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A COMPARISON OF THE SEMANTIC VALUES OF MIDDLE CORNISH *LUF* AND
DORN WITH MODERN ENGLISH *HAND* AND *FIST*.

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ABSTRACT

This paper sets out to discover a means to undertake corpus based semantic analysis of lexical items in a language that has no speakers who possess first language intuition. Two Cornish language lexical items, *luf* and *dorn*, were chosen for trial analyses. These items share the semantic field of "hand - part of body". Concordances of these items were produced and compared. Criteria were then sought that distinguish the items in question. Differences were found in the case roles and collocations that are entailed by these words.

KEYWORDS

Cornish; corpus; *luf*; *dorn*; semantic analysis; lexicon; case roles; collocation.

INTRODUCTION

The naive dictionary user often thinks of the translation equivalents found in bilingual dictionaries as 'meanings'. However in order to give a satisfactory account of an item's meaning it is necessary to ascertain its semantic value through the relations that it enters into with other items in the language system. Middle Cornish is a variety of Brythonic Celtic language spoken in Cornwall during the 13th to 16th centuries. The corpus is small, approximately 120,000 thousand tokens, yielding a vocabulary of about 9,000 dictionary headwords. *Luf* and *dorn* are Middle Cornish lexical items which lexicographers have traditionally sought to explain with the English translation equivalents, *hand* and *fist*. Two problems present themselves to the lexicographer firstly he has to determine the meaning of an item, secondly he has, in addition to providing translation equivalents, to find a way to convey that

meaning to the dictionary user. The first of these problems is further compounded by a need to establish procedures for analysis of meaning in a language which has no living speakers with first language intuition. Explicit criteria for the lexicographer's analyses are, thus, required to be derived from the corpus itself. Analysis of concordances, shows differences between the semantic value of the Cornish items and their ostensible English equivalents. These differences are attested by the case roles and collocations that these items entail.

LEXICOGRAPHICAL SOURCES

According to a number of lexicographical sources, *dorn* and *luf* share equivalence for the English "hand".

The item *dorn* is attributed a number of equivalents, as follows. Lhuyd (1707:3) gives the equivalent the "hand". Borlase (1769: 425) gives "a Hand" and "a Handle". Pryce (1790) gives "the hand", "a handle" and "the door post". Williams (1865: 108) gives a "fist", "a hand", "a handle" and "a hilt". Whitley Stokes (1869: 170) gives "fist" but for *dorn-skrefydz* he gives "hand-written". Jago (1887 pp. 60 and 72) gives *dorn* as an equivalent for the English "hand" and "fist". Nance (1952) gives "hand", "fist", "haft", "hilt" and "handle". Brown (1984: 40) gives "hand" for *dorn* when it is used as a prefix. George (1991: 46) gives the equivalent "fist".

The item *luf*, however, is attributed only the equivalent "hand", as follows. The *Vocabularium Cornicum* gives the Latin "manus". Borlase (1769: 442) gives "a Hand". Pryce (1790) gives "a hand". Williams (1865 pp. 230 and 237) gives "a hand". Whitley Stokes (1869: 197) gives "hands" as the English equivalent of *Le*. Jago (1887 pp. 60 and 72) gives *luf* as an equivalent for the English "hand". Nance (1952) gives "hand". George (1991: 124) gives "hand".

LEMMATIZATION

Lemmatization was undertaken, before concordances were produced, to find all the possible forms of these two items. Two sets of concordances were produced, using *Micro-OCP*, one set with the contexts sorted by the right of the node, and the other set with the contexts sorted by the left of the node.

The concordances for both items initially consisted of 18 citations. However within the concordance for the item *dorn*, the homograph *torrn* was also found. The initial *t* mutates to a *d* after certain words (Brown 1984). Likewise an initial *d* mutates to *t* after certain words (*Ibid.*). It was a simple matter to manually separate out these two homographs and discard the citations of the item *torrn*. After eliminating the citations of the item *torrn* from the concordance, 11 citations of the item *dorn* remained.

ANALYSIS OF CONCORDANCE OF *DORN*Establishing the Collocational Significance

Sinclair (1991) recognises two types of collocation, which he calls upward collocation and downward collocation. When the node collocates with a word that has a greater frequency of occurrence in the corpus than that of the node, this is referred to as upward collocation. And when the node collocates with a word that has a lesser frequency of occurrence in the corpus than that of the node, this is referred to as downward collocation. He says that:

Upward collocation, of course, is the weaker pattern in statistical terms, and the words tend to be elements of grammatical frames, or superordinates. Downward collocation by contrast gives us a semantic analysis of a word.

