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Initial Consonant Mutation in Irish Gaelic

A Functional Discourse Grammar Analysis

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LIST OF ABBREVIATIONS IN GLOSSES

1 = first person
2 = second person
3 = third person
ABL = ablative
ABS = abstract comparative
ANT = antessive
CAU = causative
CAR#= cardinal numeral
COM = common case
CON = conditional
COP = copula
DEC = declarative
DEF = definite article
DEP = dependent
DIR = direct
F = feminine
FUT = future
GEN = genitive case
HAB = habitual
IMP = impersonal
INA = indefinite adverb
IND = indirect
INT = interrogative
IRR = irrealis
JUS = jussive
M = masculine
NEG = negative
NON = non-past
ORD# = ordinal numeral
PER# = personal numeral
PL = plural
POS = possessive
PPT = past participle
PRS = present
PST = past
REA = realis
REL = relative
SG = singular
TEM = temporal
VBN = verbal noun

LIST OF ABBREVIATIONS IN REPRESENTATIONS

Levels:
IL = Interpersonal Level
ML = Morphosyntactic Level
OL = Output Level
PL = Phonological Level
RL = Representational Level
S = Surface
U = Underlying

Layers:

α = semantic category
A = Discourse Act
Adjp = Adjective Phrase
Adjs = Adjectival Stem
Adjw = Adjectival Word
Adpp = Adposition Phrase
Adpw = Adpositional Word
Aff = Affix
C = Coda
C = Communicated Content
Cl = Clause
e = State-of-Affairs
ep = Episode
f = Configurational Property
f = Property
F = Foot
F = Illocution
Gw = Grammatical Word
l = Location
Np = Noun Phrase
Ns = Nominal Stem
Nw = Nominal Word
O = Onset
P = Phoneme
PP = Phonological Phrase
PW = Phonological Word
R = Rhyme
R = Subact of Reference
S = Syllable
t = Time
T = Subact of Ascription
Vp = Verb Phrase
Vw = Verbal Word
x = Individual
X = morphosyntactic variable
X = phonological variable

Heads:

♦ = lexeme
Ø = empty head
±A = Addressee
±id = Identifiability
±s = Specificity
±S = Speaker
DEC = Declarative
ILL = illocution
INT = Interrogative
JUS = Jussive
MORP = morpheme
PHON = phoneme
VOC = Vocative

Operators:

1 = Singular
absc = Abstract Comparative
asp = Aspect
AFF = Affective

cond = Conditional
fut = Future
grad = Gradability
H = High Stress
hab = Habitual
int = Intensive
iter = Iterative
m = Plural
mal = malative
mod = Modality
mood = Mood
MUT = Mutational Paradigm
~~MUT~~ = Mutation Blocked
neg = Negative
num = Number
perf = Perfect
poss = Possibility
prs = Present
pst = Past

Functions:
A = Actor
Abl = Ablative
Ant = Anterior
Ass = Associative
Caus = Causative
Com = Comitative
Conc = Concernative
Inst = Instrument
L = Locative
Mot = Motivation
O = Object
Poss = Possessive
Ref = Reference
S = Subject
Sub = Subessive
Sup = Superessive
Tem = Temporal
U = Undergoer

(Sub)classes:
±2Pal = palatalised
±Alv = alveolar
±Bil = bilabial
±Cor = coronal
±Den = dental
±Fr = fricative
±Hom = homorganic
±Nas = nasal
±Pal = palatal
±Rh = rhotic
±Sib = sibilant
±St = stop
±Voic = voice
absc = abstract comparative
Adj = adjective
Aff = affix
anim = animate
C = Consonant

Car = cardinal numeral
com = common case
Cop = copula
Def = definite article
dep = dependent
f = feminine
Freq = frequent word
gen = genitive case
imp = impersonal
inan = inanimate
Loan = loan word
m = masculine
N = noun
Ord = ordinal numeral
Per = personal numeral
pl = plural
poss = possessive
Pref = prefix
Prep = preposition
Pro = pronoun
Prop = proper name
Ptcl = particle
Ptcp = participle
quan = quantifier
rel = relative
sg = singular
type = prefix type
unm = resists mutation
V = verb

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1 INTRODUCTION

Imagine a language in which the word *cat* may also be *xat* or even *gat* and still refer to a small furry animal with four legs, sharp claws, and a preference for eating mice. Irish Gaelic is one such language which would dare to treat a household pet so contemptuously, with initial phonemes regularly undergoing mutations according to a variety of grammatical conditions. These initial mutations were originally phonologically governed external sandhi effects which gradually became grammaticalised. Initial mutations play a prominent role in the grammar of Irish Gaelic and are applicable to both vowels and consonants. Specific phonological rules determine which phonemes may mutate and which mutations these phonemes may undergo. Specific grammatical factors determine not only whether a mutation will occur but also the type of mutation that will take place. Mutations do not always occur when expected, however, due to a number of constraints which serve to restrict the occurrence of a mutation. In a number of special cases, mutations may furthermore occur where they would not be expected.

This thesis will focus specifically on initial consonant mutation in the Irish Gaelic dialect of the Iorras Aithneach peninsula in County Galway. An attempt will be made to not only give a general description of this linguistic phenomenon but also a specific description within the framework of Functional Discourse Grammar (FDG). Both analyses will be based mainly on the synchronic status of initial consonant mutation in the dialect and will only take the diachronic origins and developments of initial mutations into account where relevant. This thesis is a continuation of previous research into a specific type of initial consonant mutation in standardised Irish Gaelic by the author (O'Neill 2007). The current research attempts to delve deeper into this linguistic peculiarity in a specific dialect of Irish Gaelic and to build upon and further develop the analyses made and the issues raised in the previous research.

The thesis begins with § 2 which gives a description of the process of initial consonant mutation and the different mutations which are involved in the Irish Gaelic dialect of Iorras Aithneach. § 3 presents a general analysis of the activation and restriction of the mutations. § 4 summarises the main features of the current model of FDG. § 5 proposes an adapted version of the model of FDG in order to fully describe initial consonant mutation in the dialect. § 6 provides a specific analysis of the activation and restriction of the mutations using this adapted model of FDG. The thesis finishes with § 7 which offers a conclusion of the main results of the research and a discussion of some interesting observations and implications.

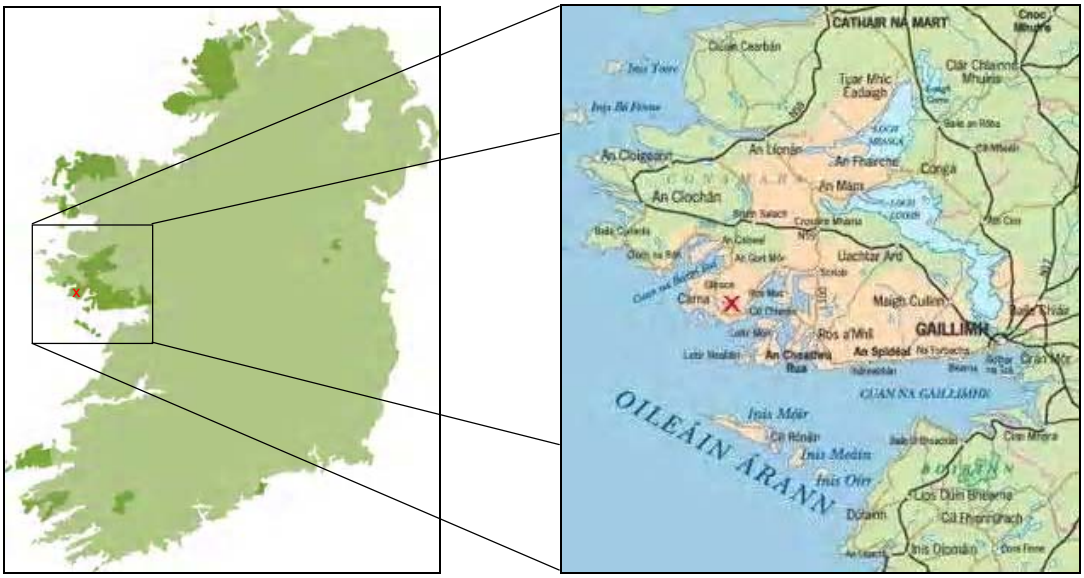
2 INITIAL CONSONANT MUTATION

This chapter examines the main aspects of initial consonant mutation in the Irish Gaelic dialect of Iorras Aithneach. Background information on the dialect and the ultimate choice of the dialect for this thesis are given first (§ 2.1). The general consonant inventory of the dialect (§ 2.2) and the process of initial consonant mutation in the dialect (§ 2.3) are then outlined. The different mutations in the dialect (§ 2.4) and the relevant phonological processes involved in each mutation (§ 2.5) are subsequently described and categorised according to mutational paradigms. Possible initial consonant clusters in the dialect and the influence of initial consonant mutation on these initial clusters are reviewed last (§ 2.6).

2.1 DIALECT OF IORRAS AITHNEACH

The Irish Gaelic dialect of Iorras Aithneach was chosen for this study of initial consonant mutation in Irish Gaelic.[1] The Iorras Aithneach peninsula lies within the officially designated *Gaeltacht* or 'native Irish Gaelic-speaking community' borders and is situated on the west coast of County Galway in the province of Connacht as in Figure 1[2]. The Iorras Aithneach

Figure 1: Location of Iorras Aithneach



[1] See § 7.1 for implications of dialect (variation) study as opposed to language (standard) study.
[2] The left map shows the native Irish Gaelic-speaking areas of Ireland (dark green) (Gaeltacht Map of Ireland). The right map shows the native Irish Gaelic-speaking areas of Galway (light brown) (Gaeltacht Map of Galway). The red cross on both maps represents the location of the Iorras Aithneach peninsula.

dialect belongs generally to the Connacht Irish Gaelic dialect and may be specifically categorised according to the following microphylogenetic classification (Ó Siadhail 1989:4): [3]

Irish Gaelic → Connacht → West Connacht → Galway → West Galway → Iorras Aithneach

The standardised form of Irish Gaelic which is used by the government and the media of the Republic of Ireland attempts to unify the different dialects by using common forms which occur in all of the dialects, taking individual distinct forms from each major dialect, and using forms which do not occur in any of the dialects. This standard of Irish Gaelic thus does not represent any one individual dialect and often deviates markedly or in some cases even completely from a given dialect. The standard is moreover simplified and lacks certain distinctions and exceptions which occur in the different dialects.[4] A specific dialect was therefore preferred to the standard in order to capture all aspects and exceptions of initial consonant mutation in its original dialectal mode of existence. The choice of the dialect of Iorras Aithneach was based on the availability of a recent extensive description of the dialect which includes a thorough account of initial (consonant) mutations (Ó Curnáin 2007) [5].

2.2 RADICAL CONSONANT INVENTORY

The radical or non-mutated consonant phonemes which may occur in initial position in the dialect of Iorras Aithneach are represented in Table 1 (IIA 1689-1691; Ó Curnáin p.c.).[6] The majority of these initial consonants undergo one or more types of mutation, with some consonants resisting specific types of mutation, and other consonants resisting mutations altogether (see § 2.4). It is clear from Table 1 that most non-palatalised consonants in the dialect have either a palatalised or (alveo)palatal counterpart. The non-palatalised alveolar stops and the palatal central approximant occur as loan phonemes in loan words borrowed from English but have been included in the inventory of radical initial consonants due to the fact that these initial phonemes undergo one or more types of mutation and may thus be considered to have been assimilated into the native inventory (IIA 2040-2041). Other loan

[3] The dialects are generally grouped into three main branches according to the provinces in which they are found, namely Ulster Irish Gaelic, Munster Irish Gaelic, and Connacht Irish Gaelic (Ó Siadhail 1989:2-7).
[4] For some critical comments on the standardised form of Irish Gaelic see Bliss (1981) and Ó Laoire (2008).
[5] Henceforth to be abbreviated as 'IIA'. Any mistakes, inconsistencies, or deviations from the original are mine.
[6] Nativised loan phonemes are in square brackets and questionable phonemes are in round brackets in Table 1.

Table 1: Inventory of radical initial consonants

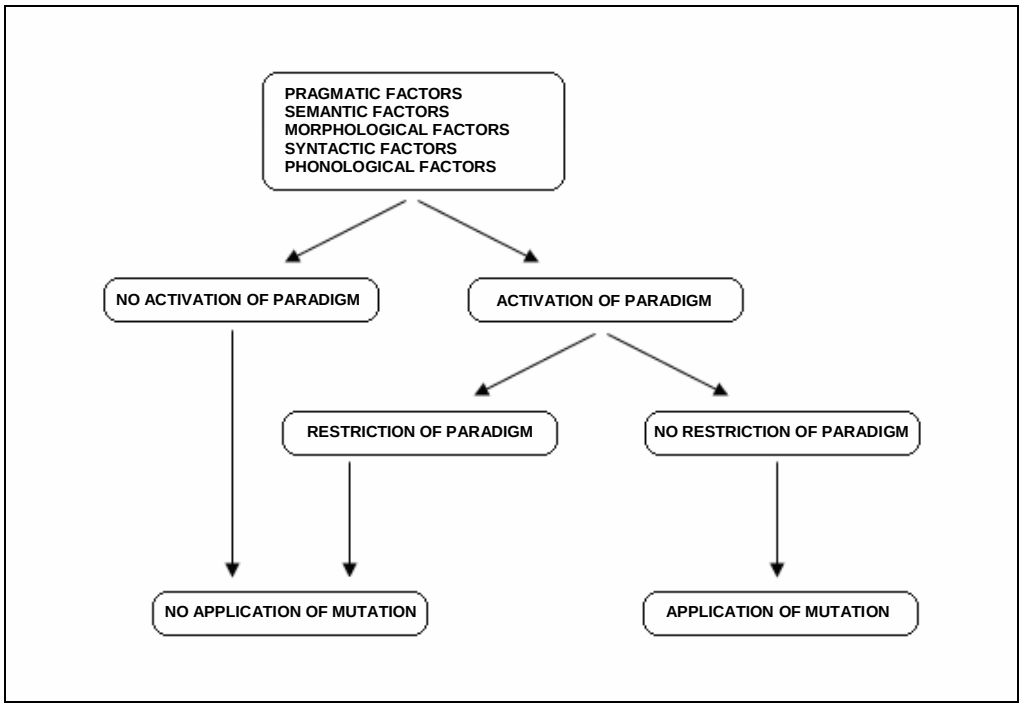
Place of articulation → / *Manner of articulation ↓*	Bilabial	Labiodental	Dental	Alveolar	Alveopalatal	Palatal	Velar
Stop	p p^j b b^j		t̪ d̪	[t] [d] t^j d^j			k k^j g g^j
Fricative		f f^j					
Sibilant				s	ʃ		
Central approximant						[j]	
Lateral approximant			(l̪)	l (l^j)		ʎ	
Nasal	m m^j		(n̪)	n n^j		ɲ	
Tap				ɾ ($ɾ^j$)			
Trill				(r)			

phonemes from English which occur in initial position have not been included owing to the fact that they may not undergo any type of mutation and would therefore appear not to have been fully assimilated (IIA 2040-2041). The status of five phonemes as radical initial consonants are questionable: the dental lateral approximant and dental nasal are only found in older speakers (IIA 39); the palatalised alveolar lateral approximant is restricted in initial position (IIA 203-204); the palatalised alveolar tap is similarly restricted in initial position (IIA 222); the voiced alveolar trill may possibly not be phonemic in the dialect (IIA 228-230).

2.3 PROCESS OF MUTATION

The various mutations may be categorised according to different mutational paradigms. It will be shown in this thesis that each paradigm is activated by specific pragmatic, semantic, morphological, syntactic, phonological, and/or lexical/grammemical factors (see § 3.1), with each paradigm consisting of specific mutations which are applicable to specific initial consonants (see § 2.4). Mutations do not always take place when expected, however, due to a number of pragmatic, semantic, morphological, phonological, and/or lexical/grammemical restrictions which block the application of an activated paradigm (see § 3.2). I thus propose that the process of initial consonant mutation may be divided into three main stages: the (non-)activation of a particular mutational paradigm; the (non-)restriction of a particular mutational paradigm; the (non-)application of a particular mutation. A given mutation will in this view only be applied if a specific mutational paradigm has been activated and if there are no constraints on the application of the specific mutation for that paradigm. The process of initial consonant mutation in Irish Gaelic may be represented schematically as in Figure 2.

Figure 2: Process of initial consonant mutation



Mutations which are optional/questionable in specific lexical/grammemical words are not considered to strictly follow this proposed mutational process (see § 3.1.1.5 and § 3.1.4.2).

2.4 MUTATIONAL PARADIGMS

Two main mutational paradigms have been traditionally recognised in Irish Gaelic. These paradigms of *séimhiú* 'lenition' and *úrú* 'eclipsis' are also distinguished in the dialect of Iorras Aithneach (IIA 1689). Two minor mutational paradigms are further distinguished and are considered to fall within the mutational paradigm of lenition (IIA 1689). I propose in this thesis that four independent (non-)functionally activated mutational paradigms may be differentiated for radical initial consonants in the dialect, with each paradigm involving the mutations as represented in Table 2 (IIA 1689-1691; Ó Curnáin p.c.).[7,8] It is clear from Table 2 that all radical initial stops mutate according to the first and fourth paradigms, with the exception of the nativised loan voiceless stop which only mutates in the fourth paradigm. Similar to the nativised loan voiceless stop, the nativised loan central approximant also solely

[7] Table 2 represents the general mutations for each radical initial consonant per paradigm in the dialect, with mutations restricted to older speakers between round brackets. The dialect shows, however, considerable variety. An alveopalatal sibilant often becomes, for instance, a palatalised voiceless velar fricative in the first paradigm.
[8] I have chosen to avoid the traditional terminology and to simply number the paradigms for ease of analysis. The term 'lenition' is often incorrectly employed and the term 'eclipsis' is not a generally recognised term.

Table 2: Initial consonant mutations per paradigm

Initial consonant	Paradigm 1	Paradigm 2	Paradigm 3	Paradigm 4
p	f			b
pʲ	fʲ			bʲ
b	w			m
bʲ	vʲ			mʲ
t̪	h			d̪
d̪	ɣ			n
t				d
d	j			nʲ
tʲ	h			dʲ
dʲ	j			ɲ
k	x			g
kʲ	xʲ			gʲ
g	ɣ			ŋ
gʲ	j			ŋʲ
f	Ø		d̪	w
fʲ	Ø		dʲ	vʲ
s	h	t̪		
ʃ	h	tʲ		
j				ŋʲ
l̪	(l)			
l				
lʲ				
ʎ	(lʲ)			
m	w			
mʲ	vʲ			
n̪	(n)			
n				
nʲ				
ɲ	(nʲ)			
r				
rʲ				
r				

mutates according to the fourth paradigm. The nativised loan voiced stop does, however, mutate in both the first and fourth paradigms, which may be an indication that the loan voiced stop is in fact more nativised than both the loan voiceless stop and the loan approximant. The fricatives not only mutate in the first and fourth paradigms, but are the only initial consonants

to mutate in the third paradigm, which is highly restricted in activation (see § 3.1.3). These phonemes are actually elided in the first paradigm and would thus not be considered to 'mutate' in the strictest sense of the word. The term 'mutation' will however be used in this thesis to also refer to the process of (secondary) elision. The sibilants mutate in the first paradigm and are the only initial consonants to mutate in the second paradigm, which is also highly restricted in activation (see § 3.1.2). It is interesting to note that the lateral approximants, non-bilabial nasals, and rhotics are the only initial consonants which generally do not undergo any form of mutation. These consonants did in fact mutate in an earlier stage of the dialect but seem to have lost the ability to mutate, which is evidenced by the fact that only a few older speakers still show mutations for some of these consonants (IIA 1690).

Some non-canonical initial mutations of single consonant onsets have been observed in speaker variation. A single initial palatalised or (alveo)palatal consonant may be mutated into an initial cluster consisting of two consonants whereby the second consonant is always a palatal central approximant (IIA 1690) (see § 3.1). This would suggest that there is a general phonological feature of palatality whereby the boundary between the secondary articulation of palatalisation and the articulation of a palatal and alveopalatal consonant is not categorical in the dialect. A single initial consonant may also be 'double mutated' whereby the radical consonant is first mutated according to a specific paradigm and then the mutated consonant is mutated again according to the same mutational paradigm (IIA 1813) (see § 3.1).

2.5 PHONOLOGICAL PROCESSES

The mutations are produced by various (combinations of) phonological processes involving a change in manner of articulation, place of articulation, and/or secondary articulation. These phonological processes may be considered as commands for the relevant muscles to achieve the target mutated phoneme from the radical phoneme, except in the case of elision whereby there is no target phoneme, with the radical phoneme or secondary articulation of the radical phoneme simply being removed. I thus understand the term 'mutation' to literally involve an alteration of phonological features and not simply a replacement of phonemes. The phonological processes involved in the mutations in the dialect are represented in Table 3.[9]

[9] Secondary palatalisation involves the addition of the secondary articulation of palatalisation to the radical initial consonant while secondary elision involves the loss of the secondary articulation of palatalisation.

Table 3: Phonological processes in initial consonant mutation

Manner of Articulation	Central approximantisation (CENAP)
	Nasalisation (NAS)
	Plosivisation (PLOS)
	Spirantisation (SPIR)
	Voicing (VOIC)
	Elision (ELIS)
Place of Articulation	Alveolarisation (ALV)
	Dentalisation (DENT)
	Labiodentalisation (LABD)
	Labiovelarisation (LABV)
	Palatalisation (PAL)
	Velarisation (VEL)
	Glottalisation (GLOT)
Secondary Articulation	Secondary palatalisation (2PAL)
	Secondary elision (2ELIS)

Many of the mutations in each paradigm may be grouped according to identical (combinations of) phonological processes, for example those consonants which solely undergo nasalisation in the fourth paradigm. There are, however, also mutations which may not be grouped in a given paradigm and which are thus unique to individual phonemes, such as the mutation of a non-palatalised fricative to a labiovelar approximant in the fourth paradigm. The unique mutations and the groupings of mutations according to the (combinations of) phonological processes for each paradigm are represented in Table 4.[10] It is clear from Table 4 that some of the unique mutations and groupings of mutations in each paradigm may be further grouped according to common phonological processes, resulting in various patterns of mutations which are characteristic of particular paradigms, for example those consonants which all share nasalisation in the fourth paradigm. The question arises if there was perhaps not more systematicity with respect to the phonological processes involved in initial consonant mutation at a historical point in the dialect and whether the discrepancies apparent in the current system are not a result of language change. It is interesting to note in Table 4 that mutations involving solely alveolarisation or alveolarisation and secondary palatalisation are not employed by younger speakers and are becoming obsolete in the dialect.

A counting of the number of mutations per (combination of) phonological process(es) as in Table 5 reveals that mutations involving solely one phonological process are never

[10] Mutations which are restricted to older dialect speakers are represented between round brackets in Table 4.

Table 4: Phonological processes and mutations per paradigm

Phonological processes	Paradigm 1	Paradigm 2	Paradigm 3	Paradigm 4
ALV	(l̪-l) (n̪-n)			
ALV + 2PAL	(ʎ-lʲ) (ɲ-nʲ)			
CENAP + LABV	b-w m-w			
CENAP + PAL	d-j dʲ-j gʲ-j			
CENAP + VOIC + LABV				f-w
ELIS	f-Ø fʲ-Ø			
NAS				b-m bʲ-mʲ g-ŋ gʲ-ŋʲ
NAS + ALV				d̪-n
NAS + PAL				dʲ-ɲ
NAS + 2PAL				d-nʲ
NAS + VEL + 2PAL				j-ŋʲ
PLOS + DENT		s-t̪		
PLOS + ALV + 2PAL		ʃ-tʲ		
PLOS + VOIC + ALV			fʲ-dʲ	
PLOS + VOIC + DENT			f-d̪	
SPIR	k-x kʲ-xʲ g-ɣ			
SPIR + GLOT	t̪-h s-h ʃ-h			
SPIR + LABD	p-f pʲ-fʲ bʲ-vʲ mʲ-vʲ			
SPIR + VEL	d̪-ɣ			
SPIR + GLOT + 2ELIS	tʲ-h			
VOIC				p-b pʲ-bʲ t̪-d̪ t-d tʲ-dʲ k-g kʲ-gʲ fʲ-vʲ

unique, i.e. there are always two or more radical initial consonants which share this particular phonological process, whereas mutations involving three phonological processes are always unique. Mutations involving two phonological processes, however, appear to rest between both categories. Initial consonant mutations in the dialect seem thus in general to favour one or two phonological processes. A further question arises whether mutations involving one or two phonological processes are older mutations and whether mutations involving three phonological processes are not more recent. It may be that the first initial mutations involved changes according to single phonological processes, namely alveolarisation, central approximantisation, elision, nasalisation, plosivisation, spirantisation, and voicing, and that these processes were further augmented by other phonological processes over time. This would certainly explain why many mutations share these single phonological processes.

Table 5: Number of mutations per phonological process(es) per paradigm

Phonological processes	Paradigm 1	Paradigm 2	Paradigm 3	Paradigm 4
ALV	2			
ALV + 2PAL	2			
CENAP + LABV	2			
CENAP + PAL	3			
CENAP + VOIC + LABV				1
ELIS	2			
NAS				4
NAS + ALV				1
NAS + PAL				1
NAS + 2PAL				1
NAS + VEL + 2PAL				1
PLOS + DENT		1		
PLOS + ALV + 2PAL		1		
PLOS + VOIC + ALV			1	
PLOS + VOIC + DENT			1	
SPIR	3			
SPIR + GLOT	3			
SPIR + LABD	4			
SPIR + VEL	1			
SPIR + GLOT + 2ELIS	1			
VOIC				8

It may lastly be speculated that some mutations in the dialect might change over time into other existing mutations. This may be a shift of a specific mutation of one phoneme in a particular paradigm to an already existing mutation of a different phoneme in the same or even in a different paradigm. This may also be a shift in the mutations of a specific phoneme to those of a different phoneme across several or all paradigms. This may further be a shift in a whole grouping of mutations in a particular paradigm to a different grouping in the same paradigm or even in a different paradigm, possibly as a result of one mutation in the grouping changing and then the other mutations in the same grouping similarly changing by analogy. It may furthermore be postulated that new mutations might develop which do not currently occur in the dialect. The phonological processes of a particular mutation may be changed to existing or new phonological processes leading to a new mutation. Those mutations consisting of single or two phonological processes may be augmented with existing or new processes, whereas those mutations consisting of three phonological processes may finally be

simplified with the loss of one or two of these processes, with both leading to a new mutation. A historical and/or future diachronic analysis of initial consonant mutation in the dialect as well as in other dialects of Irish Gaelic or even in other languages which exhibit initial consonant mutation would serve to confirm or refute these speculations.

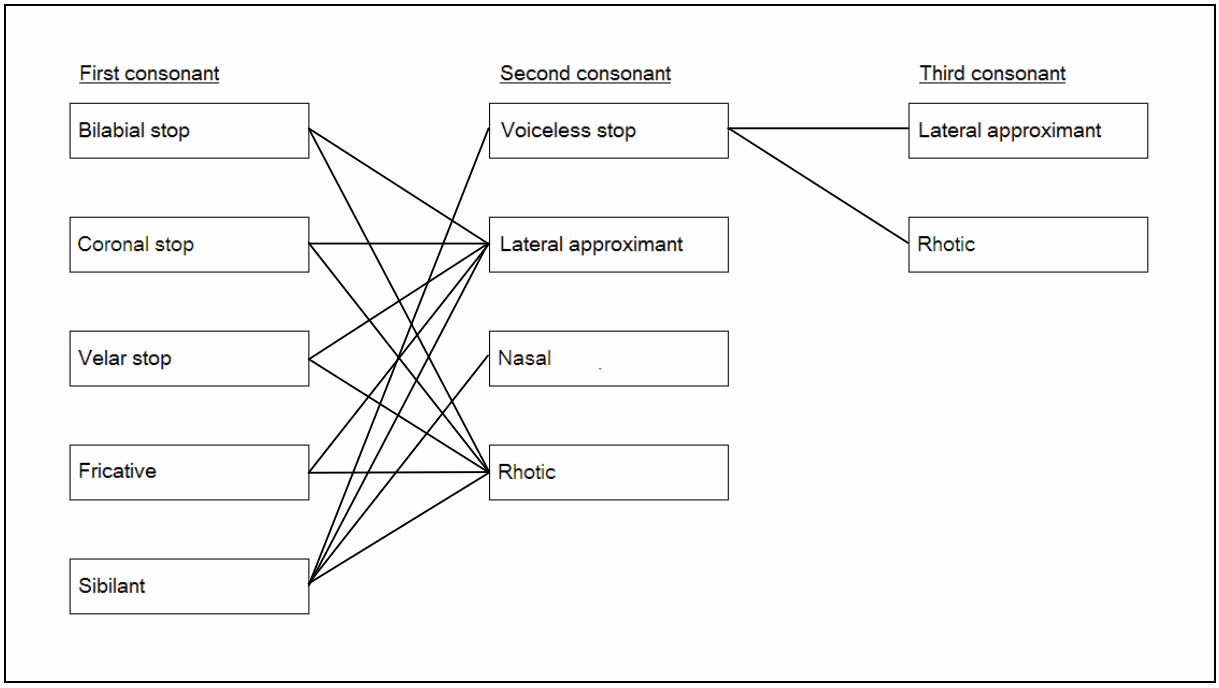
2.6 CONSONANT CLUSTERS

Radical initial consonant clusters consist generally of two radical consonants involving a stop, fricative, or sibilant as the first element and a voiceless stop, lateral approximant, nasal, or rhotic (tap or trill) as the second element in varying combinations.[11] Bilabial stops, coronal stops, velar stops, and fricatives may combine with a lateral approximant or rhotic.[12] Initial consonant clusters beginning with a sibilant show greater variety. The sibilant may combine with a voiceless stop, lateral approximant, nasal, or rhotic as the second element, with the sibilant and voiceless stop furthermore possibly combining with a lateral approximant[13] or rhotic as the third element. Initial consonants in an initial cluster consisting of two consonants may seemingly always be followed by a lateral approximant or rhotic. The possible combinations of radical initial consonants in initial clusters are represented in Figure 3.

The initial consonant is generally the only phoneme of the cluster which undergoes a mutation. This is related to the fact that most of the consonants which occur as the second element of an initial cluster may simply not undergo a mutation. Some interesting initial cluster mutations have, however, been noted in speaker variation. Some older speakers allow the mutation of both consonants of an initial cluster consisting of a sibilant as the first element and a lateral approximant or non-bilabial nasal as the second element (IIA 1690) (see § 3.1). Some speakers elide the first non-fricative consonant of initial clusters in allegro speech (IIA 1698-1700) (see § 3.1).[14] One speaker allows the mutation of solely the second element of an initial cluster (IIA 1700) (see § 3.1).[15] Other speakers allow the mutation of an initial cluster into a single initial consonant (IIA 1699) (see § 3.1). The various possible mutations

[11] The possible radical initial consonant clusters suggested in this section reflect general tendencies which have been observed based on an analysis of dialect words occurring in the vocabulary index (IIA 2375-2633).
[12] A voiceless coronal stop and a velar stop may combine in a small number of words with a non-bilabial nasal. The non-bilabial nasal is, however, more often realised as a rhotic in these initial clusters in the dialect (IIA 193).
[13] An exception to this is the combination of a sibilant followed by a coronal stop followed by a lateral approximant which does not occur in Irish Gaelic or Scottish Gaelic (cf. Dinneen 1927 and Dwelly 1993).
[14] The fricatives are the only consonants in the dialect which are elided in the general mutational system.
[15] This example involves secondary nasalisation which does not form part of the general mutational system.

Figure 3: Possible radical initial consonant clusters



in initial onsets in the dialect may be represented as in Table 6.[16] The general dialect would

Table 6: Possible mutations in initial onsets

Initial Onset	General Dialect	Speaker Variation
R→M	X	
R→MM		X
R→M→M		X
RR→M		X
RR→MR	X	
RR→RM		X
RR→MM		X

clearly appear to be more restricted than speaker variation in the possible mutations which may occur in initial onsets. This would suggest that the general preference in the dialect has become solely the mutation of the initial consonant of the onset irrespective of whether the onset consists of one or two consonants. There lastly exist specific phonological restrictions on initial consonant clusters which when applicable systematically block the mutation of initial consonants in both double and triple consonant clusters (see § 3.2.1 and § 3.2.4).

[16] R = radical consonant and M = mutated consonant or elided consonant in Table 6.

3 GENERAL ANALYSIS OF INITIAL CONSONANT MUTATION

A general description will be given of the main activation factors of initial consonant mutation (§ 3.1) and the main restrictions on the mutations (§ 3.2) in the dialect of Iorras Aithneach. Each occurrence and restriction of initial consonant mutation will be accompanied by a relevant example, and where relevant, deviations in paradigms and exceptions to rules will also be mentioned and accompanied by a corresponding example.[17]

3.1 ACTIVATION OF INITIAL CONSONANT MUTATION

There are various pragmatic, semantic, morphological, syntactic, phonological, and/or lexical/grammemical factors which activate the different paradigms.[18] The majority of mutations and activation factors belong to the first paradigm, with the fourth paradigm encompassing the majority of the remaining mutations and activation factors. The second and third paradigms consist of a limited number of mutations which are activated by a restricted set of factors. The mutations generally affect single consonants in both single and double consonant onsets whereby the initial consonant is either mutated into a single consonant as in (1) and (2) or is deleted as in (3) and (4). Various non-canonical mutations have also been

(1)	a.	bád	b.	bhád
		bɑ:d̪		wɑ:d̪
		‘boat’		‘boat’

(2)	a.	breá	b.	bhreá
		bʲrʲɑ:		vʲrʲɑ:
		‘nice’		‘nice’

(3)	a.	fear	b.	fhear
		fʲær		ær
		‘man’		‘man’

[17] All examples in this thesis are either based on documented examples in Ó Curnáin (2007) or have been proposed by the author and have been confirmed by Dr Ó Curnáin. Most examples consist of an orthographical representation in Ó Curnáin’s adjusted spelling or the standard official spelling, a phonological representation per phonological word, a relevant morphological gloss per phonological word, and a free translation in English.
[18] A listed summary of the numerous activation and restriction factors may be found in Appendices 1 and 2.

(4) a. freagra b. fhreagra
'fʲrʲæː.grə 'rʲæː.grə
'answer' 'answer'

noted in speaker variation. A single consonant onset may be mutated into a double consonant onset as in (5)[19] or may be double mutated as in (6).[20] A double consonant onset may involve

(5) a. seol b. sheol c. sheol
ʃoːl xʲoːl hjoːl
'sail' 'sail' 'sail'

(6) a. ceap b. gceaptha c. gceaptha
kʲæːp 'gʲæː.pɑː 'ŋʲæː.pɑː
'think' 'you would think' 'you would think'

the mutation of both initial consonants into a single consonant as in (7), the elision of the first initial consonant in allegro speech as in (8), the mutation of the second initial consonant as in (9), or the mutation of both initial consonants as in (10) (see § 2.4 and § 2.6).

(7) a. dreatháir b. dhreatháir c. dhreatháir
'dʲrʲe.hɑːrʲ 'jrʲe.hɑːrʲ 'je.hɑːrʲ
'brother' 'brother' 'brother'

(8) a. glan b. ghlan c. ghlan
glaːn ɣlaːn laːn
'clean' 'cleaned' 'cleaned'

(9) a. grá b. ngrá c. ngrá
grɑː ŋrɑː gr̃ɑː
'love' 'love' 'love'

(10) a. sliabh b. shliabh c. shliabh
ʃʌiəw hʌiəw hlʲiəw
'moor/mountain' 'moor/mountain' 'moor/mountain'

[19] The alveopalatal sibilant in *seol* generally becomes a palatalised voiceless velar fricative in the first paradigm.
[20] The (b) examples represent expected mutations and the (c) examples represent speaker variations in (5-10).

3.1.1 FIRST PARADIGM

The first paradigm consists of the majority of mutations in the dialect in terms of both the number of phonological alterations and the number of activation factors.[21] This paradigm corresponds generally to the term 'lenition'[22] used regularly in the literature on Irish Gaelic. The first paradigm is activated regularly in the majority of initial consonants in compounds, after the copula, after the definite article, after head nouns, in individual words, after numerals, after a numeral followed by a noun, after particles, after possessive pronouns, after prefixes, after preposed adjectives, after prepositions, after a preposition followed by the definite article, after a preposition followed by a possessive pronoun, after a preposition followed by a possessive pronoun followed by a noun, and in tenses.[23]

3.1.1.1 COMPOUNDS

Compounding is relatively restricted and is not considered to be a fully productive process. There are many historically compounded forms, however, with the first element acting as the modifier and the second element acting as the head of the compound. Nominal compounds are usually endocentric and consist of a noun or adjective as the first element and a noun as the second element. Adjectival compounds consist of a noun or adjective as the first element and an adjective as the second element. Although the first element of a compound generally receives primary word stress, with the second element receiving secondary word stress, there are some compounds which have single word stress or even two primary stresses (IIA 582).

The first element of a compound regularly activates the first paradigm in the second element in noun-noun compounds, adjective-noun compounds, noun-adjective compounds, and adjective-adjective compounds as in respectively (11-14) (IIA 1702).

(11)	a.	ceann	b.	cochall	c.	ceanchochall
		kʲɑːŋ		ˈko.xəl		ˈkʲɑːŋ.ˌxo.xəl
		head(M).COM.SG		covering(M).COM.SG		hood(M).COM.SG
		'head'		'covering'		'hood'

[21] The first paradigm is represented orthographically by a *h* after the initial consonant of the relevant word.
[22] For a more thorough analysis of the historical development and current use of this term see Honeybone (2008).
[23] The first paradigm is only applicable to initial consonants and does not affect initial vowels (IIA 1689).

