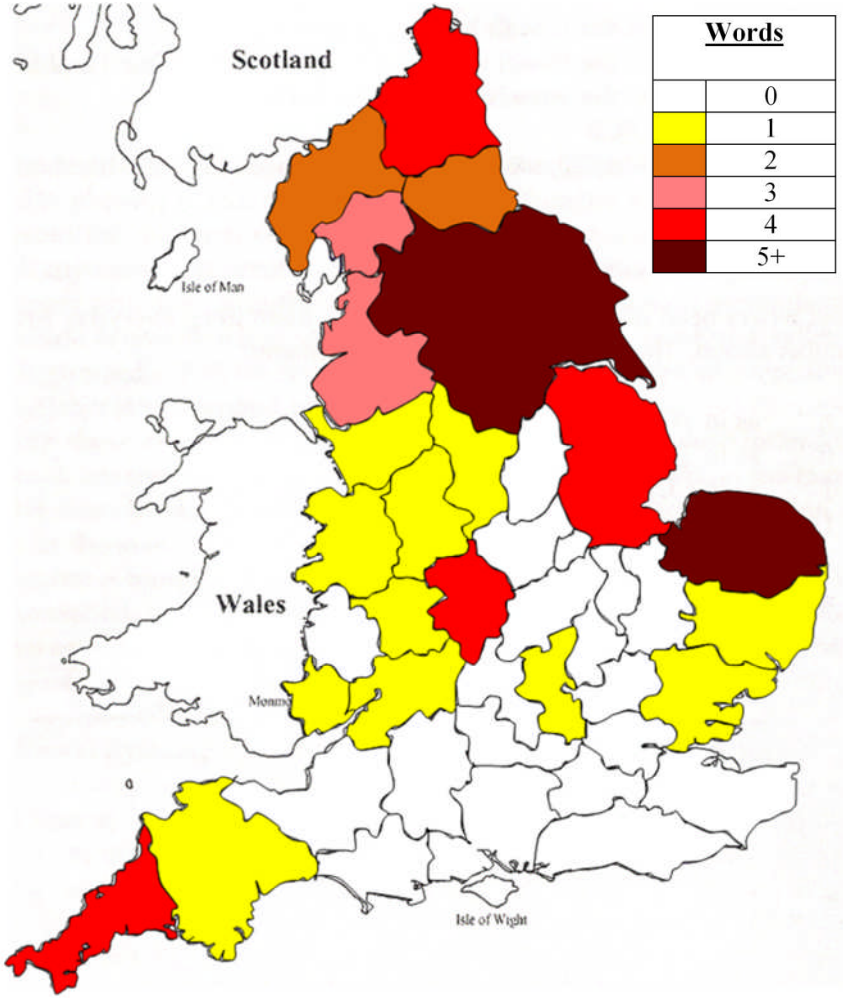


Figure 8. Number of /sl/ initial words attested for ‘drinking noisily and greedily’ across England



4.3. Properties of /st/ nouns

During the analysis of *D&G*, word initial /st/ was found to recur in regional terms elicited for notion words denoting objects sharing similar properties; 188 nouns with word initial /st/ are elicited over 34 semantically-related notion words (Table 7). These notions are related insofar as the objects that they denote share properties of hardness, solidness, straightness or flatness. Many are implements used in agriculture, such as TETHERING-STAKE, PEGS, BILLHOOK and SHAFT. There are also various objects that are component parts of carts and building such as HURDLES, PARTITIONS, WALLS, and BUMPER. Finally, there are words given to types of surfaces or foundations, such as the SOLE of a plough, BENCH and BASE. All of these types of objects, despite differences in size, function, and material share hard, solid, straight or flat qualities.

