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ABSTRACT

A noun category in Welsh which has a shorter form for a collection/plural meaning and a suffixed singulative for a single instance has been described in the literature as both a number category and a plural allomorph, often with terminological ambiguity and blurring of boundaries between different noun types. This paper is an investigation of the features of these nouns using a number of theoretical approaches which cumulatively support the argument that collective can be considered a full number category in Welsh.

1. INTRODUCTION TO COLLECTIVE NOUNS IN WELSH AND IN CELTIC

This paper is concerned with a group of nouns in the Brittonic languages whose unmarked form denotes a collection and from which a singulative¹ is formed by adding a suffix: Welsh *-yn* (masculine) or *-en* (feminine) and Breton and Cornish *-en(n)* (feminine). Some examples are listed in (1) (see Thomas et al. 1950–: s.v. *adar*; *gwŷdd*; *sêr*; Williams 1865: s.v. *gwedh*; *gwedhen*; *steren*; Toner et al. 2013: s.v. *fid*):

(1)

¹ The term ‘singulative’ is used to distinguish these suffixed forms from the singular in the more common singular/plural category, where the singular is the unmarked form. I would like to thank Liam Breatnach, Barry Lewis and Paul Russell, as well as three anonymous referees, for reading and commenting on drafts of this paper; all remaining errors are mine alone.

- (a) Welsh *adar* ‘birds’, singulative *eder-yn* (Old and Middle Welsh), *adar-en* (Middle Welsh), *ader-yn* (Modern Welsh); there are no Breton or Cornish cognates
- (b) Welsh *gwŷdd* ‘trees’, singulative *gwydd-en*, cognate with Breton *gwez*, singulative *gwez-enn*, Middle Cornish *gwedh*, singulative *gwedh-en* and Old Irish *fid* ‘tree; trees, a wood or grove’
- (c) Welsh *sêr* ‘stars’, singulative *ser-en*, cognate with Middle Breton *ster* ‘stars’, singulative *ster-en(n)*, Middle Cornish *ste(y)r* ‘stars’, singulative *ster-en*

The *adar*-type nouns will be called morphological collectives in this study. This group of nouns is relatively small compared to the most common noun type in Welsh which has an unmarked singular (e.g. *cadair* ‘chair’) and a plural formed by adding a suffix (*cadeir-iau* ‘chairs’) and/or internal vowel alternation; I refer to this group as singular/plural nouns. The terms ‘marked’ and ‘markedness’ are used throughout in the sense that a morphologically unmarked form is the most basic form of the word (with the minimal number of morphological elements), whereas a marked form has something added to the basic, unmarked form (see Waugh & Lafford 2000–2004 and Tiersma 1982). Many morphological collectives also have a plural formed by suffixation or vowel alternation, e.g. *adar-oedd* ‘birds’, although this particular plural is only attested once and in Middle Welsh, so it is not a synchronically productive form. Other examples include *onn* ‘ash (tree(s), wood)’, plural *ynn*; the plural occurs in both Middle and Modern Welsh. There appears to be no clear or regular semantic difference between the collective and its plural (see Nurmio 2015 for further discussion and examples).

This paper has two main aims. First, the features of Welsh morphological collectives are analysed from different viewpoints, both Welsh-internal and cross-linguistic, and their place within the Welsh nominal system is re-examined. The second aim is to contribute a case study to cross-linguistic discussions regarding collective number, reversed markedness and perceptual salience. Throughout this paper examples are drawn from Middle as well as Modern Welsh and, unless stated otherwise, the findings are applicable to all periods of the language. Translations into English are mine unless stated otherwise. I begin in this section by setting the morphological collectives apart from other noun types which are sometimes confused with them, namely lexical collectives and mass nouns. This is followed by a brief discussion of three nouns which are not morphological collectives in Middle Welsh but enter the category by Modern Welsh. I also include a short discussion of the suffixes *-yn/-en* and their functions one of which is that of forming singulatives from morphological collectives. Section 1.2 is a review of the use of the term ‘collective’ in Celtic and cross-linguistically. Section 2 examines in depth the linguistic characteristics of Welsh morphological collectives and a number of theoretical approaches are employed to determine whether the collective can be regarded as a number category. This discussion will focus on the differences between morphological collectives and plurals and argue that, while in terms of

syntax the two behave identically, they differ significantly in their morphological characteristics.

1.1 Morphological collectives and other categories

Morphological collectives have plural agreement, as shown in (2), as well as plural anaphora, shown in (3):

- (2) yr adar hyn
 the birds these
 ‘these birds’ (Modern Welsh, Ellis et al. 2001)

- (3) yn rhwydo pysgod ddyddar ôl dydd, yn eu
 glanhau
 PROG catch.VN fish day after day PROG their clean.VN

 a ‘u gwerthu²
 and their sell.VN
 ‘catching fish day after day, cleaning them and selling them’ (Modern Welsh, Ellis et al. 2001)

For attributive agreement, as seen in (2), the demonstrative can be used as a test in Welsh since it always has to agree with the noun in number. Demonstratives have to be accompanied by the definite article *y/yr* ‘the’, as seen in (2). The demonstratives are:

- (4)
- (a) singular, masculine: *hwn* ‘this’, *hwnnw* ‘that’
 - (b) singular, feminine: *hon* ‘this’, *honno* ‘that’
 - (c) plural: *hyn* ‘these’, *hynny* ‘those’

Morphological collectives are to be kept distinct from nouns such as those in (5) which are morphologically singular and which I call lexical collectives:

- (5)
- (a) *byddin* ‘army, host’
 - (b) *gwerin* ‘people, folk’
 - (c) *llu* ‘host, a large number (of people, etc.); army’³

2 The following non-standard abbreviations are used in glossing examples: IMPERS= impersonal verb form, PRT= verbal particle, VN= verb-noun.

Numerals are regularly followed by the singular in Welsh and this can also be used to test whether a noun is singular (for exceptions to this regular rule, see Nurmio & Willis, forthcoming). Contrast, therefore, Modern Welsh *dau ader-yn* [two bird] ‘two birds’, where the singulative is required, and *dwyr werin* [two people] ‘two peoples’, a difference which suggests that *adar* ‘birds’ (morphological collective) is treated as morphologically plural and therefore not allowed with numerals, while *gwerin* ‘people, folk’ (lexical collective) is morphologically singular, despite referring to a group, and hence allowed with numerals. As regards agreement, lexical collectives have predominantly singular agreement in noun phrases, while having plural anaphora; in example (6), *llu* ‘host; army’ takes the singular demonstrative *hwnnw* ‘that’ within the noun phrase but in anaphora we find the verb *cychwyn* ‘to set off’ with plural agreement:

- (6) ac y kychwynnyssont y llu mawr hwnnw
 and PRT set off.PAST.3PL the host big that
 ‘and that great host set off’ (Middle Welsh, *Breuddwyd Rhonabwy*, Thomas et al. 2013)

There is a complication with this example: regularly we expect to find a singular form of the verb in this construction in Middle Welsh both with singular and plural nouns (in Modern Welsh only singular agreement is possible; see Evans 1971 for a full discussion, where this example is given on p. 52). Leaving aside the unusualness of the plural concord in example (6), the crucial point for our purposes is that *llu* ‘host’ is treated as semantically plural, otherwise concord would not have arisen. Example (7) from Modern Welsh shows that *pwyllogor* ‘committee’ has plural anaphora with the pronoun *eu* ‘their’:

- (7) yn ôl eu harfer yr oedd y pwyllogor hwn
 after their habit PRT be.PAST.3SG the committee this

 eto wedi bod...
 again after be.VN
 ‘according to their custom this committee had again been...’ (Modern Welsh, Ellis et al. 2001)

³ Note that the main Welsh historical dictionary *Geiriadur Prifysgol Cymru* (Thomas et al. 1950–) labels *gwerin* as singular and collective whereas *byddin* and *llu* are listed simply as singular; this reflects the confusion regarding how such forms should be categorized, discussed below. *Pobl* ‘people’ is more complex than other lexical collectives and can behave both as a feminine singular and as a plural noun with regards to agreement, see Thomas (2006: 153) and Poppe (2015). The term ‘lexical collective’ has been used by Cuzzolin (1998: 131) and Stolz (2001: 68), while Corbett (2000: 188) calls these nouns ‘corporate nouns’.

