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The Schematic Organisation of Irish Prepositions

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Abstract

The image schema model proposes that basic sensory-motor concepts are the prelinguistic building blocks upon which more abstract concepts are grown. Spatial particles such as prepositions encode basic information linked to embodied human experience and tend to be highly polysemous, existing in both basic and abstract domains of experience. They are therefore useful for studying the schematic properties of language across different conceptual domains, and for understanding how abstract concepts are grounded in basic experiential knowledge.

In this paper we demonstrate the usefulness of an image schema approach to the analysis of Irish prepositions, illustrating how the radial structure organisation of polysemous meaning senses schematically links basic perceptual concepts with non-perceptual abstract concepts. We thus argue that the image schema model illustrates the fundamental grounding of language in sensory-motor concepts, and how our understanding of abstract concepts is possible only as a result of the embodied nature of the human mind.

List of Abbreviations
1sg: 1st person singular, **1pl:** 1st person plural, **3pl:**, 3rd person plural, **acc:** accusative, **ADJ:** adjective, **ADV:** adverb, **CON:** conjugator, **COND:** conditional, **dat:** dative, **DEM:** demonstrative particle, **DET:** determiner, **em:** emphatic suffix, **gen:** genitive, **IMPS:** impersonal passive, **INT:** interrogative pronoun, **NEG:** negative verb particle, **nom:** nominative, **NP:** noun phrase, **pl:** plural, **PN:** pronoun, **POS:** possessive adjective, **PP:** prepositional phrase, **PPc:** compound preposition, **PR:** present tense, **PT:** past tense, **VN:** verbal noun

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1. Image Schemas and the Embodied Mind

The image schema concept was introduced simultaneously by Mark Johnson (1987) and George Lakoff (1987) in order to explain how the embodied human mind is able to understand and reason abstractly. Now one of the central concepts in the field of Cognitive Linguistics, the image schema model proposes that basic concepts are organised schematically across languages because they are common to our basic embodied human experiences. It enables us to see how more abstract concepts are 'grown' from concepts that are common to our sensory-motor experiences, and how the basic and abstract concepts are schematically linked via metaphorical and polysemous radial structures, which underpin and organise the lexicon.

Prepositions tend to be highly polysemous in nature and so are particularly suitable for examining the schematic nature of spatial concepts across basic and abstract domains. In this paper we draw on our image schema analysis of an Irish prepositional corpus (Manning, 2009) to illustrate how abstract concepts in Irish are grounded in experientially basic ones, and furthermore how the perceptual and metaphorical meaning senses of polysemous Irish prepositions, are connected radially from central basic senses to extended abstract senses.

In section 2 we define image schemas for the purpose of our analysis, and specify two other types of schema, the response schema and the focus schema, which will be relevant for our investigation of Irish prepositions. We then show how the image schema model is used to provide a unified account of polysemous prepositional

meaning senses. In section 3 we discuss the prepositions of the Irish language and our corpus development approach in Manning (2009), from which our data and analysis is drawn. In section 4 we present a selection of prepositions analysed within an image schema framework in Manning (2009), identifying each preposition's meaning senses, illustrating how they are radially organised, and providing an image schema profile which specifies the schemas and metaphors underpinning the range of meaning senses. In section 5 we discuss and conclude our investigation into the usefulness of image schema analysis of Irish prepositions.

2. Introduction to the Image Schema Model

In this section we justify our choice of the image schema model in Manning (2009) for the investigation into the behaviour and organisation of Irish prepositions. In section 2.1 we define image schemas for the purpose of our analysis, distinguishing basic experiential image schemas from basic non-perceptual response schemas, and also proposing a focus of attention schema, the focus schema. These schema types are utilised in section 4 to create a schematic profile for a preposition, thus demonstrating the underlying schematic organisation underpinning the polysemous meaning senses. In section 2.2 we explore further how the image schema model unifies these meaning senses and illustrates their radial organisation from central to extended senses, which shows how abstract senses are 'grown' from more basic ones.

2.2 Types of Image Schema

One of the main challenges facing image schema research is the lack of clarity regarding the exact definition of an image schema (Hampe 2005; Grady 2005). Grady argues that the concept of image schema originated as "representations...of perceptual, including kinetic, experience" which "reflects the "anchoring" function of perception in cognitive experience, and in conceptual structure"; thus an image schema containing non-perceptual information is essentially anachronistic. In reality however, many definitions and examples of image schemas (including several of the schemas proposed by Johnson (1987) and Lakoff (1987)) incorporate elements which are arguably non-perceptual, for example [cycle], [iteration], and [scale], (all from Johnson (1987: 126)).

Grady (2005) offers a path through the confusion. He distinguishes between schemas that are perceptual (image schemas), and those that are non-perceptual (response schemas). He argues that response schemas are essentially metaphorical extensions of image schemas, however they are not necessarily less basic than image schemas experientially. Image schemas are the 'source concepts' and response schemas are the 'target concepts' for what he terms 'primary metaphors', (i.e. those relating basic sensory-motor experience to non-perceptual concepts), for example the [path] schema is the source concept for the [scale] response schema.

In section 4 we provide schematic profiles which distinguish between image and response schemas, and in addition we include a third schema type, introduced in Manning (2009), the focus schema, which links basic image schemas such as [path] or response schemas such as [collection], to our natural ability to focus on one aspect of that schema, (i.e. [source focus], [endpoint focus], [group member focus]).

2.2 Image Schemas and Polysemy

Lakoff and Johnson (1980) note that there is a systematic link between our basic sensory-motor experiences and other more abstract domains of experience, which enables us to metaphorically ground our abstract concepts and experiences in perceptual basic ones. Under the image schema model, the abstract or extended meaning senses of a polysemous preposition are radially connected to a central, more basic meaning sense. Connections and similarities between polysemous meaning senses (in terms of the schematic specification for the relationship between trajector (tr) and landmark (lm) nominals following Langacker (1987)) are clearly illustrated.

The examples below illustrate the polysemy of the Irish preposition *ar* 'on' across basic and abstract domains of experience. In 1a, we see the central spatial meaning sense of *ar*, which entails the [support] schema (the table physically supports the book); and in 1b-d, *ar* is used in various metaphorical settings, including the psych-verb construction in 1c in which we see the metaphor [body as support for emotion], proposed in Manning (2009).

(1) a. *tá   an   leabhar   ar   an   mbord*
         is:V-PR DET book:NP   on:PP DET   table:NP
         'the book is on the table'
     b. *táim   ar   cipiní*
         am:V-PR-1sg   on:PP little sticks (tenterhooks):NP-pl
         (I'm on tenterhooks)
         'I'm excited'
     c. *tá   áthas   orm*
         is:V-PR happiness:NP on:PP+me:PN-1sg
         (happiness is on me)
         'I'm happy'
     d. *tá   mé   ar   muin   na   muice*
         am:V-PR I:PN-1sg on:PP back:NP DET-gen   pig:NP-gen
         (I am on the pig's back)
         'I'm really really happy'

In Manning (2009) we follow Tyler and Evans (2003) principled polysemy approach to identifying distinct meaning senses of polysemous prepositions. They propose that approaches such as Lakoff's radial structure presentation of 'over' (Lakoff, 1987), are too fine-grained, and exaggerate the number of distinct meaning senses of a preposition. They argue that instances of a preposition which differ only with respect to individual characteristics of the landmark or trajector nominal do not yield an additional meaning sense since they are filled in by speaker / listener pragmatic knowledge of the nominals involved. In our analysis of Irish prepositions we therefore specify that landmark and trajector characteristics (such as contact between lm and tr, dimensionality, multiplex or mass status), are not schematically specified, but are filled in by pragmatic context. Thus we identify only the fundamental and necessary meaning senses (both central and extended) for each preposition. Of the transformation links between meaning senses identified by Lakoff (1987), we propose that the reflexive↔non-reflexive transformation alone provides additional semantic meaning which is not directly inferred from context, and thus the Irish prepositional corpus is examined for instances of this transformation in its radial structures (Manning, 2009).