Jeffries (1998: 44) claims that if words share a bit of their meaning and some of their sounds, there will probably develop a feeling that the shared meaning 'resides' in the shared sound. It may be argued, then, that word-initial /st/ has a sound-symbolic association with the physical properties of these types of objects. This suggestion correlates with those of Rhodes and Lawler (1981: 22) and Nuckolls (1999: 238) who argue *st-* indicates one-dimensionality and rigidness in objects, and Jespersen (1922: 396) who reports how word initial *st-* produces an impression of 'firmness'. Similarly, Shisler (1997a: §2) describes *st-* as being symbolic of implacableness, rigidity, reliability, steadfastness and one-dimensionality. Indeed, in the *D&G* as a whole, there are 449 individually numbered noun senses that begin with initial consonant cluster /st/. Of these, 44% (196/449) belong to the notion words in Table 7 (Table 8).

The expressive value of /st/ is a different type of sound symbolism than the imitative sounds discussed in animal cries, eating and drinking. Instead, /st/ is an example of 'synesthetic sound symbolism', the 'acoustic symbolisation of non-acoustic phenomena' wherein sounds are chosen to consistently represent visual, tactile or proprioceptive properties of objects (Hinton et al., 1994: 4). To this end, it is comparable to the association of /sl/ with 'liquid' identified above. Hinton et al. (1994: 5) state that synesthetic sound symbolism is more indirect and arbitrary than imitation. For this reason Marchand (1959: 153–5) asserts the impossibility of finding out what such sound symbolism is based upon. In the case of /st/ it may be that the abruptness of the alveolar plosive following a voiceless fricative evokes in the mind a sense of hardness and rigidity. Regardless, the sound-symbolic relationship between the words sharing this phonestheme overrides their differing ancestries; s*take*, for example, derives from the Old English *staca*, while *staff* is from Old English *stæf* and *stem* has developed from Old English *stęmn (OED).*

Table 7. Regional /st/ words submitted for notions denoting objects with similar tactile properties

Notion word	/st/ words elicited	
BARS	staves	1
BASE	stack-bed, stack-bottom, stack-brandrick, stack-frame, stack-staddle, staddle(s), staddle-bottom, staddling, stavel, stead, stedding, stem, stilts, stool, straddle, stud	16
BENCH	stock, stool, stretcher	3
BILLHOOK	steeping-hook, straight-nip	2
BROOM	stiff-broom, stiff-brush	2
BUMPER	stay, stud	2
CROSS-BEAM-END	stap, stay, stay iron, step, strengthener, strut	6
DIAGONAL BAR	start, stave, stay, stay-bar, stay-rod, strainer, straining larra, strap, strapping, strengthener, strengthener bar, strenghthening piece, stretcher, stride, strip, strut	16
GATE-POSTS	stoops, stubs, stumps	3
GRASS-NAIL	stay, streak-iron	2
HANDLE	stake, stale, stave, steal, stem, stick, stub, stump	8
HANDLES	stilts, staff, stave	3
HANGING-POST	standard, standard-post, stand-post, strinding-post	4
HAY-FORK	stacking-fork, stover-fork, straw-fork	3
HEDGING-BILL	staff	1
HURDLES	stack-bars, stuckins	2
JAMBS	stanchels, standards, steals, studs	4
MUCK-BRUSH	stable-brush, stiff-besom, stiff-broom, stiff-brush, stiff yard-brush, strong-brush	6
PARTITION	stall, stall-board, stall-boards, stall-posts, stanchions, stand, standing, standing-post, standside, stoothing, studdle, standing-board, standing- parting	13
PEGS	stack-brods, stack-pins, stack-pricks, stack-prods, stack-spells, stack-stobs, stakes, sticks, stobs	9
PORRIDGE-STICK	stick, stirrer up, stirring spoon	3
PROP/CHOCK	stop-block, strut	2
ROD/PIN	standard, stander, standle-pin, stay, stick, straight-stick, strap-stick	7
RODS	straps, stretchers	2
RUNG	stab, stabber, staff, stale, stall, stap, stave, stavver, stay, stee-spell, stee-step, step, stower.	13
SHAFT (3 senses)	staff, stake, stale, steal, stem, stick, stock, strap, stave	9
SHUTTING-POST	stopping-post	1
SOLE	strake, strip	2
SPLINTER	stob	1
STEM	stalk, stock, stool, strand, straw, straw-stem	6
STICK	staff, stand, stand-leg, stay, stay-stick, stop-stand, strap-stick	7
STRETCHER	stem, stend, straddle-stick, strad-stick, stretcher-stick, stretching-stick, stretch-staff, stretch-stick, stretcher,	9
TETHERING-STAKE	stake, stallin, stall-post, stall-tree, stanchion, standard, standing post, staple, stay, stelch, stower, studdle	13
THRESHOLD	step, step-board, stone	3
WALL	stone-dike, stone fence, stone hedge, stone wall	4
Total		**188**