Lexical collectives, unlike morphological collectives, cannot take a singulative suffix: there is no form ***byddin-yn* meaning ‘one of an army, soldier’. With nouns like *byddin*, collectiveness is learned as part of the lexical entry and not encoded morphologically. While English lacks a noun category corresponding to Welsh morphological collectives, it does have lexical collectives like *host* and *committee*. These can have plural as well as singular agreement in British English, while in American English they usually have singular agreement; see Corbett (2000: 188–190, 2006: 206–213). As seen in the English translation of (6) and (7) above, English lexical collectives have singular attributive agreement (*that host*, not ***these host*) and plural anaphora (*this committee...their*), and in this they directly parallel Welsh. Corbett (2000: 188–91, 2006: 207) shows that this variation can be modelled by the Agreement Hierarchy, according to which the likelihood for semantically justified agreement increases when moving rightwards along the hierarchy from attributive agreement to anaphoric agreement, as seen in (6) and (7) with both Welsh and English.

A major semantic difference between Welsh morphological and lexical collectives is that lexical collectives very often denote +human groups whereas morphological collectives have non-human referents, apart from one noun, *plant* ‘children’, which is in several ways idiosyncratic (see Russell 2014 and below). Apart from *plant*, most morphological collectives are botanical terms, followed by nouns for animals and other nouns which cannot be grouped as easily, e.g. *sêr* ‘stars’. More detailed groupings are suggested in Stolz (2001: 65–69).

There is yet another category of nouns whose morphosyntactic qualities partly overlap and partly differ from the nouns discussed so far; these nouns I label mass nouns and some examples are given in (8):

(8) Mass nouns :

- (a) *bara* ‘bread’
- (b) *caws* ‘cheese’
- (c) *dŵfr/dŵr* ‘water’

These nouns usually have singular agreement (*y bara hwn* ‘this bread’) and anaphora and are like singular nouns in this respect. However, they cannot occur directly with numerals (***dau fara* ‘two breads’). Welsh uses a partitive system for quantification with *o* ‘of’, e.g. *llawer o lyfr-au* [many of books] ‘many books’ (*llyfr* ‘book’, plural *llyfr-au*) and with singular/plural nouns and morphological collectives, the plural or collective has to be used in this environment. With mass nouns the unmarked basic form is used instead (*llawer o fara* [many of bread] ‘much bread’. See Roberts & Mueller Gathercole (2012) for a general comparison of the Welsh and English nominal systems, including mass nouns. There are some further problems with mass nouns in Welsh; for example, some, but not all, of them can take the suffixes *-yn/-en* to form a singular count noun, e.g. *cos-yn* ‘a cheese’ (with a regular vowel alternation between *caws* and *cos-*), and some seem capable of having both plural and singular agreement. Since agreement is the factor distinguishing mass nouns from

morphological collectives (cf. the regular pattern *yr adar hyn* ‘these birds’ vs. *y bara hwn* ‘this bread’), there seems to be a grey area between them in Welsh which requires a more extensive treatment than can be attempted here.

Welsh also has a group of nouns with *-yn/-en* in the singular and a plural suffix in the plural, e.g. *cwning-en* ‘rabbit’, plural *cwning-od*. Nouns in this group are very varied in terms of historical development and will be left outside the present study which focuses only on nouns which have an unmarked form for the plural meaning and a suffix for the singulative.

As already stated, part of the definition of morphological collectives is that they have singulatives in *-yn/-en*. It is important to note that some Modern Welsh collective/singulative pairs lack the singulative member in Middle Welsh. These include to the best of my knowledge (and may not be restricted to):

| Collective | Singular in Middle Welsh | New Singulative |
|----------------------------|-----------------------------|--------------------------------|
| coed ‘forest, wood, trees’ | pren ‘a tree’ | coeden (first attested 1604–7) |
| moch ‘pigs’ | hwch ‘a pig’ | mochyn (first attested 1595) |
| plant ‘children’ | mab ‘son’, merch ‘daughter’ | plentyyn (first attested 1588) |

An illustrative example is found in the Middle Welsh prose tale *Gereint uab Erbin* with *pren* denoting a single tree and *coed* meaning forest:

- (9) A gwedy eu dyuot y ‘r **coet.** seuyll
and after their come.VN to the forest stand.VN
 a oruc dan **prenn** y ochel y tes
 PRT do.PAST.3SG *under tree to avoid.VN the heat*
 ‘and after they came to the forest, he stood under a tree to shelter from the heat’ (Thomson 1997: 41, lines 1130–31).

An even clearer example is the following from the Middle Welsh verse:

- (10) Ny elwir **coet** o vn **prenn**
 NEG call.PRS.IMPERS *forest from one tree*
 ‘one does not call one tree a forest’ (Williams 1953: 35, stanza 16)

At first glance one could suggest that these nouns show suppletion in number in Middle Welsh, but in fact I argue that only one of them does, if number suppletion

is taken strictly as suppletion between the singular and plural cells of one lexeme (see Veselinova 2006: 4–31 for a general discussion of the term ‘suppletion’ and the phenomena to which it can be applied). In my view *hwch/moch* can be considered a proper suppletive pair in Middle Welsh, while a different explanation works better for the other two lexemes. In Modern Welsh *hwch* denotes ‘sow’ while in Middle Welsh it is used for ‘pig’ in general, and this narrowing in meaning may have created a lexical gap, which the new singulative *mochyn* ‘pig’ consequently filled. The exact chronology of this change is difficult to track, but it is clear that the specific meaning ‘sow’ is present by the sixteenth century (Thomas et al. 1950–: s.v. *hwch*) which is also when *mochyn* is first attested. As regards ‘child’, in Middle Welsh the singular was conveyed by *mab* ‘son, child’ or *merch* ‘daughter’ and the plural by *plant* ‘children’, in addition to *meibion* ‘sons’ and *merched* ‘daughters’; there was no gender-neutral singular for ‘child’. *Plant* ‘children’ is best characterised as a plurale tantum in Middle Welsh; a parallel is seen in *rhieni* ‘parents’ which is a plurale tantum in Middle Welsh but gains a new singular *rhiant* ‘parent’ around the eighteenth century (see Thomas et al. 1950–: s.v. *rhieni*; *rhiant*). Although *plant* is not a suppletive plural in the strict sense, note that the lexeme ‘child’ is among those which commonly have suppletion cross-linguistically (see Hippisley et al. 2004: 394). Compare Old Irish *cland*, Modern Irish *clann* ‘children; child’ which is more common in the plural meaning, although it can also denote a single child. Welsh *plant* and Irish *cland* are both borrowings from Latin *planta* which has two meanings usually given as two entries in dictionaries: ‘sole of the foot’ and ‘plant, offspring’ (Russell 2014: 162).⁴ The Welsh and Irish nouns were borrowed from the more metaphorical ‘offspring’ sense of *planta*. In Welsh, *plant* is the only morphological collective with a +human referent, as mentioned above. It could be speculated that the horticultural meaning of Latin *planta* played a role in Welsh *plant* ‘children’ entering the morphological collectives category, most of whose members denote plants, trees, etc. That *planta* was still understood as having a horticultural sense is supported by the fact that it gives rise to another Welsh noun, namely *planh-ig-ion* ‘plants’ with a later singular form *planh-ig-yn* (see Russell 2014: 170). The new singulative *plentyyn* ‘child’ can be said to have filled a lexical gap for a gender-neutral word for ‘child’. Finally, the third noun of this group, *coed* ‘forest, wood, trees’, in fact seems to start off as a singular with the meaning ‘a forest, a wood’ and is found in Middle Welsh with singular agreement (Dedio 2015: 41–42) while by the Modern Welsh period it agrees in the plural. Therefore the pair *pren/coed* is not a suppletive one, but the examples in (9) and (10) show that they are nevertheless perceived as a pair ‘a tree’/‘a forest, a wood’ in Middle Welsh. The rise of the new singulatives in Early Modern Welsh correlates with the general rise in productivity of the suffix *-yn/-en* in this period (see Nurmio 2015).

⁴ Russell argues that we do not have to postulate two separate lexemes in Latin, but the ‘plant, offspring’ meaning could be a metaphorical extension from ‘sole of the foot’.