2.3 Summary

In this section we have highlighted the need for a rigorous definition of image schema in order to provide a meaningful account of certain language phenomena under this model, and identified image schemas, response schemas and focus schemas as being relevant for our analysis of Irish prepositions in Manning (2009). In addition we have illustrated how the polysemous meaning senses of Irish may be unified schematically in a radial structure, which links central basic meaning senses to extended metaphorical instances. In section 3 we explore the various types of Irish prepositions, and in section 4 we present a sample of the Irish prepositional analysis using an image schema approach given in Manning (2009).

3. Irish Prepositions

There exist two basic categories of Irish preposition, simple and compound, and furthermore many simple Irish prepositions synthesise with personal pronouns yielding prepositional pronouns. These prepositional pronouns play a strong role in the structure of the Irish language, and are one of the reasons why Irish relies more heavily on prepositions than many other languages such as English. A summary of the main types of Irish preposition is given in section 3.1 and a discussion of our corpus development in Manning (2009) is given in section 3.2, from which our section 4 examples and analysis is drawn.

3.1 Overview of Irish prepositions

In this section we summarise the main morphosyntactic features of Irish prepositional types, including simple and compound varieties (3.1.1) and prepositional pronouns (3.1.2), focussing on the prepositions *ag* 'at', *faoi* 'under / about' and *i* 'in', along with their prepositional pronoun paradigms, which are analysed in an image schema framework in section 4.

3.1.1 Simple and Compound Prepositions

Simple prepositions are grouped according to the case they specify for noun phrases which follow them, either nominative (type a), dative (type b) or genitive (type c) as shown respectively in 2a-c below:

(2)   a.   *seachas*   *na*   *páistí*
                   other than:PP DET-pl   children:NP-nom-pl
                   'other than the children'
        b.   *ar*   *an*   *teilifís*
                   on:PP DET   television:NP-dat
                   'on the television'
        c.   *fearacht*   *na*   *cathrach*   *seo*
                   like:PP   DET-gen   city:NP-gen   this:DEM
                   'like this city'

Compound prepositions consist of a simple preposition plus another element such as a noun. They generally take the genitive case, with a few exceptions such as *go dtí* 'to, towards', and *maidir le* regarding', which both take the nominative case. Some

examples of compound prepositions formed with the prepositions *faoi* 'under / about' and *i* 'in' are shown in 3 below:

(3)   a.   *tá   sí   ag   dul   faoi choinne   píonta*
            is:V:PR she:PN at:PP go:VN   in order to:PPc   pint:NP-gen
            'she is going for a pint'
      b.   *chonaic   mé   na   paistí   i rith   an   lae*
            saw:V-PT I:PN DET children   during:PPc DET-gen day:NP-gen
            'I saw the children during the day'

3.1.2 Prepositional Pronouns

As per Ó Siadhail, (1991: 340), when a personal pronoun in Irish is the object of a preposition (generally type b), they synthesise to form a prepositional pronoun inflected for person and number. Prepositional pronouns encode information on semantic roles and relationships to the predicate, such as subject, direct / indirect object, instrument etc. The prepositional pronoun paradigms for *ag, faoi* and *i* along with the subject pronouns in Irish are given in table 3.1 below. In Irish there is no pronoun translating as 'it', since all singular entities are either masculine or feminine.

PN	*ag* 'at'	*faoi* 'under / about'	*i* 'in'
mé	*agam* 'at me'	*fúm* 'under me'	*ionam* 'in me'
tú	*agat* 'at you'	*fút* 'under you'	*ionat* 'in you'
sé	*aige* 'at him, it'	*faoi* 'under him, it'	*ann* 'in him, it'
sí	*aici* 'at her, it'	*fúithi* 'under her, it'	*inti* 'in her, it'
muid / sinn	*againn* 'at us'	*fúinn* 'under us'	*ionainn* 'in us'
sibh	*agaibh* 'at you-pl'	*fúibh* 'under you-pl'	*ionaibh* 'in you-pl'
siad	*acu* 'at them'	*fúthu* 'under them'	*iontu* 'in them'

Table 3.1: Prepositional Pronoun Paradigms for *ag, faoi* and *i*

An interesting feature of Irish is that prepositional pronouns are generally used in 'psych'-verb structures, i.e. those that describe emotional states, (feelings, perceptions etc.). Thus in Irish, emotional and mental states are coded using locative spatial prepositional pronouns. Indeed it is not possible in Irish to describe states such as being happy, having knowledge and so forth without using prepositional forms. In the following examples, based on Discover Irish Resource (2009), the prepositional pronoun in 4a, *aici* 'at her' codes the experiencer (i.e. the subject); in 4b the prepositional pronoun *air* 'on him' codes the object of experience (i.e. the indirect object); and in 4c the prepositional pronoun *faoi* 'about him' codes the object of mockery (i.e. the direct object):

(4)   a.   *tá   tinneas   cinn   aici*
            is:V-PR   soreness:NP   head:NP-gen   at:PP+her:PN
            (soreness of head is at her)
            'she has a headache'

b.   *theip*   *an*   *plean*   *air*
         failed:V-PT   DET plan:NP   on:PP+him:PN
         (the plan failed on him)
         'the plan failed'

c.   *rinneadh*   *magadh*   *faoi*
         made:V-PT-IMPS   mockery:NP   about:PP+him:PN
         (there was made (a) mockery about him)
         'people were mocking him'

3.2 Corpus Approach

Our corpus of Irish prepositions prepared in Manning (2009) includes samples of authentic language use taken from a range of materials such as dictionaries, grammar books, literature, newspapers and online learning resources. By and large, the material includes language use from the three main dialects, that is Ulster, Connaught and Munster Irish, and also from the Official Standard, which was established since 1945 (Ó Siadhail, 2000: vii). The sources drawn upon by these materials include samples of Modern Irish dating back to start of the 20th century, which gives us a rich and varied data set covering the full range of simple and compound prepositions and the prepositional pronouns for analysis within an image schematic paradigm. In section 4 below we present a selection of our image schema analysis for the prepositions *ag, faoi* and *i*.

4. Analysis

In section 4.1 below we present an image schema account of a selection of Irish prepositions taken from the corpus analysis of Manning (2009), showing the range of meaning senses and the radial structure organisation underpinning them. We define for each preposition an image schematic profile, (containing image schemas, response schemas, focus schemas, conceptual metaphors and primary metaphors) in order to illustrate how the basic meaning senses are abstracted schematically across various domains of experience to yield rich polysemy in the Irish language. In section 4.2 we summarise the schemas and metaphors contained in the image schema profiles yielded by these 3 prepositions.

4.1 Image Schema Analysis

In the sections below we define the meaning senses, radial structure organisation and image schema profiles for the simple Irish prepositions *ag*, 'at' (4.1.1), *faoi* 'under / about' (4.1.2) and *i* 'in' (4.1.3). All examples are taken from the Irish prepositional corpus prepared in Manning (2009).

