

PHYSICAL QUALITIES IN GOIDELIC: A CORPUS STUDY OF POLYSEMY AND COLLOCABILITY

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0. Preliminary remarks

This is a small case study of Goidelic adjectives denoting the physical qualities of heaviness and lightness, namely *trom* and *éadrom* in Irish and *trom* and *aotrom* (*eutrom*) in Scottish Gaelic. Both go back to Old Irish. I will refer to them by their Old Irish forms *tromm* and *étromm*¹ in generalisations. *Étromm* is derived from *tromm* with a negative prefix *é*, suggesting a high level of structural symmetry. However, this proves not to be the case, and *étromm* appears to be a lot more than just “not *tromm*” even at the earliest stage. Moreover, distribution of both *trom* and *étromm* differs substantially in Modern Irish and Scottish Gaelic although these languages are closely related. What makes this kind of adjective especially interesting is A. Wierzbicka and C. Goddard’s assumption that “physical quality concepts refer to embodied human experiences and embodied human sensations” (Goddard & Wierzbicka 2007: 765). In other words, we call something ‘heavy’ not because it has some specific weight, but rather because we feel this weight. The analysed Goidelic data fully support this statement.

1. Related work

The polysemy of physical qualities has been thoroughly studied by the Moscow Lexical Typological Group in the ‘Database of polysemous qualitative adjectives and adverbs in Russian’ project. This research focused on such semantic fields as ‘sharp – blunt’ (Kiuseva 2012), ‘soft – hard’ (Pavlova 2012), ‘heavy – light’ (Kiuseva, Ryzhova & Kholkina 2012), ‘full – empty’ (Tagabileva 2011), ‘smooth – rough’ (Kashkin 2012), etc. Further, E. Rakhilina gives a detailed analysis of adjectives describing size (‘high’, ‘deep’), shape (‘round’, ‘oblique’, ‘wry’), temperature (‘hot’, ‘warm’, ‘cold’ etc.) and colour in ‘The cognitive analysis of concrete nouns: semantics and collocability’ (Rakhilina 2010: 106-238). A similar analysis of Celtic data is carried out in E. Parina’s works on ‘sharp – blunt’, ‘full – empty’ and ‘heavy – light’ in Welsh (Parina 2016; Parina 2015; Parina, this volume).

¹ I use the spelling of the corresponding headwords in the electronic edition of DIL, <http://dil.ie>.

One of the latest substantial studies in this field is a PhD thesis on the polysemy and distribution of the German adjectives *hart* ‘hard, rigid’, *weich* ‘soft, pliant’, *sanft* ‘soft, tender’ and *grob* ‘rough’ (Bons 2009). The main method used here is corpus analysis, and meaning is defined as a spectrum of occurrences (Bons 2009: 3). Another researcher belonging to this school and specializing in historical semantics, G. Fritz, proposes a comprehensive study of German *scharf* ‘sharp’ (Fritz 1995; Fritz 2005: 18-30). He mainly uses the analysis of collocability to describe the semantics of adjectives, which places him close to the Moscow Semantic School.

2. Data

The research was mainly corpus-driven: the use of large language corpora as a source of data ensures the representativeness of the sample and facilitates preparatory work. Modern Irish examples were drawn from the New Corpus of Ireland (*Nua-Chorpas na hÉireann*) containing more than 3000 instances of *trom* and a little fewer than 1000 instances of *éadrom* in a total of 30 million words. Scottish Gaelic data was derived from the Corpus of Scottish Gaelic (*Corpas na Gàidhlig*), where *trom* occurred about 2000 times, and *aotrom* occurred about 500 times in ten million words. For each of these adjectives, I took a random sample of 100 with the use of built-in corpus tools.

There is no tool to obtain a fixed number of randomly chosen Old Irish examples of a given word, so I had to select them manually from Medieval Irish literature and glosses, applying the method of continuous sampling. I used the standard print (Stokes 1887) edition of the Würzburg glosses, the electronic edition of the Milan glosses made by D. Stifter and A. Griffith² and the electronic edition of the St. Gall glosses made by R. Hofman and P. Moran.³ Apart from glosses, my historical corpus includes two versions of *Táin Bó Cúailnge* (‘The Cattle Raid of Cooley’), *In Cath Catharda* (‘The Civil War of the Romans’), *Betha Choluim Chille* (‘Life of Columcille’), *Buile Shuibhne* (‘Suibhne’s Frenzy’) and *Cath Finntrágha* (‘The Battle of Ventry’); all of them are cited according to the electronic editions available on the UCC CELT website.⁴ The texts I chose for the corpus belong to different genres and language periods (Old Irish, Middle Irish, and Early Modern Irish) and contain both prose and verse, which makes the corpus more or less representative. Thus, the resultant dataset consists of three major parts: Modern Irish data (200 examples), Scottish Gaelic data (200 examples), and historical data (127

² http://www.univie.ac.at/indogermanistik/milan_glosses.htm

³ <http://www.stgallpriscian.ie/>

⁴ <http://www.ucc.ie/celt/>

examples, 88 for *tromm* and 39 for *étromm*). Unfortunately, I could not collect enough Manx data to analyse it alongside Irish and Scottish Gaelic, and therefore I do not consider it in generalizations.