The singulative-forming suffixes *-yn/-en* deserve a more detailed discussion than can be attempted here. I argue elsewhere that they are best described as individuating and nominalizing suffixes which have a range of functions depending on the base to which they are added (see also Irslinger 2009 and 2010, and Pronk 2015: 329–330):

| Base | Function | Example |
|---|--|--|
| collective | → singulative | <i>coed-en</i> ‘tree’ <i>brics-en</i> ‘brick’ (< English plural <i>bricks</i>) |
| singular, count | → diminutive | <i>bachgenn-yn</i> ‘a little boy’ |
| personal name | → hypocoristic | <i>Sion-yn</i> ‘little/dear Siôn’ |
| mass | → count | <i>cos-yn</i> ‘a cheese’ (← <i>caws</i> ‘cheese’) |
| adjective | → noun | <i>unigol-yn</i> ‘an individual’ (← <i>unigol</i> ‘individual’) |
| verb (rare) | → noun | <i>symud-yn</i> ‘a mobile (sculpture or decorative structure)’ (← <i>symud</i> ‘to move’) |
| noun | → noun | <i>cefn-en</i> ‘gently-rising hill, slope; ridge’ (← <i>cefn</i> ‘back; ridge’) |
| loanwords from English (both singular and plural forms) and sometimes other languages | (added to the borrowed base, accommodates the loan into Welsh) | <i>blot-yn</i> ‘blot’ < English <i>blot</i> |

Table 1. Functions of the suffixes *-yn/-en* in Welsh.

When added to a collective or mass base, *-yn/-en* form singular count nouns, while non-nominal bases (adjectives and verbs) are turned into nouns. With singular loanwords (mostly from English) *-yn/-en* can simply accommodate the loan into Welsh without having any other obvious function, but there is also a large group of words borrowed from English plurals which enter the collective/singulative category in Welsh. The category Noun → Noun is semantically very interesting and seems broadly to involve a change from more general to more specific, although there is much variation between the lexemes in this category; the Breton parallel to this is discussed in Kersulec (2015).

This section has introduced the category of morphological collectives which are the focus of this study and contrasted them with mass nouns and with another category sometimes called ‘collective’ in the literature and which have here been labelled ‘lexical collectives’. The next section looks in detail at previous scholarship

on collectives of any type in the Celtic languages before moving on to a new analysis of the morphological collective category in Welsh.

1.2 Terminology and the Celtic and cross-linguistic context of ‘collectives’

The term ‘collective’ has been used ambiguously of both morphologically and lexically collective nouns (*adar* ‘birds’ vs. *gwerin* ‘people’) by different scholars and with reference to both Middle and Modern Welsh. For some scholars the *adar*-type nouns are part of the singular/plural category. These include Morris Jones (1913: 213), Thomas (2006: 166–168) and Awbery (2009: 4), the latter describing *adar*-type nouns as having a null plural suffix which is one of the allomorphs of the plural in Welsh. Williams (1980: 9, 13) also treats *adar*-type nouns as a sub-category of singular/plural and states that the plural is formed by dropping the singulative ending. Thomas (2006: 154, 168) reserves the term ‘collective’ (in Welsh ‘torfol’) for lexical collectives, but three nouns which fall under my definition of morphological collective are also labelled ‘torfol’: *coll* ‘hazel’, *derw* ‘oak’ and *onn* ‘ash’. It is not clear to me why these three nouns should be treated differently from e.g. *moch* ‘pigs’ which Thomas considers a plural form. Typological descriptions such as Ball & Müller (2010: 387) and Thomas (1992: 303) state that Welsh has two grammatical numbers, singular and plural, and the *adar*-type is treated as one of the plural formations.

Others consider collective/singulative as a separate category. King (2003: 47–48, 66–68) argues strongly for keeping singular/plural and collective apart and maintains that to try to treat them as one system reflects an attempt to fit Welsh nouns into the same mould as English. King’s term for the *adar*-type is ‘collective/unit’ (c/u). Roberts & Mueller Gathercole (2006, 2012) reserve the term ‘collective’ for the *gwerin*-type whereas morphological collectives are called, similarly to King, the ‘collection/unit (c/u) system’. This terminology works for Modern Welsh where an *adar*-type noun always has a singulative pair; however, as shown above, in Middle Welsh some of them have no singulatives and therefore no ‘unit’ form, making the collection/unit description perhaps less suitable. For Middle Welsh, Evans (1964: 31) simply states that *-yn* and *-en* ‘are added to plurals and collectives to form singulars’, suggesting that some of the examples that follow are collective, although he does not specify which ones. Pedersen’s (1913: 70) term for the *adar*-type is collective-plural (German ‘Kollektiv-Plural’). Stolz (2001: 57–61) regards collective/singulative as a category; he also suggests, similarly to Thomas (1980) mentioned above, that the morphological collectives are formed by subtraction from the singulative form. However, it is clear, especially from nouns like *coed*, *plant* and *moch* discussed above, which initially lacked a singulative altogether, that the unsuffixed, collective form is primary.⁵ This discussion reveals

⁵ Subtraction is also very rare as a morphological phenomenon and many apparent examples can be explained otherwise, see Dressler (2000–2004²: 581–2). An example is the

that the terminology and theoretical approaches towards Welsh nouns of the *adar*-type are varied and often ambiguous. The ambiguity in the use of the term ‘collective’ may in itself be a reason why many authors avoid it (see e.g. Awbery 2009: 18 n. 2). This problem is not restricted to Welsh; in his cross-linguistic survey Corbett (2000: 117) notes that the uses of ‘collective’ in linguistic literature ‘are so different that the term has become almost useless’.

A further source of terminological ambiguity in discussions of Welsh morphology should also be noted here. There is a productive plural suffix *-od* in Welsh, but some morphological collectives also happen to end in *-od* for various historical reasons. The source for the plural suffix is probably the form *llygod* ‘mice’ (< Brittonic plural **lukotes*), where *-od* is historically speaking part of the stem, reinterpreted as a plural marker after apocope. Historically the singular was *llyg* (< Brittonic singular **lukōts*) and the paradigm was therefore *llyg*, plural *llygod*. *-od* in *llygod*, now reinterpreted as a plural suffix, became productive especially with animal names, e.g. *llwŷn* ‘young of animals’, plural *llydnod* and more recently *jiráff* ‘giraffe’, plural *jiraffod* (borrowed from English *giraffe*). The short singular form was superseded early by a singulative formed on *llygod*, hence *llygoden* ‘mouse’. The Middle and Modern Welsh paradigm is therefore *llygod* ‘mice’, singulative *llygoden*, while *llyg* survives marginally to denote ‘shrew’ (Thomas et al. 1950–: s.v. *llyg*). The fact that *-od* occurs in *llygod* for diachronic reasons, while at the same time being productive as a plural suffix, is reflected in Lewis & Pedersen (1974: 160) who list *-od* as one of the ‘endings of collectives functioning as plurals’. Furthermore, the ending of Middle Welsh *pysgawd* ‘fish(es)’ from Latin *piscātus*, also became *-od* (*pysgod*) after the sound change /au/ > /o/ during Middle Welsh. This noun is another morphological collective, with a singulative *pysgod-yn*. Since *pysgod*, like *llygod*, ends in *-od*, this may have aided the interpretation of *-od* as a plural marker, as noted by Zimmer (1990: 275 and 2000: 412–16). According to my definition, a noun is morphologically collective if the unsuffixed form denotes a collection and if the singular is formed by adding a suffix; it is for this reason that *pysgod* and *llygod* can be considered collectives, and not because they happen to end in *-od* due to various historical developments. As a suffix productively added to singular bases, *-od* is best regarded simply as a plural suffix.