4.1.1 *Ag* 'at'

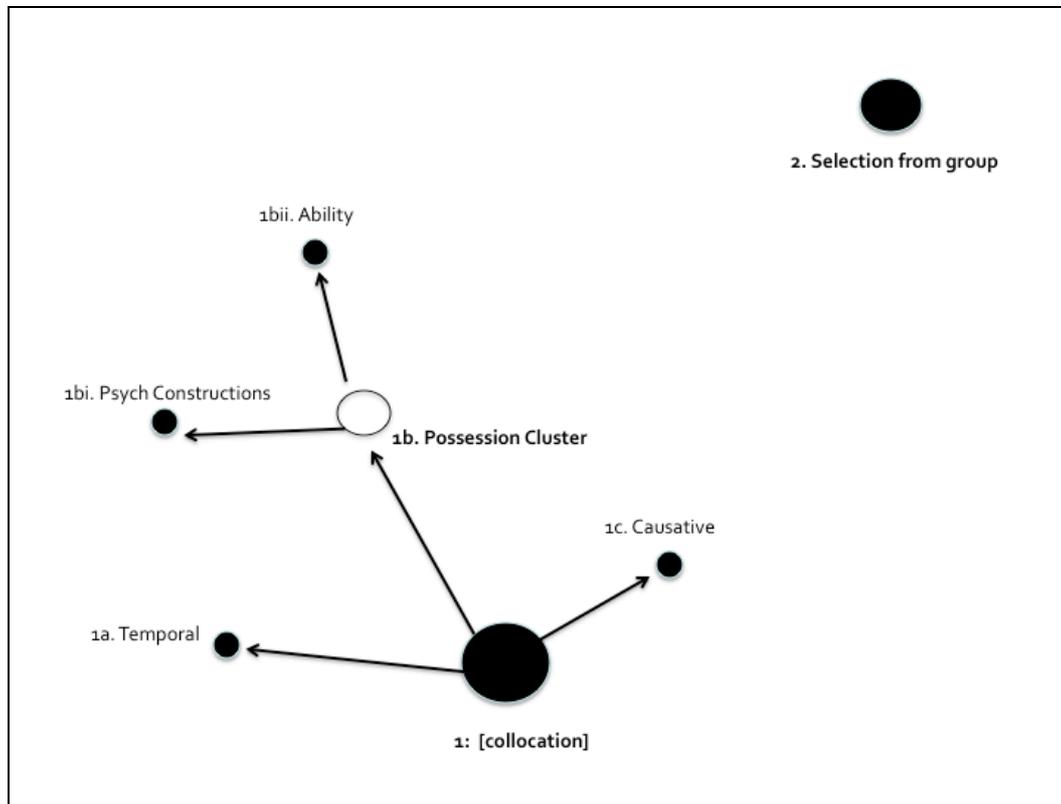The radial structure for the meaning senses of *ag* is shown below in figure 4.1.

Figure 4.1: Radial Structure for *Ag*

The central schema for *ag* 'at' is the [collocation] focus schema (Manning, 2009), shown in figure 4.2. The [collocation] schema allows focus of attention on one aspect of what we call the [near-far-scale-path], a combination of Johnson's image schema [path], and response schemas [near-far] and [scale], (1987).

At the point of [collocation], the trajector (tr) and landmark (lm) are physically collocated at the same point, and may or may not be in contact with each other.

(5) a. *tá   sí   ag   teach*
         is:V-PR   she:PN at:PP   DET   house:NP
         'she is at the house'
     b. *bhí   mé   ag   an   gcóisir*
         was:V-PT   I:PN-1sg   at:PP   DET   party:NP
         'I was at the party'
     c. *ag   an   Aifreann*
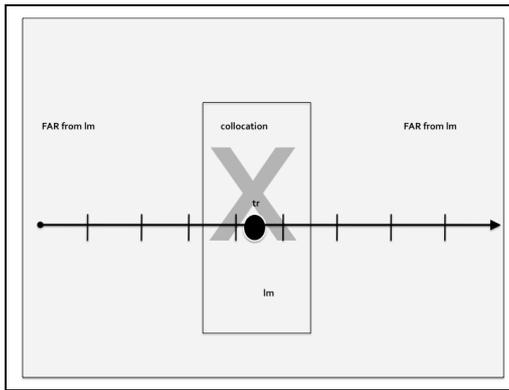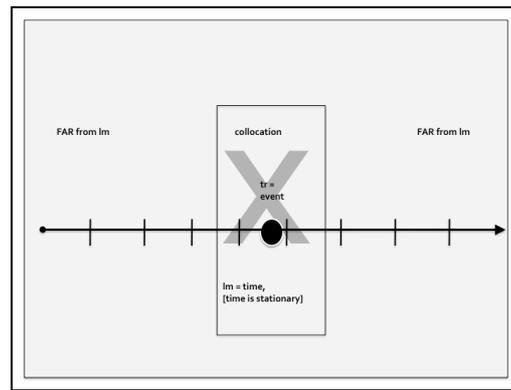   at:PP   DET   mass:NP
         'at mass'

Figure 4.2: *Ag* **I. [collocation] Schema**   **Figure 4.3:** *Ag* **Ia. Temporal Schema**

The [collocation] sense has several non-spatial extensions. In 1a. Temporal, (figure 4.3), the tr, an experiencer, moves along a path towards the lm, a timepoint, until the two are collocated. This is an example of the [time as stationary] metaphor given by Lakoff and Johnson (1980), where the timepoint is fixed, and the tr experiencer moves towards it. The path metaphorically stands for the sequential path of time, which approaches a stationary timepoint, at which it is said to be *at* the event, and beyond which is *after* the event (as per the transitivity of [collocation]). Some examples are given in 6.

(6)   a.   *ag   a   seacht   a   chlog*
                 at:PP   PART seven:ADJ   of:PP   clock:NP
                 'at seven o'clock'
         b.   *ag   cómhrac   a'   dá   ráithche*
                 at:PP   encounter:NP DET-gen   two:ADJ   seasons:NP-gen
                 (at the meeting of two seasons)
                 'at the changing of the season'
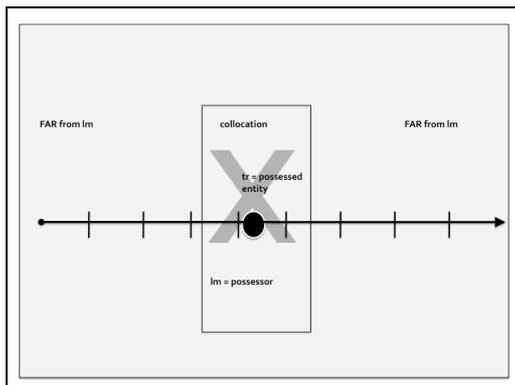
Figure 4.4: *Ag* **1b. Possession Schema**   **Figure 4.5:** *Ag* **1bii. Ability Schema**
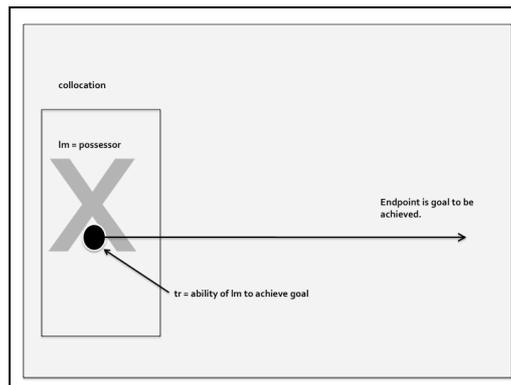
In the 1b. [possession] schema cluster (see figure 4.4) we see the primary metaphor [collocation as possession], (Manning, 2009), which demonstrates how the relationship between a possessed tr, and the lm possessor is expressed locatively in Irish, via the preposition *ag*. Note that in English possession or ownership would be expressed verbally with *have* or *be.* As per Radden and Dirven, (2007), many languages such as Russian, Finnish and Japanese express possession as a locative relation between

possessor and theme. "It is easy to trace a connection between location and possession situations in which objects are always or often close to a person invite the implicature that they belong to that person; conversely, we expect that people have their possessions close to them" (2007: 279). Some examples are given in 7.

(7) a. *tá   leabhar   ag   Mary*
       is:V-PR book:NP   at:PP   Mary:NP
       (a book is at Mary)
       'Mary has a book'

   b. *an   teach   seo   againne*
       DET   house:NP   this:DEM   at:PP+us:PN-em
       'our house'

   c. *tá   beirt   mhac   aige*
       is:V-PR two:ADJ son:NP   at:PP+him:PN
       'he has two sons'

The [possession] cluster is abstracted further from the possession of material physical objects to psychological attributes, as shown in 8 below in which we see the metaphor [emotion as possessed object], (Stefanowitsch and Gries, 2006).