(Sinclair 1991: 115-117)

Sinclair suggests a "buffer area of (plus or minus) 15 per cent of the frequency of the node word". So that:

- a. upward collocates - those whose occurrence is over 115 per cent of the node frequency...;
- b. neutral collocates - between 85 per cent and 115 per cent of the node frequency..., this is the buffer area;
- c. downward collocates - less than 80 per cent...

(*Ibid.*)

It should be noted that Sinclair is working with a very large corpus. The Cobuild Corpus consists of 20 million tokens (Krishnamurthy 1987). By comparison the Corpus of Cornish consisting of 120,000 tokens, is tiny.

In order to test whether such division of collocates is useful for semantic analysis of the Corpus of Cornish, the concordance of *dorn* was cropped to four collocates either side of the node. An alphabetical order frequency wordlist with statistics of the collocates was then prepared using *Micro-OCP*. This showed that of a total of 90 tokens of concordance, there was a total vocabulary of 65 word forms. The relative frequency of each collocate was determined by reference to the statistics generated by *Micro-OCP*. The degree of collocational significance of each collocate was calculated. The collocates were then sorted into an order of descending collocational significance (see table 1).

Table 1. Collocates of *dorn* in descending order of collocational significance.

	FREQUENCY	COLLOCATIONAL SIGNIFICANCE			
			yua	1	1.06030
an	5	3.59955	tan	1	1.05835
ow	4	2.95546	Yedhewon	1	1.05640
war	3	2.89172	tyn	1	1.05249
gans	3	2.72367	Hayl	1	1.04858
y	4	2.48844	gene'	1	1.04103
na	2	1.38589	y'th	1	1.04076
ha	3	1.37733	par	1	1.02318
sowynno	1	1.10916	holon	1	1.02122
scath-ma	1	1.10916	ledhys	1	1.00168
herdhy'	1	1.10916	a'm	1	0.98801
gwryn	1	1.10916	Myghtern	1	0.98214
gwelyny	1	1.10916	keth	1	0.97433
gu-ma	1	1.10916	gwrys	1	0.96651
fycher	1	1.10916	dhodho	1	0.89226
dhagyer	1	1.10916	dh'y	1	0.83754
brederSYS	1	1.10916	Jhesu	1	0.81800
a-wesky	1	1.10916	Lemmyn	1	0.78869
a'w	1	1.10916	pup	1	0.76720
vowes	1	1.10720	yth	1	0.70662
scovarnow	1	1.10720	Dew	1	0.61869
ankensy	1	1.10720	pur	1	0.59720
led	1	1.10525	oll	1	0.56593
festa	1	1.10134	Ef	1	0.50927
gerghes	1	1.09939	rak	1	0.44283
gwely	1	1.09548	yn	2	0.26622
syns	1	1.07594	a'n	1	0.25719
settyes	1	1.07594	dhe	1	0.23522
kynth	1	1.07594	y'n	1	0.11650
forth	1	1.07203	a	1	-0.84489
prag	1	1.07008	yu	1	-0.13948

Upward and Downward Collocation

The lemma *dorn* has a frequency of 11 occurrences in the corpus. These were divided into upward and downward collocates using Sinclair's criteria. A buffer area of neutral collocates, consisting of 15% of the frequency of the node word was adopted.

Forty two upward collocates were identified in the concordance, that is those whose occurrence is over 115% of the node frequency (that is 13 occurrences). Sinclair suggests that with upward collocation the words tend to be elements of grammatical frames, or superordinates. In the following list of upward collocates of *dorn* there are many closed class items. Reference to the concordance itself is necessary to see how these items form grammatical frames with the node. There are no obvious superordinates amongst the upward collocates.

a, a'm, an, a'n, Dew, dhe, dhodho, dh'y, Ef, forth, gans, gene', gwrys, ha, Hayl, holon, Jhesu, keth, kynth, ledhys, Lemmyn, Myghtern, na, oll, ow, par, prag, pup, pur, rak, syns, tan, tyn, war, y, Yedhewon, yn, y'n, yth, y'th, yu, yua.