Table 8. Notions which elicit /st/ nouns in D&G

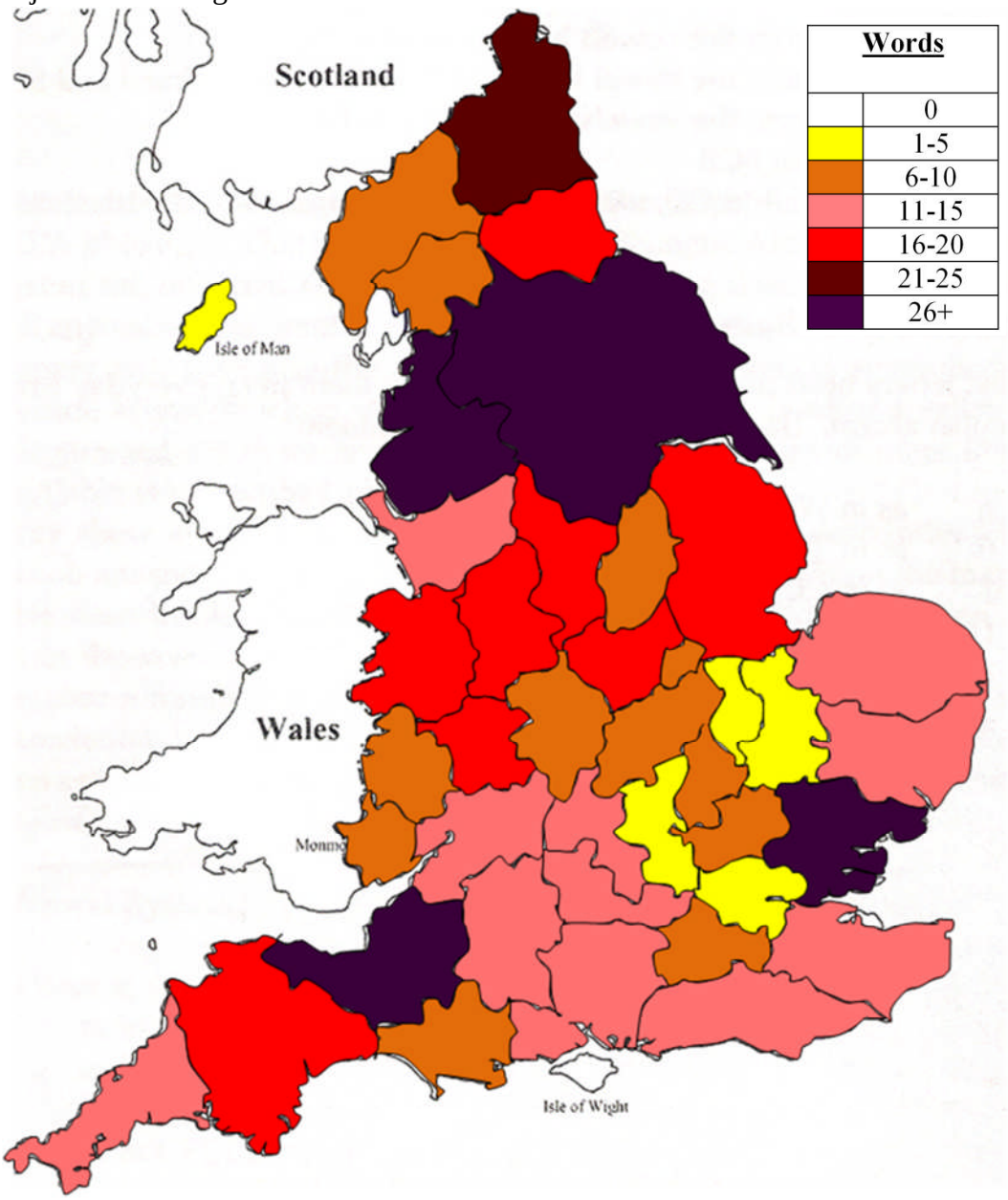
Notion	No.	Notion	No.	Notion	No.	Notion	No.
SHAFT*	**17**	COUCH-GRASS	3	ARSE	1	LEGGINGS	1
BASE	**16**	FASTING-CHAMBER	3	**BARS**	**1**	LITTER	1
DIAGONAL BAR	**16**	**GATE POSTS**	**3**	BEAT	1	LOADER	1
TETHERING-STAKE	**14**	**HANDLES**	**3**	BEESTINGS	1	MILKING- STOOL	1
PARTITION	**13**	**PORRIDGE-STICK**	**3**	BELLY	1	MIST	1
RUNG	**13**	QUARRY	3	BIER	1	NEEDLEFUL	1
STILE	11	ROPES	3	BITCH	1	PATH	1
STRIPPINGS	11	SHEARING-TABLE	3	BONNET	1	PEAT	1
MINNOWS	10	SHEATH	3	BOOT-LACES	1	PERCH	1
PEGS	**9**	SKEP	3	BUSHES	1	PIGSTY	1
STRETCHER	**9**	STALL	3	CARTMAN	1	PLASH	1
HANDLE	**8**	STUBBLE	3	CATTLE	1	POLE-CAT	1
ROPE-TWISTER	8	**BILLHOOK**	**2**	CESS-POOL	1	POOL	1
GOOSE-GRASS	7	BREAD-BIN	2	CHIMNEY	1	PORRIDGE	1
ROD/PIN	**7**	BREECH-BAND	2	CHITTERLINGS	1	REIGNS	1
STICK	**7**	**BROOM**	**2**	CLAMP	1	RIDGES	1
BULLOCK	6	**BUMPER**	**2**	COBBLER	1	RING	1
CROSS-BEAM-END	**6**	CURB-STONE	2	COLT	1	ROPES	1