(8) a. *tá   spéis   agam   sa   leabhar sin*
       is:V-PR interest:NP at:PP+me:PN   in:PP+DET book-NP   that:DEM
       (interest in that book is at me)
       'I am interested in that book'

   b. *tá   cion   agamsa   ar   Nuala*
       is:V-PR fondness:NP at:PP+me:PN-em   on:PP   Nuala:NP
       (fondness on Nuala is at me)
       'I am fond of Nuala'

In 1bii. Ability, [possession] and [collocation] are combined with the [purpose as physical goal] metaphor (Johnson, 1987), in which the endpoint physical goal or destination metaphorically represents the purpose or goal to be achieved by the tr in following its path, for which it must possess ability (figure 4.5).

(9) a. *má   théid   agam   air*
       if:CON notion:NP   at:PP+me:PN on:PP+it:PN-3sg
       (if a notion is at me on it)
       'if I can help it, manage it'

   b. *is   réidh   agat   é*
       is:COP easy:ADJ   at:PP+you:PN-2sg   it:PN-3sg-acc
       (is easy at you it)
       'it's easy for you to say'

In 1c. Causative, (figure 4.6) [purpose as physical goal] and [collocation] are combined with the [compulsion] image schema (ibid 1987). The path is represented as a compulsion force, since it represents the direction of the caused activity towards the endpoint; and also the sequence of causation, in which the cause occurs temporally before the result.

Some examples are given in 10 below.

(10)   a.   *ní   thuigim   focal   ag   glór   na   habhann*
NEG understand:V-PR-1sg word:NP at:PP noise:NP DET-gen river:NP-gen
(I can't understand a word at the noise of the river)
'I can't hear a word because of the noise of the river'

          b.   *tá   an   bord   briste   agam*
is:V-PR   DET   table:NP   broken:ADJ   at:PP+me:PN
'I broke the table'

          c.   *caite   ag   an   aoise*
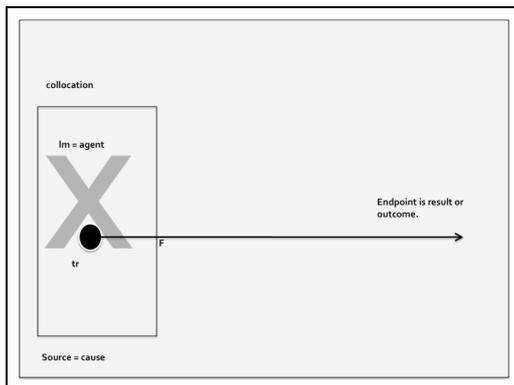worn:ADJ   at:PP   DET   age:NP
(worn at the age)
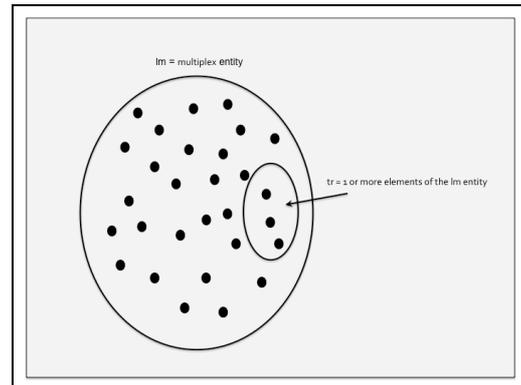'worn with age'

Figure 4.6: *Ag* 1c. Causative Schema   **Figure 4.7: *Ag* 2. Selection from Group Schema**

The second *ag* schema is 2. Selection from group (figure 4.7), which is the focus schema [group member focus] applied to the combination of the [collection] and [splitting] response schemas (ibid, 1987), in which the tr represents one or more elements selected from a lm multiplex entity. Some examples are given in 11 below.

(11)   a.   *cá   mhéad   acu?*
what:INT   amount:NP   at:PP+them:PN
'how many of them?'

          b.   *ní   dheachaigh   ann   ach   an   bheirt*
NEG   go:V-PT   in:PP+it:PN   but:CON DET two:ADJ
acu
at:PP+them:PN
(didn't go in it but the two at them)
'only two of them went there'

4.1.2 *Faoi* 'under / about'

The radial structure for the meaning senses of *faoi* is shown below in figure 4.8. From our corpus analysis in Manning (2009), it was clear that there are two distinct meaning senses for *faoi* which cannot be reconciled, that of 'under' and 'about'. Ó Siadhail (2000: 105) notes that in the Cois Farraige dialect, the 'about' sense of *faoi,* for example *ag caint faoi rud* 'talking about something', has replaced constructions which would formally have been constructed using the preposition *um* 'about'. As we shall see below, *faoi* has two temporal senses, that of 'by' or 'around', depending on context,

(*um Nollaig* 'around Christmas' is sometimes replaced with *faoi Nollaig*). In addition, Ó Baoill (1996: 92) notes that in the Ulster dialect there are two separate prepositional forms *faoi* 'under' and *fá*, generally 'about', which have become the same preposition in Standard Irish, and both were included in our corpus.
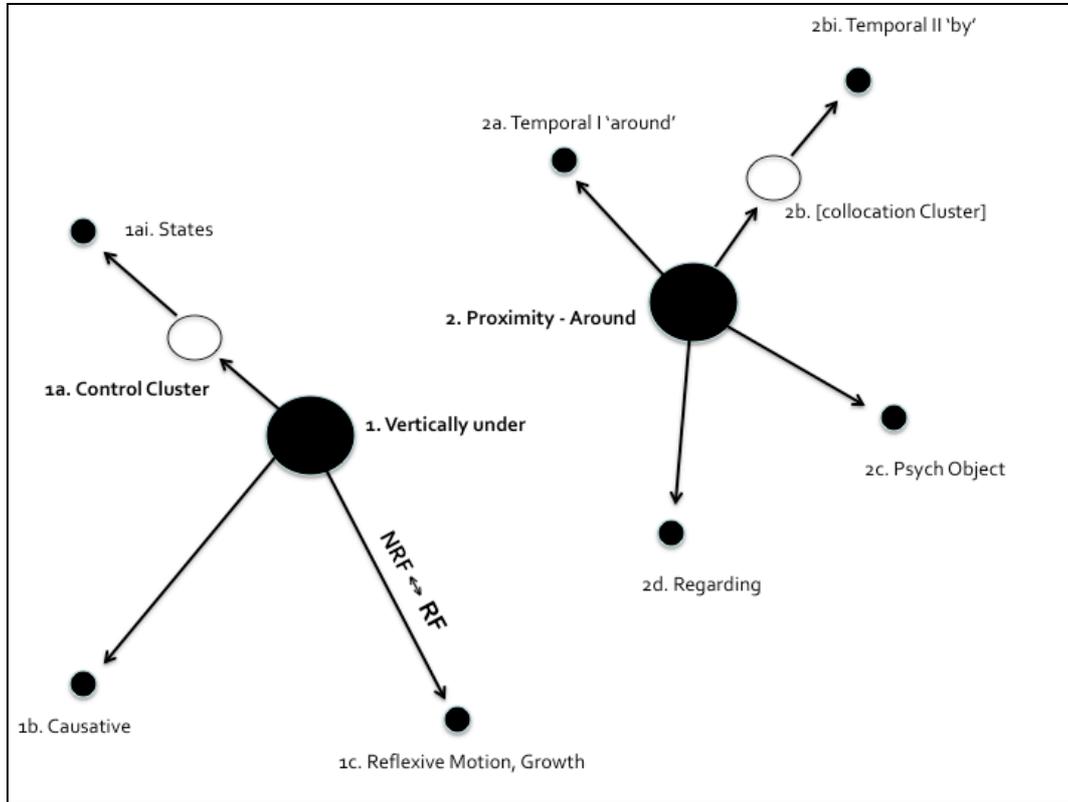
Figure 4.8: Radial Structure for *Faoi*

The first meaning sense 'under' is the 1. Vertically under schema, in which the tr is physically located beneath a lm on the vertical axis (figure 4.9 (a)) as per the [vertical orientation] image schema, (Lakoff, 1987). Some examples are given in 12 for both spatial instances (12c), non-spatial perceptual concepts (12a, 12b), and less basic projections (12d).