(12)	a.	caoch	b.	poll	c.	caochpholl
		kiːx		paul		ˈkiːx.ˌfaul
		blind.COM.MSG		hole(M).COM.SG		boghole(M).COM.SG
		‘blind’		‘hole’		‘boghole’

(13)	a.	droim	b.	briste	c.	droimbhriste
		d̪riːmʲ		ˈbʲɾʲiʃ.tʲə		ˈd̪riːmʲ.ˌvʲɾʲiʃ.tʲə
		back(M).COM.SG		broken.COM.MSG		back-broken.COM.MSG
		‘droim’		‘broken’		‘back-broken’

(14)	a.	dubh	b.	dearg	c.	dubhdhearg
		d̪u		ˈdʲæ.rəg		ˈd̪u.ˌjæ.rəg
		black/dark.COM.MSG		red.COM.MSG		dark red.COM.MSG
		‘black/dark’		‘red’		‘dark red’

Some compounds have clearly become lexicalised, whereby the meaning of one of the elements has become obscure and the historical compound is not considered to consist of two individual lexemes but rather to form one single lexeme as in (15) (IIA 583). There is no

(15)	a.	oil	b.	béas	c.	oilbhéas
		elʲ		bʲeːs		ˈelʲ.ˌvʲeːs
		unknown		manner(M).COM.SG		viciousness(M).COM.SG
		unknown		‘manner’		‘viciousness’

activation of a mutation in this case but rather the mutation has been reinterpreted as being phonologically intrinsic to the historical compound.

3.1.1.2 COPULA

The copula precedes the noun or adjective and may be discerned for tense, modality, illocution, mood, dependency, and/or relativisation. The copula may be distinguished for the past and non-past tenses, the declarative, negative declarative, interrogative, negative interrogative, jussive, and negative jussive illocutions, and the conditional and negative conditional moods. The copula may also mark the beginning of a clause type, namely a dependent clause, a negative dependent clause, a direct relative clause, a negative direct

relative clause, and an indirect relative clause. Some copular forms lastly have separate realisations depending on whether they occur before a consonant or a vowel. The general paradigm of the main copula forms before an initial consonant in the dialect is represented in Table 7 (IIA 1185-1218).[24,25] The non-past copular forms in fact semantically express either

Table 7: Paradigm of the copula before a consonant

Tense →	Non-past	Past
Illocution ↓		
Declarative	*is*	*ba*
Negative declarative	*ní*	*níor*
Interrogative	*a*	*ar*
Negative interrogative	*nach*	*nar*
Jussive	*gur*	
Negative Jussive	*nar*	
Mood ↓		
Conditional	*más*	*má ba*
Negative conditional	*mara*	*marar*
Dependency ↓		
Dependent	*go*	*gur*
Negative dependent	*nach*	*nar*
Relativisation ↓		
Direct relative	*is*	*ba*
Indirect relative	*is*	*ar*
Negative relative	*nach*	*nar*

present or future tense as well as realis modality, while the past forms semantically express past tense and irrealis modality.[26] The jussive forms are formally similar to past forms ending with a rhotic consonant but do not semantically express tense or modality.

The first paradigm is activated systematically in an adjective and in a noun beginning with a bilabial or velar consonant (or palatal consonant in older speakers) but *optionally* in a noun beginning with a coronal consonant after past copula forms ending in a rhotic consonant, namely the negative declarative past copula *níor*, the interrogative past copula *ar*, the negative interrogative past copula *nar*, the negative conditional past copula *marar*, the dependent past copula *gur*, the negative dependent past copula *nar*, the indirect relative past

[24] There are also pronominal, prepositional, and indefinite copular forms in the dialect (IIA 1185-1218).
[25] All tables of paradigms in this thesis will represent forms which systematically activate the first, second, and third paradigm(s) in red but forms which systematically activate the fourth paradigm in blue for visual clarity.
[26] This does not apply to (negative) conditional forms which always express irrealis modality (Ó Curnáin p.c.).

copula *ar*, and the negative relative past copula *nar* as in (16-23) (IIA 1790-1795).

(16)	a.	níor	b.	breá	c.	níor	bhreá
		ɲiːr		bʲrʲɑː		vʲrʲɑː	
		NEG.DEC.COP.PST		nice		NEG.DEC.COP.PST	nice
		‘was/would not (be)’		‘nice’		‘was/would not (be) nice’	

(17)	a.	ar	b.	bád	c.	ar	bhád
		ər		bɑːd̪		ər	wɑːd̪
		INT.COP.PST		boat		INT.COP.PST	boat
		‘was/would be?’		‘boat’		‘was/would a boat (be)?’	

(18)	a.	nar	b.	cat	c.	nar	chat
		nar		kut̪		nar	xut̪
		NEG.INT.COP.PST		cat		NEG.INT.COP.PST	cat
		‘was/would not (be)?’		‘cat’		‘was/would a cat not (be)?’	

(19)	a.	marar	b.	dlíobh	c.	marar	dlíobh/dhlíobh
		ˈma.rər		ˈdlʲiːw		ˈma.rər	ˈdlʲiːw/ˈɣlʲiːw
		NEG.CON.COP.PST		law		NEG.CON.COP.PST	law
		‘if was/were not’		‘law’		‘if a law was/were not’	

(20)	a.	gur	b.	minic	c.	gur	mhinic
		gər		ˈmʲiːnʲəkʲ		gər	ˈvʲiːnʲəkʲ
		DEP.COP.PST		often		DEP.COP.PST	often
		‘that was/would be’		‘often’		‘that was/would be often’	

(21)	a.	nar	b.	dona	c.	nar	dhona
		nar		ˈd̪uːnə		nar	ˈɣuːnə
		NEG.DEP.COP.PST		bad		NEG.DEP.COP.PST	bad
		‘that was/would not (be)’		‘bad’		‘that was/would not (be) bad	

(22)	a.	ar	b.	deacair	c.	ar	dheacair
		ər		ˈdʲæːkərʲ		ər	ˈjæːkərʲ
		IND.REL.COP.PST		difficult		IND.REL.COP.PST	difficult
		‘that was/would be’		‘difficult’		‘that was/would be difficult’	

(23)	a.	nar	b.	tada	c.	nar	tada
		nar		ˈt̪æː.d̪ə		nar	ˈhæː.d̪ə
		NEG.REL.COP.PST		nothing		NEG.REL.COP.PST	nothing
		‘that was/would not (be)’		‘nothing’		‘that nothing was/would be	

There is interestingly innovative use of the respective non-past forms of each of these past copular forms in the dialect, whereby the sole distinction between past and non-past is the activation of the first paradigm as in the difference between (24) and (25) (IIA 1793). The

(24)	a.	ní	b.	maith	c.	ní	maith
		ɲiː		ma		ɲiː	ma
		NEG.DEC.COP.PRS		good		NEG.DEC.COP.PRS	good
		‘is not’		‘good’		‘is not good’	

(25)	a.	ní	b.	maith	c.	ní	mhaith
		ɲiː		ma		ɲiː	wa
		NEG.DEC.COP.PST		good		NEG.DEC.COP.PST	good
		‘was/would not (be)’		‘good’		‘was/would not (be) good’	

mutation carries a higher functional load in this case being the sole marker of the past tense.

Each of the past copular forms ending in a rhotic further activates the first paradigm in a restricted set of adjectives beginning with a fricative whereby a special copular form normally used before an initial vowel is chosen as in (26) (IIA 1790-1795).[27] This restricted

(26)	a.	níorbh	b.	féidir	c.	níorbh	fhéidir
		ˈɲiː.rəv(ʲ)		ˈfʲeː.dʲərʲ		ˈɲiː.rəvʲ	ˈeː.dʲərʲ
		NEG.DEC.COP.PST		able		NEG.DEC.COP.PST	able
		‘was/would not (be)’		‘able’		‘was/would not (be) able’	

group consists of the adjectives *fada* ‘long’, *fearr* ‘better’, *féidir* ‘able’, *fíor* ‘true’, *fiú* ‘worth’, *fleár* ‘must’, and *frusta* ‘easy’, which together with a preposed copula and a possible

[27] It may be recalled that initial fricatives are elided in the first paradigm whereby the mutated form subsequently begins with a vowel, lateral approximant, or rhotic. It is interesting to note that these special copular forms are not only categorically used when the mutated form begins with a vowel but are also varyingly used when the mutated form begins with a lateral approximant or rhotic. This would suggest either that these special copular forms are automatically triggered in these restricted set of adjectives beginning with a fricative or that lateral approximants and rhotics are treated as an intermediate category between consonants and vowels in the dialect.

following preposition form fixed expressions (IIA 1793). The special copula forms used before vowels and fricatives generally add a schwa followed by a voiced labiodental fricative. The final fricative is interestingly palatalised or unpalatalised depending on the palatalisation of the elided initial consonant as in (26). The feature of palatalisation is thus 'adopted' by the final consonant of the copula. The schwa further tends to be absent or elided, in which case the final fricative normally jumps to the onset of the following adjective which now begins with a vowel, lateral approximant, or rhotic as in (27) (IIA 1185-1218). This clearly results in

(27)	a.	níorbh	b.	féidir	c.	níorbh	fhéidir
		ˈɲiː.rəv(ʲ)		ˈfʲeː.dʲərʲ		ˈɲiːr	ˈvʲeː.dʲərʲ
		NEG.DEC.COP.PST		able		NEG.DEC.COP.PST	able
		'was/would not (be)'		'able'		'was/would not (be) able'	

the copular form before vowels and fricatives being identical to the copula form before consonants as well as the initial consonant of the adjective seemingly being mutated. It may be speculated that this process may in time become reinterpreted whereby a restricted mutational paradigm involving the voicing of an initial voiceless fricative would be created. It is interesting to note that the mutation of fricatives in the first paradigm in this case would essentially be identical to the mutation of fricatives in the fourth paradigm.

The first paradigm is lastly activated after the declarative past copula *ba*, the conditional past copula *má ba*, and the direct relative past copula *ba* systematically in the restricted set of adjectives beginning with a fricative as above but *optionally* in adjectives which begin with a bilabial or velar consonant as in (28-30) (IIA 1790-1795). The copula form *ba* is obligatorily procliticised and accordingly palatalised to an adjective which begins

(28)	a.	ba	b.	féidir	c.	b'fhéidir
		bə		ˈfʲeː.dʲərʲ		ˈbʲeː.dʲərʲ
		DEC.COP.PST		able		DEC.COP.PST.able
		'was/would be'		'able'		'was/would be able'

(29)	a.	má ba	b.	ceart	c.	má ba	ceart/cheart
		mɑː bə		kʲærˠt		mɑː bə	kʲærˠt/xʲærˠt
		CON.COP.PST		correct		CON.COP.PST	correct
		'if had been/were'		'correct'		'if had been/were correct'	

(30)	a.	ba	b.	fada	c.	b'fhada
		bə		ˈfaː.d̪ə		ˈbaː.d̪ə
		DIR.REL.COP.PST		long		DIR.REL.COP.PST.long
		'that was/would be'		'long'		'that was/would be long'

with a vowel after elision of a fricative. This obligatory procliticisation of the copula might become reinterpreted over time whereby a new restricted mutational paradigm involving the plosivisation, voicing, and bilabialisation of an initial fricative is created. It is clear that the past tense is categorically associated with the activation of the first paradigm in the copula.

3.1.1.3 DEFINITE ARTICLE

Similar to other Celtic languages, Irish Gaelic does not possess an indefinite article but expresses indefiniteness in the absence of the definite article. The definite article precedes the noun and is distinguished for gender, case, and number according to the features of the head noun (see § 3.1.1.4). The gender of the article may be either masculine or feminine. The article may also express either the common case or the genitive case. The article may lastly be either singular or plural. There is a degree of overlap between the various forms of the article as can be seen in the paradigm of the definite article in Table 8 (IIA 1329).

Table 8: Paradigm of the definite article

Gender →	Masculine		Feminine	
Number → / *Case ↓*	Singular	Plural	Singular	Plural
Common	*an*	*na*	*an*	*na*
Genitive	*an*	*na*	*na*	*na*

The first paradigm is regularly activated in a noun following the masculine genitive singular and feminine common singular definite articles *an* which interestingly are often reduced to a schwa (see § 3.2.1) as in (31) and (32) (IIA 1329;1702).

(31)	a.	an	b.	bád	c.	an	bháid
		ə(n)		bɑːd̪		ə(n)	wɑːdʲ
		DEF.GEN.MSG		boat(M).COM.SG		DEF.GEN.MSG	boat(M).GEN.SG
		'of the'		'boat'		'of the boat'	

(32)	a.	an	b.	cloch	c.	an	chloch
		ə(n)		klox		ə(n̪)	xlox
		DEF.COM.FSG		stone(F).COM.SG		DEF.COM.FSG	stone(F).COM.SG
		‘the’		‘stone’		‘the stone’	

There is an interesting case of the unexpected activation of the first paradigm in a masculine genitive singular noun directly following the head noun (see § 3.1.1.4) in *teach phobail* ‘church’ as in (33). This is most likely due to regular activation of the first paradigm in the extremely common expression *teach an phobail* ‘church’ as a result of the masculine genitive singular definite article, whereby the activation of the first paradigm has been retained but the article itself has been dropped as in (33) (IIA 1726).[28,29] It would seem that a

(33)	a.	teach	b.	an	c.	pobal
		tʲæx		ə(n)		ˈpo.bəl
		house(M).COM.SG		DEF.GEN.MSG		community(M).COM.SG
		‘house’		‘of the’		‘community’

	d.	teach	(an)	phobail
		tʲæx	ə(n)	ˈfo.bəlʲ
		house(M).COM.SG	DEF.GEN.MSG	community(M).GEN.SG
		‘a/the church’		

grammatical form which is phonologically realised as a schwa may be elided in the dialect. The presence of the mutation in this case expresses both definiteness and genitive association.

The masculine genitive and feminine common singular definite articles activate the second paradigm in a noun beginning with a sibilant (see § 3.1.2.1). The genitive plural articles activate the fourth paradigm in a noun (see § 3.1.4.1). The combination of a preposition followed by a common singular definite article may activate either the first paradigm in a noun not beginning with a sibilant (see § 3.1.1.13) or the second paradigm in a noun beginning with a sibilant (see § 3.1.2.2) or the fourth paradigm in a noun (see § 3.1.4.7).

[28] It may be noted in this example that there is no definite article preceding the noun phrase. A noun phrase may in fact generally only contain one definite article whereby the genitive definite article must be expressed.
[29] *Teach phobail* ‘a church’ interestingly may only be used indefinitely while *teach an phobail* ‘a/the church’ may be used either indefinitely or definitely. This definiteness ambiguity arises in this case from the restriction that a noun phrase may only contain one definite article.

3.1.1.4 HEAD NOUNS

Nouns are distinguished to varying degrees for gender, case, and number. The grammatical gender may be either masculine or feminine. The semantic gender often corresponds to the grammatical gender, with pronominal reference often coinciding with the semantic gender rather than the grammatical gender in cases of a mismatch between the genders (IIA 496). The nominal case may be an unmarked 'common' case, a genitive case, or less usually a vocative case. The common case is used for the historical nominative, accusative, and dative cases, with the common case generally coming from the historical nominative form (IIA 506). Both the genitive and vocative cases are showing signs of disappearing, leading to the common case becoming the default case marker (IIA 508). The nominal number may lastly be singular or plural. Nouns in the dialect further belong to different declensional classes and are accordingly marked for gender, number, and case, whereby there often exists a relative degree of overlap within and across the classes (IIA 512-513).

Masculine nouns in the genitive singular activate the first paradigm in an attributive adjective as in (34d) (IIA 1728-1729).[30] It is interesting to note that masculine nouns which are used genitively but are not marked for the genitive case may sometimes activate a mutation in a following attributive adjective as in (34e), but are in fact much less likely to do so as in (34f) (IIA 1729). It would thus seem that the masculine genitive singular inflection is strongly connected with the activation of the mutation. It is further interesting that when the common case which is used genitively does activate a mutation, the adjective is actually inflected for the common case even though a genitive case form may exist for the adjective.

(34)	a.	an	b.	toras	c.	mór	
		ə(n)		t̪o.rəs		moːr	
		DEF.GEN.MSG		journey(M).COM.SG		big.COM.MSG	
		'of the'		'journey'		'big'	
	d.	(an)	torais		mhóir		
		ə(n)	t̪o.rəʃ		woːrʲ		
		DEF.GEN.MSG	journey(M).GEN.SG		big.GEN.MSG		
		'of a/the long journey'					

[30] The initial consonant of *toras* is not mutated after the definite article as a result of a constraint (see § 3.2.1).

e.	(an)	toras	mhór
	ə(n)	ˈt̪o.ɾəs	woːr
	DEF.GEN.MSG	journey(M).COM.SG	big.COM.MSG
	‘of a/the long journey’		

f.	(an)	toras	mór
	ə(n)	ˈt̪o.ɾəs	moːr
	DEF.GEN.MSG	journey(M).COM.SG	big.COM.MSG
	‘of a/the long journey’		

The loss of both a genitively inflected form and the activation of a mutation would seem to signal the complete loss of a genitive case distinction in nouns and adjectives in the dialect.

The first paradigm is also activated in an attributive adjective following a masculine noun in the vocative singular as in (35) (IIA 1728).[31] Although many nouns and adjectives are

(35)	a.	b.	c.
	(a)	bréantas	bocht
	ə	ˈbʲɾʲeːn.t̪əs	boxt̪
	VOC	rotten person/thing(M).COM.SG	poor.COM.MSG
	’you!’	‘rotten person/thing’	‘poor’

d.	(a)	bhréantais	bhoicht
	ə	ˈvʲɾʲeːn.t̪əʃ	woxtʲ
	VOC	rotten person/thing(M).VOC.SG	poor.VOC.MSG
	‘you poor rotter!’		

or may not be overtly inflected for the vocative case, the mutation may nevertheless be activated, but this is once again uncommon in the absence of overt marking (IIA 1728).

Feminine nouns in the common singular activate the first paradigm in an attributive adjective as in (36) (IIA 1736). Although the grammatical gender is an important activation

(36)	a.		b.		c.		
	tine		breá		tine	bhreá	
	ˈtʲi.nʲə		bʲɾʲɑː		ˈtʲi.nʲə	vʲɾʲɑː	
	fire(F).COM.SG		nice.COM.MSG		fire(F).COM.SG	nice.COM.FSG	
	‘fire		‘nice’		‘a nice fire’		

[31] See § 3.1.1.8 for the activation of the first paradigm as a result of the vocative particle in a following noun.

factor, it would seem that the semantic gender may take precedence when there is a mismatch between the two genders. The first paradigm is activated in the attributive adjective in (37)

(37)	a.	cailín	b.	breá	c.	cailín	bhreá
		ˈkaˑlʲiːnʲ		bʲrʲɑː		ˈkaˑlʲiːnʲ	vʲrʲɑː
		girl(M).COM.SG		nice.COM.MSG		girl(M).COM.SG	nice.COM.MSG
		‘girl’		‘nice’		‘a nice girl’	

presumably due to the feminine semantic gender, even though no mutation would actually be expected to take place due to the masculine grammatical gender of the head noun (IIA 1726).

Nouns in the common plural ending in a palatalised or (alveo)palatal consonant activate the first paradigm in a following attributive adjective as in (38) and (39) (IIA 1748).

(38)	a.	fear	b.	beag	c.	fir	bheaga
		fʲær		bʲog		fʲirʲ	ˈvʲo.gə
		man(M).COM.SG		small.COM.MSG		man(M).COM.PL	small.COM.PL
		‘man’		‘small’		‘small men’	

(39)	a.	long	b.	mór	c.	loingis	mhóra
		luŋg		moːr		ˈliŋ.gəʃ	ˈwoː.rə
		ship(F).COM.SG		big.COM.MSG		ship(F).COM.PL	big.COM.PL
		‘ship’		‘big’		‘big ships’	

The first paradigm is also activated in an attributive adjective after borrowed nouns from English in the common case plural ending in a voiceless or voiced alveolar sibilant as in (40) and (41) (IIA 1749). This suggests that native speakers distinguish native (Irish Gaelic) words from (English) loan words as a native noun in the common plural ending in a voiceless or voiced alveolar sibilant generally does not activate a mutation in a following adjective.[32]

(40)	a.	boc	b.	mór	c.	bocs	mhóra
		bok		moːr		boks	ˈwoː.rə
		buck(M).COM.SG		big.COM.MSG		buck(M).COM.PL	big.COM.PL
		‘buck’		‘big’		‘big bucks’	

[32] Some native nouns in the common plural ending in a voiceless or voiced alveolar sibilant do activate a mutation in a following adjective. It is unclear if this is an analogical or simultaneous development.

(41)	a.	leoraí	b.	mór	c.	leoraíoz	mhóra
		ˈlo.riː		moːr		ˈlo.riːz	ˈwoː.rə
		lorry(M).COM.SG		big.COM.MSG		lorry(M).COM.PL	big.COM.PL
		‘lorry’		‘big’		‘big lorries’	

The activation of a mutation is generally restricted to a single target as in (42f). The activation of the first paradigm as a result of a head noun in a following attributive adjective, however, often results in the ‘serial activation’ of the first paradigm, whereby a series of attributive adjectives modifying the same head noun are mutated as in (42g) (IIA 1694).

(42)	a.	na	b.	an
		nə		ə(n)
		DEF.GEN.PL		DEF.COM.FSG
		‘of the’		‘the’

	c.	bodóg	d.	beag	e.	buí
		ˈbu.d̪oːg		bʲog		biː
		heifer(F).COM.SG		small.COM.MSG		yellow.COM.MSG
		‘heifer’		‘small’		‘yellow’

	f.	na	mbodógaí	beaga	buí
		nə	ˈmu.d̪oː.giː	ˈbʲo.gə	biː
		DEF.GEN.PL	heifer(F).GEN.PL	small.GEN.PL	yellow.GEN.PL
		‘of the small yellow heifers’			

	g.	an	bhodóg	bheag	bhuí
		ə(n)	ˈwu.d̪oːg	vʲog	wiː
		DEF.COM.FSG	heifer(F).COM.SG	small.COM.FSG	yellow.COM.FSG
		‘the small yellow heifer’			

Adjectival modifiers of a head noun are thus clearly marked by the presence of the first paradigm in such cases. It may be noted that the serial activation of the fourth paradigm may also occur as a result of a plural possessive pronoun in a following noun (see § 3.1.4.5).

The first paradigm is lastly activated in attributive definite nouns and proper names following the head noun as in (43) and (44) (IIA 1757). It is interesting that an attributive

(43) a. doras b. teach an phobail
ˈd̪o.ɾəs tʲæx ə(n) ˈfo.bəlʲ
door(M).COM.SG house(M).COM.SG DEF.GEN.MSG community(M).GEN.SG
‘door’ ‘church’

c. doras theach an phobail
ˈd̪o.ɾəs hæx ə(n) ˈfo.bəlʲ
door(M).COM.SG house(M).COM.SG DEF.GEN.MSG community(M).GEN.SG
‘the door of the church’

(44) a. bó b. Seán c. bó Sheáin
boː ʃɑːn boː hjɑːnʲ
cow(F).COM.SG Seán(M).COM.SG cow(F).COM.SG Seán(M).GEN.SG
‘cow’ ‘Seán (name)’ ‘Sean’s cow’

definite noun in a definite genitive construction as in (43) is usually in the common case and not in the genitive case as might be expected as in (44). The presence of the mutation in both cases thus formally indicates the modification of the head noun by the attributive noun.

3.1.1.5 INDIVIDUAL WORDS

The first paradigm is *optionally* activated in a number of specific lexical and grammatical words in the absence of any apparent activation factors as in (45) (IIA 1785). These

(45) a. cead b. chead
kʲæd̪ xʲæd̪
permission(M).COM.SG permission(M).COM.SG
‘permission’ ‘permission’

spontaneously mutated consonants have not been reinterpreted as radical consonants in turn, but are regarded as consonants which have been mutated according to the first paradigm. A further mutation according to the first paradigm is thus not possible as in (46e). The fourth paradigm may, however, be activated in these mutated consonants, whereby the relevant mutated form of the original radical consonant is then chosen as in (46f). The third person masculine singular possessive pronoun which generally activates the first paradigm in a noun

(46) a. a
ə
POS.3MSG
'his'

b. a
ə
POS.3PL
'their'

c. ceithre
'kʲe.rʲə
CAR4
'four'

d. cheithre
'xʲe.rʲə
CAR4
'four'

e. a cheithre
ə 'xʲe.rʲə
POS.3MSG CAR4
'his four'

f. a gceithre
ə 'gʲe.rʲə
POS.3PL CAR4
'their four'

or adjective (see § 3.1.1.9) does not further mutate the initial consonant of the numeral in (46e). It is not possible to determine in this case whether the mutation is a result of solely the pronoun or both the pronoun and the spontaneous mutation. The third person plural possessive pronoun which normally activates the fourth paradigm in a noun (see § 3.1.4.5) does, however, mutate the initial consonant of the numeral albeit following the paradigm of the original radical consonant in (46f). It is not possible to determine in this case whether the non-spontaneously mutated form is simply chosen or whether the spontaneously mutated form is first selected but then the non-spontaneously mutated form is retrieved.

The spontaneous activation of the first paradigm has led to words which once were optionally mutated but which now in general *obligatorily* occur with the mutation as in (47).[33]

(47) a. *ceithre
'kʲe.rʲə
CAR4
'four'

b. cheithre
'xʲe.rʲə
CAR4
'four'

This may ultimately result in the expansion of the radical initial consonant inventory, creating an even more extensive overlap between radical initial consonants and mutational paradigms.

3.1.1.6 NUMERALS

Three types of numerals may be distinguished, namely cardinal numerals, ordinal numerals, and personal numerals (IIA 569-570). The cardinal numerals are (formally) differentiated

[33] The initial consonant of the numeral *cheithre* is rarely unmutated except by some older speakers (IIA 1786).

for absolute counting (with a special counting particle) or for modifying nouns. The single numerals (such as 1, 2, 3) and 'simple ten numerals' (such as 10, 20, 30) occur before the modified noun and govern the common case singular in the noun, with the 'complex ten numerals' (such as in 11, 21, 31) coming after the noun as in Table 9 (IIA 570;573).[34,35,36]

Table 9: Cardinal numerals 1-30 used to modify nouns

1	(aon) *noun* amháin	11	aon *noun* d(h)éag	21	*noun* is fiche
2	dhá *noun*	12	dhá *noun* d(h)éag	22	dhá *noun* is fiche
3	trí *noun*	13	trí *noun* d(h)éag	23	trí *noun* f(h)ichead
4	cheithre *noun*	14	cheithre *noun* d(h)éag	24	cheithre *noun* f(h)ichead
5	chúig *noun*	15	chúig *noun* d(h)éag	25	chúig *noun* f(h)ichead
6	sé *noun*	16	sé *noun* d(h)éag	26	sé *noun* f(h)ichead
7	seacht *noun*	17	seacht *noun* d(h)éag	27	seacht *noun* f(h)ichead
8	ocht *noun*	18	ocht *noun* d(h)éag	28	ocht *noun* f(h)ichead
9	naoi *noun*	19	naoi *noun* d(h)éag	29	naoi *noun* f(h)ichead
10	deich *noun*	20	fiche *noun*	30	deich *noun* f(h)ichead

Ordinal numerals consist of the definite article plus a special ordinal numeral form, whereby the single ordinal numerals and simple ten ordinal numerals come before the modified noun and normally govern the common case singular, with the complex ten numerals again following the noun as in Table 10 (IIA 578-579).[37,38]

Table 10: Ordinal numerals 1-30 used to modify nouns

1	an/na chéad *noun*	11	an chéad *noun* déag	21	an t-aonú *noun* fichead
2	an dara *noun*	12	an dara *noun* déag	22	an dara *noun* fichead
3	an tríú *noun*	13	an tríú *noun* déag	23	an tríú *noun* fichead
4	an ceathrú *noun*	14	an ceathrú *noun* déag	24	an ceathrú *noun* fichead
5	an cúigiú *noun*	15	an cúigiú *noun* déag	25	an cúigiú *noun* fichead
6	an séú *noun*	16	an séú *noun* déag	26	an séú *noun* fichead
7	an seachtú *noun*	17	an seachtú *noun* déag	27	an seachtú *noun* fichead
8	an t-ochtú *noun*	18	an t-ochtú *noun* déag	28	an t-ochtú *noun* fichead
9	an naoú *noun*	19	an naoú *noun* déag	29	an naoú *noun* fichead
10	an deichiú *noun*	20	an fichiú *noun*	30	an deichiú *noun* fichead

[34] The numeral *aon* 'one' also means 'any' and may be used in combination with *amháin* 'only/single' after the noun to distinguish the two senses or may be left out altogether with only the noun and *amháin* present.
[35] The numeral *dhá* is obligatorily mutated except in a number of collocational exceptions (IIA 571;1769).
[36] The complex ten numerals *d(h)éag* 'ten' and *f(h)ichead* 'twenty' are varyingly mutated in the dialect.
[37] The plural ordinal numeral *na chéad* 'the first' is followed by the common case plural (IIA 1338).
[38] Ordinal numerals involving the numerals 1 and 2 show alternate forms when referring to dates (IIA 578-579).

The dialect further distinguishes twelve unique personal numerals which may be used independently to refer to numbers of people from 1-12, and ten unique personal numerals which may be used to modify human reference nouns from 1-10, with the cardinal numerals being used above 10. The personal numerals come before the modified noun which is generally in the common case singular[39] as in Table 11 (IIA 580-581).[40]

Table 11: Personal numerals 1-30 used to modify nouns

1	*noun* amháin	11	aon *noun* d(h)éag	21	*noun* is fiche
2	beirt *noun*	12	dhá *noun* d(h)éag	22	dhá *noun* is fiche
3	triúr *noun*	13	trí *noun* d(h)éag	23	trí *noun* is fiche
4	ceathar *noun*	14	cheithre *noun* d(h)éag	24	cheithre *noun* is fiche
5	cúigear *noun*	15	chúig *noun* d(h)éag	25	chúig *noun* is fiche
6	seisear *noun*	16	sé *noun* d(h)éag	26	sé *noun* is fiche
7	seachtar *noun*	17	seacht *noun* d(h)éag	27	seacht *noun* is fiche
8	(h)ochtar *noun*	18	ocht *noun* d(h)éag	28	ocht *noun* is fiche
9	naonbhur *noun*	19	naoi *noun* d(h)éag	29	naoi *noun* is fiche
10	deichniúr *noun*	20	fiche *noun*	30	deich *noun* is fiche

The cardinal numerals *aon* ‘one’, *dhá* ‘two’, *trí* ‘three’, *cheithre* ‘four’, *chúig* ‘five’, and *sé* ‘six’ all activate the first paradigm in a following noun as in (48-53) (IIA 1768).[41]

(48) a. aon
e:(n)
CAR1/any
‘one/any’

b. capall
ˈka.pəl
horse(M).COM.SG
‘horse’

c. aon chapall
e:(n) ˈxa.pəl
CAR1/any horse(M).COM.SG
‘one/any horse’

(49) a. dhá
ɣɑ:
CAR2
‘two’

b. dreatháir
ˈdʲrʲe.hɑ:rʲ
brother(M).COM.SG
‘brother’

c. dhá dhreatháir
ɣɑ: ˈjrʲe.hɑ:rʲ
CAR2 brother(M).COM.SG
‘two brothers’

[39] Both the common case plural and the genitive case plural are sometimes used after personal numerals. The use of the genitive plural in fact reflects the historic use of the genitive plural after personal numerals (IIA 581).
[40] The numeral systems show clear discrepancies in the presence of a mutation in *d(h)éag* and *f(h)ichead* as well as in the choice between *is fiche* and *f(h)ichead*. This adequately reflects the wide variety observed in the dialect.
[41] The numeral *aon* is interestingly often reduced to simply the vowel (see § 3.2.1) (IIA 1717).

(50)	a.	trí	b.	trian	c.	trí	thrian
		tʲrʲiː		tʲrʲiːnʲ		tʲrʲiː	hrʲiːnʲ
		CAR3		third(M).COM.SG		CAR3	third(M).COM.SG
		‘three’		‘third’		‘three thirds’	

(51)	a.	cheithre	b.	duine	c.	cheithre	dhuine
		ˈxʲeːrʲə		ˈd̪iːnʲə		ˈxʲeːrʲə	ˈɣiːnʲə
		CAR4		person(M).COM.SG		CAR4	person(M).COM.SG
		‘four’		‘person’		‘four people’	

(52)	a.	chúig	b.	punt	c.	chúig	phunt
		xuːgʲ		punt̪		xuːgʲ	funt̪
		CAR5		pound(M).COM.SG		CAR5	pound(M).COM.SG
		‘five’		‘pound’		‘five pounds’	

(53)	a.	sé	b.	bord	c.	sé	bhord
		ʃeː		baurd̪		ʃeː	waurd̪
		CAR6		table(M).COM.SG		CAR6	table(M).COM.SG
		‘six’		‘table’		‘six tables’	

Although cardinal numerals normally modify singular nouns in the dialect, they may modify a restricted set of plural nouns, whereby the first paradigm is generally not activated by the numerals 1-6 in the following plural noun as in (54) (IIA 1768). The numerals 7-10, in

(54)	a.	trí	b.	bliain	c.	trí	bliana
		tʲrʲiː		bʲlʲiənʲ		tʲrʲiː	ˈbʲlʲiə.nə
		CAR3		year(F).COM.SG		CAR3	year(F).COM.PL
		‘three’		‘year’		‘three years’	

contrast, interestingly do activate the fourth paradigm in these plural nouns (see § 3.1.4.3).

The first paradigm is also activated by the singular ordinal numeral *an chéad* ‘the first’ in a common singular noun as in (55) (IIA 1769). The less frequent plural variant *na chéad* ‘the first’ is followed by a common plural noun but also activates the first paradigm as in (56) (IIA 1338). The activation of the first paradigm would thus seem to be intrinsically related to the numeral and not to the combination of the (form of the) definite article and the numeral.

(55)	a.	an	chéad	b.	fear	c.	an	chéad	fhear
		ə(n)	xʲeːd̪		fʲær		ə(n)	xʲeːd̪	ær
		DEF.SG	ORD1		man(M).COM.SG		DEF.SG	ORD1	man(M).COM.SG
		‘the first’			‘man’		‘the first man’		

(56)	a.	na	chéad	b.	fir	c.	na	chéad	fhir
		nə	xʲeːd̪		fʲirʲ		nə	xʲeːd̪	irʲ
		DEF.PL	ORD1		man(M).COM.PL		DEF.PL	ORD1	man(M).COM.PL
		‘the first’			‘men’		‘the first men		

The first paradigm is lastly activated in a modified noun in the common singular after the personal numeral *beirt* ‘two (with human referents)’ as in (57) (IIA 1769). This numeral

(57)	a.	beirt	b.	ceoltóir	c.	beirt	cheoltóir	
		bʲerʲtʲ		ˈkʲoːlˌt̪oːrʲ		bʲerʲtʲ	ˈxʲoːlˌt̪oːrʲ	
		PER2		musician(M).COM.SG		PER2	musician(M).COM.SG	
		‘two’		‘musician’		‘two musicians’		

is in fact a feminine noun which explains the activation of the mutation (see § 3.1.1.4).

The numerals 7-10 do not activate the first paradigm but rather the fourth paradigm in singular and plural nouns (see § 3.1.4.3). The combination of a cardinal numeral followed by a noun activates the first paradigm in a following attributive adjective (see § 3.1.1.7).

3.1.1.7 NUMERAL + NOUN

Whereas the first paradigm may be activated by certain numerals (see § 3.1.1.6) and by a head noun under certain conditions (see § 3.1.1.4), the combination of a cardinal numeral followed by a singular noun regularly activates the first paradigm in an attributive adjective. This applies for both the numerals 1-6 as in (58) and the numerals 7-10 as in (59) (IIA 1779). It is

(58)	a.	trí	bhuidéal	b.	mór	
		tʲrʲiː	ˈwi.dʲeːl		moːr	
		CAR3	bottle(M).COM.SG		big.COM.MSG	
		‘three bottles’			‘big’	

c. trí bhuidéal mhóra
tʲrʲiː ˈwi.dʲeːl ˈwoː.rə
CAR3 bottle(M).COM.SG big.COM.PL
‘three big bottles’

(59) a. seacht bhfaobhar
ʃaxt̪ ˈvʲiː.vər
CAR7 whetting(M).COM.SG
‘seven whettings’

b. géar
gʲeːr
sharp.COM.MSG
‘sharp’

c. seacht bhfaobhar ghéar
ʃaxt̪ ˈvʲiː.vər jeːr
CAR7 whetting(M).COM.SG sharp.COM.MSG
‘seven sharp whettings’

clear from (58) that numerals above 1 may often activate the plural form of the adjective. This does not affect the activation of the first paradigm, however, which would suggest that attributes of the adjective are not decisive for the activation in this case.

The numeral *dhá* ‘two’ in combination with a singular noun seems to show variation, with the stressing and number of the attributive adjective hereby playing an important role. The first paradigm is sometimes solely activated in a plural adjective which receives the primary phrasal stress as in (60c) in comparison to a singular unstressed adjective which does not undergo a mutation as in (60d) (IIA 1773-1774).[42] This seems to be the only case of stress

(60) a. dhá ghadhar
ɣɑː ɣair
CAR2 dog(M).COM.SG
‘two dogs’

b. beag
bʲog
small.COM.MSG
‘small’

c. dhá ghadhar bheaga
ɣɑː ɣair ˈvʲo.gə
CAR2 dog(M).COM.SG small.COM.PL
‘two small dogs’

[42] The use of underlining in examples in this thesis represents elements which receive primary phrasal stress.

d. dhá ghadhar beag
ɣɑ: ɣair bʲog
card2 dog(M).COM.SG small.COM.MSG
'two small dogs'

playing a role in the activation of a mutational paradigm in the dialect. It may be speculated that stress could become associated with the activation of the mutation in the youngest generations and thereby expand into other activational domains (cf. IIA 1838-1839).