A dynamic representation of the whole dataset built with Shiny, a web application framework for the R programming language, is available at <https://ancatmara.shinyapps.io/heavylight/>. It is fully searchable, and the data can be filtered by language (Modern Irish, Early Modern Irish, Middle Irish, Old Irish and Scottish Gaelic), quality (heavy or light), sense and collocation. The meta information includes genre (or rather form: prose, poetry, drama), period (8th, 9th, 12th, 15th, 17th and 19th centuries; 1900-9; 1950-99; and 2000-) and source.

A corpus of 500 sentences might be insufficient for strong statistical conclusions; however, it is enough to describe the semantic structure of *tromm* and *étromm* throughout history.

3. Collocability

The meaning of a word can only be described in context, and this is true for polysemous lexemes. In other words, “you shall know a word by the company it keeps” (Firth 1957: 11). To characterize adjectives, it is convenient to use the semantic classes of the nouns with which they form collocations. I divided all the collocates of *tromm* and *étromm* that occurred in my working corpus into several classes of different levels. As some of the nouns would not form solid groups of a lower order, I had to use higher order classes like ‘abstract notion’ along with lower order classes like ‘colour’. Despite the difference in hierarchy, each of them is clearly defined, and every noun belonging predominantly to a particular class triggers a particular sense. In labelling these classes, I draw upon the English WordNet developed by Princeton University (Fellbaum 2006). It is also worth mentioning that I excluded obvious calques (‘heavy industry’, ‘heavy metal’, ‘light gas’) from the list of collocations, which lessened the number of examples. It may seem that word combinations like ‘*tromm* / *éadromm* + colour’ are also calques, but I presume they are not, because such examples are cited in DIL and therefore cannot have been copied from modern English.

Here is a brief explanation of the semantic classes used to describe the meaning of *tromm* and *éadromm*. The abbreviations for languages are as follows: Modern Irish – Ir, Early Modern Irish – EMIr, Middle Irish – MIr, Old Irish – OIr, and Scottish Gaelic – SG. The absolute frequency of different collocations is shown in Figure 1.

Abstract notion is the broadest class that includes various words with abstract meanings that did not fall into any other category, like Ir *peaca* ‘sin’, *cúis* ‘reason’, *coir* ‘crime’, *éagóir* ‘injustice’, *pionós*

‘punishment’, *deacracht* ‘difficulty’, *cath* ‘battle’, *atmaisféar* ‘atmosphere’; SG *peacadh* ‘sin’, *peanas* ‘punishment’, *lagh* ‘law’, *smaointinn* ‘thought’, *ceangal* ‘tie’, etc.

Physical object is another broad class used for any object that does not belong to other categories: Ir *ualach* ‘load’, *meaisín cóipeála* ‘copier’, *sliogán* ‘shell’, *cloch* ‘stone’, *bróga* ‘shoes’; SG *sac* ‘bag’, *bòrd* ‘table’; OIr *claideb* ‘sword’, *gae* ‘spear’; MÍr *tonn* ‘wave’.

Quality is the third broadest class for any quality that can be expressed to a different extent: Ir *beo* ‘alive’, *daite* ‘dyed’, *scagtha* ‘sparse’.

Activity is another rather broad class that comprises various names of actions: Ir *obair* ‘work’, *ól* ‘drinking’, *buille* ‘blow’, *gnóthai* ‘business’; SG *atharrais* ‘mimicking’, *osnaich* ‘sigh’.

Container is a type of object that can be filled with something, e.g. Ir *lámh* ‘hand’, *póca* ‘pocket’; SG *suilean* ‘eyes’, *póca* ‘pocket’.

Layer is for fabrics, clothes and lines, in other words, for anything that has the property of linear thickness: Ir. *fabraic* ‘fabric’, *cuirtíní* ‘curtains’, *brat* ‘cloak’, *cóta* ‘coat’, *treabhsar* ‘trousers’, *briste* ‘trousers’, *léine* ‘shirt’, *gúna* ‘dress’, *scim* ‘thin coating’, *ciseal* ‘layer’, *cló* ‘type’; SG *cainb* ‘canvas’, *còta* ‘coat’, MÍr *braici* ‘trousers’, *inar* ‘tunic’.

Substance is used for objects that can be characterized by their density: Ir *ceo* ‘fog’, *talamh* ‘ground’, *lóis* ‘lotion’, *ithir* ‘ether’, *féar* ‘grass’; SG *ceò* ‘fog’, *neòil* ‘clouds’, *falt* ‘hair’.

Locomotion stands for any kind of active movement: Ir *coiscéim* ‘footstep’; SG *ceum(an)*, *saltair* ‘footstep(s)’, *siubhal* ‘walk’.