Reference to the concordance reveals the following grammatical frames:

a dhorn Dew: by God's hand
a'm dorn: by my hand
a'w dorn: by my hand)
ow dorn: my hand
y dhorn: his hand
yn ow dorn: in my hand
gans ow dorn: with my hand
settyes dorn y'n: lay a hand on
syms y'th torn: hold ii thy hand
gans dornow: with hands/fists

Several of these suggest that *dorn* is instrumental in Fillmorean case grammar (Fillmore 1969). It may also be noted that *dorn* is locative case in *yn ow dorn*. The collocates which form these grammatical frames with *dorn* do not appear to be restricted to within any particular band of collocational significance.

There were no neutral collocates of *dorn*, that is those between 85% and 115% of the node frequency. 19 downward collocates were identified in the concordance, that is those whose occurrence is less than 85%. These downward collocates form a band of collocational significance from 1.07594 to 1.10916. According to Sinclair (1991) downward collocation gives us a semantic analysis of a word. It is therefore these downward collocates that are of particular interest to us here. The list of downward collocates consists predominantly of nouns and verbs. The English equivalents are taken from Nance's (1952) dictionary.

There is only 1 adjective amongst the downward collocates.

ankensy adj. grievous, dolorous.

There are eight noun collocates.

dagyer m., dagger.
gu m., lance, spear, javelin
gwelen f., rod, yard, pole, long handle, shaft, wand, switch, stem
gwely m. bed, layer, stratum
mowes f. maid, girl
pycher m., pitcher
scath f. boat
scovarn f. ear, handle of jar, pitcher, barrow, etc.

Five of these, *dagyer*, *pycher*, *gu*, *scath* and *mowes* are all objects held or grasped in *dorn*.

There are nine verbal collocates.

bos vb. to be, become, abide, take place, exist

gweskel vb. to strike, beat, knock

gwrynyya vb. to grip, hug, squeeze, grapple, wrestle

herdhya vb. to thrust, push, shove, ram, butt

kerghes vb. to fetch, bring, carry, get

ledya vb. to lead, conduct, guide

predery vb. to think, reflect, consider, meditate

settya vb. to set, put, place, appoint, lay, fix, value, account, esteem

sowyny vb. to prosper, succeed

Dorn relates to five of these, *gweskel*, *kerghes*, *gwrynyya*, *herdhya* and *ledya*, as instrumental in Fillmorean case grammar.

All the citations of *dorn* refer to the part of the human body that we call the hand. They also all share the component of instrumental case, as can be seen from the following examples.

A thorn Dew y festa gwryes (*Gwreans An Bys* line 305)
by God's *dorn* thou were made,

Owe *doarn* kethewa lethys (*Gwreans An Bys* line 1140)
by my *dorn* he is slain,

com forth ihesu yn ow *dorn* (*Passio Domini* line 2525)
Come forth, Jesus, led by my *dorn*.

gans ow *dornow* a'n gury'n (*Passio Domini* line 1130)
with my *dorn* I'll grip Him

Me a lead an voos am *dorn* (*Gwreans An Bys* line 1385)
I will lead the girl by my *dorn*.

pur ankensy gans *dornow* thotho war an scovornow reugh boxesow trewysy
(*Passio Domini* line 1360)
very grievously, with *dorn*+plural, to Him on the ears give doleful slaps.

ren thotho boxesow gans *dornow* ha guelynnny war an scovornow bysy (*Passio Domini* line 1390)
let us give Him blows with *dorn*+plural and switches on the ears,

In addition to instrumental case, some of citations of *dorn* display locative case, as in the following examples.

Ev a uaske e *dern* uar e dhágier dhæ dhestrían dheau. (*Dzhûan Tshei an Her* 40)
He was clapping his *dorn* on his dagger to kill the pair.

otte ow fycher gyne yn ov *dorn* rak y gerghas (*Passio Domini* line 655)
see I have my pitcher in my *dorn* to fetch it.

syns y'th *dorn* an giu-na ha herthy'e gans nerth yn ban (*Passio Domini* line 3010)
hold in thy *dorn* this spear, and thrust it strongly upwards.