Within an Indo-European context, ‘collective’ usually refers to the lexical type since this is the only type of collective found in most Western European languages. However, parallels to the Welsh formation are found in Slavic, e.g. Russian *gorokh* ‘peas’, *goroshina* ‘a pea’, as well as some non-Indo-European languages (Cuzzolin 1998: 129; Pedersen 1913: 58; see also Pronk 2015). Non-Indo-European examples include the Arabic ‘nomen generis’ (see Ullmann 1989; Corbett 2000: 32), e.g. Syrian Arabic *dabbān* ‘flies’ (nomen generis), *dabbāne* ‘a fly’ (nomen unitatis/singulative),

plural of some nouns in certain German dialects, e.g. /hond/ ‘dog’, pl. /hon/ for Ebsdorf, cf. Standard German *Hund* /hund/, pl. *Hund-e* /hundə/; the standard plural has a suffix but the dialect plural has ‘subtraction of the stem-final phoneme’.

and reversed markedness in Dagaare (a Niger-Congo language; see Grimm 2012). Morphological collectives are also found in Breton and Cornish (see Hemon 1975: 39–41; Trépos 1982: 219–222; Lewis 1946: 12–13 and Brown 1993: 27). Old Breton had masculine and feminine singulative endings *-in(n)* and *-en(n)* like Welsh, but these fell together as *-en(n)* early (Hemon 1975: 39). The same is postulated for Cornish which likewise has *-en* only (Lewis 1946: 12–13). Breton, like Welsh, can pluralize the collective, e.g. *frouez-iou* ‘fruit’ from *frouez* ‘fruit’ (Hemon 1975: 40). But Breton also has the option of pluralizing the singulative, e.g. *blev-enn-ou* [hair.COLL-SING-PL] ‘hairs’ which is virtually absent in Welsh (Trépos 1982: 277; Fleuriot 1964: 234). The prominence and productivity of such multiple suffixation in Welsh is debatable and requires a detailed diachronic discussion which is not possible here.

Old Irish has nouns described as collective which are, however, morphologically different from the Welsh *adar*-type. There are two different types of collectives in Irish: derived nouns formed by adding a collective suffix to the singular, and nouns which are singular in form but which can take plural agreement, e.g. *muinter* ‘a community or group of persons connected by some common bond; a family or household’. It has plural agreement in example (11) from Old Irish:

- (11) ni fitetar muntar nime
 NEG know.PRS.3PL community heaven.GEN.SG

‘the community (*familia*) of Heaven do not know’ (Thurneysen 1946: 349 from which the translation is taken; see also Toner et al. 2013: s.v. *muinter*)⁶

The Old Irish collective suffixes are: *-red/-rad* (neut.);⁷ *-gar*; *-gal*; *-rad* (fem.); *-caill*; *-tan*; *-saine/-sine*; *-bad* (De Bernardo Stempel 1999: 470–476). These are treated by De Bernardo Stempel as ‘suffixoids’ (German ‘Suffixoide’), i.e. proper nouns functioning as suffixes, retaining the form of the proper noun while taking on a more general meaning (De Bernardo Stempel 1999: 461; cf. Russell 1996 on Welsh nouns whose status is also somewhere between a noun as a second element of a compound and a

⁶ These nouns and their agreement require further study in Irish; the Irish bardic tracts dictate that the *muinter*-type nouns can have both singular and plural agreement, see McKenna (1944: 5, 26–27, 40, 239, 241). The tracts are dated by McKenna (1944: ix) to around 1500, possibly going back earlier.

⁷ Historically there are several suffixes of different declensions which end up as *-red/-rad* by the Old Irish period, see Russell 1996: 121–123, De Bernardo Stempel 1999: 470–473 and Thurneysen 1946: 169. Compare the feminine *ā*-stem suffix *-rad* < Common Celtic **rēid^h-ā*, which forms collectives from animates, and the neuter o-stem-forming suffix *-red*, *-rad* < **-reto-m* or **(V)r-eto-m*, which forms inanimates. De Bernardo Stempel describes the latter as an abstract noun-forming suffix in origin; however this is problematic and needs reconsidering, since the element **-reto-* refers to running/movement (see Thurneysen 1946: 169 who suggests a connection with Old Irish *rethid* ‘runs’) and could, in fact, be better analysed as collective in origin, referring to groups of animate things (e.g. Old Irish *echrad* ‘steeds’ which is often used of two horses yoked to a chariot, see Toner et al. 2013: s.v. *echrad*).

suffix). For instance, Old Irish *caill* ‘wood, forest’ is used as a collective suffix in plant names, e.g. *mirt-chaiill* ‘myrtle-grove’ (De Bernardo Stempel 1999: 474). In contrast to this use of the term ‘collective’, Pedersen (1913: 70) dubs nouns such as Welsh *adar* as ‘Kollektiv-Pluralen’ (collective-plurals) to distinguish them from the Irish type, which in my suggested terminology would be lexical collectives. Some of the Old Irish collective suffixes listed above also form abstract nouns, namely *-bad*; *-red/-rad*; *saine/-sine* (see footnote 7). Contrast the abstract nouns *ócbad* ‘youth, state of being young’ and *brecrad* ‘variety’ with the lexical collective *fidbad* ‘trees, wood, forest’ (De Bernardo Stempel 1999: 476). Crucially, Irish does not productively employ a suffix like Welsh *-yn/-en* to differentiate single instances from the collectives listed above. There is a probably cognate suffix *-ne* which is already fairly unproductive in Old Irish, e.g. *fo(i)lt-ne* ‘a hair’ from *foit* ‘hair’. This suffix is described as forming diminutives as well as singulatives by Irslinger (2010), De Bernardo Stempel (1999: 361), O’Rahilly (1931: 66–69, who includes some Scottish Gaelic examples) and Marstrander (1910: 376–382) while Thurneysen (1946: 175) lists it as diminutive-forming only. Irslinger observes that the diminutive and singulative functions seem to depend on the base, as is the case with Welsh *-yn/-en*. There are also a number of instances where the function of *-ne* is unclear and the topic requires further research; an interesting example is Old Irish *sringne* ‘umbilical cord’ from *sreng* ‘string, cord’ which seems to be an example of Noun → Noun (cf. Table 1) with the derivative having a more specialised meaning than the base (Vendryes et al. 1959–1996: s.v. *sreng*).

To sum up, the uses of the term ‘collective’ are varied both within Celtic and cross-linguistically and can lead to the blurring of different categories. I have argued that the Welsh morphological collectives should be clearly set apart from lexical collectives. In terms of historical development, the Old Irish examples of the use of *-ne* as a singulative suffix similarly to Welsh *-yn/-en* suggest this is a Proto-Celtic inheritance which became productive in Brittonic but not in Goidelic. The aim of the next section is to determine whether the morphological collective is a separate number category which arises in Welsh, or whether it should be regarded as simply a plural allomorph as some scholars have suggested.

2. IS THE COLLECTIVE A NUMBER CATEGORY IN WELSH?

There is no consensus regarding the status of the collective category within the Welsh nominal system. I begin by looking briefly at agreement patterns of morphological collectives and their morphological characteristics, especially their use in word-formation (2.1). Three theoretical aspects will then be considered in detail: perceptual salience, frequency and markedness and semantics (2.2–2.4). The final section is a diachronic overview of the morphological collectives in which it is observed that this category remains productive in Welsh and shows no sign of being levelled out in favour of the more common singular/plural category (2.5). This is supported by data from a child language acquisition study.

2.1 Agreement and morphological characteristics of the morphological collectives

We begin with the grammatical properties of *adar*-type morphological collectives. As already shown in the Introduction (see examples (2) and (3)), they require plural agreement and anaphora, and in this respect they function like plurals. Lexical collectives, on the other hand, have singular agreement but plural anaphora like morphological collectives. This means that a noun which triggers plural anaphora can belong to three categories in Welsh: plural, morphological collective, and lexical collective. In other words, anaphora alone is not a sufficient indicator of the type of noun in examples like (3) above. In addition to this, the morphology of the noun itself often does not indicate its number category. Roberts & Mueller Gathercole (2012: 84) observe that ‘an uninflected form’ in Welsh can refer to three types: singular (*cwch* ‘boat’), plural (*ceir* ‘cars’) and collective (*moch* ‘pigs’).⁸ To this we could add lexical collectives like *gwerin* ‘people, folk’. The predictability of the number of a Welsh noun is low even when it has no grammatical context, and in many cases remains low when it is part of a verb phrase. Examination of the treatment of morphological collectives in word-formation will provide better criteria for comparison with other noun categories.