Physical phenomenon includes names of weather events: Ir *báisteach* ‘rain’, *sneachta* ‘snow’, *fearthainn* ‘rain’, *sioc* ‘frost’; SG *uisge* ‘rain’, *sneachda* ‘snow’.

Atmospheric condition is a class of physical phenomena that somehow influence one’s physical state: e.g., Ir *teas* ‘heat’, *aer* ‘air’ and *boladh* ‘smell’.

Living being stands for humans and animals: Ir *duine* ‘person’, *fear* ‘man’, *mise* ‘me’; SG *sinn* ‘we’, *òganach* ‘youth’, *gille* ‘boy’; OIr *Cú Chulaind* ‘Cú Chulainn’.

Group of people is a small class including mainly names of different armed groups: Ir *marcshlua* ‘cavalry’; MÍr *slúagh* ‘host, army’; EMÍr *dámh* ‘company’.

Psyche is used for nouns that metaphorically indicate one’s emotional state: e.g., Ir *croí* ‘heart’; SG *suilean* ‘eyes’, *cridhe* ‘heart’, *spiorad* ‘spirit’, *intinn* ‘mind’, *aighe* ‘mind, disposition’.

Emotion includes such nouns as Ir *eagla* ‘fear’; SG *gaol* ‘love, affection’, *graidh* ‘love’, *amharus* ‘doubt’, *bròn* ‘grief’; OIr *erfúath* ‘terror’, *gráin* ‘terror’.

Sound comprises various audibly perceived phenomena: Ir *canúint* ‘talk’, *guth* ‘voice’, *ceol* ‘music’, *tiúin* ‘tune’; SG *dúrdail* ‘buzz’, *fead* ‘whistle’, *casad* ‘cough’, *sianta* ‘scream’, *tàirneanach* ‘thunder’, *canaltradh* ‘talk’, *gàire* ‘laugh’.

Colour is simply colour: Ir *liathchorcra* ‘greyish purple’, *buighlas* ‘yellowish green’, *donn* ‘brown’.

Machine stands for any mechanism, including vehicles: Ir *gunna* ‘gun’, *feithicil* ‘vehicle’; SG *carbad* ‘chariot’; MIr *long* ‘ship’.

Money is used for nouns that signify sums of money: Ir *airgead* ‘money’, *fineáil* ‘fine’, *cáin* ‘fine, tax’, *infheistiocht* ‘investment’; SG *òr* ‘gold’.

Food is for words like Ir *lón* ‘lunch’, SG *biadh* ‘food’.

Sleep combines different words for sleep: Ir *néal*, *codladh*, *suan* ‘sleep’; SG *suan*, *cadal*, *neòil* ‘sleep’.

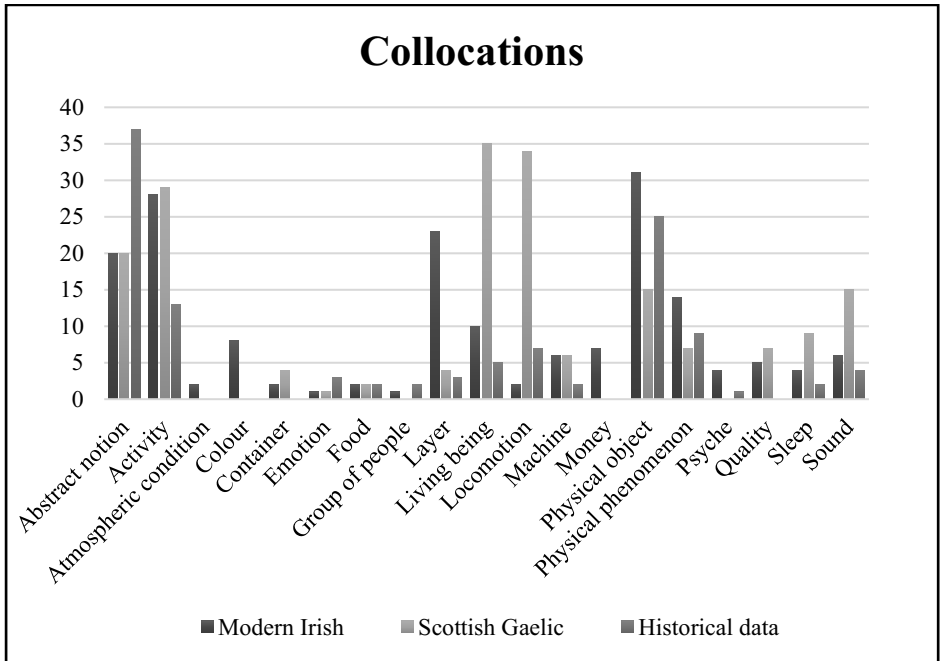


Fig. 1

4. Semantic classification

The problem of separating individual meanings cannot be solved in a univocal way, and the level of detail depends on the researcher's task (Fritz 1995: 83). As my goal was to give a comprehensive analysis of *tromm* and *étromm* in Goidelic languages throughout their history, it seems reasonable not to make very broad generalizations.