3.1.1.8 PARTICLES

The particles may be divided into a major class consisting of preverbal particles and several minor classes consisting of prenominal particles, a prenumeral particle, preadjectival particles, and particles which precede the verbal noun (IIA 1460). The preverbal particles come directly before the verb[43] and may be distinguished to varying degrees for tense, illocution, mood, modality, dependency[44], and/or relativisation. These distinctions are often similar to those expressed by the copula (see § 3.1.1.2). The tenses which may be marked are the past and non-past. The illocutions distinguished are the negative declarative, interrogative, negative interrogative, and negative imperative, jussive, and negative jussive. The moods include the conditional and negative conditional. A distinction is also made between realis and irrealis modality. Some particles mark the beginning of a particular clause type, namely a dependent clause, a negative dependent clause, a direct relative clause, a negative direct relative clause, and an indirect relative clause. There are also particles which express indefiniteness and distinguish pronoun versus adverb as well as particles which express temporal or causal relationships[45]. The preverbal particles are summarised in Table 12 (IIA 1465).[46,47,48] The prenominal particles are the vocative particle *a* which marks the vocative case and the abstract comparative particle *a* which identifies a comparative abstract noun. The sole prenumeral

[43] Irish Gaelic is a VSO language whereby the subject follows the verb.
[44] The particles which express dependency function as complementisers.
[45] The particles which express temporal and causal relationships function as conjunctions.
[46] The negative declarative non-past particle *ní* may activate either the first or fourth paradigm.
[47] I have not marked the indefinite interrogative pronoun *cé* for mutations even though the pronoun is claimed to activate the first paradigm (IIA 1465). This is because the pronoun is in fact assumed in such cases to be followed by the direct relative particle *a* which may be phonetically absent (IIA 1798). It is thus the direct relative particle and not the indefinite interrogative pronoun which activates the mutation in these cases.
[48] The indefinite interrogative adverb has two (collocationally determined) forms (IIA 1496;1499).

Table 12: Preverbal particles

Tense →	Non-past	Past
Illocution ↓		
Negative declarative	*ní*/*ní*	*níor*
Interrogative	*an*	*ar*
Negative interrogative	*nach*	*nar*
Negative imperative	*ná*	
Jussive	*go*	
Negative jussive	*nár*	
Mood & Modality ↓		
Realis conditional	*má*	*má*
Irrealis conditional	*dhá*	
Negative conditional	*mara*	*marar*
Dependency ↓		
Dependent	*go*	*gur*
Negative dependent	*nach*	*nar*
Relativisation ↓		
Direct relative	*a*	*a*
Indirect relative	*a*	*ar*
Negative relative	*nach*	*nar*
Indefinite interrogative ↓		
Indefinite interrogative pronoun	*cé*	*cé*
Indefinite interrogative adverb	*cé/cá*	*cér/cár*
Time & Causality ↓		
Antessive	*shula*	*shular*
Temporal ablative	*ó*	*ó*
Causative	*ó*	*ó*
Causative	*mar*	*mar*

particle is the numeral particle *a* which is used with cardinal numerals for absolute counting and counting numerals qualifying nouns. The preadjectival particles include the correlative particles *níos* and *chomh* which form respectively the comparative and comparison of equivalence, and the adverbial particle *go* which is generally used to form adverbs (IIA 1460). The particles which occur before a verbal noun are the verbal noun particle *ag* which normally expresses continuous aspect, the negative verbal noun particle *gan*, and the verbal noun complementiser *a* which connects a verbal noun to a disjunctive object (IIA 1542).

The particles which are not differentiated for tense and activate the first paradigm in a verb are the negative jussive particle *nár*, the realis conditional particle *má*, the direct relative particle *a*, and the temporal ablative and causative particles *ó* as in (61-65) (IIA 1465).

(61)	a.	nár	b.	déana	c.	nár	dhéana
		nɑːr		ˈdʲiː.nə		nɑːr	ˈjiː.nə
		NEG.JUS		do.JUS.3SG		NEG.JUS	do.JUS.3SG
		‘may not!’		‘may do!’		‘may not do!’	

(62)	a.	má	b.	tugann	c.	má	thugann
		mɑː		ˈt̪ug.ən		mɑː	ˈhug.ən
		CON.REA		give.PRS.3SG		CON.REA	give.PRS.3SG
		‘if’		‘gives’		‘if gives’	

(63)	a.	(a)	b.	cuireann	c.	(a)	chuireanns
		ə		ˈkurʲ.ən		ə	ˈxurʲ.əns
		DIR.REL		put.PRS.3SG		DIR.REL	put.PRS.3SG.DIR REL
		‘that’		‘puts’		‘that puts’	

(64)	a.	ó	b.	tagann	c.	ó	thagann
		oː		ˈt̪ag.ən		oː	ˈhag.ən
		TEM.ABL		come.PRS.3SG		TEM.ABL	come.PRS.3SG
		‘from’		‘comes’		‘since comes’	

(65)	a.	ó	b.	téann	c.	ó	théann
		oː		tʲain		oː	hain
		CAU		go.PRS.3SG		CAU	go.PRS.3SG
		‘since’		‘goes’		‘since goes’	

The direct relative particle *a* is particularly interesting as the particle, which is essentially a phonologically weak schwa, is generally absent in normal speech as in (63) but the first paradigm is nevertheless activated in the verb possibly leading to (66) (IIA 1515).

(66)	a.	cuireann	b.	chuireanns
		ˈkurʲ.ən		ˈxurʲ.əns
		put.PRS.3SG		put.PRS.3SG.DIR.REL
		‘puts’		‘that puts’

The non-past particle which activates the first paradigm in a following verb is the negative declarative particle *ní* as in (67) (IIA 1465).

(67)	a.	ní	b.	beidh	c.	ní	bheidh
		ɲiː		bʲei		ɲiː	vʲei
		NEG.DEC.NON		be.FUT.3SG		NEG.DEC.NON	be.FUT.3SG
		‘not’		‘will be’		‘will not be’	

A restricted set of irregular verbs in Irish Gaelic have dependent forms which may not occur independently but which may solely occur in combination with a relevant preverbal particle as in (68) (IIA 1115). This also applies for all jussive forms which may not occur

(68)	a.	ní	b.	chonaic	c.	faca
		ɲiː		ˈxi.nʲəkʲ		ˈfa.kə
		NEG.DEC.PST		see.PST.3SG		see.PST.DEP.3SG
		‘did not’		‘saw’		‘saw’

	d.	ní	fhaca
		ɲiː	ˈa.kə
		NEG.DEC.PST	see.PST.DEP.3SG
		‘did not see’	

independently as in (61b) but must be accompanied by a jussive particle as in (61c). It is interesting to observe that either preverbal particles which are normally used for the non-past tenses or preverbal particles which are not marked for tense are always used in combination with such dependent forms regardless of the actual tense. This similarly holds true for preverbal particles which activate the fourth paradigm (see § 3.1.4.4). The fourth paradigm is further activated in a restricted set of verbs which begin with a fricative after preverbal particles which normally activate the first paradigm whereby the non-past or tenseless form is again always employed regardless of the tense (see § 3.1.4.4).

The past preverbal particles which activate the first paradigm consist of the negative declarative particle *níor*, the interrogative particle *ar*, the negative interrogative particle *nar*, the negative conditional particle *marar*, the dependent particle *gur*, the negative dependent particle *nar*, the indirect relative particle *ar*, the negative relative particle *nar*, the indefinite interrogative adverb *cér/cár*, and the antessive particle *shular* as in (69-78) (IIA 1465). It is difficult to determine, however, if the first paradigm is truly activated by these particles as the first paradigm is automatically activated in past tense forms (see § 3.1.1.16).

(69) a. níor b. chuala c. níor chuala
ɲiːr ˈxuə.lə ɲiːr ˈxuə.lə
NEG.DEC.PST hear.PST.3SG NEG.DEC.PST hear.PST.3SG
‘did not’ ‘heard’ ‘did not hear’

(70) a. ar b. chraiseáil c. ar chraiseáil
ər ˈxraʃ.ɑːlʲ ər ˈxraʃ.ɑːlʲ
INT.PST crash.PST.3SG INT.PST crash.PST.3SG
‘did?’ ‘crashed’ ‘did crash?’

(71) a. nar b. tháinic c. nar tháinic
nar ˈhɑː.nʲəkʲ nar ˈhɑː.nʲəkʲ
NEG.INT.PST come.PST.3SG NEG.INT.PST come.PST.3SG
‘did not?’ ‘came’ ‘did not come?’

(72) a. marar b. thug c. marar thug
ˈma.rər hug ˈma.rər hug
NEG.CON.PST give.PST.3SG NEG.CON.PST give.PST.3SG
‘if did not’ ‘gave’ ‘if did not give‘

(73) a. gur b. thit c. gur thit
gər hitʲ gər hitʲ
DEP.PST fall.PST.3SG DEP.PST fall.PST.3SG
‘that did’ ‘fell’ ‘that fell’

(74) a. nar b. d’fhan c. nar fhan
nar d̪an nar an
NEG.DEP.PST wait.PST.3SG NEG.DEP.PST wait.PST.3SG
‘that did not’ ‘waited’ ‘that did not wait’

(75) a. ar b. dhíol c. ar dhíol
ər jiːlʲ ər jiːlʲ
IND.REL.PST sell/pay.PST.3SG IND.REL.PST sell/pay.PST.3SG
‘that did’ ‘sold/paid’ ‘that sold/paid’

(76)	a.	nar	b.	thugadh	c.	nar	thugadh
		nar		ˈhug.əx		nar	ˈhug.əx
		NEG.REL.PST		give.HAB.PST.3SG		NEG.REL.PST	give.HAB.PST.3SG
		‘that did not’		‘used to give’		‘that used not to give’	

(77)	a.	cér/cár	b.	chuir	c.	cér/cár	chuir
		kʲeːr/kɑːr		xurʲ		kʲeːr/kɑːr	xurʲ
		INA.INT.PST		put.PST.3SG		INA.INT.PST	put.PST.3SG
		‘where/what did?’		‘put’		‘where/what did put?’	

(78)	a.	shular	b.	phós	c.	shular	phós
		ˈsɑː.lər		foːs		ˈsɑː.lər	foːs
		ANT.PST		marry.PST.3SG		ANT.PST	marry.PST.3SG
		‘before’		‘married’		‘before married’	

The first paradigm is additionally activated as a result of the prenominal vocative particle *a* in a following noun or proper name (which may be in the vocative case) as in (79) and (80) (IIA 1460). The vocative particle is phonologically a weak schwa which once again

(79)	a.	(a)	b.	maighdean	c.	(a)	mhaighdean
		ə		ˈmai.dʲən		ə	ˈwai.dʲən
		VOC		young girl(F).COM.SG		VOC	young girl(F).COM.SG
		‘o/you!’		‘young girl’		‘young girl!’	

(80)	a.	(a)	b.	Máire	c.	(a)	Mháire
		ə		ˈmɑː.rʲə		ə	ˈwɑː.rʲə
		VOC		Máire(F).COM.SG		VOC	Máire(F).COM.SG
		‘o/you!’		‘Máire (name)’		‘Máire!’	

may be elided in normal speech at the beginning of a sentence, whereby the activation of the first paradigm is again retained as in (81) and (82) (IIA 1460). This suggests that the

(81)	a.	maighdean	b.	mhaighdean
		ˈmai.dʲən		ˈwai.dʲən
		young girl(F).COM.SG		young girl(F).VOC.SG
		‘young girl’		‘young girl!’

(82)	a.	Máire	b.	Mháire
		ˈmɑː.ɾʲə		ˈwɑː.ɾʲə
		Máire(F).COM.SG		Máire(F).VOC.SG
		‘Máire (name)’		‘Máire!’

activation of the first paradigm in the absence of the vocative particle has become an intrinsic marker of the vocative case and in fact forms the sole marker of the vocative case in the absence of any overt case marking in the noun.

The first paradigm is lastly activated by the abstract comparative particle *a* in a following adjective (which may take an abstract comparative form) as in (83). This particle

(83)	a.	a	b.	gairid	c.	a	ghairdeacht
		ə		ˈga.ɾʲədʲ		ə	ˈɣaiɾʲ.dʲəx̟t
		ABS		short.COM.MSG		ABS	shortness.ABS
		‘more/less’		‘short’		‘shorter’	

is essentially a cataphoric third person singular possessive pronoun (IIA564) (see § 3.1.1.9).

Most of the preverbal non-past particles do not activate the first paradigm but instead activate the fourth paradigm in a following verb. The interrogative particle *an*, the negative interrogative particle *nach*, the jussive particle *go*, the irrealis conditional particle *dhá*, the negative conditional particle *mara*, the dependent particle *go*, the negative dependent particle *nach*, the indirect relative particle *a*, the negative relative particle *nach*, the indefinite interrogative adverb *cé*/*cá*, and the antessive particle *shula* all regularly activate the fourth paradigm as well as the negative declarative particle *ní* in some cases (see § 3.1.4.4). The activation of a mutation by a preverbal particle interacts in varying degrees with the activation of the first paradigm as a result of specific verb tenses (see § 3.1.1.16 and § 3.1.3.1).

3.1.1.9 POSSESSIVE PRONOUNS

The possessive pronouns precede the noun and may be distinguished for the person, number, and gender of discourse referents. The pronoun may express first, second, or third person. The number may be either singular or plural. The gender may be either masculine or feminine, with semantically neuter referents grammatically being marked by masculine pronouns. There

is a high degree of overlap between the various possessive forms as in Table 13 (IIA 1282).[49]

Table 13: Paradigm of the possessive pronouns

Number →	Singular		Plural	
Gender → / *Person ↓*	Masculine	Feminine	Masculine	Feminine
First	*mo*		*a*	
Second	*do*		*a*	
Third	*a*	*a*	*a*	

The first paradigm is regularly activated in a noun after the first person singular possessive pronoun *mo*, the second person singular possessive pronoun *do*, and the third person singular masculine possessive pronoun *a* as in (84-86) (IIA 1702).[50] The third person

(84)	a.	mo	b.	dóthain	c.	mo	dhóthain
		mə		ˈd̪oː.hənʲ		mə	ˈɣoː.hənʲ
		POS.1SG		enough(F).COM.SG		POS.1SG	enough(F).COM.SG
		‘my’		‘enough’		‘my fill’	

(85)	a.	do	b.	máthair	c.	do	mháthair
		d̪ə		ˈmɑː.hərʲ		d̪ə	ˈwɑː.hərʲ
		POS.2SG		mother(F).COM.SG		POS.2SG	mother(F).COM.SG
		‘your’		‘mother’		‘your mother’	

(86)	a.	a	b.	clann	c.	a	chlann
		ə		klɑːn		ə	xlɑːn
		POS.3MSG		offspring(F).COM.SG		POS.3MSG	offspring(F).COM.SG
		‘his’		‘offspring’		‘his children’	

singular pronouns share with the plural pronouns an identical form *a* which is realised as a schwa. These pronouns may be contextually disambiguated but are also formally differentiated as the third person singular masculine form activates the first paradigm as in (86), the third person singular feminine form does not activate a mutation as in (87),

[49] The plural possessive pronouns are formally discerned in other dialects (Ó Siadhail 1989:126).
[50] The first paradigm may also be activated in a numeral which precedes the possessed noun.

(87)	a.	a	b.	clann	c.	a	clann
		ə		klɑːn		ə	klɑːn
		POS.3FSG		offspring(F).COM.SG		POS.3FSG	offspring(F).COM.SG
		‘her’		‘offspring’		‘her children’	

and the plural forms activate the fourth paradigm in a following noun (see § 3.1.4.5).[51]

The first and second person singular pronouns are normally cliticised to a noun beginning with an initial vowel as in (88). This also applies, however, to a noun beginning with an initial fricative which has been mutated in the first paradigm as in (89) (IIA 1282).

(88)	a.	mo	b.	inín	c.	m’inín	
		mə		ˈinʲ.iːnʲ		ˈminʲ.iːnʲ	
		POS.1SG		daughter(F).COM.SG		POS.1SG.daughter(F).COM.SG	
		‘my’		‘daughter’		‘my daughter’	

(89)	a.	mo	b.	fírinne	c.	m’fhírinne	
		mə		ˈfʲiːrʲ.əɲ.ə		ˈmiːrʲ.əɲ.ə	
		POS.1SG		truth(F).COM.SG		POS.1SG.truth(F).COM.SG	
		‘my’		‘truth’		‘my truth’	

It is interesting to note that the palatalisation of the radical initial consonant may again be adopted by the procliticised personal pronoun in the mutated form as in (90) (see § 3.1.1.2).

(90)	a.	mo	b.	fírinne	c.	m’fhírinne	
		mə		ˈfʲiːrʲ.əɲ.ə		ˈmʲiːrʲ.əɲ.ə	
		POS.1SG		truth(F).COM.SG		POS.1SG.truth(F).COM.SG	
		‘my’		‘truth’		‘my truth’	

The third person singular and plural possessive pronouns may merge with a simple preposition to form a special ‘prepositional possessive’ which may or may not activate a mutation according to the possessive pronoun (see § 3.1.1.14 and § 3.1.4.8). The possessive pronouns may combine in a unique stative construction consisting of the preposition *i* ‘in’ followed by a possessive pronoun followed by a noun mutated according to the possessive

[51] This applies strictly to possessive pronouns preceding an initial consonant. The forms are further differentiated preceding an initial vowel by the fact that the vowel may or may not undergo a ‘vowel mutation’ (IIA 1286).

pronoun, whereby the first paradigm is activated in a following adjective (see § 3.1.1.15).

3.1.1.10 PREFIXES

The dialect consists of a number of nominal and adjectival prefixes which differ in productivity and which may be divided into prefixes which take no stress with main stress on the noun or adjective (Type 1), prefixes which take primary stress with secondary stress on the noun or adjective (Type 2), and/or prefixes which share primary stress with the noun or adjective (Type 3) (IIA 585). All of these prefixes regularly activate the first paradigm in the following noun or adjective irrespective of the prefix category to which they belong.[52]

The prefixes *in-* 'able to' and *ro-* 'too' take no stress and activate the first paradigm in an adjective as in (91) and (92) (IIA 585).

(91)	a.	in-	b.	gearrtha	c.	inghearrtha
		ən		ˈgʲɑːɾ.hə		ən.ˈjɑːɾ.hə
		able to		cut.COM.MSG		cuttable.COM.MSG
		'able to'		'cut'		'cuttable'

(92)	a.	ro-	b.	fada	c.	ro-fhada
		rə		ˈfa.d̪ə		rə.ˈa.d̪ə
		too		long.COM.MSG		too long.COM.MSG
		'too'		'long'		'too long'

The prefixes *ath-* 're-/second', *do-* 'difficult/impossible', *mí-* 'bad/mis-', *neamh-* 'in-/un-/non-', and *so-* 'easy to/good' take primary stress and activate the first paradigm in a noun or adjective as in (93-97) (IIA 585).

(93)	a.	ath-	b.	bliain	c.	athbhliain
		æ(h)		bʲlʲiənʲ		ˈæ.ˌvʲlʲiənʲ
		re-/second		year(F).COM.SG		following year(F).COM.SG
		're-/second'		'year'		'following year'

[52] It must be noted that Ó Curnáin regards many lexical nouns and adjectives as prefixes (IIA 582;585;587-611). Only bound grammatical morphemes are considered to be prefixes in this thesis and thus I understand these lexemes to form the modifying first element of the second head element in a compound (see § 3.1.1.1). Some of these lexemes seem to be bound lexemes in that they may not occur independently but only in these compounds.

(94)	a.	do-	b.	casta	c.	dochasta
		d̪u		ˈkasˌt̪ə		ˈd̪u.ˌxasˌt̪ə
		difficult/impossible		turned.COM.MSG		difficult to turn.COM.MSG
		‘difficult/impossible’		‘turned’		‘difficult to turn’

(95)	a.	mí-	b.	sláinte	c.	míshláinte
		mʲiː		ˈslaɲ.tʲə		ˈmʲiː.ˌhlaɲ.tʲə
		bad/mis-		health(F).COM.SG		bad health(F).COM.SG
		‘bad/mis-‘		‘health’		‘bad health’

(96)	a.	neamh-	b.	suim	c.	neamhshuim
		ɲæ(w)		siːmʲ		ˈɲæ.ˌhiːmʲ
		in-/un-/non-		interest/regard(F).COM.SG		disregard(F).COM.SG
		‘in-/un-/non-’		‘interest/regard’		‘disregard’

(97)	a.	so-	b.	comhairlíthe	c.	sochomhairlíthe
		su		ˈkuːrʲ.ʎiː.hə		ˈsu.ˌxuːrʲ.ʎiː.hə
		easy to/good		advised.COM.MSG		easy to advise.COM.MSG
		‘easy to/good’		‘advised’		‘easy to advise’

The prefix *an-* ‘very/great’ shares primary stress with the noun or adjective and activates the first paradigm in a noun or adjective as in (98) (IIA 585).

(98)	a.	an-	b.	gnaíúil	c.	an-ghnaíúil
		an		ˈgɾiː.uːlʲ		ˈan.ˈɣɾiː.uːlʲ
		very/great		decent.COM.MSG		very decent.COM.MSG
		‘very/great’		‘decent’		‘very decent’

The prefixes *rí-* ‘very’ and *sean-* ‘utmost’ lastly may either take or share the primary stress, with the first paradigm being activated in both cases as in (99) and (100) (IIA 585). It

(99)	a.	rí-	b.	deas	c.	rídheas
		ɾiː		dʲæs		ˈɾiː.ˈjæs
		very		nice.COM.MSG		very nice.COM.MSG
		‘very’		‘nice’		‘very nice’

(100)	a.	sean-	b.	béic	c.	seanbhéic
		ʃæn		bʲeːkʲ		ˈʃæn.ˌvʲeːkʲ
		utmost		yell(F).COM.SG		loudest shout(F).COM.SG
		‘utmost’		‘yell’		‘loudest shout’

is interesting to note that these prefixes seem to have developed from a compounded noun and adjective whereby the difference in stress placement may distinguish between the more recent grammatical prefix (with shared stress) as in (99) and the original compounded lexical noun or adjective (with primary stress) as in (101). Such cases would not be interpreted as prefixes

(101)	a.	rí	b.	cárta	c.	ríchárta
		ɾiː		ˈkɑːrˌt̪ə		ˈɾiː.ˌxɑːrˌt̪ə
		king(M).COM.SG		card(M).COM.SG		court card(M).COM.SG
		‘king’		‘card’		‘court card’

but rather as nominal and adjectival modifiers of the nominal or adjectival head of a compound (see § 3.1.1.1). It is also interesting that these neologistic grammatical prefixes seem to have semantically coalesced to essentially indicate intensiveness. This seems to be a general trend of grammaticalisation in the dialect (IIA 585). Some bound lexical modifiers in compounds lastly seem to be undergoing grammaticalisation and may become prefixes.

The prefixes *ath-* ‘re-/second’ and *neamh-* ‘in-/un-/non-’ originally ended in a final consonant which disappeared before a consonant and was only retained before a vowel, in which case the final consonant of the prefix appeared as the onset of the initial syllable of the modified noun or adjective as in (102).[53] This similarly applied to fricatives which were

(102)	a.	ath-	b.	uair	c.	athuair
		æ(h)		uərʲ		ˈæ.huərʲ
		re-/second		hour/time(F).COM.SG		second time(F).COM.SG
		‘re-/second’		‘hour/time’		‘second time’

mutated according to the first paradigm as a result of the prefix *ath* whereby the fricative and thus the onset were elided but then replaced by the historic final consonant of the prefix as

[53] The prefix *ath-* historically ended in a voiceless glottal fricative whereas the prefix *neamh-* ended in a voiced labiovelar approximant.

in (103).[54] The historic final consonants which synchronically replace the following initial

(103)	a.	ath-	b.	fás	c.	athfhás
		æ(h)		fɑːs		ˈæ.hɑːs
		re-/second		growth(M).COM.SG		second growth(M).COM.SG
		‘re-/second’		‘growth’		‘second growth’

fricatives could alternatively be viewed to form separate mutational paradigms which are restricted to these prefixes, although this is unlikely given the clear existence of the (cliticised) final consonant before vowels and the highly restricted nature of the paradigms.

3.1.1.11 PREPOSED ADJECTIVES

The dialect possesses a number of (non-compounding) preposed adjectives which precede rather than follow the modified noun as with most attributive adjectives (see § 3.1.1.4) and which seem to generally quantify the noun which is in the common singular. The preposed adjective *(a)chuile* ‘every’ is the sole preposed adjective which systematically activates the first paradigm in a quantified noun in the common singular as in (104) (IIA 1702).[55]

(104)	a.	(a)chuile	b.	duine	c.	(a)chuile	dhuine
		(ə.)ˈxi.lʲə		ˈd̪i.nʲə		(ə.)ˈxi.lʲə	ˈɣi.nʲə
		every		person(M).COM.SG		every	person(M).COM.SG
		‘every’		‘person’		‘everyone’	

3.1.1.12 PREPOSITIONS

The dialect possesses numerous simple and compound prepositions.[56] Simple prepositions are usually unstressed and are followed by a noun in the common case. Many simple prepositions may be inflected for person, number, and gender in the form of ‘prepositional pronouns’. Compound prepositions consist of a simple preposition with another simple preposition, particle, and/or noun. Such prepositions usually carry greater stress and may be followed by a

[54] This only seems to apply to the prefix *ath-* as there is no example of the prefix *neamh-* before a fricative.
[55] The preposed adjective *(a)chuile* has two principle realisations in the dialect.
[56] The description actually draws a distinction between simple prepositions on the one hand but compound and nominal prepositions on the other hand whereby the latter division is not always clear (IIA 1438).

noun in either the common or genitive case or form a possessive construction (IIA 1345). Only a small group of simple prepositions activates a mutation in the following noun.

The simple prepositions *ar* 'on', *dhe* 'from/off/of', *dho* 'to', *faoi* 'under/about', *ó* 'from', *roimhe* 'before', *tha(i)r* 'over/past', and *thrí* 'through' regularly activate the first paradigm in a following noun as in (105-112) (IIA 1762).[57,58]

(105) a. ar
erʲ
on
'on'

b. capall
'ka.pəl
horse(M).COM.SG
'horse'

c. ar chapall
erʲ 'xa.pəl
on horse(M).COM.SG
'on a horse'

(106) a. dhe
gə
from/off/of
'from/off/of'

b. draein
dɾe:nʲ
drain(F).COM.SG
'drain'

c. dhe dhraein
gə jɾe:nʲ
from/off/of drain(F).COM.SG
'from/off/of a drain'

(107) a. dho
gə
to
'to'

b. Dia
dʲiə
God(M).COM.SG
'God (name)'

c. dho Dhia
gə jiə
to God(M).COM.SG
'to God'

(108) a. faoi
fiː
under/about
'under/about'

b. bás
bɑːs
death(M).COM.SG
'death'

c. faoi bhás
fiː wɑːs
under/about death(M).COM.SG
'about death'

(109) a. ó
oː
from
'from'

b. Carna
'kɑːɾ.nə
Carna
'Carna (place name)'

c. ó Charna
oː 'xɑːɾ.nə
from Carna
'from Carna'

[57] The prepositions *dhe* and *dho* are often cliticised to a following initial vowel and mutated initial fricative in the first paradigm. The phonological form of both prepositions is identical and the use of both prepositions is (possibly as a result) merging whereby *dhe* seems to be increasingly replaced by *dho*, not only in its independent prepositional usage but also in its related prepositional pronouns (IIA 1365).
[58] The preposition *tha(i)r* has two main realisations in the dialect (IIA 1408).

(110)	a.	roimhe	b.	taibhse	c.	roimhe	thaibhse
		ˈri.vʲə		ˈt̪aiv.ʃə		ˈri.vʲə	ˈhaiv.ʃə
		before		ghost(M).COM.SG		before	ghost(M).COM.SG
		‘before’		‘ghost’		‘before a ghost’	

(111)	a.	tha(i)r	b.	claí	c.	tha(i)r	chlaí
		har(ʲ)		klai		har(ʲ)	xlai
		over/past		fence(M).COM.SG		over/past	fence(M).COM.SG
		‘over/past’		‘fence’		‘over/past a fence’	

(112)	a.	thrí	b.	doras	c.	thrí	dhoras
		hri:		ˈd̪o.ɾəs		hri:	ˈɣo.ɾəs
		through		door(M).COM.SG		through	door(M).COM.SG
		‘through’		‘door’		‘through a door’	

The preposition *ar* occurs in many compound prepositions and fixed (adverbial) phrases which have nonspecific reference. The first paradigm is in such cases usually not activated in the noun as in (113) in contrast to specific reference as in (114) (IIA 1762).

(113)	a.	ar	b.	cuairt	c.	ar	cuairt
		erʲ		kuərtʲ		erʲ	kuərtʲ
		on		visit(F).COM.SG		on	visit(F).COM.SG
		‘on’		‘visit’		‘visiting’ (nonspecific)	

(114)	a.	ar	b.	cuairt	c.	ar	chuairt
		erʲ		kuərtʲ		erʲ	xuərtʲ
		on		visit(F).COM.SG		on	visit(F).COM.SG
		‘on’		‘visit’		‘on a visit’ (specific)	

The simple preposition *i* ‘in’ activates the fourth paradigm in a noun (see § 3.1.4.6). The combination of the simple prepositions *dhe* and *dho* followed by the definite article activates the first paradigm in a noun (see § 3.1.1.13) in contrast to the majority of simple prepositions which activate the fourth paradigm in a noun when followed by the definite article (see § 3.1.4.7). Some simple prepositions may merge with a possessive pronoun to form a prepositional possessive which activates the first or fourth paradigm depending on the

pronoun (see § 3.1.1.14 and § 3.1.4.8). A set construction involving the preposition *i* followed by a possessive pronoun followed by a noun lastly forms a stative construction which regularly activates the first paradigm in a following adjective (see § 3.1.1.15).

3.1.1.13 PREPOSITION + DEFINITE ARTICLE

The combination of the simple prepositions *dhe* 'from/off/of' and *dho* 'to' with the singular definite article results in a special 'prepositional article' which activates the first paradigm in a following noun as in (115) and (116). This also applies to place names which contain the

(115) a. dhe
gə
from/off/of
'from/off/of'

b. an
ə(n)
DEF.COM.SG
'the'

c. píopa
ˈpʲiː.pə
pipe(M).COM.SG
'pipe'

d. dhen phíopa
gən ˈfʲiː.pə
from/off/of.DEF.COM.SG pipe(M).COM.SG
'from/off/of the pipe'

(116) a. dho
gə
to
'to'

b. an
ə(n)
DEF.COM.SG
'the'

c. bó
boː
cow(F).COM.SG
'cow'

d. dhon bhó
gən woː
to.DEF.COM.SG cow(F).COM.SG
'to the cow'

definite article and which historically referred to a specific object but which now refer to the area associated with that object as can still be seen in the semantics of some place names as in (117). The original case, number, and gender of the historic object naturally determines whether an initial mutation is synchronically present in the place name. These prepositional articles activate the second paradigm in nouns beginning with a sibilant (see § 3.1.2.2).

(117) a. dhe
gə
from/off/of
'from/off/of'

b. An Caiseal
ə(n) ˈka.ʃəl
DEF.COM.SG castle(M).COM.SG
'An Caiseal (place name)'

c. dhen Chaiseal
gən ˈxa.ʃəl
from/of.DEF.COM.SG castle(M).COM.SG
'from/of An Caiseal'

3.1.1.14 PREPOSITION + POSSESSIVE PRONOUN

Most simple prepositions ending in a vowel merge with the third person singular and the plural possessive pronouns to form a prepositional possessive which may activate a mutation depending on the pronoun (see § 3.1.1.9 and § 3.1.4.5). The prepositions *dhe* 'from/off/of', *dho* 'to', *faoi* 'under/about', *i* 'in', *le* 'with', *ó* 'from', and *thrí* 'through' merge with the third person singular masculine possessive pronoun and activate the first paradigm in a noun as in (118-124). These prepositional possessives are obligatory forms whereby the prepositions may not be realised separately from the possessive pronoun. The fourth paradigm is activated in similar prepositional possessive forms involving the plural pronouns (see § 3.1.4.8).

(118) a. dhe
gə
from/off/of
'from/off/of'

b. a
ə
POS.3MSG
'his'

c. báicéara
ˈbɑː.kʲeː.rə
baker(M).COM.SG
'baker'

d. dhá bháicéara
gɑː ˈwɑː.kʲeː.ɾə
from/off/of.POS.3MSG baker(M).COM.SG
'from/off/of his baker'

(119) a. dho
gə
to
'to'

b. a
ə
POS.3MSG
'his'

c. mac
mak
son(M).COM.SG
'son'

d. dhá mhac
gɑː wak
to.POS.3MSG son(M).COM.SG
‘to his son’

(120) a. faoi b. a c. cois
fiː ə koʃ
under/about POS.3MSG foot/leg(F).COM.SG
‘under/about’ ‘his’ ‘foot/leg’

d. faoina chois
ˈfiː.nə xoʃ
under/about.POS.3MSG foot/leg(F).COM.SG
‘under/about his foot/leg’

(121) a. i b. a c. póca
ə ə ˈpoː.kə
in POS.3MSG pocket(M).COM.SG
‘in’ ‘his’ ‘pocket’

d. ina phóca
ˈə.nə ˈfoː.kə
in.POS.3MSG pocket(M).COM.SG
‘in his pocket’

(122) a. le b. a c. ciotóg
lʲe ə ˈkʲiː̪.t̪oːg
with POS.3MSG left-hand(F).COM.SG
‘with’ ‘his’ ‘left-hand’

d. lena chiotóg
ˈlʲe.nə ˈxʲiː̪.t̪oːg
with.POS.3MSG left-hand(F).COM.SG
‘with his left-hand’

(123) a. ó b. a c. muintir

o: ə ˈmiːɲ.tʲərʲ

from POS.3MSG kinsfolk/people/parents(F).COM.SG

‘from’ ‘his’ ‘kinsfolk/people/parents’

d. óna mhuintir

ˈoː.nə ˈwiːɲ.tʲərʲ

from.POS.3MSG kinsfolk/people/parents(F).COM.SG

‘from his kinsfolk/people/parents’

(124) a. thrí b. a c. fuinneog

hri: ə ˈfiɲ.oːg

through POS.3MSG window(F).COM.SG

‘through’ ‘his’ ‘window’

d. thrína fhuinneog

ˈhriː.nə ˈiɲ.oːg

through.POS.3MSG window(F).COM.SG

‘through his window’

3.1.1.15 PREPOSITION + POSSESSIVE PRONOUN + NOUN

A set construction consisting of the preposition *i* ‘in’ followed by a possessive pronoun followed by a noun which may be followed by an adjective expresses a state in the dialect. The preposition *i* merges with the third person singular and the plural possessive pronouns *a* to form the prepositional possessive *ina* (see § 3.1.1.14 and § 3.1.4.8). The combination of the preposition *i* followed by a possessive pronoun followed by a noun activates the first paradigm in an adjective as in (125g) (IIA 1734). This activation applies for all possessive pronouns irrespective of whether the pronoun activates the first paradigm as in (125g) or does not activate a mutation as in (125h) or activates the fourth paradigm as in (125i). This

(125) a. i b. mo c. ina d. ina

ə mə ˈə.nə ˈə.nə

in POS.1SG in.POS.3FSG in.POS.1PL

‘in’ ‘my’ ‘in her’ ‘in our’

e. gasúr
ˈga.suːr
child(M).COM.SG
‘child’

f. beag
bʲog
small.COM.MSG
‘small’

g. i mo ghasúr bheag
ə mə ˈɣa.suːr vʲog
in POS.1SG child(M).COM.SG small.COM.MSG
‘me in the state of being young’

h. ina gasúr bheag
ˈə.nə ˈga.suːr vʲog
in.POS.3FSG child(M).COM.SG small.COM.MSG
‘her in the state of being young’

i. ina ngasúr bheag
ˈə.nə ˈŋa.suːr vʲog
in.POS.1PL child(M).COM.SG small.COM.MSG
‘us in the state of being young’

activation also applies irrespective of whether the noun is masculine as in (125) or is feminine as in (126) (1734-1735). The activation of the first mutational paradigm in this set

(126) a. i
ə
in
‘in’

b. mo
mə
POS.1SG
‘my’

c. bean
bʲæn
woman(F).COM.SG
‘woman’

d. maith
ma
good.COM.MSG
‘good’

e. i mo bhean mhaith
ə mə vʲæn wa
in POS.1SG woman(F).COM.SG good.COM.FSG
‘me in the state of being a good woman’

construction would thus clearly seem to be associated with the actual construction as a whole and not to individual elements within the construction.

3.1.1.16 TENSES

Irish Gaelic is a VSO language which possesses both analytic and synthetic subject forms. There are two main conjugational classes which consist of verbs grouped in various subclasses, with regular verbs being inflected according to the particular subclass (IIA 980). There are also a number of irregular verbs which differ in varying degrees from the regular verbs (IIA 1115). A variety of preverbal particles may be used in combination with verbs which may or may not activate a relevant mutation in the verb (see § 3.1.1.8 and § 3.1.4.4). Verbs may be formally distinguished for tense, illocution, mood, aspect, person, and/or number. The present, past, and future tenses, declarative and imperative illocutions, conditional and subjunctive moods, habitual aspect, first, second, third, and impersonal persons, and singular and plural numbers may be differentiated on the verb. The dialect specifically distinguishes individual present, past, future, past habitual, imperative, conditional, present subjunctive, and past subjunctive forms, with the existential verb *bí* further possessing a special present habitual form as in Table 14 (IIA 882;889).[59]

Table 14: Paradigm of verb tenses

Tense →	Present	Past	Future
Illocution ↓			
Declarative	X	X	X
Imperative		X	
Mood ↓			
Conditional		X	
Subjunctive	X	X	
Aspect ↓			
Habitual	(X)	X	

The first paradigm is regularly activated in the initial consonants of all past, past habitual, and conditional forms which do not begin with a fricative as in (127) (IIA 1798).