HOOF MARKS	6	DUST	2	CORE	1	SAWING HORSE	1
MUCK BRUSH	**6**	FARM-LABOURER	2	COW MAN	1	SHAFT HORSE	1
SALTING-TROUGH	6	**GRASS-NAIL**	**2**	EVENER	1	SHAFTS	1
STALLION	6	HAYLOFT	2	FALLOW-LAND	1	SHREW-MOUSE	1
BUTT	5	HOG	2	FARM-CART	1	**SHUTTING-POST**	**1**
SKIN	5	**HURDLES**	**2**	FARMSTEAD	1	SLICE	1
STEM	**5**	KNEE-STRAPS	2	FARM-YARD	1	**SPLINTER**	**1**
STUMP	5	PARTRIDGE	2	FESTIVAL	1	SPOKES	1
HANGING-POST	**4**	POTATO-HAULMS	2	FLAIL	1	SPRING-ONIONS	1
HAY-FORK	**4**	**PROP/CHOCK**	**2**	FOOD	1	STACKS	1
HEAT	4	RENNET	2	FORKER	1	STARS	1
JAMBS	**4**	RESTIVE	2	GANDER	1	TAG	1
STACKER	4	RIVULET	2	GROIN	1	TETHER	1
STACKYARD	4	**RODS**	**2**	HAYSTACK	1	TETHERING-ROPE	1
STRAWYARD	4	**SOLE**	**2**	HEDGE	1	TRACE-HORSE	1
WALL	**4**	STY	2	**HEDGING BILL**	**1**	TRIM	1
WHETSTONE	4	**THRESHOLD**	**2**	HEIFER	1	TROUGH	1
BENCH	**3**	TIRE	2	HOG	1	WEASEL	1
BOAR	3	TWINE	2	HUB	1		
BOOTS	3	URINE	2	KINDLING-WOOD	1		
BUSH	3	AFTERMATH	1	LADDER	1		
CART-LADDERS	3	ANVIL	1	LAND-HORSE	1	**Total**	**449**