Apart from collocations, I will provide short, intuitively understandable descriptions of individual senses like those often seen in dictionaries. To organize these senses, I have used a semantic classification developed by cognitive scientists for English in the case of the concepts 'heavy' and 'light' (Shirshikova 2013). Thus, there are four semantic domains where 'heavy' and 'light' have different meanings depending on their communicative functions:

- 1 **Experiential domain**, where we evaluate the dynamic interaction with an object: "something that is heavy weighs a lot" (*Collins Cobuild*), "difficult to lift or move" (*Oxford Learners*).
- 2 **Parametrical domain**, where we evaluate some parametrical characteristics of an object not to be moved: "Someone or something that is heavy is solid in appearance or structure, or is made of a thick material. Heavy means great in amount, degree, or intensity" (*Collins Cobuild*).
- 3 **Psycho-physiological domain**, where we evaluate the effect on our physical state of interaction with an object. For example, "a heavy meal is large in amount and often difficult to digest; heavy work requires a lot of strength or energy" (*Collins Cobuild*).
- 4 **Emotional domain**, where we evaluate the emotional impact of interaction with an object as if we evaluated the physical effect of such an interaction. "A situation that is heavy is serious and difficult to cope with. If your heart is heavy, you are sad about something" (*Collins Cobuild*).

Here is a list of individual senses forming each of these domains, and some examples to illustrate them. Each entry consists of a quality expressed by *tromm* or *étromm*, a collocate, and a short dictionary-style description of a sense.

1. Experiential domain

1.1 Weight + physical object: ‘hard / easy to lift or move’

Ir *Bhí ualach sách trom ar an gcairín*
 ‘There was a quite *heavy load* on the cart’

SG *Bha bròga aotrom samhraidh oirre*
 ‘She wore *light* summer shoes’

OIr *Dochúatar bara claidbib tromma tortbullecha*
 ‘They wielded their *heavy*, hard-smiting *swords*’

2. Parametrical domain

2.1 Amount + money: ‘big / small in amount’

Ir *Cuirtear fineáil throm ar a leithéid*
 ‘The likes of it/him are subject to a *big fine*’

2.2 Appearance + living being, physical object: ‘bulky / fine, delicate’

Ir *Thug Doimínic iarraidh éirí ón chathaoir ach ba fear trom toirteach é agus thit sé siar arís*
 ‘Dominic tried to get up from the chair, but he was a *bulky man*, and he fell down again’

2.3 Depth + sleep: ‘deep / not deep’

Ir *Aineoinn an drochbholadh thit néal trom codladta orm a bhí lán le brionglóidí*
 ‘In spite of the bad smell I fell into a *deep sleep* full of dreams’

SG *Thàinig cadal trom air Murchadh* ‘Murdach fell into a *deep sleep*’

OIr *inlathertach .i. is gnath is trom a chotlud adi 7 is cián m bis ánd*
 ‘the drunk one, i.e. it is usual that his *sleep* is *heavy*, and it is long that he usually is in it’

2.4 Density + layer, substance: ‘dense, thick / thin’

Ir *Ní fheicfí rud ar bith trí na cuirtíní troma sin ar aon chaoi*
 ‘Anyway, you wouldn’t see anything through these *thick curtains*’

Ir *‘Tá an ceo chomh trom is a bhí sé riamh,’ ar seisean*
 ‘The *fog* is as *thick* as it has ever been’ – said he’

Ir *Is féidir úsáid a bhaint as ungradh antaiseipteach nó as lóis éadrom antaiseipteach*

‘You can use antiseptic ointment or thin antiseptic lotion’

SG *Falt trom, trom, dualach ‘Thick, thick hair in braids’*

2.5 Emptiness + container: ‘full / empty’

Ir *Bhagair sí a lámh air, lámh a bhí trom le seoda*

‘She threatened him with her hand, a hand full of jewels’

Ir *Ar an taobh eile den scéal, bhí an t-am aige a d’fhág na pócaí sách éadrom aige féin*

‘On the other side of the story, he had a time that left his pockets quite empty’

SG *Cha robh iad faisg gu leòr air gus fhaicinn gu robh shùilean trom le deòir*

‘They weren’t close enough to him to see that his eyes were full of tears’

2.6 Significance + abstract notion: ‘grave, serious / insignificant’

Ir *Más rud é go bhfuil an choir chomh trom sin nó má tá cuinsí faoi leith i gceist...*

‘If the crime is that grave or if there are special circumstances in question...’