(127)	a.	cuir	b.	chuir	c.	chuireadh
		kirʲ		xirʲ		ˈxirʲ.əx
		put/sow/bury		put/sow/bury.PST.3SG		put/sow/bury.PST.HAB.3SG
		‘put/sow/bury’		‘put/sowed/buried’		‘used to put/sow/bury’

[59] The special present habitual form of the existential verb *bí* is represented between brackets in Table 14.

d. chuirtheadh
'xirʲ.həx
put/sow/bury.CON.3SG
'would put/sow/bury'

It is clear from (127a) and (127b) that the sole formal difference between the stem form and the past form may be the presence of an initial mutation.

The first paradigm was historically activated in past, past habitual, and conditional forms in Irish Gaelic as a result of the preverbal particle *do* which formally marked these tenses and which activated the first paradigm in the verb as in (128) (Ó Siadhail 1989:176).

(128)	a.	*do	b.	cuir	c.	*do	chuir
		d̪ə		kirʲ		d̪ə	xirʲ
		PST/CON		put/sow/bury		PST/CON	put/sow/bury.PST.3SG
		'did/would'		'put/sow/bury'		'put/sowed/buried'	

This preverbal particle has completely disappeared in the dialect of Iorras Aithneach before all non-fricative consonants but has in principle been retained before verbs beginning with a vowel or fricative. The retention of this preverbal particle before fricatives has resulted in the formation of a new restricted mutational paradigm (see § 3.1.3.1).[60]

The activation of a mutation as a result of a preverbal particle interacts with the activation of the first paradigm as a result of the past, past habitual, and conditional tenses in various ways depending on the preverbal particle. Particles which do not activate a mutation do not interfere with the activation of the first paradigm as in (129). Particles which activate

(129)	a.	mar	b.	chuir	c.	mar	chuir
		mar		xirʲ		mar	xirʲ
		because		put/sow/bury.PST.3SG		because	put/sow/bury.PST.3SG
		'because'		'put/sowed/buried'		'because put/sowed/buried'	

the first paradigm complement the activation of the first paradigm as in (130). Particles which activate the fourth paradigm seem to take precedence over the activation of the first paradigm

[60] The preverbal particle *do* has not been retained before consonants in dialects of Ulster Irish Gaelic and Connacht Irish Gaelic but has been retained by older speakers of Munster Irish Gaelic (Ó Siadhail 1989:176).

(130) a. ní
ɲi:
NEG.DEC.NON
'not'

b. chuireadh
'xirʲ.əx
put/sow/bury.PST.HAB.3SG
'used to put/sow/bury'

c. ní chuireadh
ɲi: 'xirʲ.əx
NEG.DEC.NON put/sow/bury.PST.HAB.3SG
'used not to put/sow/bury'

whereby the fourth paradigm is activated as in (131).[61] This would tend to suggest that the

(131) a. a
ə
REL.IND
'that'

b. chuirtheadh
'xirʲ.həx
put/sow/bury.CON.3SG
'would put/sow/bury'

c. a gcuirtheadh
ə 'girʲ.həx
REL.IND put/sow/bury.CON.3SG
'that would put/sow/bury'

activation of a mutation as a result of a morphosyntactic form may outrank the activation of a mutation solely as a result of a semantic function. This appears to apply for grammemical morphosyntactic forms which represent both semantic and/or pragmatic functions. It is interesting to note in this case that the fourth paradigm is activated in the initial consonant of the underlying form and not in the initial consonant of the mutated form according to the first paradigm which may generally not be further mutated. It is lastly noteworthy that impersonal verb forms generally resist a mutation according to the first paradigm (see § 3.2.2).

3.1.2 SECOND PARADIGM

The second paradigm is highly restricted in both the number of phonological alterations and the number of activation factors.[62] Although the second paradigm is considered to be a limited subclass of the first paradigm in the literature on Irish Gaelic (cf. IIA 1825), it is recognised as a separate paradigm in this thesis due to the fact that there are clearly distinguishable phonological alterations and activation factors between the two paradigms. The second

[61] Ó Curnáin notes that there seems to be a hierarchy of mutations whereby the least marked item of two related items activates the first paradigm and the more marked item activates the fourth paradigm (IIA 1692).
[62] The second paradigm is represented orthographically by a *t* before the initial consonant of the relevant word.

paradigm is solely applicable to sibilants and is activated in a systematic manner after the definite article and after a preposition followed by the definite article in a following noun.[63]

3.1.2.1 DEFINITE ARTICLE

The second paradigm is activated in a noun which begins with a sibilant after the masculine genitive singular and feminine common singular definite articles *an* as in (132) and (133)

(132)	a.	an	b.	sagart	c.	an	tsagairt
		ə(n)		ˈsa.gə̯ɾ̪t		ə(n̪)	ˈt̪a.gə̯ɾtʲ
		DEF.GEN.MSG		priest(M).COM.SG		DEF.GEN.MSG	priest(M).GEN.SG
		‘of the’		‘priest’		‘of the priest’	

(133)	a.	an	b.	seachtain	c.	an	tseachtain
		ə(n)		ˈʃax̪.t̪ənʲ		ə(n̪)	ˈtʲax̪.t̪ənʲ
		DEF.COM.FSG		week(F).COM.SG		DEF.COM.FSG	week(F).COM.SG
		‘the’		‘week’		‘the week’	

(IIA 1826-27). That a second paradigm separate from the first paradigm indeed exists for sibilants is apparent in (134) and (135). The examples clearly illustrate that whereas the masculine genitive singular and feminine common singular definite articles activate the first paradigm in nouns which do not begin with a sibilant (see § 3.1.1.3), the same articles activate the second paradigm in nouns which do begin with a sibilant. The examples also illustrate that

(134)	a.	trí	b.	an	c.	claí	
		tʲɾʲiː		ə(n)		klai	
		CAR3		DEF.GEN.MSG		fence(M).COM.SG	
		‘three’		‘of the’		‘fence’	

	d.	trí	chlaí		e.	an	chlaí
		tʲɾʲiː	xlai			ə(n)	xlai
		CAR3	fence(M).COM.SG			DEF.GEN.MSG	fence(M).GEN.SG
		‘three fences’				‘of the fence’	

[63] The second paradigm furthermore preposes a voiceless dental or alveolar stop to initial vowels (IIA 1689).

(135) a. trí
tʲrʲiː
CAR3
'three'

b. an
ə(n)
DEF.GEN.MSG
'of the'

c. slua
sluə
crowd(M).COM.SG
'crowd'

d. trí shlua
tʲrʲiː hluə
CAR3 crowd(M).COM.SG
'three crowds'

e. an tslua
ə(n) t̪luə
DEF.GEN.MSG crowd(M).GEN.SG
'of the crowd'

the presence of a mutation in the second paradigm may be the sole formal marker of case.

The combination of a final non-bilabial nasal with an initial sibilant in the activation of the second paradigm by the definite article has become associated with the second paradigm in the dialect. The second paradigm may thus be activated as a result of the combination of a final non-bilabial nasal with an initial sibilant in a common singular noun in a select number of cases involving numerals and prefixes where the first paradigm would be activated in the absence of an initial sibilant as in (136) and (137) (IIA 1828-1829). It is not surprising that

(136) a. aon
eː(n)
CAR1/any
'one/any'

b. freagra
ˈfrʲæː.grə
answer(M).COM.SG
'answer'

c. aon fhreagra
eː(n) ˈrʲæː.grə
CAR1/any answer(M).COM.SG
'one/any answer'

(137) a. aon
eː(n)
CAR1/any
'one/any'

b. siúcra
ˈʃuː.krə
sugar(M).COM.SG
'sugar'

c. aon tsiúcra
eː(n) ˈtʲuː.krə
CAR1/any sugar(M).COM.SG
'any sugar'

it is mostly older speakers who have this extended use of the second paradigm (IIA 1829). Whether the lack of such an extended use of the second paradigm in younger speakers is due to the current language shift towards English which is underway in most native communities or simply to generational innovation is unclear. What is clear is that some younger speakers favour the first paradigm where the second paradigm might be expected as in (138) or have even lost the activation of a mutation completely as in (139) (IIA 1829). This would suggest

(138) a. aon
eː(n)
CAR1/any
‘one/any’

b. suaimhneas
ˈsiːm.ʲəs
quiet(M).COM.SG
‘quiet’

c. aon shuaimhneas
eː(n) ˈhiːm.ʲəs
CAR1/any quiet(M).COM.SG
‘any quiet’

(139) a. aon
eː(n)
CAR1/any
‘one/any’

b. sagart
ˈsa.gə̪ɾt̪
priest(M).COM.SG
‘priest’

c. aon sagart
eː(n) ˈsa.gə̪ɾt̪
CAR1/any priest(M).COM.SG
‘one/any priest’

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that a more restricted mutational paradigm may either be replaced with a more extensive mutational paradigm or may simply disappear for some speakers within a dialect population.

3.1.2.2 PREPOSITION + DEFINITE ARTICLE

The second paradigm is activated by the prepositional articles *dhen* and *dhon* in a following noun which begins with a sibilant as in (140) and (141) (1827). These prepositional articles

(140) a. dhen
gən
from/off/of.DEF.COM.SG
‘from/off/of the’

b. sláinte
ˈslaɲ.tʲə
health(F).COM.SG
‘health’

c dhen tsláinte
gən ˈt̪laɲ.tʲə
from/off/of.DEF.COM.SG health(F).COM.SG
‘from/of the health’

(141) a. dhon
gən
to.DEF.COM.SG
‘to the’

b. seomra
ˈʃuːm.ɾə
room(M).COM.SG
‘room’

c. dhon tseomra
gən ˈtʲuːm.ɾə
to.DEF.COM.SG room(M).COM.SG
‘to the room’

once again activate the first paradigm in a noun not beginning with a sibilant (see § 3.1.1.13).

The activation of the second paradigm by the prepositional articles *dhen* and *dhon* in a noun beginning with a sibilant has been analogically generalised to include other prepositions followed by the definite article in a noun beginning with a sibilant in some speakers as in (142) (1827-1828). It is interesting in this case that it is not the first or second paradigm which

(142) a. ar b. an c. sráid
er^{j} ə(n) srɑ:d^{j}
on DEF.COM.SG street/ground(F).COM.SG
'on' 'the' 'street/ground'

d. ar an tsráid
er^{j} ə(n) t̪rɑ:d^{j}
on DEF.COM.SG street/ground(F).COM.SG
'street/ground'

would normally be expected to be activated but rather the fourth paradigm (see § 3.1.4.7). Minor mutational paradigms would thus seem not only to be capable of remaining restricted or disappearing altogether but also to be capable of extending their activational range and encroaching upon other mutational paradigms. A diachronic analysis of the activation of the mutational paradigms in the dialect would be needed to convincingly support this claim. A comparison with the activation of the mutational paradigms in other dialects of Irish Gaelic or even Scottish Gaelic might suffice in the absence of sufficient historical dialect material.

3.1.3 THIRD PARADIGM

The third paradigm is similar to the second paradigm in that it is restricted in the number of phonological alterations and the number of activation factors as well as being considered to be another limited subclass of the first paradigm in the literature (cf. IIA 1689).[64] This paradigm is similarly recognised as an individual paradigm in this thesis due to the fact that there are distinguishable phonological alterations and activation factors between the two paradigms. The third paradigm applies only to fricatives and is solely activated to mark specific tenses.[65]

[64] The third paradigm is represented orthographically by both a *d*' before and a *h* after the initial consonant.
[65] The third paradigm also preposes a voiced dental or alveolar stop to initial vowels (IIA 1689).

3.1.3.1 TENSES

The third paradigm is activated in the initial consonants of past, past habitual, and conditional forms which begin with a fricative as in (143) (IIA 1464;1486). This is noticeably different

(143) a. fág
fɑːg
leave
'leave'

b. d'fhág
d̪ɑːg
leave.PST.3SG
'left'

c. d'fhágadh
'd̪ɑːg.əx
leave.PST.HAB.3SG
'used to leave'

d. d'fhágthadh
'd̪ɑːg.həx
leave.CON.3SG
'would leave'

from the activation of the first paradigm in past, past habitual, and conditional forms which begin with a non-fricative (see § 3.1.1.16). The presence of a mutation may again be the sole formal difference between the stem form as in (143a) and the past form as in (143b).

The third paradigm arose historically from the preverbal particle *do* which marked the past, past habitual, and conditional tenses and which activated the first paradigm in the verb as in (128). Both the preverbal particle and the activation of the first paradigm thus formally and redundantly marked the past and conditional tenses. The activation of the first paradigm in a fricative resulted in the loss of the fricative as in (144) which then allowed for the

(144) a. *do
d̪ə
PST/CON
'did/would'

b. fág
fɑːg
leave
'leave'

c. *do fhág
d̪ə ɑːg
PST/CON leave.PST.3SG
'put/sowed/buried'

cliticisation of the preverbal particle to a following vowel, lateral approximant, or rhotic as in (143). The preverbal particle disappeared before non-fricatives most likely due to the fact that the functional load of marking the past and conditional tenses shifted solely to the activation of the first paradigm. The loss of the preverbal particle as a marker of the past and conditional tenses then possibly resulted in the reinterpretation of the clitic particle before fricatives as an

independent consonant mutation resulting in the creation of the third mutational paradigm.[66]

The activation of a mutation as a result of a preverbal particle interacts with the activation of the third paradigm depending on the activated paradigm. Particles which do not activate a mutation do not interfere with the activation of the third paradigm as in (145).

(145)	a.	mar	b.	d'fhág	c.	mar	d'fhág
		mar		d̪ɑ:g		mar	d̪ɑ:g
		because		leave.PST.3SG		because	leave.PST.3SG
		'because'		'left'		'because left'	

Particles which activate the first paradigm have priority over the third paradigm as in (146).

(146)	a.	ní	b.	d'fhágadh
		ɲi:		'd̪ɑ:g.əx
		NEG.DEC.NON		leave.PST.HAB.3SG
		'not'		'used to leave'

c.	ní	fhágadh
	ɲi:	'ɑ:g.əx
	NEG.DEC.NON	leave.PST.HAB.3SG
	'used not to leave/left'	

Particles which activate the fourth paradigm similarly outrank the third paradigm as in (147).

(147)	a.	a	b.	d'fhágthadh	c.	a	bhfágthadh
		ə		'd̪ɑ:g.həx		ə	'wɑ:g.həx
		REL.IND		leave.CON.3SG		REL.IND	leave.CON.3SG
		'that'		'would leave'		'that would leave'	

This seems to support the view that the activation of a mutation by a morphosyntactic form may outrank the activation of a mutation solely by a semantic function (see § 3.1.1.16).

[66] This stands in contrast to the generally accepted view that the preverbal particle *do* is synchronically present. The fact that this assumed particle may never occur synchronically as an independent particle producing forms such as in (144c) and only occurs before fricatives would argue against this position. It may be noted that the standard orthography represents this older stage of the cliticised preverbal particle activating the first paradigm.

3.1.4 FOURTH PARADIGM

The fourth paradigm forms the second major mutational paradigm in the dialect and corresponds to the term ‘eclipsis’ which is used regularly in the literature on Irish Gaelic.[67] The fourth paradigm is activated regularly in approximately half of the initial consonants after the definite article, in individual words, after numerals, after particles, after possessive pronouns, after prepositions, after a preposition followed by the definite article, and after a preposition followed by a possessive pronoun.[68]

3.1.4.1 DEFINITE ARTICLE

The fourth paradigm is usually activated in a noun after the masculine and feminine genitive plural definite articles *na* as in (148) and (149) (IIA 1329;1802). There is thus a clear tripartite

(148)	a.	na	b.	bád	c.	na	mbád
		nə		bɑːd̪		nə	mɑːd
		DEF.GEN.PL		boat(M).COM.SG		DEF.GEN.PL	boat(M).GEN.PL
		‘of the’		‘boat’		‘of the boats’	

(149)	a.	na	b.	caint	c.	ne	gcainteannaí
		nə		kaɲtʲ		nə	ˈgaɲtʲ.ə.niː
		DEF.GEN.PL		speech(F).COM.SG		DEF.GEN.PL	speech(F).GEN.PL
		‘of the’		‘speech’		‘of the speeches’	

division within the paradigm of the definite article before a consonant whereby the masculine common singular and feminine genitive singular definite articles do not activate a mutation, the masculine genitive singular and feminine common singular definite articles activate either the first paradigm or the second paradigm depending on the initial consonant (see § 3.1.1.3), and the masculine and feminine genitive plural definite articles activate the fourth paradigm.

[67] The fourth paradigm is represented orthographically by the relevant mutated letter before the initial consonant.
[68] The fourth paradigm also preposes a non-bilabial nasal to initial vowels (IIA 1689).

3.1.4.2 INDIVIDUAL WORDS

The fourth paradigm is *questionably* activated in a highly restricted set of lexical words beginning with a fricative as in (150) (IIA 1803). The mutation of a verbal noun in such cases

(150)	a.	fastaigh	b.	fastú	c.	bhfastú	d.	bhfastú
		ˈfas̪ˌte		ˈfas̪ˌtuː		ˈwas̪ˌtuː		ˈwas̪ˌtuː
		catch		catch.VBN		catch.PPT		catch(M).COM.SG
		‘catch’		‘catch’		‘stuck’		‘dredge at sea’

seems to result in a change in word class from verbal noun to past participle or noun and thus differs from the spontaneous activation of the first paradigm (see § 3.1.1.5). The historical development of such unproductive activations of the fourth paradigm reveals that the mutations originally occurred in set phrases with the preposition *i* ‘in’ as in (151) (IIA 1803).

(151)	a.	i	b.	fastú	c.	i	bhfastú
		ə		ˈfas̪ˌtuː		ə	ˈwas̪ˌtuː
		in		catch.VBN		in	catch.VBN
		‘in’		‘catch’		‘stuck’	

The preposition (realised as a schwa) disappeared in these phrases but the mutation remained to mark the perfect aspect as in (150c). This past participle in turn was possibly through repeated contextual usage metonymically extended resulting in the formation of a new lexical word as in (150d). Whereas it is doubtful that the mutation is synchronically activated to mark the perfect aspect in the first case due to the unproductive status of the mutation, it is clear that the mutation has been reinterpreted as forming the radical initial consonant of a new lexical word in the second case. It may be tentatively speculated that the fourth paradigm may become associated with marking the perfect aspect and may thus extend its activational range.

3.1.4.3 NUMERALS

The cardinal numerals *seacht* ‘seven’, *ocht* ‘eight’, *naoi* ‘nine’, and *deich* ‘ten’ are the only numerals which activate the fourth paradigm as in (152-155) (IIA 1803).

(152)	a.	seacht	b.	capall	c.	seacht	gcapall
		ʃaxt̪		ˈka.pəl		ʃaxt̪	ˈga.pəl
		CAR7		horse(M).COM.SG		CAR7	horse(M).COM.SG
		‘seven’		‘horse’		‘seven horses’	

(153)	a.	ocht	b.	dreatháir	c.	ocht	ndreatháir
		oxt̪		ˈdʲrʲe.hɑːrʲ		oxt̪	ˈn̪rʲe.hɑːrʲ
		CAR8		brother(M).COM.SG		CAR8	brother(M).COM.SG
		‘eight’		‘brother’		‘eight brothers’	

(154)	a.	naoi	b.	trian	c.	naoi	dtrian
		niː		t̪ʲrʲiːnʲ		niː	dʲrʲiːnʲ
		CAR9		third(M).COM.SG		CAR9	third(M).COM.SG
		‘nine’		‘third’		‘nine thirds’	

(155)	a.	deich	b.	duine	c.	deich	nduine
		dʲe		ˈd̪i.nʲə		dʲe	ˈni.nʲə
		CAR10		person(M).COM.SG		CAR10	person(M).COM.SG
		‘ten’		‘person’		‘ten people’	

Whereas the cardinal numerals 1-6 activate the first paradigm in singular nouns and do not generally activate the first paradigm in a restricted set of plural nouns (see § 3.1.1.6), the cardinal numerals 7-10 activate the fourth paradigm in singular nouns and also activate the fourth paradigm in the same restricted set of plural nouns as in (156). It is noticeable that

(156)	a.	seacht	b.	bliain	c.	seacht	mbliana
		ʃaxt̪		bʲlʲiənʲ		ʃaxt̪	ˈmʲlʲiə.nə
		CAR7		year(F).COM.SG		CAR7	year(F).COM.PL
		‘seven’		‘year’		‘seven years’	

speakers of the dialect formally divide the first ten cardinal numerals into two groups through the activation of two distinct mutational paradigms. The question arises whether this formal distinction may perhaps reflect a cognitive distinction in the minds of the dialect speakers. What is clear is that once again the activation of various mutational paradigms is used to differentiate between groups of forms within paradigms.

3.1.4.4 PARTICLES

While a variety of particle classes activate the first paradigm (see § 3.1.1.8), only certain preverbal particles activate the fourth paradigm in the dialect. The particles which are not differentiated formally for the non-past and past tenses and which activate the fourth paradigm in a verb are the jussive particle *go* and the irrealis conditional particle *dhá* as in (157) and (158) (IIA 1465;1811). There is a clear distinction made between the positive and

(157)	a.	(go)	b.	tarrthaí	c.	(go)	dtarrthaí
		(g)ə		t̪ɑːr.hiː		(g)ə	d̪ɑːr.hiː
		JUS		help.JUS.3SG		JUS	help.JUS.3SG
		‘may!’		‘may help!’		‘may help!’	

(158)	a.	dhá	b.	bheadh	c.	dhá	mbeadh
		ɣɑː		vʲex		ɣɑː	mʲex
		CON.IRR		be.CON.3SG		CON.IRR	be.CON.3SG
		‘if’		‘would be’		‘if were’	

negative jussive illocutions in the form of the particle as well as in the activation of a paradigm, with the negative jussive activating the first paradigm (see § 3.1.1.8) but the positive jussive activating the fourth paradigm. There is similarly a formal and mutational distinction between the realis and irrealis modalities, with the realis activating the first paradigm (see § 3.1.1.8) but the irrealis activating the fourth paradigm. The different mutational paradigms are noticeably employed to synchronically distinguish different forms within specific morphosyntactic paradigms.

It is interesting to note that the jussive particle *go* may be realised as a schwa and may even be completely elided whereby the mutation is activated solely as a result of the mood as in (159) (IIA 1467). The reduction of a grammatical word which activates a mutation to a schwa may once again result in the grammatical word ultimately disappearing whereby the

(159)	a.	tarrthaí	b.	dtarrthaí
		t̪ɑːr.hiː		d̪ɑːr.hiː
		help.JUS.3SG		help.JUS.3SG
		‘may help!’		‘may help!’

mutation solely carries the functional load of the original grammatical word. The fact that a jussive form must be accompanied by a preverbal particle which activates a mutation or without a preverbal particle but with a mutation raises the question as to which forms are actually stored in the lexicon/grammemicon. Although the radical jussive form as in (61b) and (157b) is never realised in normal speech, it must nevertheless be stored in the lexicon/grammemicon in order for systematic mutational rules to be applied to result in the occurring mutated jussive forms as in (61c) and (157c). This similarly applies to other dependent verb forms which do not occur without a mutation in normal speech.

Most of the non-past particles activate the fourth paradigm including the interrogative particle *an*, the negative interrogative particle *nach*, the negative conditional particle *mara*, the dependent particle *go*, the negative dependent particle *nach*, the indirect relative particle *a*, the negative relative particle *nach*, the indefinite interrogative adverb *cé/cá*, and the antessive particle *shula* as in (160-168) (IIA 1465;1811). Yet again there appears to be a general division of labour for mutational paradigms within general morphosyntactic paradigms, with

(160)	a.	an	b.	craiseálann	c.	an	gcraiseálann
		ə		ˈkraʃ.ɑːl.ən		ə	ˈgraʃ.ɑːl.ən
		INT.NON		crash.PRS.3SG		INT.NON	crash.PRS.3SG
		‘do?’		‘crashes’		‘does crash?’	

(161)	a.	nach	b.	tagann	c.	nach	dtagann
		nax		ˈt̪ag.ən		nax	ˈd̪ag.ən
		NEG.INT.NON		come.PRS.3SG		NEG.INT.NON	come.PRS.3SG
		‘do not?’		‘comes’		‘does come?’	

(162)	a.	mara	b.	tugann	c.	mara	dtugann
		ˈma.rə		ˈt̪ug.ən		ˈma.rə	ˈd̪ug.ən
		NEG.CON.NON		give.PRS.3SG		NEG.CON.NON	give.PRS.3SG
		‘if not’		‘gives’		‘if does not give‘	

(163)	a.	go	b.	titeann	c.	go	dtiteann
		(g)ə		ˈtʲitʲ.ən		(g)ə	ˈdʲitʲ.ən
		DEP.NON		fall.PRS.3SG		DEP.NON	fall.PRS.3SG
		‘that’		‘falls’		‘that falls’	

(164)	a.	nach	b.	fanann	c.	nach	bhfanann
		nax		ˈfan.ən		nax	ˈwan.ən
		NEG.DEP.NON		wait.PRS.3SG		NEG.DEP.NON	wait.PRS.3SG
		‘that not’		‘waits’		‘that does not wait’	

(165)	a.	a	b.	díolann	c.	a	ndíolann
		ə		dʲiːl.ən		ə	ɲiːl.ən
		IND.REL.NON		sell/pay.PRS.3SG		IND.REL.NON	sell/pay.PRS.3SG
		‘that’		‘sells/pays’		‘that sells/pays’	

(166)	a.	nach	b.	cuireann	c.	nach	gcuireann
		nax		ˈkurʲ.ən		nax	ˈgurʲ.ən
		NEG.REL.NON		put.PRS.3SG		NEG.REL.NON	put.PRS.3SG
		‘that not’		‘puts’		‘that does not put’	

(167)	a.	cé/cá	b.	tiocthaidh	c.	cé/cá	dtiocthaidh
		kʲeː/kɑː		ˈtʲu.kə		kʲeː/kɑː	ˈdʲu.kə
		INL.INT.NON		come.FUT.3SG		INL.INT.NON	come.FUT.3SG
		‘where/what?’		‘will come’		‘where/what will come?’	

(168)	a.	shula	b.	pósann	c.	shula	bpósann
		ˈsɑː.lə		ˈpoː.s.ən		ˈsɑː.lə	ˈboː.s.ən
		ANT.NON		marry.PRS.3SG		ANT.NON	marry.PRS.3SG
		‘before’		‘marries’		‘before marries’	

the first paradigm being activated after most past preverbal particles but the fourth paradigm being activated after most non-past preverbal particles. This apparent division is thus not categorical but tendential. It is curious that preverbal particles which do not differentiate past and non-past forms always activate the same mutational paradigm regardless of the tense.

The fourth paradigm is also activated in dependent verb forms as a result of preverbal particles which are normally used with regular non-past forms as in (169). This is similar to

(169)	a.	an	b.	chonaic	c.	faca
		ə		ˈxi.nʲəkʲ		ˈfa.kə
		INT.PST		see.PST.3SG		see.PST.DEP.3SG
		‘did?’		‘saw’		‘saw’

d. an bhfaca
ə ˈwa.kə
INT.PST see.PST.DEP.3SG
‘did see?’

the activation of the first paradigm in dependent verb forms as a result of preverbal particles which again are usually used with regular non-past forms whereby the preverbal particle is always the non-past form but may regardless be used in the past (see § 3.1.1.8). The radical dependent form as in (169c) may generally never occur in normal speech due to its obligatory co-occurrence with a preverbal particle which causes a mutation as in (169d) but would nevertheless be stored in the lexicon/grammemicon for systematic mutations to take place.

The fourth paradigm lastly seems to be activated in a restricted set of both dependent and independent (irregular) verb forms beginning with a fricative onset after the negative declarative preverbal particle *ní* which normally activates the first paradigm (see § 3.1.1.8) and which is used in both the past and non-past in such cases as in (170) and (171). It is likely

(170) a. ní b. fuair c. ní bhfuair
ɲi: fuər ɲi: wuər
NEG.DEC.PST get.PST.3SG NEG.DEC.PST get.PST.3SG
‘did not’ ‘got’ ‘did not get’

(171) a. ní b. fuighidh c. ní bhfuighidh
ɲi: fi: ɲi: wi:
NEG.DEC.NON be.DEP.FUT.3SG NEG.DEC.NON be.DEP.FUT.3SG
‘not’ ‘will get’ ‘will not get’

that this unusual activation of the fourth paradigm historically developed from the original activation of the first paradigm by the particle whereby the initial fricative of the verb was elided and an intervocalic glide was then inserted between the final vowel of the particle and the initial vowel of the mutated verb (IIA 783). The glide in these verbs was phonologically equivalent to the mutation of the fricative in the fourth paradigm. The insertion of the intervocalic glide after the mutation of the initial fricative thus became reinterpreted as the activation of a mutation according to the fourth paradigm.

3.1.4.5 POSSESSIVE PRONOUNS

The fourth paradigm is activated in a noun after the first, second, and third person plural possessive pronouns which share the common form *a* as in (172) (IIA 1702). It is clear that

(172)

a.	a	b.	a	c.	a	d.	clann
	ə		ə		ə		klɑːn
	POS.1PL		POS.2PL		POS.3PL		offspring(F).COM.SG
	‘our’		‘your’		‘their’		‘offspring’

e.	a	gclann		f.	a	gclann	
	ə	glɑːn			ə	glɑːn	
	POS.1PL	offspring(F).COM.SG			POS.2PL	offspring(F).COM.SG	
	‘our children’				‘your children’		

g.	a	gclann
	ə	glɑːn
	POS.3PL	offspring(F).com.sg
	‘their children’	

the plural forms are in fact not formally or mutationally differentiated from one another but must instead be contextually disambiguated. The three forms would thus seem to constitute a unique plural possessive pronoun. The plural possessive pronouns may merge with a preceding preposition to form a prepositional possessive form which activates the fourth paradigm (see § 3.1.4.8). The same applies to the third person singular possessive pronouns which may or may not activate the first paradigm depending on the pronoun (see § 3.1.1.14).

3.1.4.6 PREPOSITIONS

Whereas many prepositions do not activate a mutation and some prepositions activate the first paradigm (see § 3.1.1.12), the simple preposition *i* ‘in’ is the only preposition which activates the fourth paradigm in a following noun as in (173) (IIA 1803). Most prepositions activate the fourth paradigm in a following noun when followed by the definite article or when they merge with either a following definite article forming a prepositional article (see § 3.1.4.7) or

(173)	a.	b.		c.	
	i		páirc	i	bpáirc
	ə		pɑːrʲkʲ	ə	bɑːrʲkʲ
	in		field/park(F).COM.SG	in	field/park(F).COM.SG
	‘in’		‘field/park’	‘in a field/park’	

with a following possessive pronoun forming a prepositional possessive (see § 3.1.4.8).

3.1.4.7 PREPOSITION + DEFINITE ARTICLE

The majority of simple prepositions when followed by the definite article singular activate the fourth paradigm in a following noun irrespective of whether the prepositions normally do not activate a mutation or activate either the first paradigm (see § 3.1.1.12) or the fourth paradigm (see § 3.1.4.6) in a following noun (IIA 1809). The simple prepositions *ag* ‘at’, *ar* ‘on’, *as* ‘from’, *roimhe* ‘before’, and *tha(i)r* ‘over/past’ regularly activate the fourth paradigm when followed by the definite article singular in a following noun as in (174-178).

(174)	a.	b.		c.	
	ag		an		céibh
	egʲ		ə(n)		kʲeːvʲ
	at		DEF.COM.SG		pier(F).COM.SG
	‘at’		‘the’		’pier’

	d.			
	ag	an		gcéibh
	egʲ	ə(n)		gʲeːvʲ
	at	DEF.COM.SG		pier(F).COM.SG
	‘at the pier’			

(175)	a.	b.		c.	
	ar		an		bóthar
	erʲ		ə(n)		ˈboː.hər
	on		DEF.COM.SG		road(M).COM.SG
	‘on’		‘the’		‘road’

	d.			
	ar	an		mbóthar
	erʲ	ə(n)		ˈmoː.hər
	on	DEF.COM.SG		road(M).COM.SG
	‘on the road’			

(176) a. as
as
from
'from'

b. an
ə(n)
DEF.COM.SG
'the'

c. garraí
ˈga.ɾi:
small field(M).COM.SG
'small field'

d. as an ngarraí
as ə(n) ˈŋa.ɾi:
from DEF.COM.SG small field(M).COM.SG
'from the small field'

(177) a. roimhe
ˈɾi.vʲə
before
'before'

b. an
ə(n)
DEF.COM.SG
'the'

c. cogadh
ˈko.gə
war(M).COM.SG
'war'

d. roimhe an gcogadh
ˈɾi.vʲə ə(n) ˈgo.gə
before DEF.COM.SG war(M).COM.SG
'before the war'

(178) a. tha(i)r
har(ʲ)
over/past
'over/past'

b. an
ə(n)
DEF.COM.SG
'the'

c. geata
ˈgʲæ.t̪ə
gate(M).COM.SG
'gate'

d. tha(i)r an ngeata
har(ʲ) ə(n) ˈŋʲæ.t̪ə
over/past DEF.COM.SG gate(M).COM.SG
'over/past the gate'

The simple prepositions *le* 'with' and *thrí* 'through' similarly activate the fourth paradigm when followed by the definite article singular in a following noun but interestingly take a special form preceding the definite article as in (179) and (180).

(179) a. le b. an c. páiste
lʲe ə(n) ˈpɑːʃ.tʲə
with DEF.COM.SG baby/child(M).COM.SG
‘with’ ‘the’ ‘baby/child’

d. leis an bpáiste
lʲeʃ ə(n) ˈbɑːʃ.tʲə
with DEF.COM.SG baby/child(M).COM.SG
‘with the baby/child’

(180) a. thrí b. an c. carraig
hri: ə(n) ˈka.ɾəgʲ
through DEF.COM.SG rock (in the sea)(M).COM.SG
‘through’ ‘the’ ‘rock (in the sea)’

d. thríd an gcarraig
hri:dʲ ə(n) ˈga.ɾəgʲ
through DEF.COM.SG rock (in the sea)(M).COM.SG
‘through the rock (in the sea)’

The simple prepositions *faoi* ‘under/about’, *i* ‘in’, and *ó* ‘from’ obligatorily merge with the definite article singular to form a special prepositional article which this time does not activate the first or second paradigm (see § 3.1.1.13 and § 3.1.2.2) but rather activates the fourth paradigm in a following noun as in (181-183).

(181) a. faoi b. an c. fearthainn
fi: ə(n) ˈfʲær.həɲ
under/about DEF.COM.SG rain(F).COM.SG
‘under/about’ ‘the’ ‘rain’

d. faoin bhfearthainn
fi:n ˈvʲær.həɲ
under/about.DEF.COM.SG rain(F).COM.SG
‘under/about the rain’

(182) a. i b. an c. gleann
ə ə(n) gʲlʲɑːn
in DEF.COM.SG valley(M).COM.SG
‘in’ ‘the’ ‘valley’

d. sa ngleann
sə ŋʲlʲɑːn
in valley(M).COM.SG
‘in the rain’

(183) a. ó b. an c. farraige
oː ə(n) ˈfa.rə.gʲə
from DEF.COM.SG sea(F).COM.SG
‘from’ ‘the’ ‘sea’

d. ón bhfarraige
oːn ˈwa.rə.gʲə
from.DEF.COM.SG sea(F).COM.SG
‘from the sea’

An interesting case of reduplication involving the activation of the fourth paradigm has been observed following a simple preposition with the definite article singular as in (184).

(184) a. ag b. an c. fruislín (fraislín)
egʲ ə(n) ˈfriʃ.lʲiːnʲ ˈfræʃ.lʲiːnʲ
at DEF.COM.SG type of bird(M).COM.SG
‘at’ ‘the’ ‘type of bird’

d. ag an bhfruislín (bhfraislín)
egʲ ə(n) ˈwriʃ.lʲiːnʲ ˈwræʃ.lʲiːnʲ
at DEF.COM.SG type of bird(M).COM.SG
‘at the type of bird’

The reduplicated noun is not compulsory but seems to express an affective attitude on behalf of the speaker. The reduplicated noun further appears to involve a restricted systematic vowel change in the initial syllable and may adopt a mutation from the original noun (IIA 1803).

This is thus not simply a matter of reduplication but rather the reduplication of a word followed by a systematic phonological alternation and the 'copy activation' of a mutation.[69]

3.1.4.8 PREPOSITION + POSSESSIVE PRONOUN

The simple prepositions *dhe* 'from/off/of', *dho* 'to', *faoi* 'under/about', *i* 'in', *le* 'with', *ó* 'from', and *thrí* 'through' which merge with the third person singular masculine possessive pronoun *a* and activate the first paradigm in a following noun (see § 3.1.1.14) may similarly merge with the plural possessive pronouns *a* forming a formally identical prepositional possessive which activates the fourth paradigm as in (185-191).

(185)

a.	b.	c.
dhe	a	báicéara
gə	ə	ˈbɑː.kʲeː.ɾə
from/off/of	POS.2PL	baker(M).COM.SG
'from/off/of'	'your'	'baker'

d.

dhá	mbáicéara
gɑː	ˈmɑː.kʲeː.ɾə
from/off/of.POS.2PL	baker(M).COM.SG
'from/off/of your baker'	

(186)

a.	b.	c.
dho	a	dreithiúr
gə	ə	ˈdʲrʲe.huːr
to	POS.1PL	sister(F).COM.SG
'to'	'our'	'sister'

d.

dhá	ndreithiúr
gɑː	ˈŋrʲe.huːr
to.POS.1PL	sister(F).COM.SG
'to our sister'	

[69] There are similar cases of the sporadic copy activation of the first paradigm in reduplicated words (IIA 1713).