Dorn is also attested in combined instrumental and objective cases, as in the following example.

pup ol settyes *dorn* yn keth schath-ma th'y tenne (*Resurrexio Domini* line 2350)
let everyone lay a *dorn* on this same boat, to drag him,

Figure 1 shows how *dorn* is found in either instrumental case or in instrumental plus either objective or locative case.

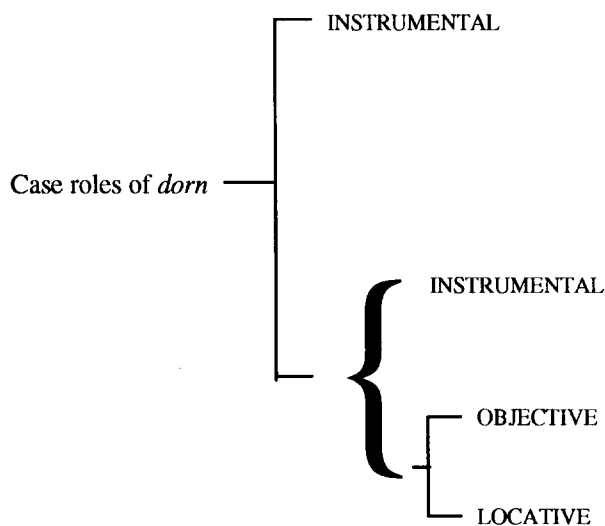


Fig. 1 Network of case roles attested by *dorn*.

ANALYSIS OF THE CONCORDANCE OF *LUF*

There were no homographs of *luf* found within in the concordance. So we were able to retain all 18 citations of the form *luf*.

Establishing the Collocational Significance

The concordance of *luf* was cropped to four collocates either side of the node. An alphabetical order frequency wordlist with statistics of the collocates was then prepared using *Micro-OCP*. This showed that of a total of 139 tokens of concordance, there was a total vocabulary of 80 word forms. The same procedure was followed, as for *dorn* to determine the degree of collocational significance of each collocate. The collocates were then sorted into an order of descending collocational significance (see table 2).

Table 2. Collocates of *luf* in descending order of collocational significance.

	FREQUENCY	COLLOCATIONAL SIGNIFICANCE			
			lovan	1	0.70770
			gollas	1	0.70574
a	7	3.07997	gwruk	1	0.70574
y	6	2.36055	doro	1	0.70183
Worth	3	2.07034	claf	1	0.69793
yl	3	2.01563	kelmys	1	0.69793
Cryst	3	1.73229	Tros	1	0.69402
Pan	3	1.68344	fons	1	0.69011
gans	3	1.54861	treys	1	0.68816
Gwelen	2	1.43299	dha	2	0.68068
dhyghow	2	1.41931	aral	1	0.68034
toll	2	1.39000	Thomas	1	0.68034
na	3	1.32194	Gansa	1	0.67643
a'm	2	1.31575	plas	1	0.67448
ve	2	1.27666	dheth	1	0.66080
Dhe'n	2	0.98356	Fast	1	0.64907
an	4	0.92170	y'th	1	0.64907
Ha	4	0.92170	gorrys	1	0.63344
Yn	4	0.92170	golon	1	0.62367
dre	3	1.73229	vo	1	0.60999
dak	1	0.71747	myghtern	1	0.58850
gosys	1	0.71747	ras	1	0.58850
tekkys	1	0.71747	keth	1	0.58264
wrussen	1	0.71747	kyn	1	0.58068
dhyogel	1	0.71551	ynweth	1	0.56898
dyskevelsys	1	0.71551	Ha'y	1	0.55333
tell	1	0.71551	Orth	1	0.53183
curunys	1	0.71356	o	1	0.37551
dhothyens	1	0.71356	sur	1	0.36965
hyben	1	0.71356	hep	1	0.32861
wrowedha	1	0.71356	war	1	0.27781
eskern	1	0.71160	pur	1	0.20551
gemas	1	0.71160	bys	1	0.19378
gleth	1	0.71160	oll	1	0.17424
gwenys	1	0.71160	A'n	1	0.13450
dheulagas	1	0.70965	dhe	2	0.09252
woly	1	0.70965	ow	2	-0.05013
wyn	1	0.70965	my	2	-0.13415
as	1	0.70770	Ny	1	-0.43542
golghys	1	0.70770			

Upward and Downward Collocation

The same procedure was followed for distinguishing upward and downward collocates as for *dorn*. We identified 44 upward collocates in the concordance, that is those whose occurrence is over 115% of the node frequency; *a*, *y*, *worth*, *yl*, *Cryst*, *pan*,

gans, toll, na, a'm, ve, dhe'n, an, ha, yn, dre, dha, gansa, plas, dheth, fast, y'th, gorrys, golon, vo, myghtern, ras, keth, kyn, ynweth, ha'y, orth, o, sur, hep, war, pur, bys, oll, a'n, dhe, ow, my, ny. There were no obvious superordinates amongst these. The following grammatical frames (colligations) were identified by reference to the concordance.