Ir *Cuireann múinteoirí tacaíochta seirbhís ar fáil do pháistí a bhfuil deacrachtaí foghlama éadrom nó measartha acu*

‘The teachers provide help for children who have slight or moderate difficulties with studies’

2.7 Severeness + abstract notion: ‘harsh, severe / mild’

Ir *Bhí sé ráite ar a chúl go mbeadh pionós an-trom ar aon fhostóir nach mbeadh na coinniollacha seo comhlíonta aige*

‘It was said behind his back that there would be a very harsh punishment for every employer who wouldn’t fulfill these conditions’

SG *Bha an lagh trom an aghaidh na h-oibreach*

‘The law was severe to the workers’

2.8 Capacity + machine: ‘high-capacity / low-capacity’

Ir *Ar an dtaobh eile, tá dún Iosraelach, é daingnithe ag meaisínghunnaí agus ag gunnaí trom*

‘On the other side there is an Israeli fortification guarded by machine guns and heavy artillery’

2.9 intensity + activity, feeling, physical phenomenon, quality: ‘intense / weak, not intense’

Ir ‘*Ní hé amháin sin*’ a deir Denise. ‘*Bhíodar ag ól trom ó bhí siad ceathair déag*’

‘Not only him’ – said Denise. ‘They were drinking heavily since they were fourteen’

SG ‘*S cho trom mo ghaol’s cho buan*

‘And my love is so intense and so beautiful’

Mir ...*guro tuitseat ’na frasaibh agus ’na tolaibh tromfertana i ceannaibh, i corpaib na míledh.*

‘...so that the missiles fell in rains and heavy-pouring floods on the heads and bodies, on the chests and forebreasts of the soldiers’

2.10 Quality of sound + sound: ‘loud and unpleasant / quiet and pleasant’

Ir *Chuala sí guth éadrom ina cluais*

‘She heard a quiet voice in her ears’

SG *Rinn Iain gàire aotrom*

‘Iain laughed softly’

SG *Rinn e fead throm, thùrsach*

‘He whistled loud, wearily’

2.11 Quality of movement + living being, locomotion, machine: ‘moving slowly and with difficulty / moving fast and without difficulty’

SG ‘*S trom mo cheum, cha n-eil mi sunndach*

‘And my step is heavy, I am not cheerful’

SG *Bha mise cho aotrom air mo bhonnan ri luaireag*

‘I was as fast on my soles as a storm petrel’

MÍr *Longa muinteri Cesair immorro bátar troma, úra, inmalla iat sén*
'But the ships of Caesar's people, they were heavy, new, and tardy'

2.12 Quality of colour + colour: 'dark / pale'

Ir *Dath donn éadrom a bhíonn ar na síolta agus bíonn fáinne crotal ar a mbarr*
'The seeds are light brown of colour and have a circle of rind on top'

3. Psycho-physiological domain

3.1 Physical impact + activity, atmospheric condition: 'tiresome / unfatiguing'

SG *Tha an obair seo fada ro throm air do shon, ars esan*
'This work is too hard for you, – said he'
Ir *Luigh an boladh i bhfad ní ba troime ar mo scamháin anseo ná in áit ar bith eile*
'A much heavier smell laid on my lungs here than anywhere else'

3.2 Quality of food + food: 'hard to digest / digestible'

Ir *Bíonn Upstairs at Cooke's ar oscailt óna 10 am go 6 pm agus is fíú bualadh isteach chun lón éadrom a fháil, go háirithe má thaitníonn quesadillas leat*
'Upstairs at Cooke's is open from 10 am to 6 pm, and it's worth dropping in for a light lunch, especially if you like quesadillas'

4. Emotional domain

4.1 Emotional impact + abstract notion : 'oppressive, hard to bear/ pleasant, comfortable'

Ir *Eitseálacha atá le feiceáil ó Hasegawa agus atmaisféar aerach éadrom le brath iontu*
'You can see Hasegawa's etchings and feel a joyous pleasant atmosphere in them'

SG *Bha tosd trom, marbh mar sgàil*
'Silence was heavy, dead like a shadow'

MÍr *Na trí coicait, tromm in t-airé isin oidche ba mor pian*
'The three fifties – sore the watching – in the night—great was the pain'

4.2 disposition + human being, psyche: ‘sad, oppressed / cheerful, light-hearted’

Ir *Ansin rinne sé osna throm* ‘He gave a sad sigh’

Ir *Ni raibh iontu ach gasúraí, agus bíonn an croí éadrom neamhbhuartha ag an óige*

‘They were just children, but the young have a light careless heart’

SG *Ach cha chuireadh sin campar air ar spiorad aotrom an latha ud*
‘But it didn’t vex our light spirit those days’

SG *Tha m’inntinn trom, gun sunnd, gun fhonn*

‘My mind is heavy, without joy, without pleasure’

5. Out of domains (only for *tromm*)

5.1 ‘Weighed down’ + physical object, living being

MiR *Ba hiomdha ann ámh crann caomháloinn co ttoirthibh troma tóthachtacha isin all hisin*

‘Numerous too on that cliff were the beautiful trees, heavy and rich with fruits’

5.2 ‘Pregnant’ + living being

MiR *Co cingfitis ríghna rotroma, nó seisi sloigh romoir, no assain fo n-eiredaibh fortha on aircenn co arail don cath cechtarda*

‘So that gravid queens, or bands of a mighty host, or asses under their burdens, would go from one end to the other of the battle on each side’

All the senses of the parametrical domain except 2.2., 2.5. and probably 2.11. can be described as instances of Magn and AntiMagn lexical functions introduced in (Melchuk 1974) within the Meaning-Text Theory. Given that Magn stands for ‘very’, ‘to a (very) high degree’, ‘intense(ly)’, and AntiMagn is the opposite, we can produce the following equations:

Magn[‘peaca’] = ‘trom’

Magn[‘uisge’] = ‘trom’

AntiMagn[‘ceo’] = ‘éadrom’

AntiMagn[‘ceò’] = ‘aotrom’ etc.