(187) a. faoi b. a c. cois
fiː ə koʃ
under/about POS.2PL foot/leg(F).COM.SG
‘under/about’ ‘your’ ‘foot/leg’

d. faoina gcois
ˈfiː.nə goʃ
under/about.POS.2PL foot/leg(F).COM.SG
‘under/about your foot/leg’

(188) a. i b. a c. póca
ə ə ˈpoː.kə
in POS.2PL pocket(M).COM.SG
‘in’ ‘your’ ‘pocket’

d. ina bpóca
ˈə.nə ˈboː.kə
in.POS.2PL pocket(M).COM.SG
‘in your pocket’

(189) a. le b. a c. ciotóg
lʲe ə ˈkʲiː̪.t̪oːg
with POS.2PL left-hand(F).COM.SG
‘with’ ‘your’ ‘left-hand’

d. lena gciotóg
ˈlʲe.nə ˈgʲiː̪.t̪oːg
with.POS.2PL left-hand(F).COM.SG
‘with your left-hand’

(190) a. ó b. a c. teach
oː ə tʲæx
from POS.1PL house(M).COM.SG
‘from’ ‘our’ ‘house’

d. óna dteach
ˈoː.nə dʲæx
from.POS.1PL house(M).COM.SG
‘from our house’

(191) a. thrí b. a c. fuinneog
hriː ə ˈfiɲ.oːg
through POS.3PL window(F).COM.SG
‘through’ ‘their’ ‘window’

d. thrína bhfuinneog
ˈhriː.nə ˈwiɲ.oːg
through.POS.3PL window(F).COM.SG
‘through their window’

3.2 RESTRICTION OF INITIAL CONSONANT MUTATION

Whereas the mutational paradigms may be activated by a variety of pragmatic, semantic, morphological, syntactic, phonological, and/or lexical/grammemical factors, a mutation once activated may only be blocked in a limited number of circumstances. This thesis draws an important distinction between the (non-)activation, (non-restriction), and (non-)application of a mutation, whereby a mutational paradigm may be activated but not applied in the presence of a restriction (see § 2.3). While there is a clear formal distinction between the non-activation of a mutation as in (192a) versus the activation and application of a mutation as in (192b), there is no apparent formal distinction between the non-activation of a mutation as in (193a) versus the activation and subsequent restriction of a mutation as in (193b). The restrictions apply mainly to the first paradigm and to a lesser extent to the other paradigms and involve

(192) a. bád b. bhád
bɑːd̪ wɑːd̪
‘boat’ ‘boat’

(193) a. seol b. seol
ʃoːl ʃoːl
‘sail’ ‘sail’

pragmatic, semantic, morphological, phonological, and/or lexical/grammemical restrictions. The activation of a mutation may be restricted specifically due to homorganic consonants, impersonal verb forms, individual words, and initial clusters beginning with a sibilant.

3.2.1 HOMORGANIC CONSONANTS

The first paradigm is restricted when the final consonant of the morphosyntactic trigger of the mutation and the initial consonant of the morphosyntactic target of the mutation are homorganic consonants. This applies to the confluence of dental, alveolar, and (alveo)palatal consonants, whereby the initial consonant of the target would normally undergo a mutation according to the first paradigm once it has been activated (see Table 1 and 2) as in (194-201) (IIA 1717).[70] The homorganic consonants constraint applies systematically to almost all coronal and palatal consonants, except when the final consonant of the trigger is a rhotic

(194)	a.	aon	b.	taobh	c.	aon	taobh
		eː(n)		t̪iːw		eː(n)	t̪iːw
		CAR1/any		side(M).COM.SG		CAR1/any	side(M).COM.SG
		‘one/any’		‘side’		‘one/any side’	

(195)	a.	cúl	b.	doras	c.	cúldoras
		kuːl		ˈd̪o.ɾəs		ˈkuːl.ˌd̪o.ɾəs
		back(M).COM.SG		door(M).COM.SG		back door(M).COM.SG
		‘back’		‘door’		‘back door’

(196)	a.	an	b.	tae	c.	an	tae
		ə(n)		teː		ə(n)	teː
		DEF.GEN.MSG		tea(M).COM.SG		DEF.GEN.MSG	tea(M).GEN.SG
		‘of the’		‘tea’		‘of the tea’	

(197)	a.	an	b.	draein	c.	an	draein
		ə(n)		dɾeːnʲ		ə(n)	dɾeːnʲ
		DEF.COM.FSG		drain(F).COM.SG		DEF.COM.MSG	drain(F).COM.SG
		‘the’		‘drain’		‘the drain’	

[70] The homorganic consonants constraint may also include the remaining bilabial, labiodental, and velar consonants (see Table 1) in more limited circumstances (IIA 1717).

(198) a. as
as
from
‘from’

b. teach
tʲæx
house(M).COM.SG
‘house’

c. as teach
as tʲæx
from house(M).COM.SG
‘from a house’

(199) a. leas-
ʌæːs
vice-/step-/by-
‘vice-/step-/by-’

b. dreatháir
ˈdʲɾʲe.hɑːɾʲ
brother(M).COM.SG
‘brother’

c. leasdreatháir
ˈʌæːʃˌ̩dʲɾʲe.hɑːɾʲ
stepbrother(M).COM.SG
‘stepbrother’

(200) a. beirt
bʲerʲtʲ
PER2
‘two’

b. sagart
ˈsa.gə̪ɾ̪t̪
priest(M).COM.SG
‘priest’

c. beirt sagart
bʲerʲtʲ ˈsa.gə̪ɾ̪t̪
PER2 priest(M).COM.SG
‘two priests’

(201) a. an chéad
ə(n) xʲeːd̪
DEF.SG ORD1
‘the first’

b. seomra
ˈʃuːm.rə
room(M).COM.SG
‘room’

c. an chéad seomra
ə(n) xʲeːd̪ ˈʃuːm.rə
DEF.SG ORD1 room(M).COM.SG
‘the first room’

consonant, in which case the activated mutation may or may not be restricted (IIA 1617). The constraint also regularly applies to most activation factors of the first paradigm (see § 3.1.1), except in compounds (see § 3.1.1.1) and after head nouns (see § 3.1.1.4), which show greater variety in the restriction and non-restriction of the first paradigm (IIA 1717;1721).

The applicability of the homorganic consonants constraint is surprising in the case of the reduction of the numeral *aon* ‘one/any’ to a vowel as in (194) and the reduction of the definite article to a schwa as in (196), whereby the mutational trigger in fact does not end in a homorganic consonant but the homorganic consonants constraint is nevertheless applicable (see § 3.1.1.3 and § 3.1.1.6). This would strongly suggest that although the final alveolar nasal is not present in the articulatory form, the final alveolar nasal must be present in the underlying form to activate the homorganic consonants constraint. This similarly applies for the activation of the second paradigm as a result of the definite article as in (132) and the numeral *aon* as in (137) whereby the final alveolar nasal is not present in the articulatory form but must be present in the underlying form to activate the second paradigm (see § 3.1.2.1).

The homorganic consonants constraint also applies to those initial consonants which are synchronically solely mutated according to the first paradigm in older dialect speakers (see Table 1 and 2) as in (202-205) (IIA 1717).[71] The mutational differences between younger

(202)	a.	an-	b.	láidir	c.	an-láidir
		an		ˈl̪ɑː.dʲərʲ		ˈan.ˈl̪ɑː.dʲərʲ
		very/great/terrible		strong.COM.MSG		very strong.COM.MSG
		‘very/great/terrible’		‘strong’		‘very strong’

(203)	a.	an	chéad	b.	leitir	c.	an	chéad	leitir
		ə(n)	xʲeːd̪		ˈʎe.tʲərʲ		ə(n)	xʲeːd̪	ˈʎe.tʲərʲ
		DEF.SG	ORD1		leitir(F).COM.SG		DEF.SG	ORD1	leitir(F).COM.SG
		‘the first’			‘letter’		‘the first letter’		

(204)	a.	téad	b.	nua	c.	téad	nua
		tʲeːd̪		n̪uː		tʲeːd̪	n̪uː
		rope(F).COM.SG		new.COM.MSG		rope(F).COM.SG	new.COM.FSG
		‘rope’		‘new’		‘new rope’	

(205)	a.	aon	b.	nead	c.	aon	nead
		eː(n)		ɲæd̪		eː(n)	ɲæd̪
		CAR1/any		nest(F).COM.SG		CAR1/any	nest(F).COM.SG
		‘one/any’		‘nest’		‘one/any nest’	

and older speakers regarding these consonants becomes clear when there is no homorganic consonants constraint applicable as in (206-209). The younger speakers as in the (b) and (d) examples show no difference between radical initial consonants and consonants in mutated position while the older speakers as in the (c) and (e) examples show a consistent distinction. The first paradigm is thus activated in each case for both types of speakers, with the mutations

(206)	a.	ro-	b.	láidir	c.	láidir
		rə		ˈlɑː.dʲərʲ		ˈl̪ɑː.dʲərʲ
		too		strong.COM.MSG		strong.COM.MSG
		‘too’		‘strong’		‘strong’

[71] An initial radical dental lateral approximant and dental nasal are only phonemic in older speakers (IIA 39).

d. ro-láidir
rə.ˈlɑː.dʲərʲ
too strong.COM.MSG
‘too strong’

e. ro-láidir
rə.ˈlɑː.dʲərʲ
too strong.COM.MSG
‘too strong’

(207) a. (a)chuile
(ə.)ˈxi.lʲə
every
‘every’

b. leitir
ˈʎe.tʲərʲ
leitir(F).COM.SG
‘letter’

c. leitir
ˈʎe.tʲərʲ
leitir(F).COM.SG
‘letter’

d. (a)chuile leitir
(ə.)ˈxi.lʲə ˈʎe.tʲərʲ
every leitir(F).COM.SG
‘every letter’

e. (a)chuile leitir
(ə.)ˈxi.lʲə ˈlʲe.tʲərʲ
every leitir(F).COM.SG
‘every letter’

(208) a. bróig
broːgʲ
shoe(F).COM.SG
‘shoe’

b. nua
nuː
new.COM.MSG
‘new’

c. nua
n̪uː
new.COM.MSG
‘new’

d. bróig nua
broːgʲ nuː
shoe(F).COM.SG new.COM.MSG
‘new shoe’

e. bróig nua
broːgʲ nuː
shoe(F).COM.SG new.COM.MSG
‘new shoe’

(209) a. dhá
ɣɑː
CAR2
‘two’

b. nead
n̪æd̪
nest(F).COM.SG
‘nest’

c. nead
n̪æd̪
nest(F).COM.SG
‘nest’

d. dhá nead
ɣɑː n̪æd̪
CAR2 nest(F).COM.SG
‘two nests’

e. dhá nead
ɣɑː nʲæd̪
CAR2 nest(F).COM.SG
‘two nests’

being applicable to the radical initial consonants in older speakers but not being applicable to the same initial consonants in younger speakers. The difference between the ages is indicative

of the reduction in the number of mutations and activation factors of the first paradigm which has been observed in younger dialect speakers born after 1960 (IIA 1836).

The fourth paradigm is also restricted as a result of the confluence of homorganic consonants in highly limited circumstances. The constraint only applies when the fourth paradigm is activated by a preposition with the definite article singular in a following noun (see § 3.1.4.7) which begins with an initial dental stop (see Tables 1 and 2) as in (210-212) (IIA 1809). The homorganic consonants constraint is again surprisingly applicable even when the definite article may be reduced to a schwa, where there is clearly no confluence of homorganic consonants in the final consonant of the trigger and the initial consonant of the target. This strongly suggests that the constraint is applicable at an underlying phonological

(210) a.

ar	b.	an	c.	taobh
erʲ		ə(n)		t̪iːw
on		DEF.COM.SG		side(M).COM.SG
‘on’		‘the’		‘side’

d.

ar	an	taobh
erʲ	ə(n)	t̪iːw
on	DEF.COM.SG	side(M).COM.SG
‘on the side’		

(211) a.

thrí	b.	an	c.	doras
hriː		ə(n)		ˈd̪o.ɾəs
through		DEF.COM.SG		door(M).COM.SG
‘through’		‘the’		‘door’

d.

thríd	an	doras
hriːdʲ	ə(n)	ˈd̪o.ɾəs
through	DEF.COM.SG	door(M).COM.SG
‘through the door’		

(212) a.

faoi	b.	an	c.	domhan
fiː		ə(n)		d̪aun
under/about		DEF.COM.SG		world(M).COM.SG
‘under/about’		‘the’		‘world’

d.	faoin	domhan	
	fiːn	d̪aun	
	under/about.DEF.COM.SG	world(M).COM.SG	
	‘under/about the world’		

level rather than at an articulatory level. The limited applicability of this constraint to the fourth paradigm may indicate either an almost complete loss of the constraint in the fourth paradigm or a beginning expansion of the constraint from the first to the fourth paradigm.

3.2.2 IMPERSONAL VERBS

An impersonal verb form is distinguished in all tenses in Irish Gaelic. Both the first and third paradigms are generally restricted in all impersonal verb forms in the dialect. The impersonal verb constraint applies to verbs which do not begin with a fricative and should have been mutated according to the first paradigm as well as to verbs which do begin with a fricative and should have been mutated according to the third paradigm in the past, past habitual, and conditional tenses as in (213) and (214) (see § 3.1.1.16 and § 3.1.3.1) (IIA 1798;1801).[72,73]

(213)

a.	cuir		b.	cuireadh	
	kirʲ			ˈkiːɾʲuː	
	put/sow/bury			put/sow/bury.PST.IMP	
	‘put/sow/bury’			‘one put/sowed/buried’	
c.	cuirtí		d.	cuirfí	
	ˈkiɾ.tʲiː			kiɾ.fʲiː	
	put/sow/bury.PST.HAB.IMP			put/sow/bury.CON.IMP	
	‘one used to put/sow/bury’			‘one would put/sow/bury’	

(214)

a.	fág	b.	fágadh	c.	fágtaí
	fɑːg		ˈfɑː.guː		ˈfɑːg̪.t̪iː
	leave		leave.PST.IMP		leave.PST.HAB.IMP
	‘leave’		‘one left’		‘one used to leave’

[72] All impersonal verb forms are synthetic and thus do not require the presence of an analytic subject (pronoun).
[73] The past habitual and conditional impersonal forms have separate realisations distinguishing East Iorras Aithneach from West Iorras Aithneach (IIA 985;987). I have chosen the western subdialect here for simplicity.

d. fágfaí
'fɑːg.fiː
leave.CON.IMP
'one would leave'

The loss of palatalisation visible in the verbal stem in (213a) in the formation of the impersonal verb form in the past habitual and conditional tenses in (213c) and (213d) is a result of the systematic depalatalising assimilation effect of the palatalised initial consonant of the impersonal verb suffix (IIA 908). Such a systematic adaptation would be expected to be carried out once the underlying forms of the verbal stem and suffix are selected from the lexicon/grammemicon in the case of regular impersonal verb formation. The question arises whether such a systematic process is phonological or phonetic. The answer would seem to depend on the perspective taken with regard to whether the process is considered to belong to the grammar (phonological process) or to articulation (phonetic process).

The impersonal verb constraint also applies to impersonal verb forms in all tenses which may or may not begin with a fricative and which are preceded by either a past or non-past preverbal particle which should have activated the first paradigm in the impersonal verb form as in (215) and (216) (see § 3.1.1.8) (IIA 1798;1801).

(215) a. níor
ɲiːr
NEG.DEC.PST
'did not'

b. ní
ɲiː
NEG.DEC.NON
'not'

c. cuireadh
'ki.ɾʲuː
put/sow/bury.PST.IMP
'one put/sowed/buried'

d. cuirfí
kiɾ.fʲiː
put/sow/bury.CON.IMP
'one would put/sow/bury'

e. níor cuireadh
ɲiːr 'ki.ɾʲuː
NEG.DEC.PST put/sow/bury.PST.IMP
'one did not put/sow/bury'

f. ní cuirfí
ɲiː kiɾ.fʲiː
NEG.DEC.NON put/sow/bury.CON.IMP
'one would not put/sow/bury'

(216) a. níor
ɲiːr
NEG.DEC.PST
'did not'

b. ní
ɲiː
NEG.DEC.NON
'not'

c. fágadh
'fɑː.guː
leave.PST.IMP
'one left'

d. fágfaí
'fɑːg.fiː
leave.CON.IMP
'one would leave'

e. níor fágadh
ɲiːr 'fɑː.guː
NEG.DEC.PST leave.PST.IMP
'one did not leave'

f. ní fágfaí
ɲiː 'fɑːg.fiː
NEG.DEC.NON leave.CON.IMP
'one would not leave'

It is interesting that the impersonal verb constraint solely applies to preverbal particles which activate the first paradigm as the fourth paradigm may be regularly activated in impersonal verb forms by a preverbal particle as in (217). It would thus appear that

(217) a. go
g(ə)
DEP.NON
'that'

b. fágfaí
'fɑːg.fiː
leave.CON.IMP
'one would leave'

c. go bhfágfaí
g(ə) 'wɑːg.fiː
DEP.NON leave.CON.IMP
'that one would leave'

impersonal verbs are selective regarding the restriction of mutational paradigms. The activation of the first paradigm in the majority of activation cases seems to mirror the restriction of the first paradigm in the majority of restriction cases. It may be speculated that a possible future expansion of the activation of the fourth paradigm in the dialect may correspondingly be followed by an expansion of the restriction of the fourth paradigm.

3.2.3 INDIVIDUAL WORDS

Each mutational paradigm may be regularly restricted in a number of specific lexical and grammatical words in various morphosyntactic constructions whereby a mutation should have been activated but there are no apparent restrictions applicable as in (218). The irregular verb

(218)	a.	faigh	b.	*d'fhuair	c.	fuair
		fɑː		d̪uərʲ		fuərʲ
		get		get.PST.3SG		get.PST.3SG
		'get'		'got'		'got'

faigh 'get' in this case may never be mutated according to the third paradigm as would be expected as in (218b) (see § 3.1.3.1) but may only occur without the mutation as in (218c). Irregular verb forms in fact seem generally to show a higher degree of mutational restriction in the dialect (IIA 1799).

The restriction of a mutation as a result of specific lexical and grammatical words suggests recurrent but non-systematic tendencies in some cases such as (loan) words starting with a fricative and proper names as in (219) and (220) (IIA 1705-1710). While such cases

(219)	a.	do	b.	fortún	c.	do	fortún
		d̪ə		ˈfaɾ.tʲən		d̪ə	ˈfaɾ.tʲən
		POS.2SG		fortune(M).COM.SG		POS.2SG	fortune(M).COM.SG
		'your'		'fortune'		'your fortune'	

(220)	a.	an	b.	Máire	c.	an	Máire
		ə(n)		ˈmɑː.ɾʲə		ə(n)	ˈmɑː.ɾʲə
		DEF.COM.FSG		Máire(F).COM.SG		DEF.COM.FSG	Máire(F).COM.SG
		'the'		'Máire (name)'		'the Máire'	

would not strictly be considered grammatical in the absence of general systematicity, the fact that they are tendential may indicate that they are becoming systematic in the general dialect population and may develop into systematic grammatical restrictions in the future.

3.2.4 INITIAL SIBILANT CLUSTERS

Both the first and second paradigms are restricted in initial clusters beginning with a sibilant. This applies specifically to clusters consisting of an initial sibilant followed by either a voiceless stop or a bilabial nasal as in (221-229) (see Table 1 and Figure 3) (IIA 1690).[74] The homorganic consonants constraint is presumably applicable in such initial sibilant clusters,

[74] An initial sibilant does not mutate according to the third and fourth paradigms (see Table 1 and Table 2).

(221) a. mo
mə
POS.1SG
‘my’

b. sparán
ˈspu.ɾɑːn
purse(M).COM.SG
‘purse’

c. mo sparán
mə ˈspu.ɾɑːn
POS.1SG purse(M).COM.SG
‘my purse’

(222) a. dhá
ɣɑː
CAR2
‘two’

b. speal
spʲæl
scythe(F).COM.SG
‘scythe’

c. dhá speal
ɣɑː spʲæl
CAR2 scythe(F).COM.SG
‘two scythes’

(223) a. stad
s̪taḏ
stop/stammer
‘stop/stammer’

b. stad
s̪taḏ
stop/stammer.PST.3SG
‘stopped/stammered’

(224) a. dhe
gə
from/off/of
‘from/off/of’

b. sting
ʃtiŋ
sting(M).COM.SG
‘sting’

c. dhe sting
gə ʃtiŋ
from/off/of sting(M).COM.SG
‘from/off/of a sting’

(225) a. dhon
gən
to.DEF.COM.SG
‘to the’

b. stiúir
ʃtʲuːɾʲ
rudder(F).COM.SG
‘rudder’

c. dhon stiúir
gən ʃtʲuːɾʲ
to.DEF.COM.SG rudder(F).COM.SG
‘to the rudder’

(226) a. má
mɑː
CON.REA
‘if’

b. scántraíonn
ˈskɑːn̪ˌt̪riːn
frighten.PRS.3SG
‘frightens’

c. má scántraíonn
mɑː ˈskɑːn̪ˌt̪riːn
CON.REA frighten.PRS.3SG
‘if frightens’

(227) a. lena
ˈlʲe.nə
with.POS.3SG
‘with his’

b. scian
ʃkʲiːn
knife(F).COM.SG
‘knife’

lena scian
ˈlʲe.nə ʃkʲiːn
with.POS.3SG knife(F).COM.SG
‘with his knife’

(228)

a.	b.
smaoinigh	smaoinigh
ˈsmiː.nʲə	ˈsmiː.nʲoːx
think	think.CON.3SG
‘think’	‘would think’

(229)

a.	b.	c.	
an	sméar	an	sméar
ə(n)	smʲeːr	ə(n)	smʲeːr
DEF.COM.FSG	berry(F).COM.SG	DEF.COM.FSG	berry(F).COM.SG
‘the’	‘berry’	‘the berry’	

although it is not possible to determine in such a case whether the mutation is restricted as a result of the initial sibilant cluster and/or the homorganic consonants constraint (see § 3.2.1).

4 FUNCTIONAL DISCOURSE GRAMMAR

This chapter presents a summary introduction to the theory of Functional Discourse Grammar as proposed by Hengeveld & Mackenzie (2008; 2010).[75] A general outline of the theory and its relation to other grammatical theories will be given (§ 4.1). The role of FDG as the Grammatical Component of a larger theory of verbal interaction and the architecture of the model will also be discussed (§ 4.2). The four levels of linguistic organisation recognised within the model and the representations at each level will lastly be described (§ 4.3).

4.1 GENERAL OUTLINE

Functional Discourse Grammar is a typologically-based theory of language production which aims to account for how the use and meaning (function) of language directly influences the form (structure) of linguistic utterances. The theory was originally conceived of as a revised version of Functional Grammar (FG) as proposed by Simon Dik (1997a; 1997b) but has been further developed to such an extent (as well as incorporating aspects of other grammatical theories) that it is to be considered a separate theory in its own right. FDG distinguishes itself from other structural-functional theories of language by firstly having a top-down organisation. The model starts with the speaker's intention and then works down through the grammar to the articulation of the linguistic utterance. Language production has been argued (Levelt 1989) to be a top-down process and the theory assumes that a model which resembles the psycholinguistic reality of language production will be more effective. FDG secondly takes the Discourse Act as the basic unit of analysis. There are many grammatical phenomena which can only be interpreted in terms of non-clausal units which may be larger or smaller than the individual clause. A discourse-oriented grammar is thus required in order to adequately account for these phenomena. FDG thirdly recognises four levels of linguistic organisation. These four levels include respectively representations of the rhetorical/pragmatic and semantic properties of linguistic utterances as well as representations of the morphosyntactic and phonological properties of the underlying structure of utterances. Anaphoric reference is possible to each of these different levels of linguistic organisation. A model which includes all four levels is therefore needed so that each level may be available as

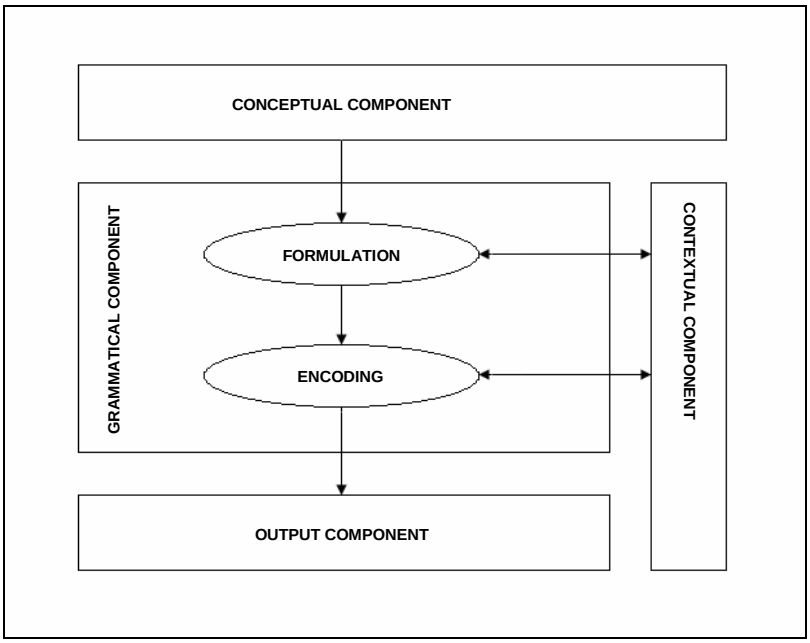
[75] The information on FDG in this chapter is based on these two works by Hengeveld & Mackenzie. Some information has, however, been added or adapted in agreement with Prof. Dr Hengeveld.

a potential antecedent in underlying representation. FDG forms lastly the Grammatical Component of a wider theory of verbal interaction and interacts in varying degrees with a Conceptual Component, a Contextual Component, and an Output Component. This general design of a wider theory of verbal interaction is supported by research into the processes of speech production (Levelt 1989) and affirms the psycholinguistic reality of the model.

FDG is a form-oriented function-to-form model which takes a position halfway between radically functional and radically formal approaches to grammatical analysis. Linguistic functionalism refers to the belief that the properties of linguistic utterances are adapted to those communicative aims which the language user seeks to achieve by using those utterances. Linguistic formalism, on the other hand, is strongly committed to the belief that linguistic utterances reflect an underlying linguistic system which is governed by (innate) rules and that these rules predict the form taken by linguistic utterances. Whereas radically functional approaches tend to deny the cognitive reality of linguistic structure and perceive linguistic form as an ephemeral manifestation of the language user's attempt to achieve specific communicative purposes, and radically formal approaches tend to limit linguistic study to the investigation of the underlying formal system totally independent of the uses for which it is applied, FDG takes the position that the language user has knowledge of both formal units and of the ways in which these units may be combined, and that this knowledge is instrumental in interpersonal communication and has arisen as a result of historical processes. FDG further proposes that the forms which are at the language users' disposal are variable across languages but do not vary without limits, with the limits on variation being set by the range of communicative purposes displayed by all language users and by the cognitive constraints to which they are subject. FDG thus offers both an inventory of forms and a clarification for how and why these forms are combined in verbal interaction.

FDG is conceived of as the Grammatical Component of an overall model of verbal interaction in which it is linked to a Conceptual Component, a Contextual Component, and an Output Component as schematically represented in Figure 4. The Conceptual Component is the driving force behind the Grammatical Component and is responsible for the development of both the communicative intention relevant for the current speech event and the associated conceptualisations with respect to relevant extra-linguistic events. The Grammatical Component distinguishes the operations of Formulation and Encoding which are specific for each individual language. The operation of Formulation consists of the rules required for

Figure 4: FDG as part of a wider theory of verbal interaction



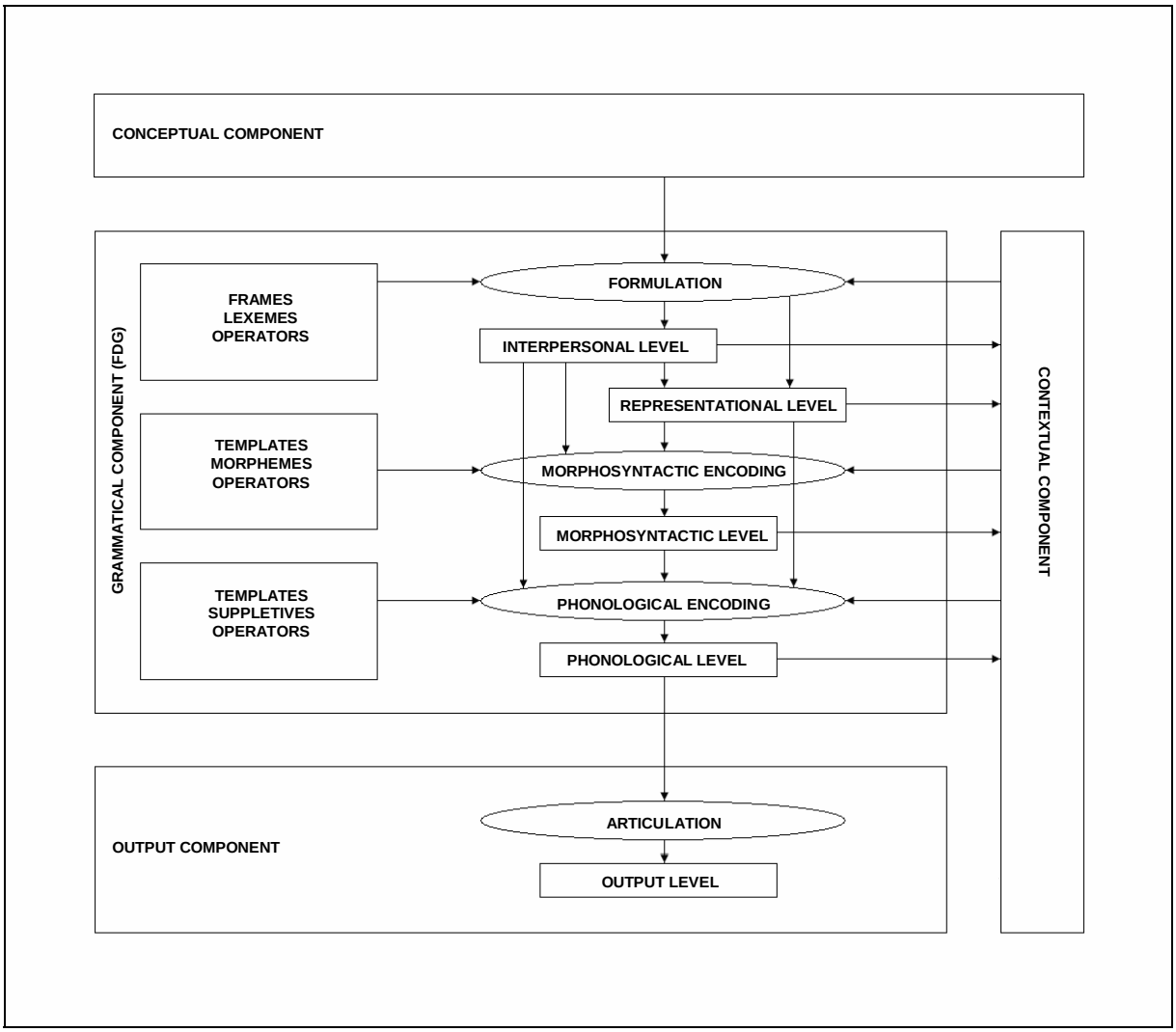
translating conceptual configurations into the relevant rhetorical/pragmatic and semantic distinctions available in a specific language. The operation of Encoding consists of the rules required for converting rhetorical/pragmatic and semantic representations into the relevant morphosyntactic and phonological structures determined by the specific language. The need for a Contextual Component is evidenced by the fact that the intention developed by the speaker does not arise in a vacuum but in a multifaceted communicative context. The Contextual Component contains two relatively limited types of information which may influence the operations of Formulation and Encoding.[76] The first is linguistic information consisting of a description of the content and form of the preceding discourse which is relevant to the form that subsequent utterances may take. The second is non-linguistic information about the ongoing interaction which is relevant to the distinctions that are required in a specific language (such as the actual perceivable setting in which the speech event takes place and the social relationships between the speech act participants). The Output Component generates acoustic (spoken languages), signed (signed languages), or orthographic (written languages) expressions on the basis of the representations provided by the Grammatical Component. The Output Component is thus responsible for translating the digital (categorical and opposition-based) information from the grammar into the articulated analogue (continuously variable) form which encodes the speaker's communicative intention.

[76] See Alturo, Keizer & Payrató (in preparation) for further development of the Contextual Component in FDG.

4.2 MODEL ARCHITECTURE

The model of FDG attempts to accurately represent the grammatical[77] production of linguistic utterances in a top-down fashion and may be further specified as in Figure 5. The model

Figure 5: General layout of FDG



makes a distinction hereby between operations, primitives, and levels of representation, with the general operations, primitives, and levels of representation in Figure 5 being considered to

[77] The term 'grammatical' has both a general and a specific connotation in the theory. The term may refer generally to any element or process which occurs within the Grammatical Component (the grammar) but may also refer specifically to any non-lexical element or process which occurs within the Grammatical Component. There is thus a clear distinction in the use of the term in the first place to distinguish between grammar versus non-grammar and in the second place to distinguish between lexical versus non-lexical.

be present in all languages.[78] The specific operations applicable in a given language are responsible for determining what constitute valid underlying representations in the language. The available primitives are also language specific and form the building blocks used by the operations to produce the underlying representations. The organisation of the levels of representation is similarly language determined, with the levels providing the underlying representations of the relevant operations. The operations thus constitute grammatical production rules which draw from specific sets of primitives and combine these primitives to produce the required underlying representations at each respective level of representation.

The model of FDG begins with the conversion of the prelinguistic communicative intention and the corresponding mental representations from the Conceptual Component by the operation of Formulation into rhetorical/pragmatic and semantic representations at respectively the Interpersonal Level (see § 4.3.2) and Representational Level (see § 4.3.3).[79,80] Formulation draws from a set of primitives which consists of interpersonal and representational frames, lexemes, and interpersonal and representational operators.[81] The interpersonal and representational frames define the possible combinations and hierarchy of rhetorical/pragmatic and semantic elements at respectively the Interpersonal Level and the Representational Level. Lexemes are independent lexical units which are stored in phonemic form in the Lexicon.[82] The lexemes at the Interpersonal Level and Representational Level are inserted (lexical insertion) in phonemic form into respectively interpersonal and representational frames, with the lexemes at the Interpersonal Level conveying rhetorical/pragmatic content and the lexemes at the Representational Level conveying semantic content. The interpersonal and representational operators are similarly inserted into the selected frames and represent grammatical expressions in terms of respectively their rhetorical/pragmatic and semantic content. The representations at the Interpersonal Level and Representational Level are translated by the operation of Morphosyntactic Encoding into

[78] Operations appear in ovals, primitives in boxes, and levels of representation in rectangles in Figure 5.
[79] The theory would implicitly seem to propose that there is a distinction in the Conceptual Component between a communicative intention and the corresponding mental representations. This would suggest that the Conceptual Component already makes a pseudolinguistic distinction between the illocutionary value of the utterance (represented by the Illocution) as well as the pragmatic content evoked by the utterance (represented by the Communicated Content) and the semantic content designated by the utterance (represented by Semantic Categories). I will henceforth use the term 'communicative intention' to refer to the totality of the relevant prelinguistic conceptualisations which the speaker intends to convey to the hearer with the linguistic utterance.
[80] The terms 'interpersonal' and 'representational' will be understood to be synonymous with the terms 'rhetorical/pragmatic' respectively 'semantic' in this thesis.
[81] See § 5.1 for the differentiation of Formulation into two distinct sequential operations with independent levels.
[82] The role and nature of lexemes (and the Lexicon) in the model of FDG have not been explicitly outlined by Hengeveld & Mackenzie (2008; 2010). See § 5.1 for a proposal on the role and nature of the Fund in the model.

morphosyntactic structures at the Morphosyntactic Level (see § 4.3.4) and by the operation of Phonological Encoding into phonological structures at the Phonological Level (see § 4.3.5). Morphosyntactic Encoding utilises a set of primitives consisting of morphosyntactic templates, grammatical morphemes, and morphosyntactic operators[83]. The morphosyntactic templates delineate the possible morphological and syntactic combinations and hierarchy of morphosyntactic elements at the Morphosyntactic Level. The grammatical morphemes are unmodifiable grammatical elements which are inserted into the selected templates in their phonemic form when they are regular and predictable. The morphosyntactic operators may be considered as placeholders in the morphosyntactic templates for actual forms or sets of forms which are not fully predictable and which have to be selected from a suppletive paradigm. Phonological Encoding lastly draws from a set of primitives which includes phonological templates, suppletive forms, and phonological operators.[84] The phonological templates define the possible prosodic patterns applicable at the Phonological Level. The suppletive forms are also inserted into the selected templates and correspond to unpredictable forms from the paradigms of lexemes and to the morphosyntactic operators. The phonological operators are similarly inserted into the chosen templates and represent the grammatical expression of phonological features. The phonological operators reflect aspects of the articulatory output which will ultimately be realised by the operation of Articulation in the Output Component.