Determiner + *luf*:

An luf: the hand
ow luf: my hand
dha luf: thy hand
dha dhywluf: thy hands
y luf: his hand
yl luf: the one hand (as opposed to the other)

Preposition + *luf*:

Dhe'n luf aral: to the other hand
gans ow luf: with my hand
Gans y yl luf: with his one hand
worth luf: to a hand
Yn luf Cryst: in Christ's hand
Yn y luf: in his hand
y'th dywluf: in thy hands

Luf + preposition.

luf dre y woly: hand through his wound

Luf + post-modifier.

luf aral: to the other hand
luf Cryst: Christ's hand
luf a'm gwruk: hand that created me
dywluf kelmys: hands fastened

Neutral collocates: between 85% and 115% of the node frequency:

aral adj., pron. other, another
Thomas
tros m., pl. treys foot

30 downward collocates were identified in the concordance, that is those whose occurrence is less than 85% (that is 15). All apart from two of these downward collocates lie within a band of collocational significance from 0.69011 to 0.71747. *gwelen* and *dhyghow* lie outside this band at 1.43299 and 1.41931 respectively.

There are five adjectives amongst the downward collocates.

claf adj. sick, ill, sore, leprous
dyghow adj. right
gleth adj. left
gosys adj. blood-stained
gwyn adj. white, pale

There are seven nominal collocates. Three of these form a meronymous relationship together and with *luf*, if its meaning is taken to be hand.

ascorn m. bone

goly m. wound

gwelen f. rod, yard, pole, long handle, shaft, wand, switch, stem

lagas m. eye

lovan f. rope, stout cord

toll m. hole

tros m. foot

There are fourteen verbal collocates.

bones vb. to be, become, abide, take place, exist

curuna vb. to crown

dos irreg. vb. to come, arrive, appear, be derived

dry irreg. vb. to bring, take with one, persuade

dyskevelsy vb. to dislocate, unjoint

gasa vb. to leave, leave off, abandon, desert, quit, allow, let, permit, concede, relinquish, vouchsafe, spare

golghy vb. to wash, bathe

growedha vb. to lie down, recline, remain lying

gul irreg. vb. to do, make, compose, construct, perform, accomplish, cause, make into, be fitting (for)

gwana vb. to stab, sting, prick, pierce, gore with horn, transfix with weapon, spike.

kelly vb. to lose, forfeit; pret. collas

kelmy vb. to bind, tie, lash, knot, fasten, oblige

kemeres vb. to take, receive, accept, obtain, seize, gain, assume, feel

takkyä vb. to nail, secure, fasten, affix

The node, *luf*, relates to five of these, *gasa*, *takkyä*, *dri*, *golghy*, *kelmy*, as objective in Fillmorean case grammar. *Luf* relates to two of the verb collocates, *dos* and *kemeres* as locative case. *Luf* relates to *gul* as instrumental case and as agent.

There is one adverb among the downward collocates.

dyogel adv. certainly, surely

There is one pronoun among the downward collocates.

hyben pron. another

Several collocate nouns form a meronymous relationship with *luf*.

ascorn m. bone

colon f. heart.

lagas m. eye

tros m. foot

Colon occurs among the upward collocates. *Ascorn*, *lagas*, and *tros* are found among the downward collocates. In this instance Sinclair's procedure of separating upward from downward collocates seems less helpful. Simply sorting the collocates by their

part-of-speech would have been more effective in helping to identify this group of meronyms. To be fair, however, Sinclair's procedure is intended for a very much larger corpus.