Although the working corpus is quite small, it is possible to obtain a rough impression of the frequency and distribution of different senses. Figure 2 shows the overall picture. The top 5 qualities characterized by *tromm*

according to the example count are intensity (~ 25%), disposition (~ 12%), weight (~ 12%), density (~ 12%), significance (~ 5%) and the quality of movement (~ 5%). The distribution is different for *étromm*: the quality of movement (~ 26%) is the most frequent sense, followed by density (~ 19%), weight (~ 12%), intensity (~ 11%), disposition (~ 6%) and the quality of sound (~ 6%).

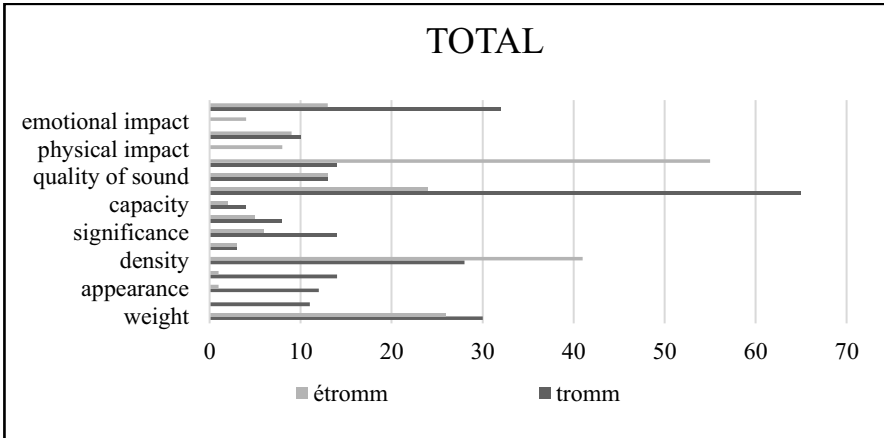


Fig. 2

In Modern Irish (fig. 3 below), the most frequent qualities are intensity (~ 21%), density (~ 16%), weight (~ 14%), amount (~ 8%), emotional impact (~ 6%) and significance (~ 6%) for *trom* and density (~ 32%), intensity (~ 22%), weight (~ 14%), the quality of movement (~ 9%) and disposition (~ 5%) for *éadrom*.

In Scottish Gaelic (fig. 4 below), the sense distribution is the following: intensity (~ 20%), emotional impact (~ 13%), the quality of movement (~ 11%), disposition (~ 10%) and depth (~ 9%) for *trom* and the quality of movement (~ 30%), disposition (~ 22%), the quality of sound (~ 10%), physical impact (~ 7%) and weight (~ 7%) for *aotrom*. As we can see, *trom* is mostly ‘intense’ both in Irish and Scottish Gaelic, while *éadrom* is ‘thin’ and ‘not intense’ in Irish, but *aotrom* is ‘moving fast or without difficulty’ and ‘cheerful, light-hearted’ in Scottish Gaelic.