Although the Contextual Component and the Output Component are not part of the grammar proper and thus do not formally belong to the model of FDG, they nevertheless play an important role in the theory. The various levels of representation feed into the Contextual Component which keeps track of the ongoing discourse. The Contextual Component in turn feeds into the various operations so that linguistic antecedents, visible referents, and speech-act participants, as well as other relevant contextual factors, may influence the composition of (subsequent) utterances. The model of FDG ultimately results in representations at the Phonological Level which are subsequently converted by the operation of Articulation into the required articulatory expressions in the Output Component. The output will in the case of spoken languages be acoustic in nature and consist of articulatory gestures of the respiratory, laryngeal, and supralaryngeal structures of the human anatomy. The output will in the case of signed languages be visual in nature and consist of manual and

[83] The theory confusingly uses the term 'morphosyntactic operators' for what are in fact grammatical morphemic heads at the Morphosyntactic Level. The model does not distinguish morphosyntactic operators (see § 4.3.4).
[84] See § 5.2 for a proposal on the differentiation of Phonological Encoding into two distinct sequential levels.

other bodily gestures. The output will finally in the case of written languages also be visual in nature and consist of manual control of a writing implement. The operations involved in Articulation are strictly non-phonological and contain the phonetic rules necessary for an utterance to be adequately articulated in a specific language. Articulation is thus responsible for the (to be) realised phonetic form which is represented at the Output Level. The allocation of linguistic processes to either Phonological Encoding or Articulation is language specific and depends on whether the processes systematically encode rhetorical/pragmatic and semantic representations (functional) or aspects of the context (contextual), or alternatively are inherent properties of encoding (non-functional and arbitrary), with systematic encoding being phonological and non-systematic encoding being articulatory. It should not be forgotten that FDG is a form-oriented model which primarily attempts to give an account of morphosyntactically and phonologically codified phenomena in languages. This accentuates the importance of the actual realised phonetic form of a linguistic utterance in the initial implementation of the model for a given language.

The model of FDG may be implemented either statically or dynamically depending upon the desired linguistic analysis.[85] The 'static model of FDG' refers to the presentation of the resultant representations of the operations at each respective level of representation. The 'dynamic model of FDG' refers to the presentation of the procedural steps of the operations which lead to the resultant representations at each relevant level of representation. As is apparent by the direction of the vertical arrows in Figure 5, the model of FDG is top-down in nature. This takes the functional approach to language to its logical extreme with rhetorics/pragmatics governing semantics, rhetorics/pragmatics and semantics governing morphosyntax, and rhetorics/pragmatics, semantics, and morphosyntax governing phonology. This does not imply, however, that a particular linguistic level needs to be (fully) specified in order for a subsequent level to be specified. A linguistic level may in fact be only partially specified or even completely absent for a given utterance in the static model of FDG. The model may be dynamically implemented according to two main principles, which attempt to model the observed speed of language production by language users in natural speech and which serve to speed up the implementation of the grammar. The principle of 'depth first' agrees with psycholinguistic evidence (Levelt 1989) that language production is incremental,

[85] The direct relationship of units at higher levels to units at lower levels may be expressed visually in the representations by underlining the respective units and/or by drawing arrows from the units at the higher levels to the units at the lower levels in both the static and dynamic models of FDG.

with prelinguistic conceptualisations arising gradually through time, and states that formulated material may be sent ahead for encoding before the entire communicative intention has been fully developed. The realisation of units at a higher level may thus result in the direct realisation of units at a lower level before the original level is fully realised in the dynamic implementation of the model. The principle of 'maximal depth' states that only those levels of representation which are relevant for (a certain aspect of) an utterance are used in the production of that (aspect of the) utterance. The realisation of units at a higher level may therefore result in the direct realisation of units at a lower level which does not immediately follow the original level. The default top-down nature of the model also does not imply that the direction of the vertical arrows may never be reversed. A model of language reception based on the FDG formalism would necessarily need to work bottom-up from the realised linguistic utterance to the speaker's communicative intention. It has furthermore been argued (Hengeveld & Smit 2009) that the depth-first implementation of the model requires higher levels to receive information from lower levels (percolation). There are lastly linguistic phenomena (such as the placement of phonologically heavy constituents to the end of an utterance) which argue for the allowance of bottom-up feedback within the model, whereby representations at a lower level may invoke a change in representations at a higher level, which correspondingly have an influence on the original representations at the lower level.[86]

4.3 LEVELS OF REPRESENTATION

There are four levels of representation distinguished within the model which analyse a given linguistic expression in terms of the distinctions relevant to each level. The representations at each level are purely linguistic in nature and only describe distinctions that are systematically reflected in the grammar of a specific language. The operation of Formulation results in rhetorical/pragmatic representations at the Interpersonal Level and semantic representations at the Representational Level. The operation of Encoding results in morphosyntactic representations at the Morphosyntactic Level and phonological representations at the Phonological Level. Each of the levels of representation and the respective layers within each level are structured uniquely and will be addressed individually in the following sections.

[86] The possible derivational nature of the model of FDG will be further addressed in § 7.4.

4.3.1 GENERAL LEVEL STRUCTURE

Although each level of representation is structured uniquely, there are similarities to be observed between the different levels. Each level of representation is the result of an operation which draws from a set of similar primitives. Within each set of primitives there is firstly a subset of units with a structuring function, namely the interpersonal and representational frames in Formulation, the morphosyntactic templates in Morphosyntactic Encoding, and the phonological templates in Phonological Encoding.[87] There is secondly a subset of units which are stored and inserted in phonemic form, specifically the lexemes in Formulation, the grammatical morphemes in Morphosyntactic Encoding, and the suppletive forms in Phonological Encoding. There is finally a subset of operators for each level, explicitly the interpersonal and representational operators in Formulation, the morphosyntactic operators in Morphosyntactic Encoding, and the phonological operators in Phonological Encoding. Each level of representation has furthermore a layered organisation which is hierarchically ordered. The layers within each level may be generally represented as in Figure 6[88,89,90]. The units

Figure 6: General structure of layers within levels

$$(\pi\ v_1\colon \varnothing/\mathrm{ABS}/\blacklozenge_\beta/\mathrm{MORP}_\beta/\mathrm{PHON}_\beta/(v_{2+n})_\varphi\ (v_1)_\varphi\colon \sigma\ (v_1)_\varphi)_\varphi$$

within a layer may form either hierarchical or non-hierarchical (equipollent or configurational) relationships with each other.[91] The variable of the relevant layer v is the only unit of a layer which is obligatory and is generally restricted by a head.[92,93] The head

[87] The model thus distinguishes the term 'frame' for the structuring skeleton of units at the formulation levels (Interpersonal Level and Representational Level) and the term 'template' for the structuring skeleton of units at the encoding levels (Morphosyntactic Level and Phonological Level).
[88] I use the subscript $_{+n}$ after a variable in Figure 6 to indicate that more than one variable may in fact be realised in a specified position in the organisation of a layer. The variable v_{2+n} is thus the second variable to appear in the representations (reading from left to right) and may be accompanied by other similar variables in that position, with the multiple variables in that case forming a configurational relationship with one another.
[89] This general level representation differs from that offered in the theory (Hengeveld & Mackenzie 2008:14; 2010:373) in that it gives a current and more detailed description of the general layer structure as well as including morphosyntactic classes for morphemes and phonological classes for phonemes.
[90] The representations at each level appear in different typefaces to distinguish the levels more clearly from one another, with the Interpersonal Level in 'UPPER CASE', the Representational Level in 'lower case', the Morphosyntactic Level in 'Title Case', and the Phonological Level in 'SMALL CAPITALS'.
[91] Units in a hierarchical relationship which are under the scope of another unit are placed after a colon, whereas units in an equipollent relationship are placed together between square brackets in the theory.
[92] Each variable represents a layer and is to be considered as an abstraction of a layer in the model.

position may be left empty Ø (at the formulation levels) with no head present but with the head itself in fact being implicitly assumed (not formally realised at the encoding levels) or explicitly coded (formally realised at the encoding levels) (empty head).[94] The head may be simplex and consist of one or a combination of abstract grammatical features ABS (abstract head), a lexeme ♦ (lexical head), a morpheme MORP (morphemic head), a phoneme PHON (phonemic head), or a single variable which falls under the hierarchical scope of the superordinate variable (variable head). Abstract heads are applicable at the Interpersonal Level and Representational Level. Lexical heads are applicable at the Interpersonal Level and Representational Level. Morphemic heads are solely applicable at the Morphosyntactic Level. Phonemic heads are solely applicable at the Phonological Level. The head may alternatively be complex and consist of several variables which are in an equipollent relationship to each other and which collectively fall under the scope of the superordinate variable (configurational head). The head may be restricted lexically by one or more modifiers σ.[95] [96] Modifiers are applicable at the formulation levels and are not relevant at the encoding levels. Both the head and the modifier function as predicates[97] of the respective variable at the Representational Level whereby the variable functions as an argument of both the head and the modifier. This 'variable argument' is placed after both the head and the modifier in the representation and always carries the semantic function of Undergoer.[98] This variable argument is, however, also represented after both the head and the modifier at the Interpersonal Level and after the head at the Morphosyntactic Level and Representational Level, in which case it acts as a 'closing variable' for legibility of the representations within

[93] Whereas uninstantiated variables in general examples are given a numerical subscript (beginning at number 1), instantiated variables in specific examples are given an alphabetical subscript (beginning at the letter 'i'). The numbering or lettering of each type of variable is assigned hierarchically from left to right and thus equivalent variables are assigned in the linear order they appear in the representations.

[94] The model confusingly distinguishes between an 'absent head' which consists of an empty head slot (such as for zero realisations, personal pronouns, and personal names) and an 'empty head' which refers to a headless Property in the head slot which is lexically modified (such as for a lexically modified dummy lexeme). I have opted to avoid this distinction in this thesis. I use instead the term 'empty head' solely for a head slot which is indeed empty (whereby only the variable letter is realised) and do not use the term 'absent head' but refer generally to a head slot which contains a headless Property which is modified by a lexeme.

[95] A modifier of a head at a particular layer may be further specified by the postplacement of a superscript variable to indicate the layer (such as σ^{M} to indicate a modifier of a Move). This is also applicable to operators (such as π^{M} to indicate an operator of a Move) and to functions (such as φ^{M} to indicate a function of a Move).

[96] These lexical modifiers are represented solely in phonemic form at the Interpersonal Level but are represented in phonemic form as the heads of Properties (when the lexemes contain semantic content) at the Representational Level which may in turn fall under the scope of any of the semantic category variables which are distinguished in the respective language under analysis.

[97] A predicate is a linguistic element which assigns properties to entities or assigns relationships between entities.

[98] This semantic function of Undergoer coincides with the semantic function of Zero in FG (Dik 1997a:118). The semantic function of Undergoer will not be represented but is implied on variable arguments in this thesis.

the formalism and as such may never carry a function. The head may also be restricted grammatically by one or more operators π. Operators apply at the Interpersonal Level, Representational Level, and Phonological Level but are not applicable at the Morphosyntactic Level. It is interesting to note that although lexical and grammatical modifiers[99] may in fact express the same conceptual intention, languages generally tend to express modification more often with lexical modifiers than with grammatical modifiers. Lexemes, morphemes, and phonemes in the head slot may be further specified for belonging to a particular class β.[100] Variables in the head slot, variable arguments, and the layer variable may lastly all carry a grammatical function φ.[101] Whereas operators are not relational and apply strictly to individual layers, functions are relational and hold between units at the same layer.

The model of FDG seems to not only clearly distinguish intralevel relationships (between units within a particular layer and between layers within a particular level) but also interlevel relationships (between units at different levels and between the different levels globally). It should hereby be stressed that there may but need not be a one-to-one correspondence between units at different levels, with the possibility of a single unit at a higher level mapping onto multiple units at a lower level, as well as multiple units at a higher level mapping onto a single unit at a lower level. The ability of the model to represent the mismatching of units is in accordance with the varying degrees of transparency that have been observed both within and across the grammatical systems of different languages.[102]

4.3.2 THE INTERPERSONAL LEVEL

The Interpersonal Level is concerned with the formal aspects of a linguistic utterance that reflect its role in the interaction between the speaker and the addressee. The higher layers account for rhetorical notions of the overall structuring of discourse towards the achievement

[99] The terms 'modify', 'modifier', and 'modification' will all be used to refer to lexical modification in this thesis unless preceded by the term 'grammatical' to specifically refer to grammatical modification.
[100] The model confusingly makes a distinction between 'lexeme classes' at the Interpersonal Level and Representational Level which indicate the general morphosyntactic class to which a lexeme belongs from 'Word classes' at the Morphosyntactic Level which indicate the actual morphosyntactic application of the lexeme. Subclasses of modifying lexemes may be further specified by preposed superscript variables in terms of the heads they modify (such as ^{V}Adverb and ^{ep}Adverb which represents an adverbial head used to modify a Verb respectively an Episode). See Footnote 150 for a proposal on the inconsistent representation of morphosyntactic information at non-morphosyntactic levels as well as a proposal on morphosyntactic classes in the model.
[101] A function either describes the relationship between multiple variables within a given layer or in the case of a single variable the relationship between the variable and a variable stored in the Contextual Component.
[102] See Hengeveld (2011) for further research on transparency within the framework of FDG.

of the speaker's communicative goals, while the lower layers account for the pragmatic distinctions which influence the addressee to accept the speaker's communicative strategies. The Interpersonal Level indicates the organisation of units of discourse and may be generally represented as in Figure 7.[103]

Figure 7: General structure of the Interpersonal Level

$$(\Pi\ M_1\colon (\Pi\ A_{1+N}\colon [(\Pi\ F_1\colon ILL/\blacklozenge_B\ (F_1)\colon \Sigma\ (F_1))\ (\Pi\ P_1\colon \varnothing/[\pm S,\pm A]/\blacklozenge_B\ (P_1)\colon \Sigma\ (P_1))_S\ (\Pi\ P_2\colon \varnothing/[\pm S,\pm A]/\blacklozenge_B\ (P_2)\colon \Sigma\ (P_2))_A\ (\Pi\ C_1\colon [(\Pi\ T_{1+N}\colon \varnothing/\blacklozenge_B\ (T_{1+N})\colon \Sigma\ (T_{1+N}))_\Phi\ (\Pi\ R_{1+N}\colon \varnothing/[\pm S,\pm A]/\blacklozenge_B/(T_{2+N})_\Phi/(R_{2+N})_\Phi\ (R_{1+N})\colon \Sigma\ (R_{1+N}))_\Phi]\ (C_1)\colon \Sigma\ (C_1))_\Phi]\ (A_{1+N})\colon \Sigma\ (A_{1+N}))_\Phi\ (M_1)\colon \Sigma\ (M_1))_\Phi$$

The Move M is the largest unit of interaction at the Interpersonal Level and may be defined as an autonomous contribution to the ongoing discourse which either calls for a reaction or is itself a reaction (perlocutionary effect). A Move always takes as its head one or more $_{+N}$ Discourse Acts A. The Move may be restricted grammatically by an operator Π (such as Contrast and Summary) and/or lexically by a lexeme or lexical expression Σ (such as 'to cut a long story short') to specify the Move's role in the discourse. Lexical modifiers are represented in phonemic form at the Interpersonal Level. A Move may have a rhetorical function (such as Response) but these are generally not represented in the model due to the fact that the Move constitutes the highest layer of the Interpersonal Level and its function can only be studied in relation to longer stretches of discourse.

The Discourse Act is regarded as the smallest identifiable unit of communicative behaviour and may take as its head a combination of an Illocution F, a speech-act Participant Speaker $(P)_S$, a speech-act Participant Addressee $(P)_A$, and/or a Communicated Content C. Various types of Discourse Act are distinguished in the model which are characterised by specific interpersonal frames (such as Expressive Discourse Acts and Communicative Discourse Acts). The Discourse Act may be specified by an operator (such as Irony, Emphasis, and Mitigation) and/or by lexical material (such as 'briefly' and 'in addition') to indicate stylistic properties of the Discourse Act, the status of the Discourse Act within the Move, emphasis of (the emotional state of a speech-act participant towards) the Discourse

[103] This general representation of the Interpersonal Level differs from that offered in the theory (Hengeveld & Mackenzie 2008:49; 2010:374) in that it gives a current and more detailed description of the level structure.

Act, or softening of the Discourse Act. The relationship between two or more Discourse Acts within a single Move may be one of equipollence or dependence, with relationships of dependence being indicated as rhetorical functions $_{\Phi}$ on the dependent Discourse Act (such as Aside, Motivation, Concession, Orientation, and Correction).

The Illocution represents the grammatical and lexical properties of a Discourse Act that can be attributed to its conventionalised interpersonal use in achieving a communicative intention (such as calling for attention, asserting, ordering, questioning, warning, and requesting). The Illocution may take as its head either an abstract Illocution ILL (such as Vocative and Declarative) or a lexical Illocution (such as performative verbs and interjections) which may be further specified for belonging to a particular lexeme class $_{B}$ (such as Noun, Verb, Adjective, Adverb, Adposition, and Interjection). The Illocution may be restricted by an operator (such as Emphasis and Mitigation) and/or by lexical material (such as 'sincerely', 'frankly', and 'hereby') to signal the manner of the Illocution, emphasis of the Illocution, or softening of the Illocution. The Illocution functions as an interpersonal predicate and takes as its arguments the two speech-act Participants and the Communicated Content. The illocutionary predicate (Illocution) may not be further specified for a rhetorical function due to the fact that the theory considers predicates to assign relevant functions to the arguments within a given predication frame and never to be assigned a function themselves.

The two speech-act Participants alternate as speaker and addressee in the ongoing interaction. The head slot of the Participant may be left empty Ø or may consist of a combination of abstract features for the speaker and addressee [±S,±A] (representing deictic pronouns) or lexical material (such as self-descriptions and forms of address) which may be specified for a particular lexeme class. The model thus distinguishes between the linguistic realisation and non-realisation of present speech-act participants. A Participant with an abstract or lexical head may be restricted by an operator (such as for number and status) and/or by lexical material (such as '(you) there' and honorifics) to specify the identity or status of a particular speech-act participant. It should be noted that the relevant information pertaining to a given speech-act participant is available to the language user in the Contextual Component. The Participant may take a pragmatic function $_{\Phi}$ to indicate the role of the relevant Participant in the interaction as either the Speaker $_{S}$ or the Addressee $_{A}$.

The Communicated Content contains the totality of what the speaker wants to evoke in communication with the addressee and may take as its head one or more Subacts of

Ascription T and/or one or more Subacts of Reference R which each form a communicative action by the speaker. The head of the Communicated Content may consist of different configurations of Subacts which may be assigned (a combination of) pragmatic functions when they have an impact on the linguistic form (such as Focus, Topic, and Contrast). The Focus function is assigned to Subacts to signal new information, with the Subacts not assigned for focus constituting the Background. The Topic function is assigned to Subacts to signal given information in the Contextual Component, with the Subacts not assigned for topic forming the Comment. The Contrast function is assigned to Subacts to signal a difference between the Communicated Content and linguistic or non-linguistic material in the Contextual Component, with the Subacts not assigned for contrast constituting the Overlap.[104] The possible configurations of Subacts (with pragmatic functions) are specific to individual languages and are known collectively as 'content frames'[105]. Specific content frames are distinguished in the model (such as Thetic Content Frames, Categorical Content Frames, and Presentative Content Frames). The Communicated Content may be specified by an operator (such as Reportative and Emphasis) and/or by lexical material (such as 'reportedly', 'really', 'unfortunately', and 'according to') to signal the relayed status of the Communicated Content, emphasis of the Communicated Content, and expression of the subjective attitude of the speaker towards the Communicated Content. The Communicated Content may take the pragmatic function of Focus to indicate all-new information in the discourse.[106]

The Subact of Ascription is an attempt by the speaker to evoke a property (possibly of a referent) and merely records the presence of the property in the utterance, with the relevant semantic content appearing at the Representational Level. The head slot of the Subact of Ascription is generally empty but may be occupied by lexical material (such as when a speaker cannot find or chooses to avoid the appropriate lexeme at the Representational Level and instead selects a dummy lexeme) which may be specified for a lexeme class. The head of

[104] The functions of Background, Comment, and Overlap are not dependent on their counterpart functions of Focus, Topic, and Contrast but may also be assigned independently to Subacts.
[105] The Interpersonal Level is thus organised on the basis of interpersonal frames which are responsible for the hierarchical organisation of the Interpersonal Level and content frames which deal with the non-hierarchical organisation of the Subacts within the Communicated Content.
[106] It should be noted that the model does not distinguish between a Communicated Content which is assigned the pragmatic function of Focus and a Communicated Content which contains Subacts which are all individually assigned the pragmatic function of Focus to indicate an utterance with all-new information. Both representations are thus considered equivalent in the theory although the current preference is to individually mark the Subacts. Smit has argued that Focus should not be considered to be a pragmatic function of the Communicated Content but has suggested instead that Focus may be an operator which is applicable to the heads of his proposed Topic layer and Comment layer as well as to the heads of the Subacts within these two layers (2010:98-100).

the Subact of Ascription may be restricted by an operator (such as Approximation, Exactness, and Emphasis) and/or by lexical material (such as 'fortunately', 'as it were', 'really', and 'allegedly') to express approximation or exactness of the Subact of Ascription, subjective attitude towards the Subact of Ascription, emphasis of the Subact of Ascription, and relayed status of the Subact of Ascription. The Subact of Ascription may take a pragmatic function (such as Focus, Topic, and Contrast) to specify its informational status in the discourse.

The Subact of Reference is an attempt by the speaker to evoke a referent and records the presence of the referent in the discourse, with any relevant semantic properties again appearing at the Representational Level. The Subact of Reference may either introduce a new referent into the current discourse or identify a referent that is already available in the Contextual Component. The head slot of the Subact of Reference may be empty or may consist of a combination of abstract features for the speaker and addressee [±S,±A] (representing deictic pronouns) to indicate speech act or non-speech act participants, a lexeme (specifically a proper name or a dummy lexeme) which may be specified for a lexeme class, one or more Subacts of Ascription, or one or more Subacts of Reference. The head of the Subact of Reference may be specified by an operator (such as for Identifiable, Specific[107], and Emphasis) and/or by lexical material (such as 'poor', 'old', and 'little') to express the identifiability (for the addressee) or specificity (for the speaker) of the Subact of Reference, emphasis of the Subact of Reference, or subjective attitude towards the Subact of Reference. The Subact of Reference may take the same pragmatic functions which are available to the Subact of Ascription (such as Focus, Topic, and Contrast).

4.3.3 THE REPRESENTATIONAL LEVEL

The Representational Level deals with the ways in which linguistic utterances relate to the extra-linguistic world they describe (semantics) as well as to the meanings of specific lexical units (lexical semantics) and complex units (compositional semantics) in linguistic utterances. Whereas interpersonal elements do not establish a relationship with the external world but evoke entities internal to the speech situation (evocation) and are bound to the speaker, semantic elements establish a relationship with the external world in isolation from the ways they are used in communication (designation) and are not bound to the speaker. The layers at

[107] The operators for Identifiability and Specificity are represented with the abstract features ±id and ±s.

the Representational Level are defined in terms of the semantic categories they designate. These semantic categories reflect the systematic grammatical encoding of the ontological categories distinguished in a specific language. The model proposes hereby that minimally four semantic categories (classified as types of entity) are relevant for the analysis of any language. A Property is a zero-order entity which cannot be characterised in terms of the parameters of space and time and which has no independent existence. Properties are evaluated in terms of their applicability either to other types of entity or to the situation they describe in general. An Individual is a first-order entity which can be located in space and which is evaluated in terms of its existence. A State-of-Affairs is a second-order entity which can be located in space and time and which is evaluated in terms of its reality. A Propositional Content is a third-order entity which can neither be located in space nor time and which is evaluated in terms of its truth. The model further stresses that individual languages may grammatically distinguish other semantic categories (such as Episode, Location, Time, Manner, Quantity and Reason) or subclasses of semantic categories (such as Mass Individuals, Set Individuals, and Collective Individuals).[108] The Representational Level shows the organisation of semantic units and may be generally represented as in Figure 8[109].

Figure 8: General structure of the Representational Level

$$(\pi\ p_1\colon \emptyset/(f_1)_\varphi/(\pi\ ep_{1+n}\colon \emptyset/(f_1)_\varphi/(\pi\ e_{1+n}\colon \emptyset/(f_1)_\varphi/(\pi\ f_1\colon [(p_{2+n})_\varphi\ (ep_{2+n})_\varphi\ (e_{2+n})_\varphi\ (\pi\ f_{2+n}\colon \emptyset/\blacklozenge_\beta/(f_3)_\varphi\ (f_{2+n})\colon \sigma\ (f_{2+n}))_\varphi\ (\pi\ x_{1+n}\colon \emptyset/(ep_{3+n})_\varphi/(e_{3+n})_\varphi/(f_{4+n})_\varphi\ (x_{1+n})\colon \sigma\ (x_{1+n}))_\varphi\ (\pi\ l_{1+n}\colon \emptyset/(ep_{4+n})_\varphi/(e_{4+n})_\varphi/(f_{5+n})_\varphi\ (l_{1+n})\colon \sigma\ (l_{1+n}))_\varphi\ (\pi\ t_1\colon \emptyset/(ep_{5+n})_\varphi/(e_{5+n})_\varphi/(f_{6+n})_\varphi\ (t_1)\colon \sigma\ (t_1))_\varphi\ (\pi\ m_1\colon \emptyset/(e_{6+n})_\varphi/(f_{7+n})_\varphi\ (m_1)\colon \sigma\ (m_1))_\varphi\ (\pi\ q_1\colon \emptyset/(e_{7+n})_\varphi/(f_{8+n})_\varphi/(x_{2+n})_\varphi\ (q_1)\colon \sigma\ (q_1))_\varphi\ (\pi\ r_1\colon \emptyset/(e_{8+n})_\varphi/(f_{9+n})_\varphi\ (r_1)\colon \sigma\ (r_1))_\varphi]\ (f_1)\colon \sigma\ (f_1))_\varphi\ (e_{1+n})\colon \sigma\ (e_{1+n}))_\varphi\ (ep_{1+n})\colon \sigma\ (ep_{1+n}))_\varphi\ (p_1)\colon \sigma\ (p_1))_\varphi$$

The Propositional Content p is the highest unit at the Representational Level and may be regarded as a mental construct which does not exist in space or time but rather exists in the

[108] The model distinguishes semantic categories with individual semantic category variables (such as x for an Individual) but distinguishes subclasses of semantic categories with a preposed superscript subclass variable before the semantic category variable (such as ^{m}x for a Mass Individual or ^{s}x for a Set Individual). The model employs the symbol α as a general undifferentiated semantic category variable.

[109] This general representation of the Representational Level differs from that offered in the theory (Hengeveld & Mackenzie 2008:142; 2010:377) in that it gives a current and more detailed description of the level structure. I have chosen in Figure 8 to represent all of the possible Semantic Categories currently recognised in the model to present the possible general structure of the Representational Level across languages

minds of the speech-act participants. A Propositional Content may be factual (such as pieces of knowledge or reasonable beliefs about the actual world) or non-factual (such as hopes or wishes with respect to an imaginary world). Propositional contents are evaluated in terms of their truth and may thus be considered to be either true or false. The head slot of the Propositional Content may be empty Ø or consist of a Property f or one or more Episodes ep. The Propositional Content may be restricted grammatically by an operator π (such as Positive, Negative, Doxastic, Dubitative, Inference, Reportative, and Generic) and/or lexically (such as 'probably', 'evidently', 'hopefully', 'allegedly', and 'reportedly') to indicate the truth value of the Propositional Content (truth polarity), the type and degree of commitment to the Propositional Content (epistemic modality), or the source of the Propositional Content (evidential modality).[110] All lexical modifiers at the Representational Level are represented in phonemic form and are specified for the semantic category they designate, with the lexemes (ultimately) forming the head of a (subordinate) Property. The Propositional Content may be assigned a semantic function φ (such as Reason and Explanation).

The Episode may be defined as a thematically coherent part of a larger narrative discourse which shows unity or continuity of time, location, and first-order entities. A defining characteristic of Episodes is that they are always located in absolute time. The head slot of the Episode may be empty or instead be filled and consist of a Property or one or more States-of-Affairs e. The Episode may be restricted grammatically (such as Past, Non-Past, Present, Future, Realis, and Irrealis) and/or lexically (such as 'last week', 'next year', 'after travelling for several miles' and 'before going to the village') to indicate the absolute time of the Episode. A semantic function may be assigned to the Episode (such as Condition).

The State-of-Affairs consists of events and states which are located in relative time. States-of-Affairs are evaluated in terms of their reality status and may thus be considered to (not) occur, (not) happen, or (not) be the case at some point or interval in time. The head slot of the State-of-Affairs may be left empty or may be filled and consist of a Property or a Configurational Property f.[111] The head of the State-of-Affairs may be specified by an operator (such as Absentive, Simultaneous[112], Anteriority, Posteriority, Realis, Irrealis,

[110] Propositional Content-oriented modalities are bound to the speaker and are referred to as 'subjective' whereas State-of-Affairs-oriented modalities are not bound to the speaker and are referred to as 'objective'.
[111] The model thus confusingly uses the same variable letter f for both Configurational Properties and Properties. The term 'Situational Concept' with the variable letter s has been proposed to eliminate this variable ambiguity.
[112] The theory distinguishes the operator 'Simultaneous' which is applicable at the layer of the State-of-Affairs and the semantic function 'Simultaneity' which expresses the relation between two or more States-of-Affairs.

Obligation, Avolitive, Negative, Iterative, and Distributive) and/or by lexical material (such as 'in London', 'before dinner', 'frequently', 'actually', 'because of the heavy rainfall', and 'so that she could watch television') to signal the relative time of the State-of-Affairs, the type and degree of commitment to the State-of-Affairs, the source of the State-of-Affairs, the physical or circumstantial enabling conditions of the State-of-Affairs (facultative modality), the obligatory or permitted conventions associated with a State-of-Affairs (deontic modality), the desirable or undesirable nature of the State-of-Affairs (volitive modality), the reality status of the State-of-Affairs (reality polarity), the place of the State-of-Affairs, and the frequency of the State-of-Affairs. The State-of-Affairs may take a semantic function (such as Causative, Consecutive, Simultaneity, Anterior, Posterior, and Circumstance).

The Configurational Property expresses the combination and interaction of the possible semantic categories in a language. The Configurational Property consists of a combination of semantic units which are not in a hierarchical relationship to each other. The head of the Configurational Property consists of one or more (different) Semantic Categories of a wide range of quantitative valencies (allowed minimal and maximal number of semantic categories) and qualitative valencies (allowed semantic categories and semantic functions). All of the semantic categories which are grammatically distinguished in a language may occur as one or more of the Semantic Categories in the Configurational Property. The possible configurations of Semantic Categories (with semantic functions) are specific to individual languages and are known collectively as 'predication frames'[113]. Specific predication frames are distinguished in the model (such as Zero-Place Predication Frames, One-Place Predication Frames, Two-Place Predication Frames, Three-Place Predication Frames, Four-Place Predication Frames, Relational Predication Frames, Classification Predication Frames, Identification Predication Frames, and Existence Predication Frames). Within each predication frame there is a nucleus (predicate) and possibly one or more dependents (arguments) which are assigned a relevant semantic function to indicate their relation with the nucleus.[114] The Configurational Property may be grammatically modified by an operator (such as Prospective, Progressive, Resultative, Perfective, Imperfective, Ability, Inability, Obligation, and Inference) and/or lexically modified by lexical material (such as 'for me', 'with him', 'with a knife', 'slowly', 'angrily', and 'for six hours') to specify the internal

[113] The Representational Level is thus organised on the basis of representational frames which deal with the hierarchical organisation of the Representational Level and predication frames which are responsible for the non-hierarchical organisation of Semantic Categories within the Configurational Property.
[114] Predicates are thus considered to assign functions to arguments and are not assigned a function themselves.

temporal consistency of the Configurational Property (aspect), the relation between a participant in the Configurational Property and the potential realisation of the Configurational Property (participant-oriented modality), the internal temporal extension of the Configurational Property (duration), further non-essential participants in the Configurational Property, and the manner of the Configurational Property. The Configurational Property may be assigned a semantic function (such as Means).

A Property may not occur independently but may only express a characteristic of another type of entity. The head slot of the Property may be empty or may be filled and consist of a lexeme which may be specified for a lexeme class β, a Configurational Property, or one or more Properties. A Property is generally headed by a lexeme in which case it is known as a Lexical Property. The semantic categories recognised within the model may all be designated by Lexical Properties which may function as the head and/or the modifier of the head of the relevant semantic category. This is due to the fact that lexemes predominantly designate properties. Lexical Properties are thus of central importance in building up semantic representations of other semantic categories through their application (in predication frames) at different levels of semantic organisation. Two subclasses of Properties are recognised in the model (namely Contingent Properties and Permanent Properties). The Property may be restricted by an operator (such as Singulative, Collective, Directionality, and Intensification) and/or by lexical means (such as 'beautifully', 'extremely', 'very', 'former', and 'upwards', and downwards') to signal the nominal aspect of the Property, the directionality of the Property, the gradation of the Property, and the manner of the Property. The Property may carry a semantic function (such as Undergoer and Accompaniment).

An Individual x designates a concrete and tangible entity which occupies a portion of space such that no two Individuals may occupy the same space. The head of the Individual may be left empty or may consist of an Episode, a State-of-Affairs, a Configurational Property, or a Property. Subclasses of Individuals are recognised in the model (such as for General Individuals, Sort Individuals, Mass Individuals, Singular Object Individuals, Set Individuals, and Collective Individuals). The Individual may be restricted by an operator (such as Distal, Proximate, Existential, Universal, Distributive, Zero, Singular, Dual, Plural, Numeral, and Diminutive) and/or by lexical material (such as 'rich', 'old', '(the man) in the moon', and lexical numerals) to indicate the spatial or temporal localisation of the Individual, quantification of the Individual, qualification of the Individual, and associations between

Individuals. The Individual may be assigned a semantic function (such as Reference, Actor, Undergoer, Recipient, Locative, and Associative).

Some languages may furthermore systematically distinguish other semantic categories. The Location l designates a location in space and may consist of an empty head or an Episode, a State-of-Affairs, a Configurational Property, or a Property. The Location may take similar operators which are applicable to Individuals and/or a lexical modifier (such as 'dilapidated (house)' and 'dangerously (close)') to specify the spatial localisation, quality, and quantity of the Location. The location may also take a semantic function (such as Direction and Locative). The Time t may designate a time linked to the moment of the speech act, a socially established calendar, or a point, relative position, or stretch on the time line. The head of the Time may be empty or may consist of an Episode, a State-of-Affairs, a Configurational Property, or a Property. The Time may also take similar operators which are applicable to Individuals or a lexical modifier (such as 'exciting (times)', '(the time) that he arrived', and '(the day) on which she left') to express localisation and quantification of the Time. A semantic function may be assigned to the Time (such as Duration and Locative[115]). The Manner m designates the manner in which an event is carried out or a state occurs. The head of the Manner may be empty or may contain a State-of-Affairs, a Configurational Property, or a Property. The Manner may be restricted by similar operators which are applicable to Individuals and/or by lexical material (such as 'new (method)', '(the way) that the work was done', and '(the way) in which the work was done') to indicate the spatial or temporal localisation, degree, quality, and quantity of the Manner. The Manner may be assigned a semantic function (such as Undergoer and Manner). The Quantity q is the result of measurement (such as counting, estimation, and comparison) and designates the amount of uncountable entities or number of countable entities. The head of the Quantity may be empty or may consist of a State-of-Affairs, a Configurational Property, a Property, or an Individual. The Quantity may be restricted by similar operators which are applicable to Individuals or by lexical material (such as 'generous (dose of medicine)' and 'large (sacks of cement)') to specify the temporal or spatial localisation, degree, quality, and quantity of the Quantity. A semantic function may be applied to the Quantity (such as Condition). The Reason r expresses lastly the thoughts that drive a human agent to act in a certain way. The head of the reason may be empty or may consist of a State-of-Affairs, a Configurational Property, or a Property.

[115] The term 'Locative' is confusingly used for semantic functions specifying localisation in both space and time.

The Reason may be specified by similar operators applicable to Individuals or by lexical material (such as 'good (reason)', '(the reason) that he left', '(the reason) for which he left', and '(because) apparently (his mother is ill)') to express spatial or temporal localisation, degree, quality, and quantity of the Reason as well as subjective attitude towards the Reason. The Reason may take a semantic function (such as Reason).

4.3.4 THE MORPHOSYNTACTIC LEVEL

The operation of Morphosyntactic Encoding takes the representations from the Interpersonal Level and Representational Level and merges them to form morphological and syntactic structures which are represented at the Morphosyntactic Level. The model thus does not recognise a distinction between a morphological level and a syntactic level of analysis due to the fact that the principles used in the formation of words are considered to be the same as those used in the formation of phrases and clauses. The lowest layer relating to the word does however deal distinctly with strictly morphological aspects (such as inflection and derivation) in contrast to the higher layers which deal strictly with syntactic aspects (such as linear ordering, alignment, and agreement). The relationship of the representations at the Interpersonal Level and Representational Level to the representations at the Morphosyntactic Level (and Phonological Level) is governed by both functional and non-functional principles. The functional principles (such as iconicity, domain integrity, and functional stability) attempt to maximise the parallelism between the representations in order to enhance the transparency and interpretability of linguistic structure. The principle of 'iconicity' equates the quantity, proximity, and ordering of representations at a higher level with the quantity, proximity, and ordering of representations at a lower level. The principle of 'domain integrity' equates representations which belong together at a higher level with those belonging together at a lower level. The principle of 'functional stability' equates representations with the same specification at a higher level with the same relative position at a lower level. The non-functional principles (such as basic constituent order) concern the arbitrary organisation of representations on the basis of inherent morphosyntactic rules which are language specific and which do not express a relation between the form and the function. Languages differ in the way and extent to which they impose organisation on morphosyntactic units based on both functional and non-functional principles. The Interpersonal Level and Representational

Level are partially organised hierarchically and partially organised configurationally. The linear ordering of morphosyntactic units at the Morphosyntactic Level proceeds in a top-down manner and begins with the morphosyntactic expression of hierarchically organised units at respectively the Interpersonal Level and Representational Level from the highest to the lowest layers at each level.[116] Interpersonal and representational units which are configurationally organised and which cannot be expressed in this manner are then ordered depending on the alignment system of the relevant language. This may reflect the organisation of the Interpersonal Level (interpersonal alignment) in terms of the rhetorical/pragmatic functions of interpersonal units and/or in terms of their reference (such as definiteness and specificity), the organisation of the Representational Level (representational alignment) in terms of the semantic functions of representational units and/or their designation (such as animacy and person), and the organisation of the Morphosyntactic Level (morphosyntactic alignment) which exhibits its own organisation (independent of the Formulation levels) in terms of the syntactic functions of morphosyntactic units and/or their complexity and weight. Possible obligatory positions in templates for which no material is available from the Interpersonal Level and Representational Level are filled with morphological or syntactic dummy elements. All linear ordering of morphosyntactic units occurs dynamically and makes use of both absolute positions and relative positions (to the absolute positions), with the absolute positions naturally first being filled before the relative positions are then filled. A number of copying operations may be necessary once all of the positions in a template have been filled in order to account for the expression of connectedness between morphosyntactic units (such as agreement, government, and tense copying). The model erroneously seems to distinguish morphosyntactic operators at the Morphosyntactic Level and notes that they are actually placeholders in morphosyntactic templates for abstract grammatical features which will only receive their definitive form at the Phonological Level.[117] The theory understands operators to grammatically modify a relevant layer, with the result of this grammatical modification appearing at lower levels, and places the relevant operator immediately before the layer variable in the representations. The proposed 'morphosyntactic operators' however neither grammatically modify a morphosyntactic layer nor appear immediately before the layer variable in the representations, but instead function as grammatical morphemic heads of morphosyntactic layers and consequently appear in the head position after the layer variable

[116] This is in line with the fact that hierarchical scope relations tend to be reflected in linear order.
[117] The theory thus considers the terms 'morphosyntactic operator' and 'placeholder' to be synonyms.

in the representations. The theory furthermore does not allow grammatical modification of morphosyntactic elements due to the fact that the representations at the Morphosyntactic Level are considered to be inserted and ordered in their ultimate morphosyntactic form which may not be further morphosyntactically altered.[118] The Morphosyntactic Level represents the organisation of morphosyntactic units and may be generally represented as in Figure 9[119].