(12)   a.   *tá   an   ghrian ag   dul   faoi*
            is:V-PR   DET   sun:NPat:PP   go:VN under:PP
            (the sun is going under)
            'the sun's setting'
       b.   *faoi   sholas an   lae*
            under:PP   light:NP   DET-gen   day:NP-gen
            'in the light of day'
       c.   *faoi   cheann   an   tí*
            under:PP   head:NP   DET-gen   house:NP-gen
            (under the house's head)
            'under the roof of the house'
       d.   *faoi   d'anáil*
            under:PP   your:POS'breath:NP
            'under one's breath'

In 1a., control adds the [being subject to control as down] metaphor (Lakoff and Johnson, 1980), in which the lm exerts a [compulsion] force on the tr beneath it, which causes the tr to follow a certain action path (figure 4.9 (b)). 13b below is another example of the *ag* 1c causative meaning sense (refer to section 2.2), where *aicí* 'at her' has the meaning sense of 'because of her'.

(13) a. *bheith faoi chois*
    be:VN under:PP foot:NP
    (to be under foot)
    'to be oppressed, downtrodden'
  b. *tá sé faoina cosa aicí*
    is:V-PR   he:PN under:PP+her-POS foot:NP at:PP+her:PN
    (he is under her foot at her / because of her)
    'he's under her thumb'

Figure 4.9: *Faoi* Schemas 1, 1a, 1b, 1c, 1d, 2
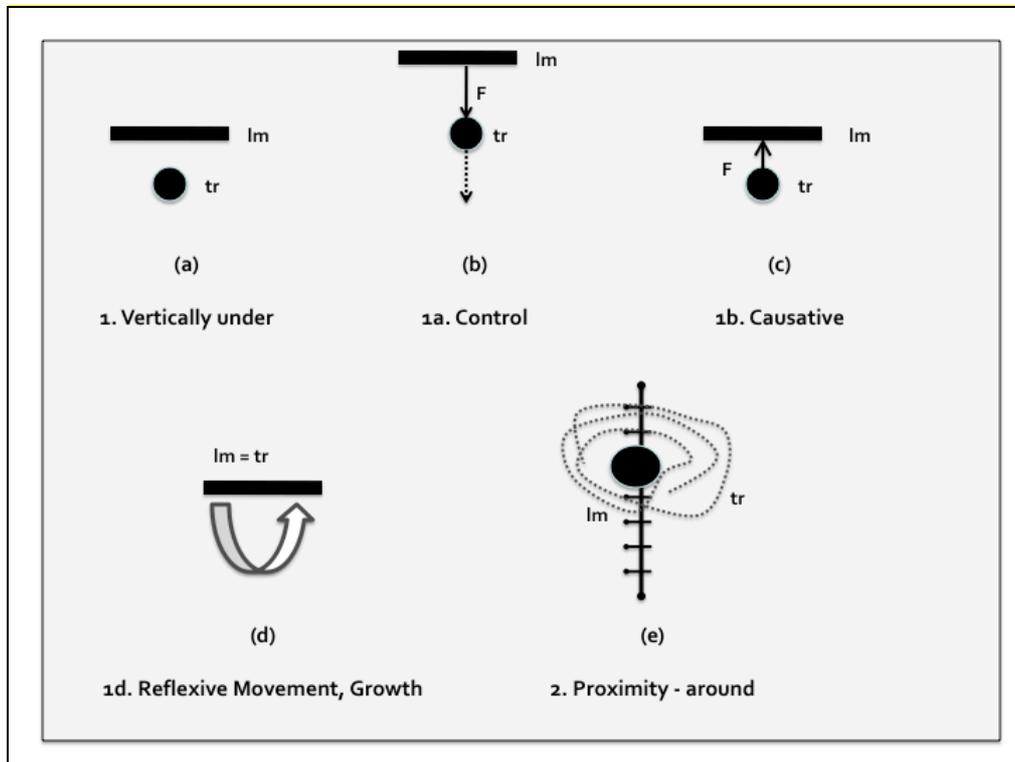
In the Control extension (1a), the lm is the state that exerts a force on the tr, metaphorically causing it to be in, or holding it in, that state as shown in 14.

(14) a. *bheith faoi ualach*
    be:VN under:PP burden:NP
    (to be under a burden)
    'to be burdened'
  b. *faoi bhláth*
    under:PP flower:NP
    (under flower)
    'in flower'
  c. *bheith faoi gheasaibh*

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be:VN under:PP       spell:NP
(to be under a spell)
'to be enchanted, lead a charmed life'
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In 1b. Causative (figure 4.9 (c)), the tr is the cause, motivation or intention for a lm's action, and thus exerts a compulsive force on the landmark causing it to act in a certain way as per 15.

(15) a. *tá   fúm   dul   abhaile*
        is:V-PR   under:PP+me:PN   go:VN home:NP
        (is under me to go home)
        'I intend to go home'
     b. *tá   fúm   tusa   a   phósadh*
        is:V-PR   under:PP+me:PN   you:PN-em   to:PP   marry:VN
        (is under me to marry you)
        'I intend to marry you'
     c. *an   siúl   atá   fút*
        DET   movement:NP REL+is:V-PR under:PP+you:PN
        (the movement that is under you)
        'the reason, motive for one's actions'
     d. *faoi dhéin   an   dochtúra*
        to meet:PPc   DET-gen   doctor:PN-gen
        'to fetch the doctor'

In 1c. Reflexive motion, growth, lm and tr are the same entity, and lm's motion or growth is represented metaphorically as occuring under itself (figure 4.9 (d)). This is an instance of the transformational link NRF ↔ RF between the 1. vertically under central sense (with non-reflexive distinct lm and tr entities), and the 1c. reflexive motion sense.

(16) a. *cur   fút   in   áit*
        put:VN   under:PP+you:PN   in:PP   place:NP
        (to put under you in a place)
        'to settle down somewhere'
     b. *tá   fás   fúthu*
        is:V-PR   growth:NP   under:PP+them:PN
        (there is growth under them)
        'they're growing'
     c. *bhí   luas   faoi*
        was:V-PT   speed:NP   under:PP+him:PN
        (there was speed under him)
        'he was going fast'

The second meaning sense for *faoi*, 'about', shown in figure 4.9 (e), is represented by schema 2. [proximity] (Manning, 2009), [proximity] is a focus schema, which enables focus of attention on the aspect of the [near-far scale-path] at which tr is near lm.

Some examples are given in 17.

(17)   a.   *fá   ghiota de*
                about:PP   bit:NP from:PP
                (about a bit from)
                'not far from'

       b.   *bíonn dhá   dtrian   galair   le*
                is:V-PR two:ADJ thirds:NP-pl sickness:NP-gen with:PP
                hoidhche   agus
                night:NP   and:CON
                dhá   dtrian gaoithe   fá   chrannaibh
                two:ADJ   thirds:NP-pl   wind:NP-gen   around:PP trees:NP-pl
                (there is two thirds of sickness with the night and
                two thirds of wind around the trees)
                'sickness gets worse at night, and the wind seems to blow stronger where
                there are trees'

In the first extension schema, 2a. Temporal I, we see the [time as stationary] metaphor, in which tr, the experiencer or event, traces a path around the position of a lm trajector on a [near-far-scale-path]. As per the transitivity of the [near-far-scale-path] the tr would be *at* the lm if the two were collocated, but is *about* or *around* the lm since it metaphorically travels around it as per 18.   The second extension is the 2b. [collocation] focus schema, in which the tr travels along the [near-far-scale-path] until it is physically collocated with the lm as shown in 19.