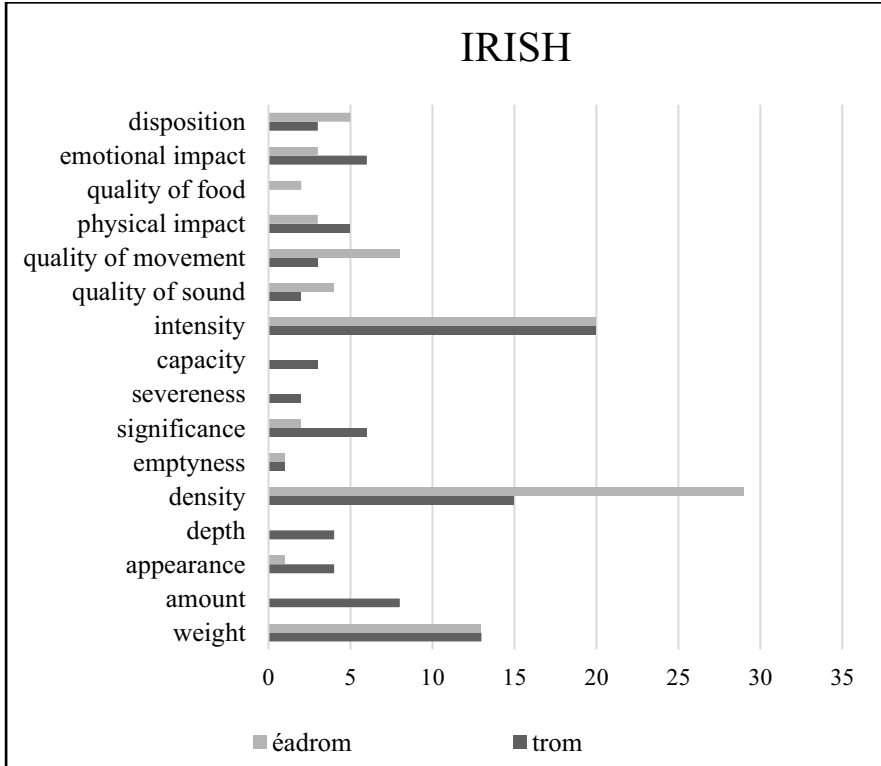


Fig. 3

There are many fewer examples and therefore fewer senses in the historical part of the corpus, but it is worth having a quick look at the statistics.

Again, *tromm* is mostly used to describe intensity (~ 31%), then comes emotional impact (~ 17%), then weight (~ 13%), density (~ 11%), significance (~ 7%) and the quality of sound (~ 5%).

Étromm, as in Scottish Gaelic, predominantly characterizes the quality of movement (~ 44%) and is also frequently used to describe density (~ 15%), emotional impact (~ 13%), weight (~ 13%) and severity (~ 8%).