Furthermore reference to the concordance shows that these co-meronyms have a tendency to be conjoined, like this:

ha treys ha *dyulef* kelmys (*Passio Domini* line 2375)
with feet and *luf*+plural fastened

or:

zym na as troys na *leyff* vo golhys (*Pascon agan Arluthstanza* 46)
To me leave not foot nor *luf* unwashed

Alternatively they are parts of conjoined phrases or clauses, like this:

ellas bones the treys squerdys ol the yscarn dyscavylsys tel y'th *dyoluef* (*Passio Domini* line 3170)
Alas that Thy feet should be torn, all Thy bones disjoined, holes in thy *luf*+plural!

or:

yn pren crous bethens ha treys ha *dyulef* kelmys ha guenys dre an golon (*Passio Domini* line 2375)
Let him be put on the cross, with feet and *luf*+plural fastened, and pierced through the heart.

Amongst some of the other downward collocates, are some that, whilst not being co-meronyms, are nevertheless related to the idea of the human body:

claf adj. sick, ill, sore, leprous
dyskevelsy vb. to dislocate, unjoint
goly m. wound, sore, ulcer
gosys adj. blood-stained (Nance 1952)

Case

All the citations of *luf* refer to the part of the human body that we call the hand. The citations of *luf* display one of three cases, instrumental, locative or objective, or a combination of two of these. Examples of *luf* in the instrumental case include the following.

ef regollas an place Am *leff* dyghow a wrussen. (*Gwreans An Bys* line 2215)
he has clean lost the place which by my right *luf* I had made.

er na hyndlyf y golon gans ov *luef* dre y woly (*Resurrexio Domini* line 1530)
until I touch His heart with my *luf* through his wound.

Examples of *luf* in the locative case include the following.

gans an keth welen yn *leyff* crist a ve gorris (*Pascon agan Arluthstanza* 138)
with the same rod that had been put in Christ's *luf*

Heys crist y a gemeras an neyll *lef* bys yn y ben, (*Pascon agan Arluth stanza* 178)

The length of Christ they took from the one *luf* up to the other,

tel y'th *dyvluef* (*Passio Domini* line 3170)
holes in thy *luf*+plural

yn y *leff* zyghow yn weth gwelen wyn a ve gorris (*Pascon agan Arluth stanza* 136)

Also a white wand was put in His right *luf*.

Examples of *luf* in the objective case include the following.

zym na as troys na *leyff* vo golhys (*Pascon agan Arluth stanza* 46)
To me leave not foot nor *luf* unwashed

doro the *luef* (*Resurrexio Domini* line 1535)
put forth thy *luf*

hay yll *leff* a ve tackis ord an grows fast may zese (*Pascon agan Arluth stanza* 179)

and one of His *luf* was nailed to the cross on which He was fast

ha the *thulef* claf kyn fons (*Passio Domini* line 2695)
thy *luf*+plural be leprous,

me a tak y *luef* gans ol ow nel (*Passio Domini* line 2745)
I will fix (i.e. nail) His left *luf* with all my might!

ny thue y *luef* sur the'n tol (*Passio Domini* line 2755)
His *luf* surely won't come to the hole?

Pan deth *leoff* crist war en toll dre an nerth may tensons hy (*Pascon agan Arluth stanza* 182)

When Christ's *luf* came over the hole by the force with which they dragged it,

yn pren crous bethens ha treys ha *dyulef* kelmys (*Passio Domini* line 2375)
Let him be put on the cross, with feet and *luf*+plural fastened,

The following examples attest *luf* in combined objective and locative cases.

Then *levff* arall pan dhozyans worth an grows rag y faste (*Pascon agan Arluth* stanza 180)

When they had come to the other *luf* to fasten it to the cross

Ganse worth *levff* crist loven fast yn scon a ve kelmys (*Pascon agan Arluth* stanza 181)

By them a rope was speedily tied fast to Christ's *luf*,

The following examples attest *luf* in combined instrumental and objective cases.

an *luef* a'm gruk me a wel (*Resurrexio Domini* line 140)

I see the *luf* that created me

y wholas y zewlagas gans y eyll *leyff* o gosys (*Pascon agan Arluth* stanza 219)

he washed his eyes with his one *luf* that was made blood,

Figure 2 shows how *luf* is found in instrumental objective or locative case.