(18)   *fá   Nollaig*
        around:PP Christmas:NP
        'around Christmas'
(19)   *faoin   tuath*
        about:PP   countryside:NP
         'in the countryside'

In its extension, 2bi. Temporal II ('by'), the tr travels along the [near-far-scale-path] and at its endpoint is collocated with the lm timepoint. This emphasises the durative path of the tr, which culminates in completing its activity path *by* the time it reaches the lm as shown in 20.

(20)   a.   *faoin Aoine*
                by:PP Friday:NP
                'by Friday'
       b.   *faoi seo*
                by:PP this:DEM
                'by now'

In the third extension 2c. Psych object we see the [emotion as object directed at someone] metaphor (Stefanowitsch and Gries, 2006); a broader version of Lakoff and Johnson's [emotional effect as physical contact] (1980). In this metaphor lm is the subject of ideas, opinions and emotions of an experiencer, represented by the tr, and thus the path represents the direction of the psychological constructions towards the lm entity, and thus is metaphorically *about* the lm as shown in 21.

(21)   a.   *rinneadh   magadh   faoi*
                made:V-IMPS mockery:NP   about:PP+him:PN
                (there was made a mockery of him)

> 'people were mocking him'
>
> b.   *tá   imní   orm   faoi*
>   is:V-PR   worry:NP   on:PP+me:PN about:PP+it:PN
>   (there is worry on me about it)
>   'I'm worried about it'
>
> c.   *cad   a   cheapann   tú   faoi*
>   what:INT   REL   think:V-PR   you:PN about:PP
>   *imirt   rugbaí i   bPáirc an Chrócaigh?*
>   playing:VN   rugby:NP   in:PP   Croke Park:NP
>   'what do you think about rugby being played in Croke Park?'
>
> d.   *eadra   gáire   a   dhéanamh faoi   rud*
>   long spell:NP   laughter:NP-gen to:PP do:VN   about:NP something:NP
>   'to have a good long laugh at something'

In 2d. Regarding, tr is communication regarding a particular lm entity, and therefore metaphorically travels along a path close to the lm on a [near-far-path scale] as shown in 22.

(22)   *bheith ag   caint fá   rud*
       be:VN at:PP   talk:VN   about:PP   something:NP
       'to be talking about something'

4.1.3 *I* 'in'

The radial structure for the meaning senses of *i* is shown below in figure 4.10.
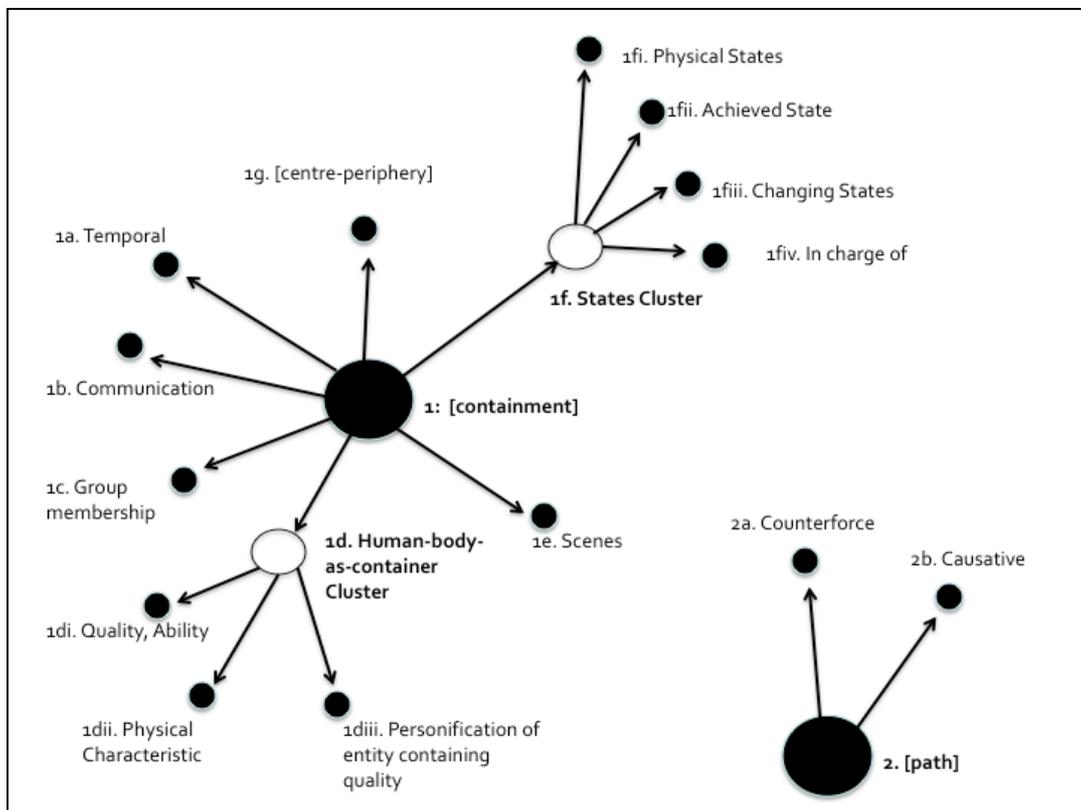

Figure 4.10: Radial Structure for *I*

The central schema of *i* 'in' is [containment] as shown in figure 4.11 (a) below. Some examples of the first central schema [containment] are shown in 23 below.

(23)   a.   *in   dhá   áit*
              in:PP   two:ADJ   place:NP
              'in two places'
       b.   *sa   nead*
              in:PP+DET   nest:NP
              'in the nest'
       c.   *san   uisce*
              in:PP+DET   water:NP
              'in the water'
       d.   *in aice le*
              beside:PPc
              'next to / beside'
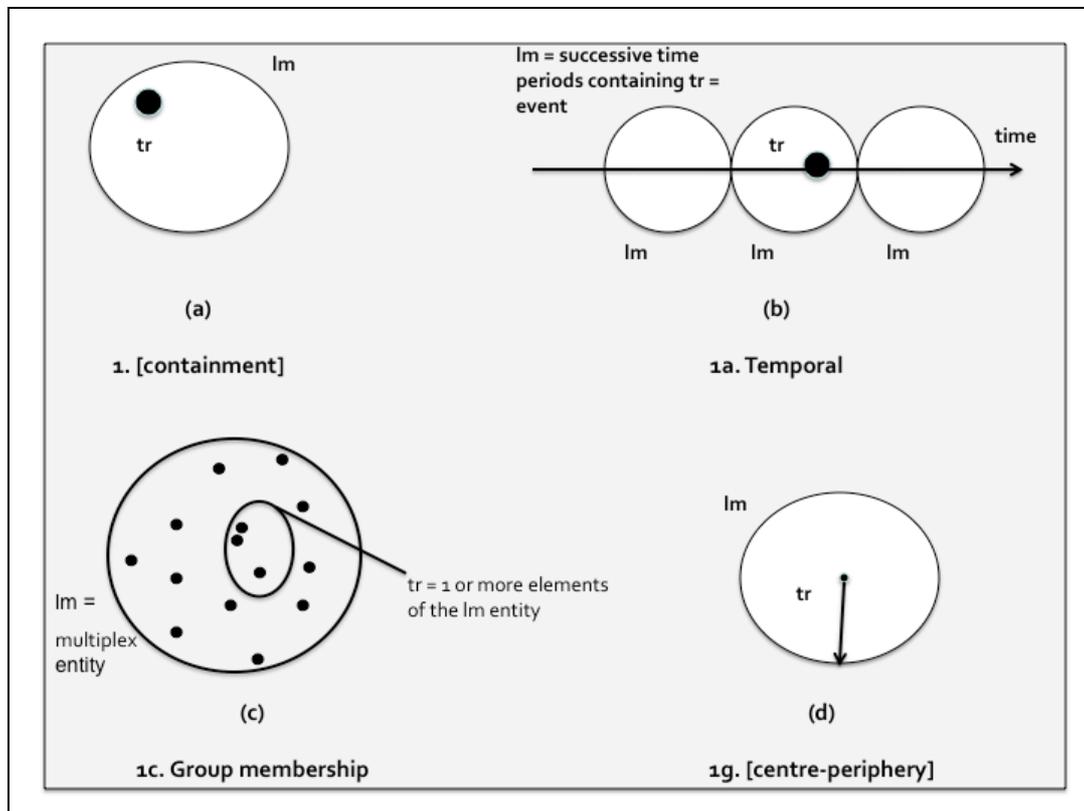
Figure 4.11: *I* [containment] Schemas 1, 1a, 1c, 1g

In 1a. temporal (figure 4.11 (b)) the [time as stationary] metaphor entails that the tr event or experiencer moves through successive timepoints, which are represented schematically as containers. Some examples are given in 24. In 1b. Communication, conversation or communication is represented as a container for ideas, words and expression via the [communication as conduit] metaphor (Lakoff and Johnson, 1980), as shown in 25.