Since Breton morphology has received a good deal of attention, a comparison may be helpful at this point. Acquaviva (2008: 257–263) argues against the Breton collective being a number category on three morphological grounds (see also Stump 1989: 264; Trépos 1982: 122–124, 236). First, singulatives can be formed not only on the collective but also on singulars and non-nominal bases; therefore collectives are not unique as bases for singulativization. A marked plural form can also take a singulative suffix:

(12) *bran* ‘crow’, plural *brin-i*, and also singular *brin-i-enn* ‘a crow’

This phenomenon is synchronically productive in Modern Breton (Trépos 1982: 245), while being very rare in Middle Breton, as discussed below. Secondly, plurals as well as collectives can appear inside derivation:

(13)

(a) agent-noun-formation: Breton *aval* ‘apple’, plural *aval-où*, agent noun *aval-aou-er* ‘apple-hunter’ (= hedgehog). Compare Welsh *merched* ‘women’ (singular *merch*), agent noun *merchet-wr* ‘womanizer’ (but this is very restricted, see below)

⁸ Note that the authors treat *i*-affection plurals like *ceir* ‘cars’ (sg. *car*) as uninflected for the purposes of morphological analysis. This is also the approach of Awbery 2009. ‘*i*-affection’ is here used of both plurals which derive historically from a form in final **-i*, e.g. *meirch* ‘horses’ < Brittonic **markī*, but also of nouns which mark their plurals this way through analogy, e.g. *castell* ‘castle’ (< Latin *castellum*), plural *cestyll*.

(b) verbal-noun-formation: Breton *evn* ‘bird’, plural *evn-ed*; verbal noun *evn-et-a* ‘to hunt for birds’ (plural base) cf. *merien* ‘ants’, verbal noun *merienn-a* ‘to swarm, to be crawling with’ (collective base). Compare Welsh *pysgod* ‘fish(es)’, verbal noun *pysgot-a* ‘to fish’ (collective base, but this is very restricted, see below)

Thirdly, in Acquaviva’s view, collectives are not a subset of the class of so-called ‘opaque plurals’, i.e. suppletive and ablaut (= vowel alternation) plurals and those with unproductive suffixes as opposed to plurals formed with productive and transparent plural suffixes (Acquaviva takes the concept of ‘opaque plurals’ from Trépos 1982: 82):

(14) Breton *kezeg* ‘horses’ (suppletive plural of *marc* ‘horse’), *kerreg* ‘stones’ (vowel alternation plural of *karreg* ‘stone’)

Trépos implies that the types of plurals in (14) refer to collections perceived as wholes and therefore our morphological collectives are a subset of this group. Acquaviva rightly points out that there is in fact no such clear correlation and that many ‘opaque plurals’ can be used in environments where there is no emphasis on a collective interpretation. Stump arrives at the same conclusion as Acquaviva, namely that, if collectives were to form a morphosyntactic category in Breton, ‘there should be some rule of morphology or syntax which is sensitive to this distinction.’ However, he concludes, ‘as far as grammatical operations are concerned, simple plurals and collectives behave identically’ (Stump 1989: 264).

When Welsh is compared to (12)–(14) above, an important distinction emerges. As regards (12), Welsh behaves differently in only allowing the suffixes *-yn/-en* with singular, collective, mass and non-nominal bases (see table 1 above), but crucially not with regular plurals: there is no form corresponding to Breton *brin-i-enn* ‘crow’ (crow-PL-SING) above. This suggests that the collective has a status different from regular plurals in Welsh and that this is not directly paralleled in Breton. Welsh also differs as regards the derivational phenomena in (13): some plurals and collectives ending in dentals can host derivational suffixes as seen in (13), but this only amounts to a handful of nouns with plurals in *-ed* (very rare as a plural suffix) and *-od*. In other words, collectives can feed derivation regularly while plurals cannot, e.g. *coed-iog* ‘woody, wooded’ from *coed* ‘wood, forest, trees’. Contrast nouns which have regular singular/plural marking, e.g. *cadeir-iog*, literally ‘having a chair’ (e.g. *bardd cadeiriog* ‘chief bard having an appointed seat in the king’s court; (in modern usage) chaired poet (at an eisteddfod)’ based on the unmarked singular form *cadair* ‘chair’, not the plural *cadeir-iau*.⁹ This is also supported by the fact that

⁹ There are words such as Welsh *blodeu-og* ‘flowery’ which synchronically appear to use the plural (cf. *blodau* ‘flowers’) as a base and this is indeed the interpretation given in Thomas et al. (1950–: s.v. *blodeuog*); historically, however, the form before the hyphen is the

collectives can function as first elements of compounds in Welsh, unlike regular plurals. Consider *coed-fryn* ‘wooded slope’ (lit. ‘forest-hill’) whereas ‘a stony hill/hill of stones’ would require the unmarked singular *carreg* ‘stone’ as its first element: *carreg-fryn*, not ***cerrig-fryn* with the plural *cerrig*.

As just shown, Breton is different from Welsh in allowing the plural to function as a base for singulatives and derivation in general. It could be argued, however, that Welsh represents a phase which Breton also went through before becoming more productive and flexible in its word-formation. This is suggested by the fact that forms such as Breton *brinienn* ‘crow’, quoted above, are in fact rare or possibly non-existent in Middle Breton, where the Welsh type (singulatives based on collectives) is preferred. Furthermore, Trépos (1982: 245) lists *brinienn* as a restricted dialect form; however, this is not made explicit by Stump when including it as an example (1989: 264). A search through my Middle Breton sample¹⁰ yielded no examples of PLURAL-SINGULATIVE (like *brini-enn*) whereas examples of COLLECTIVE-SINGULATIVE are attested. For example, *ster-en(n)* ‘star’, from the collective *ster*, gets 23 hits in the texts. The *brinienn*-type may be a recent development which escalated towards the Modern Breton period. Middle Breton and Middle Welsh therefore seem to represent approximately the same stage of development, with Welsh never introducing the later innovation seen in Modern Breton.

In the foregoing discussion I have highlighted the discrepancy between plurals and collectives as bases in word-formation in Welsh. Three theoretical issues will now be examined in order to define the exact linguistic nature of Welsh collectives and to further illustrate how they differ from plurals.

2.2 Perceptual salience

Perceptual salience is defined by Chapman (1995: 175–176) as consisting of semantic transparency (‘the meaning of the derivative can be predicted with respect to that of the corresponding base form’) and uniformity of marking (‘if a morphologically complex form is marked by a single non lexically-conditioned marker it is said to be uniformly marked’). The morphological implication of semantic transparency is that

oblique stem of the noun, used as a derivational base by a small number of Welsh nouns. Other examples are *danhedd-og* ‘having teeth’ (cf. *dannedd* ‘teeth’, singular *dant*), *llysieu-ol* ‘relating to plants, herbal’ (cf. *llysiau* ‘vegetables; herbs’, singulative *llysieu-yn*; the original singular *llys* is restricted in usage, probably because of a homonym *llys* ‘court’). Crucially, these examples do not reflect the productive use of the plural in word-formation but rather the preservation of old oblique stems which may have been reinterpreted as plural later. There are a few possible examples of the plural being used as a base in later Welsh, but none of these are certain and require further research (see Russell 1990: 46, 118–119). The fact remains that apparent examples of plurals in word-formation are rare and often interpretable as reflecting historical archaism rather than productive use and the general statement stands that plurals cannot usually function as bases in word-formation.

¹⁰ This sample includes a large proportion of the extant Middle Breton texts; I am grateful to Paul Widmer for giving me electronic versions of these.

‘the alternation between a base form and its corresponding derivative is perceptually salient if there is a clear semantic and formal correspondence between alternants’ (Chapman 1995²: 2). Noun plurals tend to be semantically transparent, e.g. the meaning of *books* is predictable from the singular *book* (Chapman 1995: 175–176). On the formal level, if a morphological category (e.g. plural) is encoded by a single marker in a language, it is more perceptually salient than when there are several competing markers (Chapman 1995²: 3). An example of perceptual salience in action is that in some languages noun plurals can feed derivation, e.g. Dutch *boekenachtig* ‘like books’ with the plural *boeken* ‘books’ functioning as the base. This is said to be possible only when the noun plurals are low in perceptual salience (Chapman 1995: 175). This has also been observed for English (see Pinker 1999: 200) where irregular plurals can feed word-formation while regular plurals cannot, hence *mice-infested* with the irregular plural *mice* but not ***rats-infested* since *rats* is a fully regular plural and hence high in salience.