Figure 9: General structure of the Morphosyntactic Level

$$(Le_1: [(Cl_{1+N}: [(Xp_{1+N}: [(Xw_{1+N}: MORP_B/[(Xs_{1+N}: MORP_B\ (Xs_{1+N})) (Xr_{1+N}: MORP_B\ (Xr_{1+N})) (Aff_{1+N}: MORP_B\ (Aff_{1+N}))\ (Cl_{2+N})_\Phi\ (Xp_{2+N})_\Phi\ (Xw_{2+N}))] (Xw_{1+N}))\ (Cl_{3+N})_\Phi\ (Xp_{3+N})_\Phi] (Xp_{1+N}))_\Phi\ (Xw_{3+N})\ (Cl_{4+N})_\Phi] (Cl_{1+N}))_\Phi\ (Xp_{4+N})_\Phi\ (Xw_{4+N})] (Le_1))$$

The Linguistic Expression Le forms the highest layer of the Morphosyntactic Level and constitutes any set of at least one morphosyntactic unit which can be used independently. The distinction of the Linguistic Expression as a morphosyntactic category forming the highest layer of organisation at the Morphosyntactic Level allows for the description of holophrases and non-sentential utterances. The Linguistic Expression may take as its head (a combination of) one or more Clauses Cl, one or more Phrases Xp, and/or one or more Words Xw.[120,121] The Linguistic Expression may possibly be assigned a syntactic function $_\Phi$ in combination with other Linguistic Expressions but this has not yet been proposed in the theory. Various combinations of Clauses, Phrases, and Words with possible syntactic functions are distinguished in the model and may be referred to as 'expression templates'

[118] I will thus consider placeholders not to be morphosyntactic operators but grammatical morphemes and will henceforth avoid the term 'morphosyntactic operator' in this thesis.
[119] This general representation of the Morphosyntactic Level differs from that offered in the theory (Hengeveld & Mackenzie 2008:291; 2010:381) in that it gives a current and more detailed description of the level structure.
[120] Linguistic Expressions solely consisting of a Stem, Root, or Affix are not common typologically. An example would be in a response to a metalinguistic question or cases of degrammaticalisation (such as the use of 'ish').
[121] Although empty heads at the Morphosyntactic Level have not been explicitly proposed in the model, there seem to be cases in which a relevant morphosyntactic unit is not phonologically realised but is implied to be present in the underlying form. An example of this would be avoidance strategies whereby the avoided unit is not spoken but is clearly insinuated by a hiatus in the utterance (possibly due to inability to find the appropriate unit, cultural taboos, didactic strategies, and word play). This would suggest that the morphosyntactic unit is actually present in the underlying template of the speaker either as a specific unit or as a general to-be-filled-in morphosyntactic category (by the addressee). The selection of this specific or general morphosyntactic unit by the addressee would be dependent on both the position and length of the hiatus in the utterance and contextual factors (with possible accompanying head and hand gestures to facilitate the implication). It may be expected that empty heads at the Morphosyntactic Level would most likely occur at the layer of the Word and less likely at the higher layers due to the increased risk of ambiguity or incoherence. I have chosen not to represent empty heads at the Morphosyntactic Level in Figure 9 due to their uncommon nature.

(such as Clausal Equiordination, Cosubordination, Coordination, Phrasal Equiordination, Extra-Clausality, and Listing Expression Templates). The linear ordering of morphosyntactic units within these expression templates is defined with respect to absolute positions within the templates which need not necessarily be realised in all languages. The model distinguishes an absolute central position, an absolute precentral position, and an absolute postcentral position within the Linguistic Expression.[122] Further positions within the Linguistic Expression are then defined relative to the outer absolute positions.[123] The number and nature of positions within a given expression template is dependent upon the type of template which is selected. Relevant copying operations may finally be carried out once all template slots are filled.

The Clause is a grouping of morphosyntactic units lower than the layer of the Linguistic Expression (but possibly including embedded Clauses) which is characterised by a template for the ordering of clausal units and by morphosyntactic expressions of the connectedness between those units. The Clause may take as its head (a combination of) one or more Phrases, one or more Words, and/or one or more embedded Clauses. The Clause may be assigned a syntactic function (such as Subject and Object). Various combinations of morphosyntactic units with possible syntactic functions within the Clause are allowed in individual languages and may be referred to collectively as 'clausal templates'. The model allows for recursion in that a single clausal template may call upon another clausal template to produce a more complex configuration (embedding). A finite stock of clausal templates may in this manner yield an unbounded number of possible clausal templates. The linear ordering of morphosyntactic units within clausal templates is defined with respect to absolute positions within the templates which may not be relevant for all languages. The model distinguishes an absolute initial position, an absolute medial position, and an absolute final position within the Clause, with some languages further needing recourse to an absolute second position.[124] Further positions within the Clause are defined relative to these absolute positions.[125] The

[122] The linear position of units at the Morphosyntactic Level is represented with the letter P which receives a postplaced superscript to specify the position and which is placed above the relevant unit in the representation. A precentral position P^{pre}, a central position P^{centre}, and a postcentral position P^{post} are thus distinguished within the Linguistic Expression. The model confusingly uses relative terms to define these absolute positions as the terminology is suggestive of a single absolute central position with other positions being relative to this position.
[123] A postprecentral position P^{pre+1} and a prepostcentral position P^{post-1} are the relative positions which are distinguished within the Linguistic Expression.
[124] A clause-initial position P^{I}, a clause-second position P^{2} a clause-medial position P^{M}, and a clause-final position P^{F} are the absolute positions which are distinguished within the Clause.
[125] A postinitial position P^{I+1}, a postmedial position P^{M+1}, and a penultimate position P^{F-1} are recognised as relative positions within the Clause.

number and nature of positions within a clausal template is dependent upon the configuration of the selected template. Copying operations are applied once the templates are filled.

The Phrase forms a grouping of morphosyntactic units generally lower than the layer of the Clause (but possibly including embedded Clauses and/or embedded Phrases) which is characterised by a template for the ordering of phrasal units and by morphosyntactic expressions of the connectedness between those units. The Phrase may take as its head (a combination of) one or more Words, one or more embedded Clauses, and/or one or more embedded Phrases. Various types of Phrase are distinguished in the model and are determined for individual languages according to distributional criteria (such as Noun Phrase, Verb Phrase, Adjective Phrase, Adverb Phrase, and Adposition Phrase).[126] The Phrase may be assigned a syntactic function (such as Subject and Object). The possible combinations of morphosyntactic units with syntactic functions within the Phrase are referred to collectively as 'phrasal templates'. The model again allows for recursion in that a single phrasal template may allow embedding of a Clause and/or another Phrase. The linear ordering of phrasal units takes place according to the same absolute and relative positions distinguished within the Clause, with copying operations being carried out once the phrasal templates are filled.

The Word consists of a grouping of morphosyntactic units generally lower than the layer of the Phrase (but possibly including embedded Clauses, embedded Phrases, and/or embedded Words) which is organised according to a template expressing the ordering of word units and the connectedness between those units. The model draws a sharp distinction between (formulated) lexemes at the Representational Level (and Interpersonal Level) and (encoded) Words at the Morphosyntactic Level (and Phonological Level).[127] A further distinction is made between Lexical Words on the one hand, which correspond to lexemes at the Interpersonal Level and Representational Level, and Grammatical Words on the other hand, which correspond to operators, functions, and abstract heads at the Interpersonal Level and Representational Level or which function as dummy elements and support elements at the Morphosyntactic Level. Various types of Lexical Words are distinguished (such as Nominal Word, Verbal Word, Adjectival Word, Adverbial Word, Adpositional Word, Conjunctival

[126] The model thus distinguishes generally a Phrase Xp but specifically a Noun Phrase Np, Verb Phrase Vp, Adjective Phrase Adjp, Adverb Phrase Advp, and Adposition Phrase Adpp.
[127] The necessity of stressing a distinction between lexemes and Words is unclear due to the fact that lexemes are lexical elements which are inserted into the head position of layer variables whereas Words are themselves layer variables. It might be better in this case to speak of (formulated) lexemes and their corresponding (encoded) lexical morphemes and phonemes. See § 5.1 for a proposal on the differentiation of entries in the Fund.

Word, and Particle Word) which reflect the specific morphosyntactic category of the Lexical Word (respectively Noun, Verb, Adjective, Adverb, Adposition, Conjunction, and Particle).[128] The model does not distinguish types of Grammatical Words which reflect the specific morphosyntactic category of the Grammatical Word (such as Pronoun, Auxiliary Verb, Proadjective, Proadverb, Grammatical Adposition, Grammatical Conjunction, and Grammatical Particle).[129] The head position of the Word may consist of a morphemic head MORP which may be further specified for belonging to a specific morphological class $_{B}$[130] or alternatively (a combination of) one or more Stems Xs, one or more Roots Xr, one or more Affixes Aff, one or more embedded Clauses, one or more embedded Phrases, and/or one or more embedded Words. The various combinations of morphosyntactic units allowed within the Word for a given language are referred to as 'word templates'. The linear ordering of word units is defined with respect to the same absolute and relative positions distinguished within the Clause, with relevant copying operations once again being carried out once the word templates are filled. The Word may not take a syntactic function.

The Word, Stem, Root, and Affix form the lowest layers at the Morphosyntactic Level and it is into the head positions of these variables that morphemes are inserted. These morphemes may be either lexical morphemes or grammatical morphemes and may be further independent (free) morphemes or dependent (bound) morphemes. Lexical morphemic heads correspond directly to lexemes at the Interpersonal Level and Representational Level. Grammatical morphemic heads, on the other hand, correspond to operators, functions, and abstract heads at the Interpersonal Level and Representational Level or form non-functional dummy or support elements at the Morphosyntactic Level. The model draws a distinction between grammatical morphemes which correspond to one phonological form (termed 'grammatical morphemes' in the theory) and grammatical morphemes which may have differing phonological forms depending on the phonological environment (termed 'morphosyntactic operators' in the theory). The grammatical morphemes corresponding to one phonological form are proposed to be inserted immediately in phonemic form into

[128] Nominal Words Nw, Verbal Words Vw, Adjectival Words Adjw, Adverbial Words Advw, Adpositional Words Adpw, Conjunctival Words Conjw, and Particle Words Partw may be distinguished in the model.
[129] Pronouns, Auxiliary Verbs, Proadjectives, Proadverbs, Grammatical Adpositions, Grammatical Conjunctions, and Grammatical Particles are thus all represented with Gw in the model but could be distinguished respectively as Pronominal Words Pronw, Auxiliary Verbal Words Auxvw, Proadjectival Words Proadjw, Proadverbial Words Proadvw, Grammatical Adpositional Words Gadpw, Grammatical Conjunctival Words Gconjw, and Grammatical Particle Words Gpartw.
[130] It may be noted that the existence of morphological classes removes the necessity of a morphosyntactic lexeme class. See § 5.1 for further discussion on the removal of these lexeme classes from the model.

morphosyntactic templates at the Morphosyntactic Level. The grammatical morphemes corresponding to differing phonological forms act as placeholders in morphosyntactic templates and are only realised phonologically in phonological templates at the Phonological Level.[131] The Word may directly consist of a morpheme solely in the case of independent grammatical morphemes. The remaining types of morphemes are inserted into the layers lower than the Word.[132] A Stem consists of an independent lexical morpheme and may thus occur as the sole lexical component of a Word.[133] The head position of the Stem consists of a morphemic head which may be further specified for morphological class. Various types of Stems are distinguished (such as Nominal Stem, Verbal Stem, Adjectival Stem, Adverbial Stem, Adpositional Stem, Conjunctival Stem, and Particle Stem).[134] The Stem may not take a morphological function. The difference between a Stem and a Root is that a Root is a dependent lexical morpheme and may solely occur in conjunction with a Stem or another Root within a Word. The head position of the Root also consists of a morphemic head which may be designated for morphological class. Various types of Roots are similarly distinguished (such as Nominal Root, Verbal Root, Adjectival Root, Adverbial Root, Adpositional Root, Conjunctival Root, and Particle Root).[135] The Root may not carry a morphological function. An Affix consists of a dependent grammatical morpheme which may only occur in combination with a Stem within a Word. Affixes are not further distinguished in the model.[136] The head position of the Affix consists of a morphemic head which may be designated for morphological class. The Affix may not take a morphological function.

4.3.5 THE PHONOLOGICAL LEVEL

The Phonological Level attempts to represent the segmental and suprasegmental phonological features of linguistic utterances. The representations coming from the Interpersonal Level,

[131] I consider both types of grammatical morphemes to function as grammatical morphemic heads in this thesis. See § 5.1 for further discussion on the distinction of these two types of grammatical morphemes in the model.
[132] The question arises why independent grammatical morphemes are singled out for not forming a specific morphosyntactic category in the theory but are inserted directly into the head position of the Word.
[133] I would argue with respect to the previous footnote that the composition of the Stem be extended to consist of either independent lexical morphemes or independent grammatical morphemes in the theory. There may in fact be independent grammatical morphemes in some languages to which roots or affixes may be attached.
[134] Nominal Stems Ns, Verbal Stems Vs, Adjectival Stems Adjs, Adverbial Stems Advs, Adpositional Stems Adps, Conjunctival Stems Conjs, and Particle Stems Parts may be distinguished in the model.
[135] Nominal Roots Nr, Verbal Roots Vr, Adjectival Roots Adjr, Adverbial Roots Advr, Adpositional Roots Adpr, Conjunctival Roots Conjr, and Particle Roots Partr may be distinguished in the model.
[136] Various types of Affixes could be distinguished similar to the distinctions for Stems and Roots in the model.

Representational Level, and Morphosyntactic Level are converted by the operation of Phonological Encoding into phonological representations at the Phonological Level. The theory stresses hereby that the representations coming from the higher levels may in fact already contain a considerable amount of phonological specification. The representations at the Phonological Level serve as the ultimate output of the grammar and are subsequently converted by the operation of Articulation in the case of speech into relevant articulatory gestures to produce the desired acoustic output. The Phonological Level is thus considered to deal with functional phonological aspects which either systematically encode the rhetorical/pragmatic, semantic, and morphosyntactic distinctions expressed in a given language or with non-functional phonological aspects which are inherent to the phonological organisation in a given language (phonological abstraction). The articulator is therefore considered to deal with articulatory aspects (such as formant frequency, intensity, duration, and spectral characteristics) which do not systematically encode grammatical features but are inherent to the acoustic expression of a linguistic utterance (phonetic realisation).[137] There is thus a clear distinction in the model between the abstract grammatical structure and the realised non-grammatical utterance.[138] The Phonological Level is hierarchically organised in layers which may not necessarily be applicable in specific utterances or even in specific languages and which form the domain for phonological processes which are applicable to the layers in their hierarchical scope. Each layer not only covers a potentially longer stretch of speech than the layer below it but is also characterised by phonological features which are typical for that layer alone. The different phonological layers may be grammatically modified by phonological operators to indicate the relative tone or pitch of a relevant phonological unit. These operators are combined by the operation of Articulation to produce a smooth intonational contour in the realised utterance, with the higher-level operators determining the outermost direction of pitch movement. The organisation of phonological units at the Phonological Level may be generally represented as in Figure 10.[139,140]

[137] One problem is that the assignment of linguistic processes to either Phonological Encoding (within the grammar) or Articulation (outside the grammar) is language specific and may furthermore be dependent on the individual perspective of the researcher as to what belongs or does not belong to the grammar. This problem will be further discussed in § 5.2 with respect to the splitting of the Phonological Level.

[138] Grammatical abstractions are extrapolated primarily (excluding model-internal formalisations) from phonetic realisations (from linguistic examples). This approach reflects the form-oriented function-to-form nature of the model. There is thus clear circularity in the initial development of the model for a given language. The model may subsequently be implemented top-down once the formalisation of the model for that language is complete.

[139] This general representation of the Phonological Level differs from that offered in the theory (Hengeveld & Mackenzie 2008:428; 2010:384) in that it gives a current and more detailed description of the level structure.

Figure 10: General structure of the Phonological Level

$$(\Pi\ U_1\colon (\Pi\ IP_{1+N}\colon (\Pi\ PP_{1+N}\colon (\Pi\ PW_{1+N}\colon (\Pi\ F_{1+N}\colon (\Pi\ S_{1+N}\colon (\Pi\ P_{1+N}\colon PHON_B\ (P_{1+N}))\ (S_{1+N}))\ (F_{1+N}))\ (PW_{1+N}))\ (PP_{1+N}))\ (IP_{1+N}))\ (U_1))$$

The Utterance U forms the largest stretch of speech distinguished at the Phonological Level.[141] The Utterance may be characterised by a global pitch movement (paratone) and is typically separated by longer pauses than units lower in the hierarchy which would never be interpreted by the addressee as hesitations. The Utterance may take as its head one or more Intonational Phrases IP and may be grammatically modified by a phonological operator Π to indicate the possible paratone of the Utterance (such as Falling and Rising). The Utterance may not be assigned a phonological function.

The Intonational Phrase is a grouping of phonological units which is characterised by a single prominent pitch movement which is localised on one of the stressed syllables within the Intonational Phrase (nuclear syllable) and is generally separated by pauses which are typically shorter than the pauses used to separate Utterances. The Intonational Phrase may take as its head one or more Phonological Phrases PP and may be grammatically modified by an operator to signal the pitch movement of the Intonational Phrase (such as Falling and Rising). The Intonational Phrase may not take a phonological function.

The Phonological Phrase is characterised by a local pitch movement which is centred on the stressed syllable within the Phonological Phrase in stress languages or forms the domain for tone sandhi in tone languages. The Phonological Phrase may take as its head one or more Phonological Words PW and may be grammatically modified to indicate pitch height or pitch movement within the Phonological Phrase (such as High, Low, Falling, and Rising). The Phonological Phrase may not take a phonological function.

The Phonological Word is a unit of phonological structure which may be distinguished by a required number of segments (such as number of syllables), prosodic features (such as stress or tone assignment), and/or restrictions on the domain of phonological processes (such as final devoicing). The Phonological Word may in the case of stress languages take as its head one or more Feet F or in the case of tone languages one or more Syllables S and may be

[140] Other phonological layers have been proposed to exist such as the Clitic Group between the Phonological Phrase and the Phonological Word (Nespor & Vogel 1986:11).
[141] The choice of the term 'Utterance' for a phonological unit at the Phonological Level is questionable due to the fact that utterances are articulatory in nature and are thus also phonetic units at the Output Level.

grammatically modified by an operator for tone (such as High and Low).[142] Different types of languages are distinguished on the basis of stress and/or tone assignment within the Phonological Word.[143] Whereas tone is realised by the articulator as a difference in pitch, stress may be realised by the articulator as a difference in loudness, pitch, duration, and/or intensity. Stress languages assign stress to one of the Syllables within a Foot. A distinction is made between free-stress languages whereby stress assignment is derivable from the position of the Syllable in the Phonological Word and fixed-stress languages whereby stress assignment is non-derivable. Tone languages require each Syllable within a Phonological Word to be assigned a tonal distinction. Tonal accent languages are obliged to assign a tonal distinction to each stressed Syllable within a Foot. Accentual tone languages require stress to be assigned to one of the Syllables within a Phonological Word which carries a high tone. The Phonological Word may not carry a phonological function.

The Foot is a phonological unit applicable in stress languages which forms a grouping of Syllables such that each Foot has one stressed (strong) Syllable and a number of non-stressed (weak) Syllables. Two main types of Feet are distinguished in the model (namely Trochaic Feet which stress the initial Syllable and Iambic Feet which stress the final Syllable). Some languages may further assign stress to one of the first three Syllables within the Foot (left-oriented languages) whereas others may assign stress to one of the last three Syllables within the Foot (right-oriented languages). Languages without rhythm simply lack a Foot layer. The Foot may take as its head one or more Syllables and may be grammatically modified to indicate tone and/or stress (such as High, Medium, Low, Falling, Rising, and Stress). The Foot may not be assigned a phonological function.

The Syllable consists of a grouping of phonemes which has traditionally been further divided into an onset, a nucleus, and a coda, with the nucleus and coda together forming the rhyme.[144] The onset consists of one or more consonants which form the initial part of a syllable. The nucleus is the only obligatory part of a syllable and must consist of one or more sonorants. The coda consists of one or more consonants which form the final part of a syllable. The Syllable may be further classified as being either heavy or light depending on the moraic structure of the rhyme. Bimoraic rhymes give rise to heavy Syllables and

[142] The Phonological Word may furthermore take as its head embedded Phonological Words in some languages.
[143] The assignment of stress and tone is only represented in the model when assignment is unpredictable.
[144] Although the model of FDG does not distinguish layers between the Syllable and the Phoneme, there are phonological processes which would argue for these layers to be distinguished. See § 5.3 for the necessity of distinguishing further layers within the syllable in the dialect of Iorras Aithneach.

monomoraic rhymes give rise to light Syllables. The relative weight of the Syllable may play a role in stress assignment in some languages. Heavy Syllables tend to attract stress when they co-occur with light Syllables. The first of two equally weighted Syllables may be stressed (left-edge languages) or the second of two equally weighted Syllables may be stressed (right-edge languages). The moraic structure of the rhyme is not explicitly represented in the model but is implicitly apparent in the order and number of Phonemes within Syllables. The Syllable may take as its head one or more Phonemes P and be grammatically modified for tone and/or stress (such as High, Medium, Low, Falling, Rising, and Stress). The Syllable may not carry a phonological function.

The Phoneme forms the lowest layer of phonological organisation at the Phonological Level.[145] The Phoneme takes as its head a single phoneme PHON which may be grammatically modified by an operator[146]. Phonemes traditionally form the smallest units of phonological representation and may be further divided into consonants and vowels which may be represented as a phoneme class $_{B}$ on the phonemic head. Consonants may be distinguished on the basis of primary articulatory gestures (such as place of articulation, manner of articulation, and state of the glottis) as well as for secondary articulatory gestures (such as palatalisation). Vowels may also be distinguished on the basis of articulatory gestures (such as position of the tongue, height of the jaw, lip rounding, state of the glottis, and opening of the nasal cavity). These distinctions are not represented explicitly in the model as phoneme classes but are implicitly apparent in the use of IPA symbols to designate phonemes. Such phoneme classes could nevertheless be employed in the case of systematic phonemic generalisations for descriptive adequacy. Whereas phonemes clearly distinguish individual lexical and grammatical elements, allophones encompass the various phonetic realisations of phonemes and have no bearing on the distinction of individual lexical and grammatical elements.[147] The Phoneme may not be assigned a phonological function.

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[145] It may be noted that the term 'Segment' is more current in the phonological literature than the term 'Phoneme' for the layer below the Syllable. The term 'Segment' implies a syntagmatic nature as opposed to the term 'Phoneme' which implies a paradigmatic nature. The model of FDG could easily represent both distinctions by adopting the term 'Segment' in place of the term 'Phoneme' for the layer below the Syllable whilst at the same time retaining the term 'phoneme' for the head of the Segment layer.

[146] See § 5.3 for a proposal on operators at the Phoneme layer and for operators at an Onset layer in FDG.

[147] The theory currently considers allophones to be articulatory in nature and thus assigns them to the operation of Articulation, with the allophones being represented at the Output Level. The theory is somewhat flexible in this respect, however, and recognises the possibility that allophony may in certain circumstances be phonological and thus be assigned to the operation of Phonological Encoding, with the process of allophony then being represented at the Phonological Level.

5 ADAPTATION OF THE MODEL OF FDG

This section proposes several adaptations to the model of FDG. The section begins with a proposal on the role and nature of the Fund, whereby the operation of Formulation is divided into two independent operations (§ 5.1). The operation of Phonological Encoding is then split into two sequential sub-operations, each with an independent level of representation (§ 5.2). New operators for the different mutational paradigms and new layers between the Syllable and the Phoneme are lastly introduced at the (proposed) Phonological Level(s) (§ 5.3).

5.1 ROLE AND NATURE OF THE FUND

The general architecture of the model of FDG consists of operations, primitives, and levels of representation as was illustrated in Figure 5. The model distinguishes three sets of primitives for each of the general operations applicable within the grammar, namely primitives for Formulation, primitives for Morphosyntactic Encoding, and primitives for Phonological Encoding. Each set of primitives may be further divided into elements which have a structuring function and consist of slots, namely the frames and templates, and elements which may be inserted into those slots, namely the lexemes, morphemes, phonemes, and operators. The primitives are stored in and form the 'Fund' of the grammar, with the lexemes being stored in and forming the 'Lexicon' within the Fund. The role and nature of the Fund in FDG has not been explicitly outlined but may be somewhat deduced from references within the theory (Hengeveld 2004; Hengeveld & Mackenzie 2008; 2010) as well as from the status of the Fund in its predecessor Functional Grammar (FG) (cf. Dik 1997a:58-62).[148] The Fund would appear to constitute a storehouse of frames and templates which are first selected and subsequently into which the selected lexemes, morphemes, phonemes, and operators are inserted and possibly adapted according to the required functional expression of the communicative intention and the non-functional rules of encoding in a given language. This is not to say that the Fund is to be considered as a static storehouse of forms as the theory allows for dynamic processes to occur within the Fund such that "derivational processes, with a semantic import that goes beyond the adaptation of a lexeme to a slot, will be dealt with in the lexicon, as a process of extending the set of primitives, and not in the grammar, as a process

[148] The term 'Fund' is employed in Hengeveld (2004) but not in Hengeveld & Mackenzie (2008; 2010) and refers to both the storehouse (space) and the primitives that the storehouse contains (content) (Hengeveld p.c.).

of preparing lexemes for morphosyntax" [and phonology] (Hengeveld & Mackenzie 2008:229-230). The Fund may thus be considered to form an integral part of the grammar and to store the underlying forms of primitives which may be further combined or altered during the process of insertion into frames and templates. The explicit role and nature of the Fund is not only generally important in a new and developing grammatical theory but is specifically relevant for the description of initial consonant mutation in the dialect of Iorras Aithneach.

I propose in this thesis that the radical form of each linguistic unit in the dialect of Iorras Aithneach represents an underlying phonological form which is stored in the Fund and which is subsequently inserted into an appropriate phonological template before being phonologically altered according to the relevant mutational paradigm. I argue for the recognition of an underlying phonological form in the Fund due to the fact that language users are collectively able to refer back to this radical form as the original form and that alteration of this underlying phonological form is predictable and thus systematic. Inclusion of the different possible phonological forms of each linguistic unit or 'entry' in the Fund would not only ignore the systematicity of this apparent grammatical process but would also lead to an enormous and inefficient store of possible phonological forms in the Fund. The relevant phonological alterations may moreover be productively used by language users when faced with neologisms and loan words which may clearly undergo mutations. These recent additions to the language most likely begin as a single form which constitutes the underlying phonological form and which may then be incorporated into the mutational system and be phonologically altered according to the relevant mutational paradigm.

The underlying phonological form of each entry naturally only reflects phonological aspects of the entry, with other relevant linguistic aspects of the entry similarly being stored in the Fund.[149] I thus also argue for a differentiation of the linguistic aspects of each entry in the Fund according to the differentiation observed within the Grammatical Component and more recently within the Contextual Component (Hengeveld & Mackenzie in preparation).[150] Each

[149] The assignment of stress within a phonological Word in the dialect of Iorras Aithneach will only be represented in the Fund when assignment is not systematic and is thus unpredictable.

[150] The differentiation of independent levels of linguistic analysis implies that only those linguistic aspects relevant to a particular level should be represented at that level. The model represents morphosyntactic features at both the Interpersonal Level and Representational Level by distinguishing morphosyntactic classes on lexemes as well as exhibiting phonological features at the Interpersonal Level, Representational Level, and Morphosyntactic Level by representing lexemes and non-suppletive morphemes in phonemic form. In line with the linguistic differentiation observed within the model, I would argue for the restriction of rhetorical/pragmatic, semantic, morphosyntactic, and phonological information to their respective levels. The loss of the distinction between general morphosyntactic class and specific morphosyntactic application of lexemes caused by the

entry would in this view consist of rhetorical/pragmatic, semantic, morphosyntactic, and phonological information at respectively the Interpersonal Stratum, Representational Stratum, Morphosyntactic Stratum, and Phonological Stratum.[151] The linguistic aspects of each entry would be selected and inserted separately into frames and templates during the operations of Formulation, Morphosyntactic Encoding, and Phonological Encoding. Rhetorical/pragmatic information may be viewed to be stored separately in a Rhetoricopragmaticon, semantic information in a Semanticon, morphosyntactic information in a Morphosyntacticon, and phonological information in a Phonologicon. I conjecture hereby that the various entries and aspects of each entry in the Fund would be connected to each other to varying degrees which would be expected to be subject to the general and individual dynamic use of language. The associated linguistic aspects of each individual entry would firstly be intrinsically connected to each other in an intra-entry interstratal network constituting all relevant linguistic information pertaining to the individual entry. The distinct linguistic aspects of each entry would additionally be intrinsically connected to similar distinct linguistic aspects of other entries in a larger interentry intrastratal network within the Fund. Similar linguistic aspects of entries across the Fund would thus be connected according to rhetorical/pragmatic, semantic, morphosyntactic, and phonological networks. Individual entries would lastly be associatively connected to other individual entries in an interentry omnistratal network as a result of frequent co-occurrence (collocation) in language use.[152]

I further argue for the differentiation of the operation of Formulation into Interpersonal Formulation and Representational Formulation owing to the fact that the operation of Formulation results in the production of two separate levels of linguistic analysis and that these levels are considered to be independent levels within the grammar. The two operations of Formulation would logically draw from distinct primitives stored at different strata in the Fund resulting in the production of two distinct levels of representation. This is similar to the differentiation of the operation of Encoding already present in the model into Morphosyntactic Encoding and Phonological Encoding.

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removal of morphosyntactic lexeme classes from the non-morphosyntactic levels may be recovered by the representation of morphological classes to indicate the general morphosyntactic class with the morphosyntactic variable which indicates the morphosyntactic application at the Morphosyntactic Level. The lexeme classes at the Interpersonal Level and Representational Level would then only refer to rhetorical/pragmatic and semantic classes. Removal of phonological information from non-phonological levels has no implications for the model.

[151] See Sadock (1991), Halle & Marantz (1993; 1994), and Jackendoff (2010) for comparable views of lexical entries in respectively the models of Autolexical Syntax, Distributed Morphology, and Parallel Architecture.

[152] I use the term 'intrinsic relation' to refer to stratal relations both within a single entry and between separate entries which differs from Levelt's (1989:183-185) use for linguistic feature relations between separate entries.

I lastly argue for a differentiation of the elements in the Fund into lexical, grammemical, and structuring elements which may be organised in a top-down functional and non-functional manner.[153] The model of FDG draws a clear distinction between structuring primitives and insertable primitives. The model makes a further clear distinction between insertable primitives which either lexically or grammatically express concepts.[154] Languages differ not only in the way and extent to which they structure linguistic units at different levels of analysis but also in the choice between either the lexical or grammatical expression of concepts[155]. The Fund may thus be considered to consist of a Lexicon which stores the associated linguistic aspects of lexemes (lexical units), a Grammemicon which stores the associated linguistic aspects of grammemes (grammatical units), and a Structicon which stores the associated linguistic aspects of frames and templates (structuring units) as in Table 15. The lexemes and grammemes would be expected to be intrinsically connected in a

Table 15: Structure of the Fund

Store in the Fund → *Linguistic stratum ↓*	Lexicon	Grammemicon		Structicon
Interpersonal Stratum	lexemes	abstract features	operators	frames + functions
Representational Stratum	lexemes	abstract features	operators	frames + functions
Morphosyntactic Stratum	lexical morphemes	grammatical morphemes		templates + functions
Phonological Stratum	lexical phonemes	grammatical phonemes	operators	templates + functions

network to associated frames and templates with accompanying functions.[156] The Lexicon would in this view consist of lexemes at the Interpersonal Stratum and Representational Stratum together with corresponding lexical morphemes at the Morphosyntactic Stratum and corresponding lexical phonemes at the Phonological Stratum. The Grammemicon would consist of both abstract features and operators at the Interpersonal Stratum and Representational Stratum together with corresponding grammatical morphemes at the Morphosyntactic Stratum and corresponding grammatical phonemes and operators at the Phonological Stratum. The Structicon would lastly consist of interpersonal and representational frames with accompanying rhetorical/pragmatic and semantic functions at the

[153] See § 7.5 for the psychological adequacy of the divisions within the Fund in the model of FDG.
[154] See Keizer (2007) for further discussion on the lexical and grammatical dichotomy in the model of FDG.
[155] Concepts would seem to always be able to be expressed lexically in a given language but not always to be expressed grammatically (Hengeveld p.c.). Lexical expression of a concept further seems to be favoured above grammatical expression of the same concept where there is a choice in a given language (Dik 1997a:345).
[156] The model considers functions to be an intrinsic characteristic of frames and templates. Functions are thus not considered to be separate elements which may be inserted into frames and templates.

Interpersonal Stratum and Representational Stratum together with associated morphosyntactic and phonological templates with accompanying morphosyntactic and phonological functions at the Morphosyntactic Stratum and Phonological Stratum. The Grammemicon and the Structicon together may be considered to form the Grammaticon of a language. The representations in the Fund would be expected in the implementation of the model to only include those aspects of primitives which are of direct relevance to the linguistic analysis at hand and which may be represented at different strata of 'fundal' analysis. The adaptations to the model of FDG proposed in this section may be represented as in Figure 11[157,158].