(24)   a.   *an   Luan   ina   dhiaidh   sin*
                 DET   Monday:NP   in:PP+REL   after:ADV
                 that:DEM
                 'the following Monday'

        b.   *i   mbliana*
                 in:PP   year:NP
                 'this year'

(25)   *bheith beacht   sa   teanga*
            be:VN precise:ADJ   in:PP+DET   speech:NP
            'to be precise in one's speech'

In the third [containment] extension, 1c. Group membership (figure 4.11 (c)), the lm is a container multiplex entity, whose members form a group (as per the metaphor [category as container], Lakoff and Johnson (1980)), and any entity outside the boundary is excluded from the group. In 26a the tr is one or more elements selected or foregrounded from the container via the [group member focus] focus schema, (Manning, 2009).

(26)   a.   *ní   chuirfeá   sonrú   i   gcruinniú   inti*
                 NEG   put:V-COND notice:NP   in:PP   crowd:NP   in:PP+her:PN
                 'you wouldn't notice her in a crowd (she's plain)'

        b.   *san   arm*
                 in:PP+DET   army:NP
                 'in the army'

In the fourth extension cluster, 1d, we see the primary metaphor [body as container] (Lakoff and Johnson, 1980), in which the body is viewed as a container as shown below (27 a-b). In 1di we see the [body as container for personal quality] metaphor (Manning, 2009), in which the body is a container for qualities and ability (27 c-d). In extension 1dii. the body contains its physical characteristics (27 e-f) (an example of the [physical state as entity within person] metaphor, Lakoff and Johnson (1980)). In 1diii. inanimate entities are personified and their qualities are seen as being contained within them (27 g-h) (as per the [inanimate entity as body] metaphor, Manning, (2009)).

(27)   a.   *tá   miam   ann*
                 is:V-PR breath:NP   in:PP+him:PN
                 (there is breath in him)
                 'he still breathes'

        b.   *chuaigh sin   go   cor   a'chroidhe   ann*
                 went:V-PT that:DEM to:PP core:NP his:POS'heart:NP in:PP+him:PN
                 (that went to the core of his heart in him)
                 'it affected him to the very core of his being'

        c.   *rud   a   bheith ionat*
                 something:NP to:PP be:VN in:PP+you:PN
                 (something to be in you)
                 'to be capable of something'

        d.   *tá   ionam*
                 is:V-PR in:PP+me:PN
                 (there is in me)
                 'I can, have in me, am characterised by'

e.   *bhí   céim   bhacaí   ann*
    was:V-PT step:NP   lameness:NP in:PP+him:PN
    (there was a step of lameness in him)
    'he walked with a limp'

f.   *bhí   an   dathamhlacht   riamh   ann*
    was:V-PT   DET   handsomeness:NP   before:ADV
    in:PP+him:PN
    (there was handsomeness in him before)
    'he was always handsome'

g.   *níl   maith   ar   bith   sa   leabhar   seo*
    NEG   good:NP on:PP any:NP in:PP+DET book:NP   this:DEM
    (there is no good in this book)
    'this book isn't good'

h.   *drochlá   a   bhí   ann*
    bad-day:NP   REL   was:V-PT   in:PP+it:PN
    (bad-day was in it)
    'it was a bad day'

In the fifth [containment] schema 1e. Scenes, we see the [existence as container] metaphor (Manning, 2009) in which an event, timepoint or scene is represented as being a container, containing the actors or actions occurring within it as shown in 28.

(28) a.   *níor   shamhlaigh sé   go   mbeadh   sí   ann*
        NEG-PT imagine:V-PT he:PN to:PP be:V-COND she:PN in:PP+it:PN
        (he didn't imagine that she would be in it)
        'he didn't imagine she'd be there'

    b.   *sin   a   bhfuil   d'airgead   ann*
        that:DEM REL is:V-PR-dep of:PP'money:NP   in:PP+it:PN
        'that's all the money there is'

In the 1f. States Cluster, we see the [state as container] metaphor (Lakoff and Johnson, 1980), in which a tr is physically located within a certain state (29 a-c). Its extensions include: 1fi. Physical States (29 d-f); 1fii. Achieved (or derived) State (29 g-i); 1fiii. Changing States (i.e. changing from *being in* one state to *being in* another) (29 j-l); and 1fiv. In charge of (29 m-o).

(29) a.   *duine   a   chur   ina   thost*
        person:NP   to:PP put:VN   in:PP+POS
        silence:NP
        'to silence, humble, chasten someone'

    b.   *bheith   i   do   shaol is   i   do   shláinte*
        be:VN in:PP your:POS   life:NPand:COP   in:PP your:POS
        health:NP
        (to be in your life and in your health)
        'to be alive and well'

    c.   *i   n-éag*
        in:PP   death:NP
        'dead'

d.　*tá*　　*mé*　*i*　*mo*　*luí*
　　am:V-PR　　I:PN　in:PP　my:POS　lying:NP
　　(I am in my lying)
　　'I am lying down'

e.　*tá*　　*mé*　*i*　*mo*　*chodladh*
　　am:V-PR　　I:PN　in:PP　my:POS　sleeping:NP
　　(I am in my sleep)
　　'I'm sleeping'

f.　*tá*　　*mé*　*i*　*mo*　*sheasamh*
　　am:V-PR　　I:PN　in:PP　my:POS　standing:NP
　　'I'm standing'

g.　*tá*　　*sí*　*ina*　　*bainisteoir*
　　is:V-PR　　she:PN in:PP+her:POS　manager:NP
　　(she is in her manager)
　　'she's a manager'

h.　*ag*　*dul*　*sna*　　*sagairt*
　　at:PP　go:VN　in:PP+DET-pl priests:NP-pl
　　(to go into the priests)
　　'joining the priesthood'

i.　*sagart*　　*atá*　　　*ann*
　　priest:NP　　REL+is:V-PR　in:PP+him:PN
　　(there is a priest in him)
　　'he's a priest'

j.　*cuirim*　　*i*　*méid*
　　put-V-PR-1sg in:PP　quantity:NP
　　(I put in quantity)
　　'I make larger'

k.　*cuirim*　　*i*　*gcruinneas*
　　put-V-PR-1sg in:PP　accuracy:NP
　　(I put in accuracy)
　　'I make more accurate'

l.　*téim*　　*i*　　*bhfeabhas,*　*i*　　*bhfad, i*　　　*laighead*
　　go-V-PR-1sg　in:PP　excellence:NP in:PP　length:PP　　in:PP
　　smallness:NP
　　(I go in excellence, in length, in smallness)
　　'I become better, longer, smaller'

m.　*i bhfeighil*　　　*an*　*tí*
　　minding:PPc　DET-gen　　house:NP-gen
　　'minding the house'

n.　*i gcionn*
　　in charge of:PPc
　　'in charge of'

o.　*i mbun*
　　in charge of:PPc
　　'in charge of'

In the seventh [containment] schema, 1g. [centre-periphery] (Johnson 1987), the contained tr is located at a certain distance between the lm's centre and its boundary (figure 4.11 (d)). Some examples are given in 30.