As regards levelling and analogical change, the more perceptually salient a form is, the more likely it is subject to levelling. As already noted, Welsh morphological collectives are not transparent in their form: a suffixless base can be a singular, a morphological collective, a lexical collective or an *i*-affected plural. At the same time, Welsh plurals are also fairly low in perceptual salience since there are a number of different plural markers and some nouns can take more than one of these (e.g. for *caer* ‘fort’, the three plurals *caerau*, *caeroedd* and *ceyrydd* are all attested synchronically in Middle Welsh). This point must not be stretched too far, however: two or three is the most common number of multiple plurals and very few nouns have more, suggesting there is no free and unlimited choice of markers for any one noun (see Nurmio 2010). However, Welsh plurals are not as low in perceptual salience as collectives: despite the existence of multiple markers, a suffixed plural is usually interpretable as plural, e.g. *caer-au* is clearly a plural of *caer* ‘fort’ with the suffix *-au*; a collective, on the other hand, lacks any such overt markers. As regards *i*-affection plurals such as *ceir* ‘cars’ (singular *car*), it has already been noted above that Roberts & Mueller Gathercole (2012: 84) treat these as ‘uninflected’. I would argue, however, that the high front vowel which characterises *i*-affection plurals is a marker which speakers associate with plurality. There is some evidence of nouns which were borrowed into Welsh with a high front vowel in the singular being interpreted as plurals. For instance, *emys* ‘steeds, war-horses’, from Late Latin *ammissus* < (*equus*) *admissus* ‘galloping (horse)’, was originally singular in Welsh but it was interpreted as plural, and consequently we find a back-formation singular *amws*. Even *i*-affection plurals, then, bear some clues as to their grammatical number (although this requires further research).

The extremely low salience of collectives may explain why the collective can feed a wider range of word-formation processes than the plural, including noun → adjective (*coed-iog* ‘woody’) and noun → agent noun (*ader-ydd* ‘fowler’ from *adar* ‘birds’); these processes are not as a rule possible with plural nouns as discussed above. The fact that even unproductive, rare or unique plural formations (such as *tŷ*

'house', plural *tai*) cannot feed the same range of formations as morphological collectives supports the finding that the latter are not just an irregular sub-set of plurals. Perceptual salience, then, is a useful tool. The difference in behaviour between plurals and morphological collectives in word-formation cannot simply be reduced to a contrast between unsuffixed singulars and collectives and suffixed plurals, since this would not sufficiently explain why *i*-affection plurals, which have no suffix, are nevertheless subject to the same rules as suffixed plurals. The examination of word-formation rules suggests that different rules apply to morphological collectives and plurals in Welsh and that the collective should therefore not be described simply as a plural allomorph.

2.3 Frequency and markedness

Theories of markedness are also relevant for defining the collective category in Welsh, as well as for placing Welsh in a typological context. Welsh collectives differ from regular plurals in being unmarked while the singulative form is marked with a suffix. This is the reverse of the more common system where the singular is unmarked and the plural is marked by a suffix or vowel alternation (Corbett 2000: 139–141). Most Indo-European languages have singular and plural as their major number categories, and when this is the case, the singular is as a rule the unmarked number. Farkas & Swart (2010: 7) state that 'it has long been known that there is a strong tendency for languages that have a singular/plural contrast in nominals to morphologically mark plural forms and leave singular forms morphologically unmarked.' Welsh nouns such as *adar* which go against this tendency have, in Farkas & Swart's terms, 'reversed markedness'; Tiersma (1982) uses the term 'local markedness' for the same phenomenon. Tiersma looks at phonological levelling in singular/plural pairs in Frisian in favour of the plural (which is the reverse of the more common situation where the singular is the pivot for levelling); for instance, *kies* 'tooth', plural *kjizzen* is levelled to singular *kjizze*, plural *kjizzen*. He formulates the following principle: 'When the referent of a noun naturally occurs in pairs or groups, and/or when it is generally referred to collectively, such a noun is locally unmarked in the plural' (Tiersma 1982: 834–835). With such nouns the prediction is that the most frequently used form of that noun is the plural and indeed Tiersma (1982: 835) shows this to be the case for many of the nouns in his study by using linguistic corpora for several languages. The existing Welsh corpora (Isaac et al. 2010, Thomas et al. 2013, Willis & Mittendorf 2004) cannot be quickly searched for grammatical categories, which would allow for a comprehensive statistical argument; however, a comparison of the frequencies of three collective nouns and their singulatives in the two Middle Welsh prose corpora gives an idea of the situation. The nouns chosen are *adar* 'birds', *pysgod* 'fish(es)' and *banadl* 'broom (plant)'. The nouns *cadair* 'chair', plural *cadeiriau* and *merch* 'girl', plural *merched* are included for comparison to demonstrate that nouns with the usual singular/plural distinction are more common in the singular:

| Text corpus | cadair | cadeiriau | pl. out of total | merch | merched | pl. out of total |
|---------------------|---------------|------------------|-------------------------|--------------|----------------|-------------------------|
| 13 th c. | 29 | 0 | 0% | 223 | 67 | 23% |
| 1300–1425 | 285 | 22 | 7% | 1916 | 187 | 9% |
| Total | 314 | 22 | 7% | 2139 | 254 | 11% |

Table 2. Frequency comparison of singular vs. plural forms in the two Middle Welsh prose corpora (Isaac, et al. 2010 [‘13th c.’]; Thomas, et al. 2013 [‘1300–1425’]).¹¹

| Text corpus | adar | ederyn | coll. out of total | pysgod | pysgodyn | coll. out of total | banadl | banhadlen | coll. out of total |
|---------------------|-------------|---------------|---------------------------|---------------|-----------------|---------------------------|---------------|------------------|---------------------------|
| 13 th c. | 38 | 21 | 64% | 1 | 2 | 33% | 2 | 2 | 50% |
| 1300–1425 | 219 | 151 | 59% | 141 | 9 | 94% | 28 | 9 | 76% |
| Total | 257 | 172 | 60% | 142 | 11 | 93% | 30 | 11 | 73% |

Table 3. Frequency comparison of collective vs. singulative forms of three nouns.

The comparison of the singulars *cadair* and *merch* with their plurals *cadeiriau* and *merched* shows that the singular is the most frequent form as regards nouns of the singular/plural system: *cadair* accounts for 93% of all occurrences and *merch* for 89%. These nouns were chosen since *cadair* is inanimate and *merch* is animate and human, and also because the singular *cadair* is the form found after numerals whereas *merch* is one of a small group of nouns taking the plural after numerals in Middle Welsh, hence *tair merched* ‘three girls’ (see Nurmio & Willis, forthcoming). The fact that the percentages for *cadair* and *merch* are close shows that whether or not the singular or plural is used after numerals does not affect the overall picture significantly.

As regards the collective nouns in Table 3, the comparison of collective and singulative forms shows that the collective is more frequent in the sample texts than the singulative based on it. *Adar* makes up 59% when the two samples are taken together, *pysgod* 93% and *banadl* 73%. The comparison of *adar* on the one hand with *pysgod* and *banadl* on the other further suggests that, although the collective is more frequent, the relative frequency of the singulative form can vary greatly between different nouns; *ederyn* has many tokens in these samples whereas *pysgodyn* and

¹¹ These figures include instances of numeral + singular. There is an argument for excluding these since the singular is dictated by syntax (numerals are regularly followed by the singular); on the other hand numeral + singular is a natural feature of Welsh and it is argued here that it should be allowed to affect the frequency count.

banhadlen are very infrequent. This could be partly due to the pragmatics of the sample texts, and it may be that animacy also plays a role; this requires further study with a larger sample. It may also be the case that when the components of the group are relatively big (like birds), they are easier to distinguish as individuals and will be found more often in the singulative than less distinguishable components like broom bushes; this is a topic for further study.