**SHAFT* having three senses*

/st/ is found in nouns denoting hard, rigid objects in every county (Figure 9). However, there are still stark contrasts to be drawn out. Although Essex and Somerset are core areas with high frequencies, /st/ words are generally more common in counties north of the Wash

than in those to the south. Yorkshire is the area in which the phonestheme is most productive (57), with considerably more occurrences than Somerset (30), Lancashire (27) and Essex (27). /st/ words are of high occurrence in many Midland counties, but with frequencies

Figure 9. Number of /st/ initial nouns attested for notions denoting, hard, rigid objects across England



decreasing considerably in Warwickshire and Northamptonshire. However, /st/ is least common in south eastern regions with instances falling as low as nine in Hertfordshire, five in Cambridgeshire, and three in Buckinghamshire, despite Essex's high frequency. These results indicate that, in these low frequency areas, /st/ does not carry the same association with the meanings of hard, solid and straight as it does in many other parts of the country. One potential explanation is that these regions may have fewer words for agricultural implements, structures and surfaces, perhaps because such objects themselves are uncommon in the area, at least compared to counties such as Yorkshire. In which case, the relationship

between sound symbolism, phonesthemes and regional culture may be surmised; if certain objects or concepts are rare in an area, it stands to reason that a phonestheme will not develop an association with the properties of such objects as it may in cultures where objects are common. Although this explanation is somewhat speculative, geographical differences can be clearly observed, having implications for the expressive suggestiveness of /st/ and synesthetic sound symbolism more widely.

5. Conclusion

Unlike most research into sound symbolism, the suggestions made in this study are based on empirical evidence and objective quantification. A number of apparent sound symbolic relationships have been proposed which cluster semantically similar words together regardless of their etymology as far back as Old English, Norse and French. An aim for future research, of course, could be to go beyond these etymologies in search of shared Indo-European roots. The motivations underlying many of these sound-meaning associations identified, particularly those of animal noises, eating and drinking, are imitative and articulatory, while others are more indirect examples of sound symbolism.

This study is innovative in that it examines the geographical distribution of individual phonesthemes. Results suggest that such phonesthemes are subject to regional variation: certain sounds are attested in words more frequently in some areas than others, and often where one phonestheme is not attested, an alternative for the same notion or meaning is common. In some cases, very clear geographical patterning and clustering of phonesthemes is evident, with sounds showing a strong affinity to a particular area. This may be accounted for by the preference for words with a sound-meaning association and by the creativity that sound symbolism affords a speech community. Furthermore, tentative suggestions have been made regarding the existence of a 'dialect continuum' evident in the distribution of phonesthemes, although not all evidence supports this. It has been posited that alternative phonesthemes are variants of a semantic variable, in which case it may be that phonesthemes can be analysed in the same way as any variable linguistic feature in dialectology. The implications of these findings for sound symbolism are that apparently non-arbitrary sound-meaning relationships are not of the same salience and strength in all areas or regional varieties of the same language. As such, it may be that these findings based on regional variation in English can be used to inform questions of universality of sound symbolism across languages, as has been an approach in research on grammatical typology (e.g. Bresnan et al., 2007).

This study has only brushed the surface of the intersection between sound symbolism and dialectology. However, encouraging preliminary results indicate that it offers fertile ground for further research and considerable contribution to both fields.

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Appendix 1: Map of England with pre-1974 boundaries (Upton et al. 1994)