(30)   a.   *i lár   na   habhann*
            in the middle of:PPc DET-gen   river:NP-gen
            'in the middle of the river'
       b.   *i lár   an   bhaile*
            in the middle of:PPc DET-gen   town:NP-gen
            'in the middle of the town'

The second sense of *i* is represented by the 2. [path] schema (figure 4.12 (a)), in which a tr moves towards a lm along a path (31 a-c). This schema is generally used for indefinite places, and its extensions are 2a. Counterforce (31 d-e), and 2b. Causative (31f). In 2a. Counterforce (figure 4.12 (b)), the usual path of the lm is challenged or interrupted by a [counterforce] force (Johnson, 1987). In 2b. the source of the tr's path is a metaphor for the cause or reason for an action path as per [purpose as physical goal].
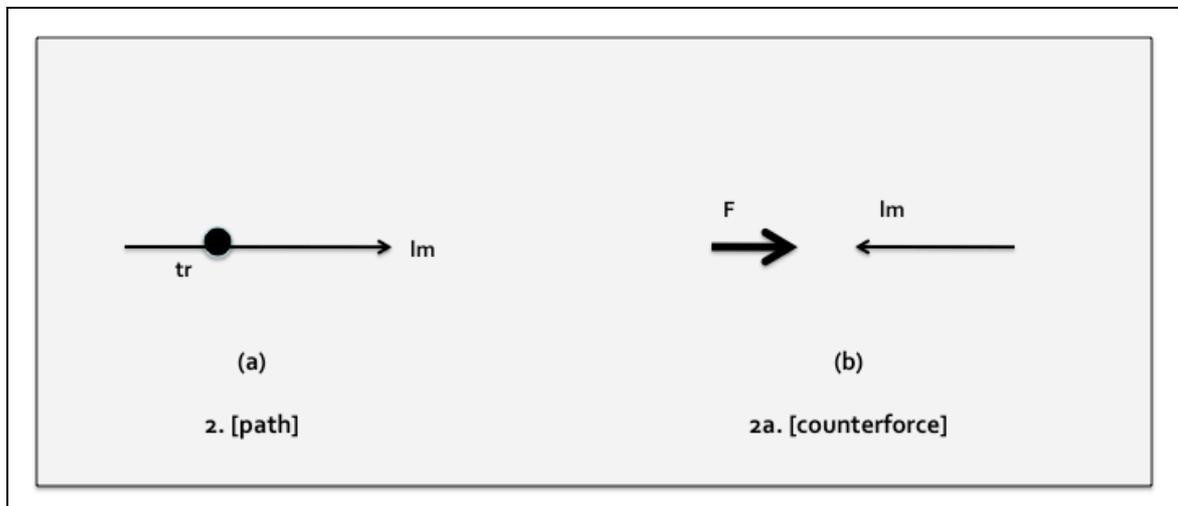

Figure 4.12: *I* [path] Schemas 2, 2a

(31)   a.   *i dtreo   an   chúil*
            in the direction of:PPc   DET-gen   goal:NP-gen
            'in the direction of the goal'
       b.   *ag   dul   in   áit   éigin*
            at:PP go:VN in:PP   place:NP   some:ADJ
            (going in some place)
            'going somewhere'
       c.   *tháinig   said   i   dtír*
            came:V-PT   they:PN   in:PP   land:NP
            (they came in land)
            'they came ashore'
       d.   *in éadan   na   gaoithe*
            against:PPc   DET-gen   wind:NP-gen
            'against the wind'
       e.   *i gcoinne   na   Rúise*
            against:PPc   DET-gen   Russia:NP-gen
            'against Russia'

f.   *i ngeall ar   an   stailc*
      because of:PPc   DET-gen   strike:NP-gen
      'because of the strike'

4.2 Summary of Image Schema Profiles

In section 4.2.1 we presented the image schema profiles for *ag, faoi* and *i,* taken from an authentic Irish prepositional corpus (Manning, 2009). We found a range of image schemas and conceptual metaphors, which have been identified, in previous studies for other languages. In our analysis we followed Grady (2005) and redefining previously identified image schemas and metaphors when necessary as image schemas, response schemas, primary metaphors and metaphors. We also proposed a new category, the focus schema, which focuses attention on one aspect or stage of an image or response schema; and have proposed new schemas and metaphors for our dataset, which have not been identified previously in other studies. Table 4.1 summarises the range of schemas and metaphors we have identified for *ag, faoi* and *i*, with original schemas and metaphors proposed in Manning (2009) listed in bold typeface. For a complete analysis of Irish prepositions with the full range of schemas and metaphors identified, see Manning (2009).

We see in table 4.1, how basic image schemas are combined with each other and abstracted via primary and conceptual metaphor, and how certain stages of a schema may be highlighted and focused upon with a [focus schema]. For example [path] is combined with [near-far] and [scale] to give the [near-far-scale-path], which itself has focus schemas such as [collocation] and [proximity]. The basic sensory-motor [containment] schema is the source for the target basic, non-perceptual primary metaphor [body as container], in which the human body is perceived as a container; and for the target abstract, non-perceptual metaphor [body as container for personal quality], in which an experiencer's qualities or traits are perceived as being contained within their human body.   We thus see how an image schema profile for polysemous prepositions identifies the chain of abstraction in the language from basic sensory-motor concepts to more complex and abstract concepts. In section 5 we discuss and conclude on the usefulness of the image schema approach applied to Irish prepositions.

Image Schemas	[compulsion], [containment], [path], [vertical orientation]
Response Schemas	[centre-periphery], [collection], [near-far], [scale], [splitting]
Focus Schemas	**[collocation]**, **[group member focus]**, **[proximity]**
Primary Metaphors	[body as container], **[collocation as possession]**, [purpose as physical goal]
Metaphors	[being subject to control as down], **[body as container for personal quality]**, [category as container], [communication as conduit], [emotion as possessed object], **[existence as container]**, **[inanimate entity as body]**, [physical state as entity within person], [time as stationary]

Table 4.1: Summary of schemas and metaphors for *ag, faoi* and *i*

5. Conclusion

We have presented the image schema analysis for the Irish prepositions *ag, faoi* and *i*, from our earlier corpus analysis in Manning (2009). From the corpus dataset for each preposition we identified the full range of their meaning senses following the principled polysemy approach of Tyler and Evans (2003), in which additional meaning senses are specified only when they provide new semantic information which may not be inferred from context. These polysemous meaning senses were then presented in a radial structure organisation, illustrating how a central basic sense is schematically linked to extended abstract senses. We then identified the image schema profile for each preposition, giving insight into the schematic organisation of meaning senses across the polysemous radial structure.

In our presentation of the image schema profiles, we followed Grady's approach in his rigorous definition of image schema as that which is basic and sensory-motor, and also followed his definition of response schemas and primary metaphors (Grady, 2005). In addition we included the focus schema, proposed in Manning (2009) to clearly identify when there is focus of attention on certain stages of image schemas and response schemas. We thus have presented a clear image schema profile for each of the prepositions, with the range of schemas and metaphors summarised in table 4.1 (including original schemas and metaphors yielded by our Irish dataset); and have shown transparently how non-perceptual and abstract concepts are grounded in sensory-motor basic concepts.

In this paper we have shown that the image schematic profiles for the Irish prepositions *ag, faoi* and *i* account for the range of their meaning senses, demonstrating clearly how the polysemous meaning senses are composed of various schemas and metaphors, and how the radial structure organisation connects abstract concepts schematically with more basic pre-conceptual structures (see Manning, 2009 for a full presentation of research for Irish prepositions). We thus argue that the image schema model illustrates the fundamental grounding of language in sensory-motor concepts, and how our understanding of abstract concepts is possible only as a result of the embodied nature of the human mind.

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