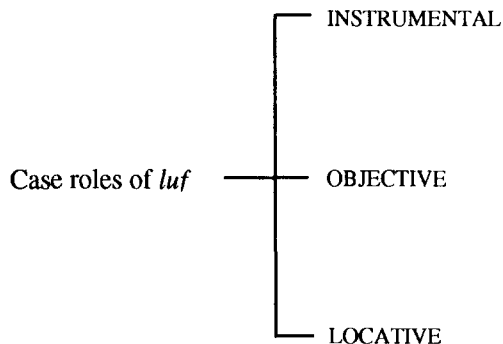


Fig. 2 Network of case roles attested by *luf*.

A COMPARISON OF *DORN* AND *LUF*

In all the citations containing *dorn*, it is instrumental, though it may be locative as well. In contrast, *luf* may be instrumental, locative or objective. This distinction is illustrated by the following examples.

Onon gans an keth welen yn *leyff* crist a ve gorris an gwyskis lasche war an pen (*Pascon agan Arluth* stanza 138)

One, with the same rod that had been put in Christ's *luf*, struck Him a slash on the head

in which *luf* is locative and:

syns y'th *dorn* an giu-na (*Passio Domini* line 3010)
 hold in thy *dorn* this spear
 in which *dorn* is both instrumental and locative.

The next two examples are similar.

A thorn Dew y festa gwryes (*Gwreans An Bys* line 305)
 by God's *dorn* thou were made,

an *luf* a'm gruk me a wel (*Resurrexio Domini* line 140)
 I see the *luf* that created me

The matrix in table 3 compares the case roles attested by *dorn* and *luf*.

Table 3. Cases Roles attested by *Dorn* and *Luf*

CASE	<i>dorn</i>	<i>luf</i>
Instrumental	+	+
Instrumental & Locative	+	-
Instrumental & Objective	+	-
Locative	-	+
Objective	-	+

This indicates a hyponymous relationship between *dorn* and *luf*, in which *luf* is the superordinate of *dorn*, and the meaning of *dorn* is contained within the meaning of *luf*.

The lexicographical sources previously mentioned all suggest the English equivalent hand for *luf*. Nothing has been found in our analysis to contradict this. These same lexicographical sources give a number of alternative equivalents for *dorn*. The suggested equivalents "handle", "hilt", or "haft" are not attested among the citations from the corpus. The homograph identified by Pryce (1790) as "the door post" is likewise not attested. Whitley Stokes (1869: 170) equivalent, "hand-written", for *dorn*-skrefyż accords with our finding that *dorn* incorporates the component instrumental-case. The equivalent "fist" would also suggest the component instrumental-case. However not all the citations of *dorn* could be translated as "fist", for example:

A thorn Dew y festa gwryes (*Gwreans An Bys* line 305)

by God's hand (not fist) thou were made,

and:

an *luef* a'm gruk me a wel (*Resurrexio Domini* line 140)

I see the hand (not fist) that created me

Giving *fist* as the only equivalent for *dorn*, as George (1991: 46) does, is clearly not sufficient. Furthermore, although a possibility, we cannot assume that "fist", in the sense of "hand when closed tightly with the fingers bent into the palm" is what is intended in:

ren thotho gans *dornow* ha war an scovornow bysy (*Passio Domini* line 1390)

let us give Him blows with hands/fists and switches on the ears,

and:

pur ankensy gans *dornow* thotho war an reugh boxesow trewysy (*Passio Domini* line 1360)

very grievously, with hands/fists, to Him on the ears give doleful slaps.

Blows can be given with an open hand as in a slap or karate chop.

CONCLUSION

Establishing the collocational significance and in particular the upward and downward collocation, was found to be a useful approach in sorting the collocates of *dorn*. However, in the case of *luf*, simply sorting the collocates by part of speech would probably have been just as good. It was noted that the co-meronyms of *luf* had a tendency to either be conjoined or form parts of phrases or clauses that were conjoined.

The instrumental, objective, and locative cases of Fillmorean Case Grammar provided components that were true of one or more terms, but not all the terms in question. Whilst both *dorn* and *luf* both share the meaning hand, in all the citations containing *dorn*, it is instrumental. In contrast, *luf* may or may not be instrumental. A hyponymous relationship between *dorn* and *luf*, in which *luf* is the superordinate of *dorn*, and the meaning of *dorn* is contained within the meaning of *luf* is therefore indicated. Grammatical meaning may, thus, form part of the lexical meaning of an item and be expressed as a semantic component of that lexical meaning.

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