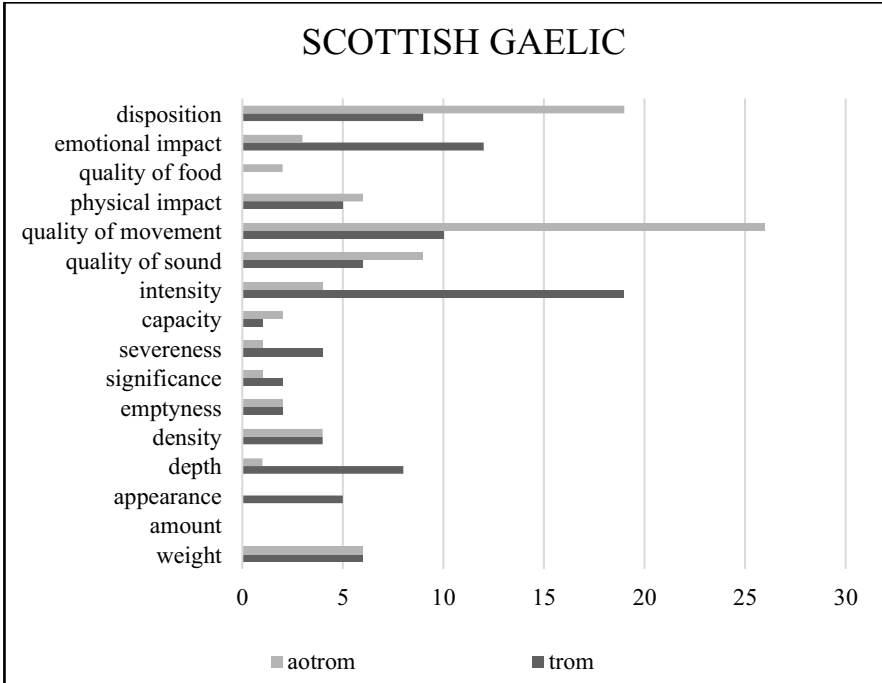


Fig. 4

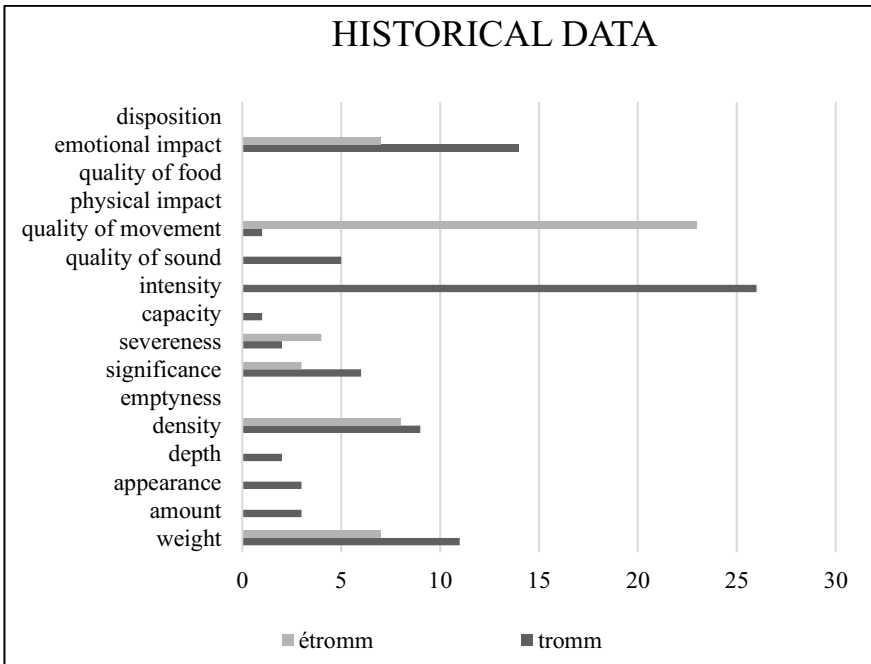


Fig. 5

5. Conclusions

First, both *tromm* and *étromm* occur much more infrequently in their direct physical meanings than in figurative ones that belong to parametrical and emotional domains; collocations with physical objects are outnumbered by collocations with abstract nouns of various classes in all the languages. Therefore, for some purposes it may be reasonable to range senses in a dictionary entry according to their frequency.

Second, the most frequent collocations are ones where *tromm* and *étromm* express the (Anti)Magn lexical function. In second place are the descriptions of movement, and *étromm* is a lot more frequent than *tromm* in this context in all Goidelic languages. Collocations where *tromm* and *étromm* have their direct meanings, ‘hard / easy to lift or move’, come third; they are followed by collocations with nouns of the {living being} and {psyche} classes, where *tromm* and *étromm* describe an emotional state. The latter are more frequent in Scottish Gaelic than in Irish, but this might be explained by the contents of the Scottish Gaelic corpus, which contains many folklore texts.

Third, *tromm* is widely used as an intensity marker in both modern and historical data, while *étromm* marking ‘negative intensity’ is typical only for Modern Irish. According to the general semantic structure of these adjectives, Scottish Gaelic appears to be closer to the historical data than Modern Irish, but it might also be explained by the nature of the texts in the corpus of Scottish Gaelic, and by the scarcity of historical data. The counts of each collocation and sense are given in Appendices I and II respectively.

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Appendix I

Collocation	Examples	Mod. Irish	Scot. Gaelic	Hist. data	Total
abstract notion	sin, crime, punishment, hardship, thought, atmosphere	20	20	37	77
activity	drinking, work, fight	28	29	13	70
atmospheric condition	heat, air	2	0	0	2
colour	purple, yellow	8	0	0	8
container	eyes, pocket, hand	2	4	0	6
emotion	love, hatred, fear, grief	1	1	3	5
food	lunch, food	2	2	0	4
group of people	host, army	1	0	2	3
layer	coat, cloak, dress, curtain, fabric, type, line	23	4	3	30
living being	<personal name>, he, she, me, you, man, woman, girl, youth, dog	10	35	5	50
locomotion	step, walk, tread	2	34	7	43
machine	gun, ship, engine	6	6	2	14
money	fine, debt, tax, investment	7	0	0	7
physical object	shoes, furniture, load, shell	31	15	25	71
physical phenomenon	snow, rain	14	7	9	30
psyche	heart, mind, head	5	7	0	12
quality	dyed, sparse	4	0	1	5
sleep	sleep, nap	4	9	2	15
sound	tune, voice, shout, music, whistle	6	15	4	25
substance	fog, liquid, hair	20	4	14	38
Total		196	192	127	515

Appendix II

Domain	Meaning			Mod. Irish		Scot. Gaelic		Hist. data		Total	
		tromm	étromm	t	é	t	é	t	é	t	é
Experiential	weight	hard to move	easy to move	13	13	6	6	11	7	30	26
Parametrical	amount	big in amount	small in amount	8	0	0	0	3	0	11	0
	appearance	bulky	fine, delicate	4	1	5	0	3	0	12	1
	depth	deep	not deep	4	0	8	1	2	0	14	1
	density	dense, thick	thin	15	29	4	5	9	8	28	41
	emptiness	full	empty	1	1	2	2	0	0	3	3
	significance	grave, serious	insignificant	6	2	2	1	6	3	14	6
	severity	harsh, severe	mild	2	0	4	1	2	4	8	5
	capacity	high-capacity	low-capacity	3	0	1	2	1	0	4	2
	intensity	intense	weak, not intense	20	20	19	4	26	0	65	24
	quality of sound	loud and unpleasant	quiet and pleasant	2	4	6	9	5	0	13	13
	quality of movement	moving slowly and with difficulty	moving fast and without difficulty	3	8	10	26	1	23	14	55
	quality of colour	dark	pale	0	8	0	0	0	0	0	8
Psychophysiological	physical impact	tiresome	unfati- guing	5	3	5	6	0	0	10	9
	quality of food	hard to digest	digestible	0	2	0	2	0	0	0	4
Emotional	emotional impact	oppressive, hard to bear	pleasant, comfortable	6	3	12	3	14	7	32	13
	disposition	sad, oppressed	cheerful, light-hearted	3	5	9	19	0	0	12	24
Other	–	weighed down	–	1	–	0	–	5	–	6	–
	–	pregnant	–	1	–	–	–	3	–	5	–
Total				99	98	93	87	90	52	281	235