One important discussion of markedness as regards Welsh is Awbery (2009). Awbery appears at first sight to eliminate the problem of why some nouns are unmarked in the form denoting many (which she calls plural whereas I treat them as morphological collectives) by introducing the concept of null suffixes in Welsh. According to this view, number is not encoded in the noun but in the suffix, which can be overt or null. The singular, often described as ‘unmarked’, in fact has a null suffix while the ‘marked’ plural has an overt plural suffix (e.g. *tad*- \emptyset , plural *tad*-*au* ‘father’); in contrast nouns like *adar* have a null plural suffix and an overt singular suffix (Awbery 2009: 4–5). A key aim of Awbery’s study is to reduce the perceived complexity of the Welsh number marking system into four types according to the combination of null and overt marking. It should be noted that Awbery regards vowel alternation as seen in Type 4 (and also vowel alternation plus suffixation, e.g. *gair* ‘word’ plural *geiriau*) as epiphenomenal and caused by regular phonological rules. Hence Type 4 plurals are described as having a null suffix which causes the vowel alternation.

| | Singular | Plural | Example |
|--------|----------|--------|---|
| Type 1 | null | overt | <i>tad</i> , plural <i>tad</i> - <i>au</i> ‘father’ |
| Type 2 | overt | null | <i>coed</i> - <i>en</i> , plural <i>coed</i> ‘tree’ |
| Type 3 | overt | overt | <i>cwning</i> - <i>en</i> , plural <i>cwning</i> - <i>od</i> ‘rabbit’ |
| Type 4 | null | null | <i>ffordd</i> , plural <i>ffyrdd</i> ‘road’ |

Table 4. Welsh nouns distributed into four categories according to number marking (adapted from Awbery 2009: 1–5).

This approach provides an economical way of describing the different processes for marking singularity and plurality in Welsh and it also attempts to incorporate the type *ffordd*, plural *ffyrdd* into a view that number marking in Welsh is always about suffixation, even when both singular and plural have null suffixes. Awbery is interested in the number of possible ways of forming the plural and not in the factors which may determine the choice of plural formation for a particular noun. For the purposes of the present study, however, the problem is merely shifted, and what was previously described as an unmarked base (*adar*) is now described as a base plus a null suffix (*adar*- \emptyset). An explanation is still required for why, for example, some of these null-suffix forms can feed derivation while others (Type 4) usually cannot. I am not in favour of introducing null suffixes and thus postulating the same

morphological structure to *coed* and *ffyrdd*, as this obscures the argument that morphological collectives are a different noun category, and not a plural allomorph of any kind.

2.4 Semantics

Turning now to semantics, it has already been observed that the referents of nouns in the morphological collectives category occur in groups. Conversely, it can be argued that the referents of the singulative should be perceived as relatively indistinguishable from one another. This was tested empirically by Harrison & Jones in a study of 30 respondents who were students at University College, Cardiff and who were fluent English speakers with no command of Welsh. Each respondent was presented with 20 nouns at a time out of a sample consisting of 100 nouns, 45 of which were translations of Welsh singulatives (e.g. *louse*) while the remaining 52 were translations of Welsh singulars (e.g. *newspaper*). The English words corresponding to all of these are singular (Harrison & Jones 1984: 90; 94–5). The research question was whether ‘non-Welsh speakers judge items as distinguishable or not in a way which accords with the partitioning of the 100 nouns into singulative and singular in Welsh’. The respondents had to reply with ‘yes/no’ to the question whether they could ‘distinguish one from another of the items’ presented to them (Harrison & Jones 1984: 91). The results confirmed that with nouns translated from Welsh singulatives (e.g. *louse*) the individual referents were judged to be ‘not easily distinguished one from another’, whereas with those translated from singulars a significant majority of respondents agreed that the referents were easy to distinguish (Harrison & Jones 1984: 92). However, five nouns corresponding to singulatives in Welsh were significantly often judged to be distinguishable: *bird*, *child*, *feather*, *fish* and *tree*. Harrison & Jones (1984: 93) attribute this at least in part to the fact that these are ‘distinguishable in an interspecies sense’: to tell an alder tree from a holly is relatively easy, for example, and feathers of different kinds of birds can be very different. *Plentyn* ‘child’ is very idiosyncratic, as argued above. Since Harrison & Jones’ test group were non-Welsh speakers, their findings suggest that the perception of the individuation level of items referred to by nouns varies, regardless of whether the language we speak actually makes any morphological distinction between nouns with greater or lesser individuation.¹²

We now have some preliminary conclusions concerning Welsh collective nouns, supported by some Welsh-internal as well as cross-linguistic data: (i) the referents of morphological (*adar*-type) collectives naturally occur in groups and their individual items are perceived as relatively indistinguishable from one another; (ii) the unmarked collective form occurs more frequently in texts than the singulative and this is the reverse of singular/plural nouns where the singular is the more

¹² In English this distinction comes to light with mass nouns which require numeral classifiers to distinguish a single item, e.g. ‘a blade of grass’ (Harrison & Jones 1984: 89).

frequent member; (iii) the form of morphological collectives is very low in perceptual salience, allowing them to function as bases for word-formation, which plurals cannot generally do.

2.5 Diachronic stability of the morphological collectives and acquisition

Since the morphological collectives are not as numerous as nouns with singular/plural, the question arises how these nouns are learned and maintained without being levelled into the singular/plural category. This is explored by Stolz who takes as his starting point the basic assumption of Natural Morphology (NM) that language change is the process of marked structures being superseded by unmarked structures ('markedness-reduction'); in the context of grammatical number this could be rephrased as the elimination of marking that is low in perceptual salience, as mentioned in 2.2 above (Stolz 2001: 52–55). Note that markedness here means that a more natural structure (e.g. regular plural formation) is unmarked in contrast to a less natural one (e.g. irregular plural formation). Dressler first explains the informal and intuitive background of the concept of naturalness as

[a] relative, gradual concept: X is more or less natural than Y, e.g. within English plural formation, the type *wife* → *wive-s* is less natural than the type *knife* → *knife-s* but more natural than the type *foot* → *feet*. Thus many children tend to replace *feet* at some stage of language acquisition with *foot-s* or *feet-s* (Dressler 2000–2004: 288).

*****Knife-s* is incorrect here and should be *knives*, but the same point could be illustrated with e.g. *proof*, plural *proofs* (not *****prooves***). *Feet-s* is better characterized not as a replacement for *feet* but as another kind of overregularization than that seen in *foot-s*, i.e. children have learned the plural *feet* but are still adding the regular plural suffix to it.**

The Natural Morphology approach operates with more specific principles; for example, its subtheory of universal markedness attempts to establish 'naturalness parameters' 'based on extralinguistic and semiotic notions of what is more basic or elementary, cognitively more accessible, more efficient in communication' (Dressler 2000–2004: 289–90). The most natural formation on each parameter is also the most frequent. For example, prefixation and suffixation are more natural than infixation, and this is reflected in the fact that the latter is less frequent cross-linguistically (Dressler 1985: 326). Furthermore, diachronic change according to NM involves movement 'towards more morphological naturalness', in other words reduction in marked categories (Dressler 2000–2004: 293). Stolz (2001: 53) observes that the Welsh collective category poses a challenge to this. If the NM model is taken to be strongly predictive, we would expect the collective/singulative class to be gradually absorbed into the unmarked singular/plural system, perhaps leaving behind some lexicalised

forms, by the Modern Welsh period. This has in fact happened with another formation. Middle Welsh has a small group of nouns with a distinctive form which is sometimes called the “dual” and which are compounds with *dau* (masc.) ‘two’ and *dwy* (fem.) ‘two’ and singular nouns denoting natural pairs, e.g. *dwyfraich* ‘arms (of one person)’ from *braich* ‘arm’. I describe these as ‘compound-duals’ since they are always combined with the numeral ‘two’ and are therefore not a full dual in the same way as the dual in languages like Sanskrit. These forms are virtually absent in Modern Welsh, with the exception of *dwyllo* ‘hands’ (MW *dwylaw*) which is, however, the standard plural of *llaw* ‘hand’ and not restricted to the meaning ‘one person’s hands’. Therefore the finding stands that the ‘compound-dual’ disappears from the language.

However, whereas the dual is virtually lost by the Modern Welsh period, the collective category remains productive; to my knowledge no noun has changed its membership from the morphological collectives category to the singular/plural category. On the other hand there are examples of loanwords from English entering the collective/singulative category, e.g. *brics* ‘bricks’ (borrowed from English *bricks*), singulative *brics-en* (given in Table 1). The three nouns discussed in section 1, namely *coed* ‘forest, wood, trees’, *moch* ‘pigs’ and *plant* ‘children’, which switch over into the morphological collectives category after the Middle Welsh period, are evidence that native nouns have also entered this category. An interesting insight into the productivity of this category is provided by a study on child language acquisition by Mueller Gathercole, Thomas & Evans which adds a cognitive linguistics perspective on the category of collectives and provides some answers to Stolz’s question of why the collective/singulative category has resisted analogical levelling. Mueller Gathercole et al. (2000: 64) performed one experiment on adult and child subjects and a second one only on children, including speakers of three languages, English, Spanish and Welsh. The aim was to test whether the children’s first language affected their perception of new words as referring to either an individual item or to a collection. Spanish has a singular/plural but no grammatical mass/count distinction; English distinguishes mass and count as well as singular and plural; the Welsh morphological collectives category, on the other hand, is not paralleled in either of the other two languages (Mueller Gathercole et al. 2000: 62–63).

In the first experiment the subjects were shown nine sets of drawn objects and each set was introduced with a name which was a made-up word in each language. Image 1 shows one of these sets: the subjects were introduced to the initial stimulus in a way that allowed them to interpret the new word as referring either to the set or to one of its parts, e.g. in English ‘on this paper you can see my blicket’ (*blicket* being the new word). The subjects were then asked a question that required them to choose between a single item and the collection, e.g. ‘give the bear his blicket’ (Mueller Gathercole et al. 2000: 65–67).

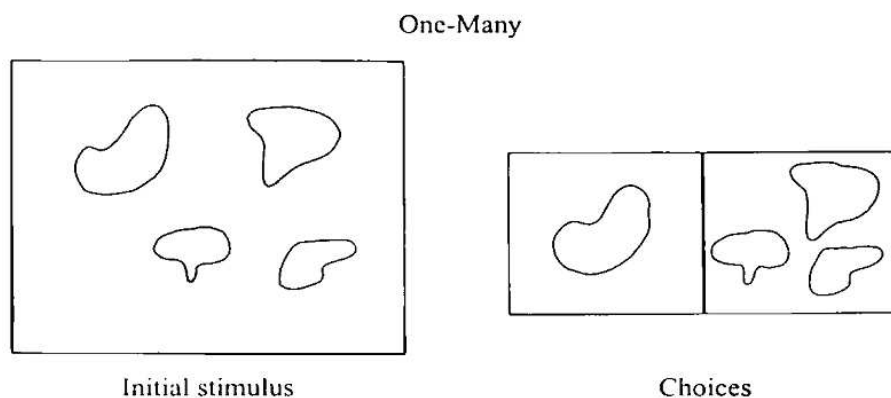


Image 1. One of the three sample sets used by Mueller Gathercole et al. (2000: 66).

This experiment was followed by an improved version whereby the children were shown a picture book with objects stuck on the page. The objects included both the novel items and some familiar items, such as the bed, rug, etc. shown in Image 2.

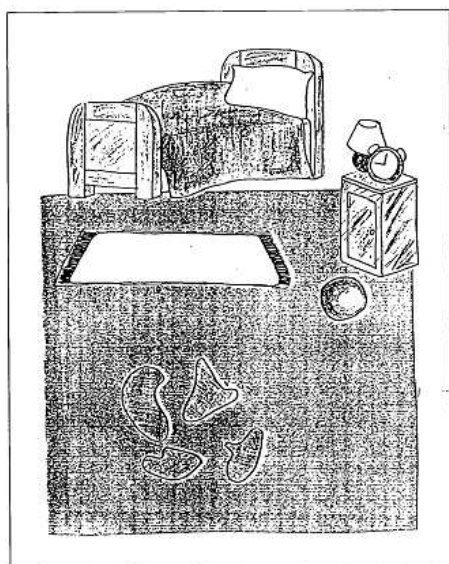


Image 2. An example from the picture book used by Mueller Gathercole et al. (2000: 72) in their Experiment 2.

The researchers found that Welsh-speaking children chose the collection interpretation significantly more often than English- and Spanish-speaking children; that is, they would choose the collection of new items shown in Images 1 and 2 as being the referent of the new word they just learned (e.g. the English *blicket*, or *bligior* for the Welsh test group) (Mueller Gathercole et al. 2000: 81). The children showed language-specific preferences already by the age of two and these preferences were consistent with the findings of the study on adults. Mueller Gathercole et al. (2000: 82) concluded that this is because children 'respond to new words in ways that are

consistent with the adult language.’ This study provides a tentative answer to Stolz’s question why the category of collective nouns resists levelling with the singular/plural system: adult speech provides Welsh-speaking children with ample cues to allow them to acquire the collective category by an early age. Another cognitive study (Roberts & Gathercole 2006) looked at the effect of children’s first language (Welsh vs. English) on language processing. The study included a categorization task where children were shown novel objects referred to by novel nouns, similarly to the study described above. A difference between the two studies was that the 2006 study controlled for the number of collections presented and the number of items in each collection; for example, the children could see a picture showing two collections consisting of one item each, followed by one with three collections with fifteen items in each. This study did not find a significant difference between Welsh- and English-speaking children in whether they categorised the novel objects as collections or a number of individual items. However, reaction times to the task were measured in this study, and here a difference emerged: Welsh speakers took significantly longer to respond than English speakers, and the authors suggest that this is due to Welsh having more possible interpretations available for unmarked nouns. Finally, it also emerged that the older Welsh-speaking children (eleven-year-olds; the other groups were eight- and four-year-olds) categorised novel objects as collections more often than their English-speaking counterparts. The authors suggest that this may show that children’s understanding of their language system improves with age, although this finding requires further study. This study, then, lends some further evidence to the findings of Mueller Gathercole et al. (2000) that language structure guides the categorization of objects.

In summary, in section 2 various linguistic concepts were examined in relation to the Welsh morphological collectives, including agreement, frequency and markedness, and perceptual salience. The cumulative force of the evidence indicates that the morphological collectives differ significantly from regular plurals in their morphology. The language acquisition studies reviewed in this section also suggest that morphological collectives exist as a category in the language. It should be stressed that this is based on the morphological behaviour of these nouns; as for syntax, they are similar to plurals. Semantically they are characterised by having referents which are judged to be indistinguishable from one another in a group, although this evidence alone does not justify postulating a separate category; the morphological evidence is, therefore, primary.

3. CONCLUSION

The category of morphological collectives in Welsh has been described inconsistently in previous scholarship and often confused with the category of lexical collectives and sometimes with plurals. In grammatical descriptions of Welsh and in linguistic discussions it is not always clear whether authors regard collective as a number

category, or simply an idiosyncratic sub-set of the more common singular/plural category. This paper has employed a number of theoretical approaches from morphology and cognitive studies with the aim of finding the distinctive features of morphological collectives and finding out how exactly they differ from plurals and lexical collectives. An important finding is that when the frequencies of a collective and its singulative form are compared, the collective emerges as the most frequent, whereas with nouns of the singular/plural category the singular is by far the most frequent member of the pair. This shows that the Welsh nominal system features local markedness, as defined by Tiersma. It was further argued that, despite what might be predicted by the Natural Morphology framework, the morphological collectives category does not show signs of being levelled with the more common singular/plural system. This is supported by the study by Mueller Gathercole et al. on how Welsh-speaking children acquire the idea that a morphologically unmarked form can refer to a collection.

Morphological collectives clearly emerge as a distinct noun category from this discussion. It also became evident that no single criterion such as agreement or suffixation vs. non-suffixation is sufficient to determine whether morphological collectives are a noun category. These nouns share some features with plurals, lexical collectives, mass nouns and even singulars, and only after several different criteria are employed does the category emerge as significantly distinct.

The data presented here also has implications for the study of the nominal system of Breton. Morphosemantically complex structures in Breton such as multiple suffixation of the type seen above with *brin-i-enn* ‘crow’ have been the subject of previous studies which do not, however, include comparative material from Welsh in any detail. Much more comparative work remains to be done on the historical development of the nominal systems of the Brittonic languages, including Cornish which has been mostly neglected in previous work.

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