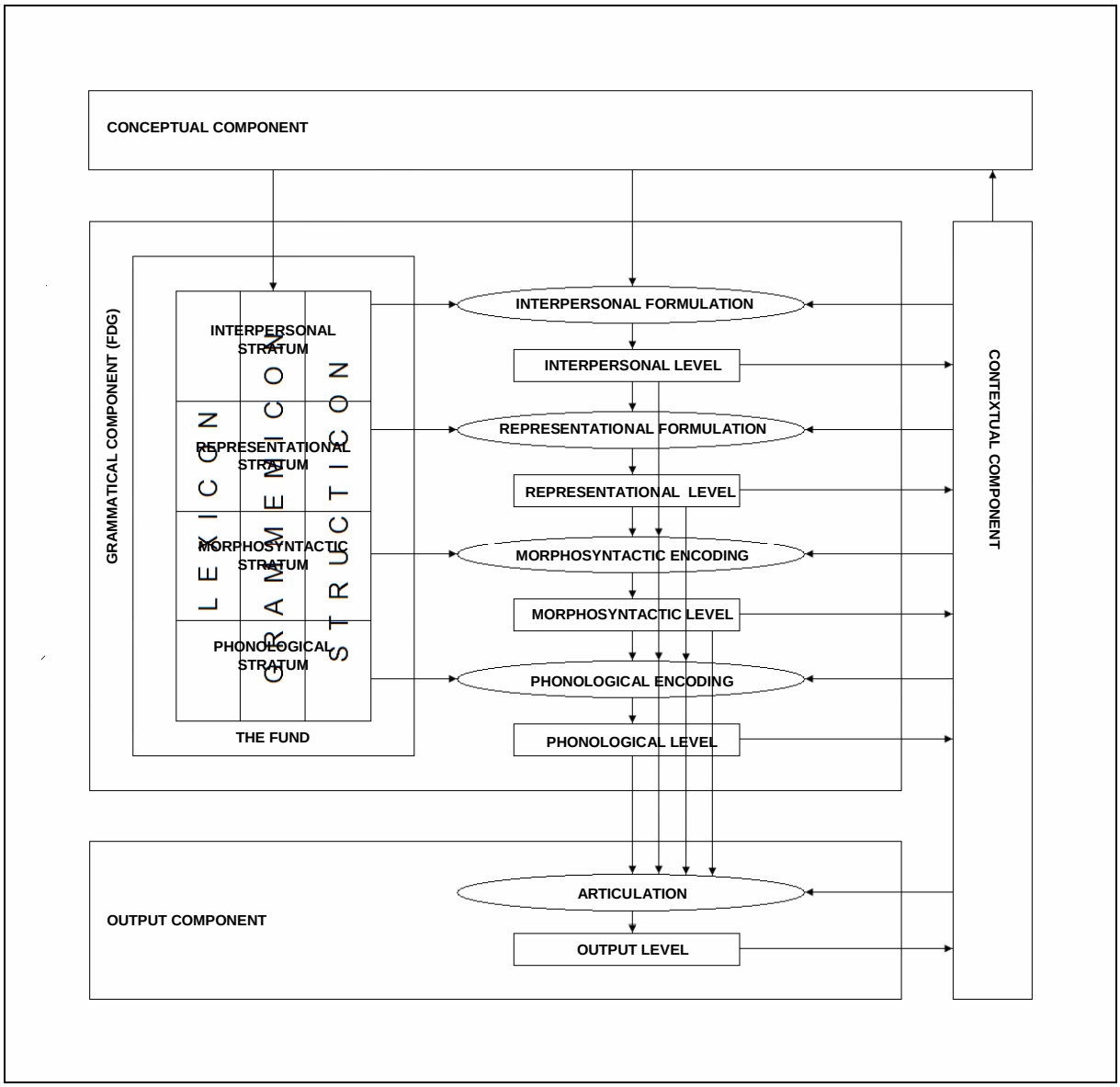
A pass through this adapted model in dynamic implementation begins with the Contextual Component where the relevant declarative, situational, and encyclopedic knowledge (Levelt 1989:9-11) results in the conceptualisation of a prelinguistic communicative intention. The corresponding lexical, grammemical, and structural elements associated with the communicative intention are then activated in the Fund (fundal activation). The top-down implementation of the model starts with Interpersonal Formulation whereby a selection is forced (one possibility) or made (more than one possibility) out of the available activated primitives at the Interpersonal Stratum in the Fund (fundal selection). The selected interpersonal lexemes and interpersonal abstract features and operators are hereby inserted into the selected interpersonal frames resulting in an interpersonal representation at the Interpersonal Level (lexical and grammemical insertion). The model repeats this process of selection and insertion of fundal primitives for Representational Formulation, Morphosyntactic Encoding, and Phonological Encoding, with the resulting digital phonetic plan being converted to analogue form during Articulation. The resultant representations from each level of the grammar and the articulated utterance become part of the discourse context and are stored in the Contextual Component for possible future reference or retrieval.[159]

[157] An arrow from the Contextual Component to Articulation and an arrow from the Output Level to the Contextual Component has been added to represent the effect of context on articulation and the addition of linguistic utterances to the context (cf. Hengeveld & Mackenzie 2008:13; 2010:369). This is in line with the proposed influence of contextual factors on articulation in Pirahã (O'Neill in preparation) and has been recently adopted by Hengeveld & Mackenzie (in preparation). Further arrows from the Contextual Component to the Conceptual Component and from the Conceptual Component to the Fund have been added to represent the effect of context on conceptualisation and the connection between concepts and primitives.

[158] There is clear overlap in the naming of the strata in the Fund and the strata in the Contextual Component. The solution to this ambiguity is to specify the strata as either belonging to the Fund or to the Contextual Component such as the Fundal Interpersonal Level (FIL) versus the Contextual Interpersonal Level (CIL).

[159] See Hengeveld & Mackenzie (in preparation) for a proposal on the stacking of discourse elements in the Contextual Component to represent the contextual saliency of contextual elements.

Figure 11: First adapted model of FDG



5.2 UNDERLYING AND SURFACE PHONOLOGY

The form-oriented function-to-form nature of FDG dictates that the main goal of the model is to give an account of morphosyntactic and phonological aspects of utterances which either systematically reflect rhetorical/pragmatic and semantic aspects of the operation of Formulation (functionally motivated) or which display inherent properties of the operation of Encoding (non-functionally motivated). This approach further dictates that only contextual factors which have a systematic effect upon the operations within the grammar (contextually motivated) will be modelled in describing the interaction between the Contextual Component

and the Grammatical Component. The initial consonant mutations within each mutational paradigm in the dialect of Iorras Aithneach are systematically activated as a result of both functional and non-functional features. The phonological mutations within each paradigm are furthermore systematic and predictable for both known and unknown linguistic forms. Contextual factors on the other hand do not seem to play a direct role (but rather an indirect role via the Conceptual Component) in the activation of a mutational paradigm in the dialect.

The model distinguishes a single level of representation which attempts to capture the processes which take place during the operation of Phonological Encoding.[160] The rhetorical/pragmatic, semantic, and morphosyntactic representations coming from the Interpersonal Level, Representational Level, and Morphosyntactic Level are translated by the operation of Phonological Encoding into (supra)segmental phonological representations which are displayed at the Phonological Level, which is organised on the basis of layered phonological templates as in Figure 10. The Phonological Level deals specifically with phonology as opposed to the Output Level which deals strictly with articulation. The assignment of a particular linguistic process to either phonology or articulation is however not always clear-cut and is not solely language specific but rather depends on how the analyst interprets what belongs or does not belong to the grammar.

I propose in this thesis that the alteration of initial consonants in the dialect is systematically activated and then either applied or restricted, depending upon the absence or presence of mutational constraints, and thus forms a phonological process within the grammar which should be accounted for in the underlying representations at the Phonological Level. The mutations are systematically activated and applied according to strict phonological rules which result in a restricted set of phonemes (digital phonological form). The radical form of each linguistic unit in the dialect forms the underlying phonological form which is stored in the Fund and which is inserted into phonological templates during the operation of Phonological Encoding. This underlying phonological form consists of an ordered grouping of phonemes and possibly a stress pattern in the case of unpredictable stress assignment, with systematic stress placement taking place within the grammar. The radical form may remain unmutated or may be altered according to a specific mutational paradigm. The resultant representations at the Phonological Level form the articulatory plan for the operation of Articulation which results in the articulated utterance (analogue phonetic form).

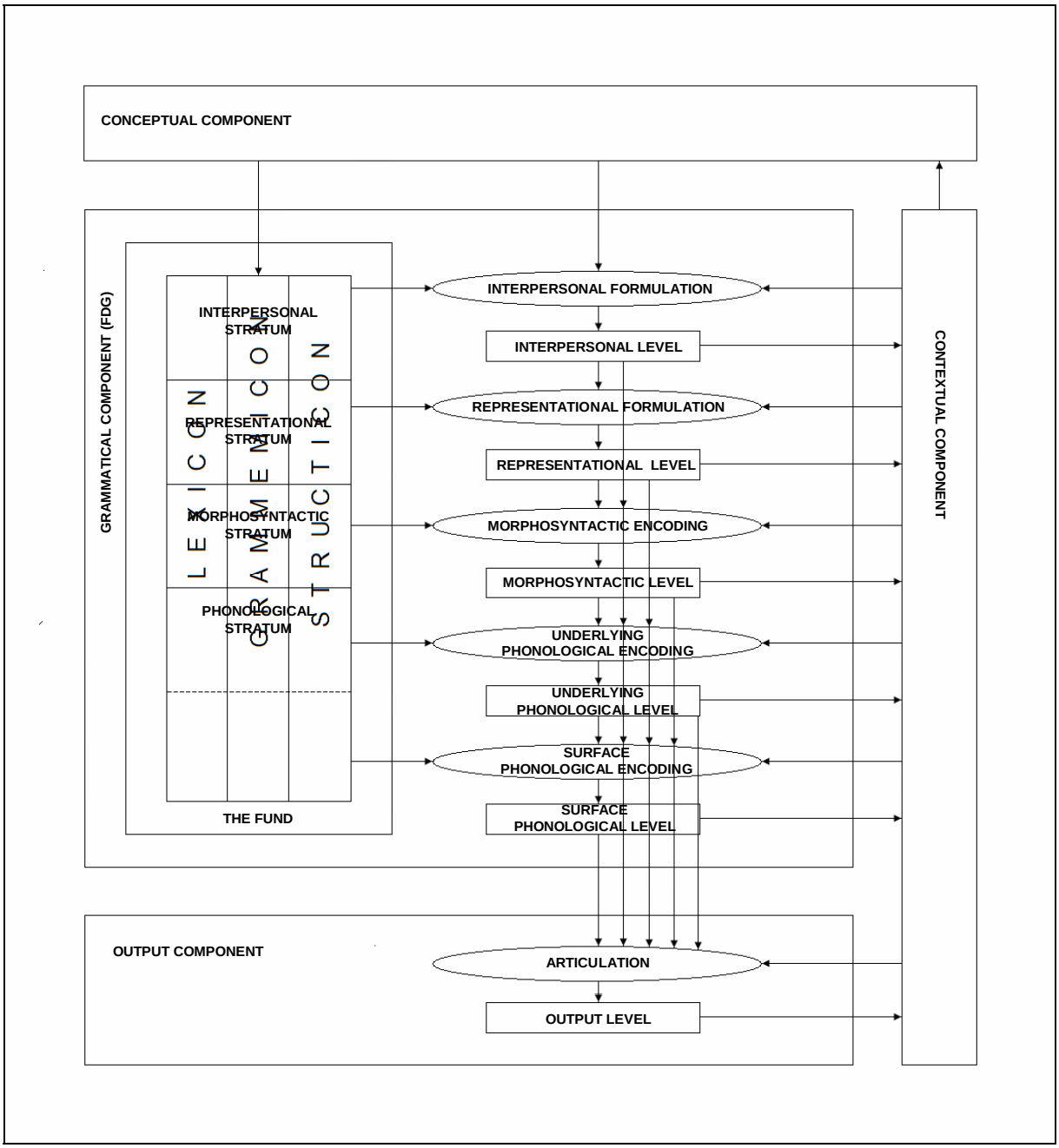
[160] See § 7.4 for a discussion of the pattern versus process nature of the model of FDG.

I further argue that the single level of representation for the processes involved in Phonological Encoding distinguished within the model does not adequately capture the complexity or order of the phonological processes associated with initial consonant mutation in the dialect of Iorras Aithneach. It seems apparent that the underlying phonological form must first be selected from the Fund and then inserted into a phonological template before the relevant mutational paradigm may be activated. Activation of a particular mutational paradigm results in the application of a specific phonological operator in the absence of constraints or the restriction of a specific phonological operator in the presence of constraints. The resultant form may then be further phonologically modified by relevant phonological processes. I therefore propose splitting the operation of Phonological Encoding into two sequential sub-operations, each with its own distinct level of representation.[161,162,163] The first sub-operation deals with the insertion of the underlying phonological form and the possible activation of a particular mutational paradigm operator which is represented at the Underlying Phonological Level. The second sub-operation deals subsequently with the application or restriction of the mutational paradigm operators creating the surface phonological form which may be further phonologically modified and which is represented at the Surface Phonological Level. [164] The distinction between an underlying phonological form and a surface phonological form does not imply that the two forms necessarily must differ as they will be identical when no mutational paradigm operators are activated or applied. It is thus claimed that both the Underlying Phonological Level and the Surface Phonological Level are always present in the dialect of Iorras Aithneach. The relevant phonological templates are in this view first selected and then the underlying phonological forms of lexemes and grammemes are inserted from the Fund before being possibly phonologically altered by a mutational paradigm operator according to the sub-operation of Underlying Phonological Encoding. The resultant forms from Underlying Phonological Encoding are subsequently inserted into relevant phonological templates and may be phonologically modified according to the sub-operation of Surface Phonological Encoding. The representations coming from Surface

[161] The adoption of two sub-operations with two distinct levels seems to be the minimum required to adequately describe initial consonant mutation in the dialect of Iorras Aithneach. Further intermediate sub-operations with distinct levels may of course be postulated in light of evidence of further ordered processes.
[162] This proposal was originally inspired and is partially based on the division between an underlying and surface phonological level in the model of Bidirectional Phonology (Boersma 2011).
[163] Underlying phonological forms are represented between single slashes /…/, surface phonological forms between double slashes //…//, and articulatory realisations between square brackets […] in this thesis.
[164] See § 7.4 for discussion of the psychological adequacy of these two levels in the model of FDG.

Phonological Encoding form the input to the Output Component which carries out the necessary phonetic rules to create adequate utterances. The adaptations proposed to the model in this section may be incorporated into the first adapted model and be schematically represented as in Figure 12[165].

Figure 12: Second adapted model of FDG



[165] The dotted line in Figure 12 dividing the Phonological Stratum in the Fund represents the possible distinction of primitives for the sub-operations of Phonological Encoding.

5.3 APPLICATION AND RESTRICTION OF MUTATIONS

The radical form of each linguistic unit in the dialect forms the underlying phonological form which may be phonologically altered according to a specific mutational paradigm. The activation of a mutational paradigm during the operation of Underlying Phonological Encoding may be represented as a phonological operator at the Underlying Phonological Level. Four new mutational paradigm operators may be put forward, namely for the first paradigm (MUT1), the second paradigm (MUT2), the third paradigm (MUT3), and the fourth paradigm (MUT4). Such mutational operators would seem to be applicable at the layer of the Phoneme as they generally modify individual initial phonemes in the dialect.[166] This includes the mutation of a single initial consonant as in (1), (3), (5) and (6), the mutation of the first initial consonant of a consonant cluster as in (2), (4), and (8), and the mutation of the second initial consonant of a consonant cluster as in (9). The existence of mutations which apply to initial consonant clusters would however argue for mutational paradigm operators to be applicable at a layer higher than the Phoneme (to allow for scope over the phonemes within the initial consonant cluster) but lower than the layer of the Syllable (to delimit scope over all of the phonemes in the syllable). This includes the mutation of the consonants of an initial cluster as in (10) and the mutation of the consonants of an initial cluster into a single phoneme as in (7). I thus argue for the recognition of an Onset layer within the Syllable at the Phonological Level to allow for phonological modification of initial consonant clusters by a mutational paradigm operator. The recognition of an Onset layer naturally calls for the recognition of a Rhyme layer within the Syllable, with the Rhyme further consisting of a Nucleus layer and a Coda layer. Although the mutational paradigm operators will not be applicable at these layers, there may be operators which would be applicable in the dialect and in other languages. These new layers may be incorporated into the model as in Figure 13. The

Figure 13: Adapted general structure of the Phonological Level

$$(\Pi\ U_1\colon (\Pi\ IP_{1+N}\colon (\Pi\ PP_{1+N}\colon (\Pi\ PW_{1+N}\colon (\Pi\ F_{1+N}\colon (\Pi\ S_{1+N}\colon [(\Pi\ O_1\colon (\Pi\ P_{1+N}\colon PHON_B\ (P_{1+N}))\ (O_1))\ (\Pi\ R_1\colon [(\Pi\ N_1\colon (P_{2+N})\ (N_1))\ (\Pi\ C_1\colon (P_{3+N})\ (C_1))]\ (R_1))]\ (S_{1+N}))\ (F_{1+N}))\ (PW_{1+N}))\ (PP_{1+N}))\ (IP_{1+N}))\ (U_1))$$

[166] It may be remembered that the mutations generally only affect the initial consonant (see § 2.4 and § 2.6).

Syllable S may be divided into a single Onset O and a single Rhyme R. The Rhyme may in turn consist of a single Nucleus N and a single Coda C, with the Nucleus forming an obligatory layer within the Syllable. Each of these layers may consist of one or more Phonemes P which take individual phonemes PHON in head position. The Onset, Rhyme, Nucleus, Coda, and Phoneme may be modified by a phonological operator, with the mutational paradigm operators being proposed to be generally applicable at the layer of the Onset in the dialect of Iorras Aithneach.[167]

The mutational paradigm operator is applied during the operation of Surface Phonological Encoding in the absence of phonological constraints resulting in the surface phonological form which is represented at the Surface Phonological Level. The mutational paradigm operator would thus be present in the representations at the Underlying Phonological Level, whereby the phonemic representation of the relevant lexeme or grammeme would be different at the Underlying Phonological Level and the Surface Phonological Level. The mutational paradigm operator may alternatively be restricted in the presence of phonological constraints. The mutational paradigm operator would in this view first be activated during the operation of Underlying Phonological Encoding but would then be cancelled or ignored during the operation of Surface Phonological Encoding.[168] The mutational paradigm operator would thus be present in the representations at the Underlying Phonological Level, whereby the phonemic representation of the relevant lexeme or grammeme would be identical at the Underlying Phonological Level and the Surface Phonological Level. The non-activation of a mutational paradigm would lastly result in the absence of a mutational paradigm operator, whereby the phonemic representation of the relevant lexeme or grammeme would again be identical at the Underlying Phonological Level and the Surface Phonological Level. The splitting of the Phonological Level into two sequential sublevels thus clearly allows for the order and representation of the activation or non-activation and the application or restriction of a mutational paradigm operator within the grammar. The surface phonological form may in turn be phonologically modified by a relevant phonological operator which will subsequently be applied during the operation of Articulation. The result of Surface Phonological Encoding is ultimately expressed in the form of the phonetic or articulatory utterance which is represented at the Output Level.

[167] See § 7.2 for further discussion of the recognition of an onset layer in the theory of Prosodic Phonology.
[168] These restrictions are not to be confused with deletions which are strongly opposed in both FG and FDG. See § 7.4 for further discussion on the difference between a restriction and a deletion in the model of FDG.

6 FDG ANALYSIS OF INITIAL CONSONANT MUTATION

This section offers an analysis of initial consonant mutation within the adjusted framework of Functional Discourse Grammar. The main activation factors of initial consonant mutation (§ 6.1) followed by the main restrictions on the mutations (§ 6.2) in the dialect will be analysed.[169] General uninstantiated representations for both general tendencies and main deviations as well as specific instantiated representations for individual illustrative examples will be presented according to the adjusted formalism of FDG.[170]

6.1 ACTIVATION OF INITIAL CONSONANT MUTATION

The activation of initial consonant mutation generally results in the mutation of the radical initial consonant of the onset into a mutated initial consonant in the absence of restrictions. The relevant Mutation operator is applicable at the layer of the Onset which mutates the single phoneme of a monophonemic onset as in (1) leading to the representation in (230) or

(230) a. PL: U (PW$_1$: -(F$_1$: (S$_1$: [(MUT O$_1$: (P$_1$: /PHON$_C$/ (P$_1$)) (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

S (PW$_1$: -(F$_1$: (S$_1$: [(O$_1$: (P$_1$: //PHON$_C$// (P$_1$)) (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

b. PL: U (PW$_I$: (F$_I$: (S$_I$: [(MUT1 O$_I$: (P$_I$: /b$_C$/ (P$_I$)) (O$_I$)) (R$_I$: -/ɑ:d̪/- (R$_I$)) (S$_I$))] (F$_I$)) (PW$_I$))]

S (PW$_I$: (F$_I$: (S$_I$: [(O$_I$: (P$_I$: //w$_C$// (P$_I$)) (O$_I$)) (R$_I$: -//ɑ:d̪//- (R$_I$)) (S$_I$))] (F$_I$)) (PW$_I$))]

OL: [wɑ:d̪]

the initial phoneme of a cluster onset as in (2) leading to the representation in (231)[171]. An initial fricative is not mutated in the strictest sense of the term in the first paradigm but rather the fricative is elided in both monophonemic onsets resulting in the loss of the onset as

[169] § 6 (FDG analysis) is organised identically to § 3 (general analysis) for ease of legibility and comparison.
[170] Both the general uninstantiated representations and specific instantiated representations will only include those linguistic units which are relevant to the analysis at hand. This implies that levels and layers at a particular level which are not deemed relevant will not be represented, and that layers at a particular level which could be further described will only represent units at that level which are necessary for the analysis. Whereas the model does not employ an explicit symbol to express the further possible description of higher layers, the model employs circumfixed hyphens -…- to represent the further possible description of a particular unit.
[171] Most examples in this section will give both a general uninstantiated representation of a (non-)mutation and a specific instantiated representation of an illustrative example, with the general representations corresponding to the (a) examples and the specific representations corresponding to the (b) examples.

(231) a. PL: U (PW1: -(F1: (S1: [(MUT O1: [(P1: /PHONC/ (P1)) (P2: /PHONC/ (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(O1: [(P1: //PHONC// (P1)) (P2: //PHONC// (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: (SI: [(MUT1 OI: [(PI: /bʲC/ (PI)) (PJ: /rʲC/ (PJ))] (OI)) (RI: -/ɑ:/- (RI))] (SI)) (FI)) (PWI))

S (PWI: (FI: (SI: [(OI: [(PI: //vʲC// (PI)) (PJ: //rʲC// (PJ))] (OI)) (RI: -//ɑ://- (RI))] (SI)) (FI)) (PWI))

OL: [vʲrʲɑ:]

in (3) represented in (232) and cluster onsets resulting in the reduction of the onset as in (4)

(232) a. PL: U (PW1: -(F1: (S1: [(MUT O1: (P1: /PHONC/ (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: (R1) (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: (SI: [(MUT1 OI: (PI: /fʲC/ (PI)) (OI)) (RI: -/æˑr/- (RI))] (SI)) (FI)) (PWI))

S (PWI: (FI: (SI: (RI: -//æˑr//- (RI)) (SI)) (FI)) (PWI))

OL: [ær]

leading to (233). It is clear in (233) that systematic stress placement is not represented at the

(233) a. PL: U (PW1: -(F1: (S1: [(MUT O1: [(P1: /PHONC/ (P1)) (P2: /PHONC/ (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(O1: (P1: //PHONC// (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: [(SI: [(MUT1 OI: [(PI: /fʲC/ (PI)) (PJ: /rʲC/ (PJ))] (OI)) (RI: -/æ:/- (RI))] (SI)) (SJ: -/grə/- (SJ))] (FI)) (PWI))

S (PWI: (FI: [(SI: [(OI: (PI: //rʲC// (PI)) (OI)) (RI: -//æ://- (RI))] (SI)) (SJ: -//grə//- (SJ))] (FI)) (PWI))

OL: [ˈrʲæ:.grə]

Phonological Level but is applied on the basis of phonological information from the Surface Phonological Level during Articulation and only becomes apparent at the Output Level.

The various idiosyncratic mutations which have been observed in monophonemic initial onsets in speaker variation may also be adequately represented in the adjusted formalism. A specific single consonant onset may firstly be mutated into a double consonant onset as in (5) resulting in (234).[172] Such a mutation may be expected to either completely

(234) a. PL: U (PW1: -(F1: (S1: [(MUT O1: (P1: /PHONC/ (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(O1: [(P1: //PHONC// (P1)) (P2: //PHONC// (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: (SI: [(MUT1/# OI: (PI: /ʃC/ (PI)) (OI)) (RI: -/oːl/- (RI))] (SI)) (FI)) (PWI))

S (PWI: (FI: (SI: [(OI: [(PI: //hC// (PI)) (PJ: //jC// (PJ))] (OI)) (RI: -//oːl//- (RI))] (SI)) (FI)) (PWI))

OL: [hjoːl]

replace the regular mutation in the relevant paradigm or to co-exist with the regular mutation resulting in the creation of a new restricted paradigm in a given speaker or in a given population. A single consonant onset may secondly be double mutated whereby the initial consonant is first mutated according to a particular paradigm and then the mutated consonant is subsequently mutated according to the same paradigm as in (6) resulting in (235). The first

(235) a. PL: U (PW1: -(F1: (S1: [(MUT O1: (P1: /PHONC/ (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(MUT O1: (P1: //PHONC// (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: [(SI: [(MUT4 OI: (PI: /kʲC/ (PI)) (OI)) (RI: -/æːp/- (RI))] (SI)) (SJ: -/ɑː/- (SJ))] (FI)) (PWI))

S (PWI: (FI: [(SI: [(MUT4 OI: (PI: //gʲC// (PI)) (OI)) (RI: -//æː//- (RI))] (SI)) (SJ: -//pɑː// (SJ))] (FI)) (PWI))

OL: [ˈŋʲæː.pɑː]

mutation is in this case activated during Underlying Phonological Encoding and then applied during Surface Phonological Encoding while the second mutation is activated during Surface Phonological Encoding and then applied during Articulation.

[172] The symbol # in the representations in this section indicates a new highly restricted mutational paradigm.

The various idiosyncratic mutations observed in cluster initial onsets in speaker variation may also be adequately represented in the adjusted formalism. The two initial consonants of a specific double consonant onset may firstly mutate into a single consonant as in (7) represented in (236). Such a mutation must logically form a new restricted mutational

(236) a. PL: U (PW$_1$: -(F$_1$: (S$_1$: [(MUT O$_1$: [(P$_1$: /PHON$_C$/ (P$_1$)) (P$_2$: /PHON$_C$/ (P$_2$))] (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

S (PW$_1$: -(F$_1$: (S$_1$: [(O$_1$: (P$_1$: //PHON$_C$// (P$_1$)) (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

b. PL: U (PW$_I$: (F$_I$: [(S$_I$: [(MUT# O$_I$: [(P$_I$: /d^j$_C$/ (P$_I$)) (P$_J$: /r^j$_C$/ (P$_J$))] (O$_I$)) (R$_I$: -/e/- (R$_I$))] (S$_I$)) (S$_J$: -/hɑ:r^j/- (S$_J$))] (F$_I$)) (PW$_I$))

S (PW$_I$: (F$_I$: [(S$_I$: [(O$_I$: (P$_I$: //j$_C$// (P$_I$)) (O$_I$)) (R$_I$: -//e//- (R$_I$))] (S$_I$)) (S$_J$: -//hɑ:r^j//- (S$_J$))] (F$_I$)) (PW$_I$))

OL: ['je.hɑ:r^j]

paradigm which does not consist of the mutation of a single consonant but rather the mutation of a double consonant cluster, suggesting that an initial onset may not be considered to further consist of individual phonemes but instead to form an independent unit in the dialect. The first initial consonant of a double consonant cluster may secondly be elided in allegro speech as in (8) giving rise to (237). Such a mutation is not brought about as a result of grammatical

(237) a. PL: U (PW$_1$: -(F$_1$: (S$_1$: [(O$_1$: [(P$_1$: /PHON$_C$/ (P$_1$)) (P$_2$: /PHON$_C$/ (P$_2$))] (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

S (PW$_1$: -(F$_1$: (S$_1$: [(O$_1$: [(P$_1$: //PHON$_C$// (P$_1$)) (P$_2$: //PHON$_C$// (P$_2$))] (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

b. PL: U (PW$_I$: (F$_I$: (S$_I$: [(O$_I$: [(P$_I$: /g$_C$/ (P$_I$)) (P$_J$: /l$_C$/ (P$_J$))] (O$_I$)) (R$_I$: -/a:n/- (R$_I$))] (S$_I$)) (F$_I$)) (PW$_I$))

S (PW$_I$: (F$_I$: (S$_I$: [(O$_I$: [(P$_I$: //g$_C$// (P$_I$)) (P$_J$: //l$_C$// (P$_J$))] (O$_I$)) (R$_I$: -//a:n//- (R$_I$))] (S$_I$)) (F$_I$)) (PW$_I$))

OL: [la:n]

factors but as a result of articulatory factors and is thus not represented at the Phonological Level, only becoming representationally apparent at the Output Level. The second initial

consonant of a specific double consonant cluster may thirdly be the only consonant to be mutated as in (9) leading to (238). Such a mutation must again logically form a new restricted

(238) a. PL: U (PW1: -(F1: (S1: [(MUT O1: [(P1: /PHONC/ (P1)) (P2: /PHONC/ (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(O1: [(P1: //PHONC// (P1)) (P2: //PHONC// (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: (SI: [(MUT# OI: [(PI: /gC/ (PI)) (PJ: /rC/ (PJ))] (OI)) (RI: -/ɑ:/- (RI))] (SI)) (FI)) (PWI))

S (PWI: (FI: (SI: [(OI: [(PI: //gC// (PI)) (PJ: //r̃C// (PJ))] (OI)) (RI: -//ɑ://- (RI))] (SI)) (FI)) (PWI))

OL: [gr̃ɑ:]

mutational paradigm which replaces a radical onset with a mutated onset, with the sole difference in this case being the second initial consonant of the onset. Both initial consonants of a double consonant cluster may lastly be mutated in older speakers as in (10) giving (239).

(239) a. PL: U (PW1: -(F1: (S1: [(MUT O1: [(P1: /PHONC/ (P1)) (P2: /PHONC/ (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(O1: [(P1: //PHONC// (P1)) (P2: //PHONC// (P2))] (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: (SI: [(MUT1 OI: [(PI: /ʃC/ (PI)) (PJ: /ʎC/ (PJ))] (OI)) (RI: -/iəw/- (RI))] (SI)) (FI)) (PWI))

S (PWI: (FI: (SI: [(OI: [(PI: //hC// (PI)) (PJ: //ʲC// (PJ))] (OI)) (RI: -//iəw//- (RI))] (SI)) (FI)) (PWI))

OL: [hlʲiəw]

The fact that both onset consonants may and are mutated supports the view that a Mutation operator is indeed applied at the layer of the Onset and thus has scope over all Phonemes within the Onset. This is not possible to determine in younger speakers due to the fact that the second initial consonant may not be mutated in any paradigm. It is possible that the loss of a mutation in second initial consonants may ultimately result in Mutation operators being reinterpreted as taking place solely at the layer of the first initial Phoneme.

The detailed representation of syllable structure in the preceding representations within the model of FDG will further not be employed in this section for reasons of legibility except where specifically necessary for the analysis at hand. A reduced representation placing the relevant Mutation operator at the layer of the Phonological Word will instead be employed as in (230) being replaced with (240). This implies that the Mutation operator is applicable

(240) a. PL: U (MUT PW_1)
S (PW_1))

b. PL: U (MUT1 PW_l: -/baːd̪/- (PW_l))
S (PW_l: -//waːd̪//- (PW_l))
OL: [waːd̪]

at the boundary of the Phonological Word and specifically to the layer of the initial Onset.

6.1.1 FIRST PARADIGM

6.1.1.1 COMPOUNDS

The first element in an endocentric compound (modifier) generally modifies the second element of the compound (head) resulting in a mutation of the initial consonant of the head. The First Paradigm operator is systematically activated in those noun-noun, adjective-noun, noun-adjective, and adjective-adjective compounds which are productively formed or in which the two elements of the non-neologistic compound are recognisable as in (11-14) leading to the representations in (241-244).[173] The question arises whether the mutation is activated solely as a result of the semantic modification of one property by another or solely as a result of the morphological compounding process or as a result of a combination of both

[173] It may be noted that the phonological representations in these examples show embedded Phonological Words within a single Phonological Word. This is due to the fact that these collections of syllables are not simply recognised as forming syllables of a single Phonological Word but rather are clearly recognisable as forming individual Phonological Words within the larger Phonological Word. A further argument for the retention of identity as individual Phonological Words is the fact that the primary stress of the compound falls on the first Phonological Word, with the secondary stress of the compound falling consistently on the second Phonological Word (IIA 582). It may also be speculated that each Phonological Word will retain stress differences inherent to the specific Phonological Word. The recognition of embedded Phonological Words is in line with the theory of Prosodic Phonology which FDG has drawn from for the Phonological Level (Hengeveld & Mackenzie 2008:421). Nespor & Vogel acknowledge the existence of 'recursive' Phonological Words and argue for the recognition of a Composite Group between the Phonological Word and Phonological Phrase (2007:xvii).

(241) a. RL: $(f_1: (f_2: \blacklozenge\ (f_2): (f_3: \blacklozenge\ (f_3))\ (f_2))\ (f_1))$

ML: $(Nw_1: [(Ns_1: \underline{MORP}_N\ (Ns_1))\ (Ns_2: \underline{MORP}_N\ (Ns_2))]\ (Nw_1))$

PL: U $(PW_1: [(PW_2)\ (\underline{MUT1}\ PW_3)]\ (PW_1))$

S $(PW_1: [(PW_2)\ (PW_3)]\ (PW_1))$

b. RL: $(f_i: (f_j: \underline{cochall}\ (f_j): (f_k: \underline{ceann}\ (f_k))\ (f_j))\ (f_i))$

ML: $(Nw_i: [(Ns_i: \underline{ceann}_N\ (Ns_i))\ (Ns_j: \underline{cochall}_N\ (Ns_j))]\ (Nw_i))$

PL: U $(PW_i: [(PW_J: \text{-/k}^j\text{ɑ:ŋ/-}\ (PW_J))\ (\underline{MUT1}\ PW_K: \text{-/ko.xəl/-}\ (PW_K))]\ (PW_i))$

S $(PW_i: [(PW_J: \text{-//k}^j\text{ɑ:ŋ//-}\ (PW_J))\ (PW_K: \text{-//xo.xəl//-}\ (PW_K))\ (PW_i))$

OL: [ˈkʲɑːŋ.ˌxo.xəl]

(242) a. RL: $(f_1: (f_2: \blacklozenge\ (f_2): (f_3: \blacklozenge\ (f_3))\ (f_2))\ (f_1))$

ML: $(Nw_1: [(Adjs_1: \underline{MORP}_{Adj}\ (Adjs_1))\ (Ns_1: \underline{MORP}_N\ (Ns_1))]\ (Nw_1))$

PL: U $(PW_1: [(PW_2)\ (\underline{MUT1}\ PW_3)]\ (PW_1))$

S $(PW_1: [(PW_2)\ (PW_3)]\ (PW_1))$

b. RL: $(f_i: (f_j: \underline{poll}\ (f_j): (f_k: \underline{caoch}\ (f_k))\ (f_j))\ (f_i))$

ML: $(Nw_i: [(Adjs_i: \underline{caoch}_{Adj}\ (Adjs_i))\ (Ns_i: \underline{poll}_N\ (Ns_i))]\ (Nw_i))$

PL: U $(PW_i: [(PW_J: \text{-/ki:x/-}\ (PW_J))\ (\underline{MUT1}\ PW_K: \text{-/paul/-}\ (PW_K))]\ (PW_i))$

S $(PW_i: [(PW_J: \text{-//ki:x//-}\ (PW_J))\ (PW_K: \text{-//faul//-}\ (PW_K))\ (PW_i))$

OL: [ˈki:x.faul]

(243) a. RL: $(f_1: (f_2: \blacklozenge\ (f_2): (f_3: \blacklozenge\ (f_3))\ (f_2))\ (f_1))$

ML: $(Adjw_1: [(Ns_1: \underline{MORP}_N\ (Ns_1))\ (Adjs_1: \underline{MORP}_{Adj}\ (Adjs_1))]\ (Adjw_1))$

PL: U $(PW_1: [(PW_2)\ (\underline{MUT1}\ PW_3)]\ (PW_1))$

S $(PW_1: [(PW_2)\ (PW_3)]\ (PW_1))$

b. RL: $(f_i: (f_j: \underline{briste}\ (f_j): (f_k: \underline{droim}\ (f_k))\ (f_j))\ (f_i))$

ML: $(Adjw_i: [(Ns_i: \underline{droim}_N\ (Ns_i))\ (Adjs_i: \underline{briste}_{Adj}\ (Adjs_i))]\ (Adjw_i))$

PL: U $(PW_i: [(PW_J: \text{-/d̪ri:m}^j\text{/-}\ (PW_J))\ (\underline{MUT1}\ PW_K: \text{-/b}^j\text{r}^j\text{iʃ.t}^j\text{ə/-}\ (PW_K))]\ (PW_i))$

S $(PW_i: [(PW_J: \text{-//d̪ri:m}^j\text{//-}\ (PW_J))\ (PW_K: \text{-//v}^j\text{r}^j\text{iʃ.t}^j\text{ə//-}\ (PW_K))\ (PW_i))$

OL: [ˈd̪riːmʲ.ˌvʲrʲiʃ.tʲə]

(244) a. RL: $(f_1: (f_2: \blacklozenge\ (f_2): (f_3: \blacklozenge\ (f_3))\ (f_2))\ (f_1))$

ML: $(Adjw_1: [(Ns_1: \underline{MORP}_N\ (Ns_1))\ (Adjs_1: \underline{MORP}_{Adj}\ (Adjs_1))]\ (Adjw_1))$

PL: U $(PW_1: [(PW_2)\ (\underline{MUT1}\ PW_3)]\ (PW_1))$

S $(PW_1: [(PW_2)\ (PW_3)]\ (PW_1))$

b. RL: $(f_i: (f_j: \underline{dearg}\ (f_j): (f_k: \underline{dubh}\ (f_k))\ (f_j))\ (f_i))$

ML: $(Adjw_i: [(Adjs_i: \underline{dubh}_{Adj}\ (Adjs_i))\ (Adjs_j: \underline{dearg}_{Adj}\ (Adjs_j))]\ (Adjw_i))$

PL: U $(PW_I: [(PW_J: \text{-/}\underline{d}\text{u/-}\ (PW_J))\ (\underline{MUT1}\ PW_K: \text{-/d}^j\text{æ.rəg/-}\ (PW_K))]\ (PW_I))$

S $(PW_I: [(PW_J: \text{-//}\underline{d}\text{u//-}\ (PW_J))\ (PW_K: \text{-//jæ.rəg//-}\ (PW_K))\ (PW_I))$

OL: [ˈd̪u.ˌjæ.rəg]

of these factors. It is not possible in this case to convincingly determine which option is correct and I thus settle on a combination due to the top-down nature of the model of FDG.

The elements of lexicalised compounds are not completely recognisable and thus the compound is in fact not a compound but rather a single lexeme of which the related linguistic aspects are stored together in the Fund. Such 'lexicalised mutations' in compounds are thus historical mutations which have become phonologically inherent to the neologistic lexeme as in (15) leading to (245) (see § 3.1.1.5). It may be expected that there will be degrees of

(245) a. RL: $(f_1: \blacklozenge\ f_1))$

ML: $(Xw_1: MORP\ (Xw_1))$

PL: U (PW_1)

S (PW_1)

b. RL: $(f_i: \text{oilbhéas}\ (f_i))$

ML: $(Adjw_i: \text{oilbhéas}_{Adj}\ (Adjw_i))$

PL: U $(PW_I: \text{-/el}^j\text{.v}^j\text{e:s/-}\ (PW_I))$

S $(PW_I: \text{-//el}^j\text{.v}^j\text{e:s//-}\ (PW_I))$

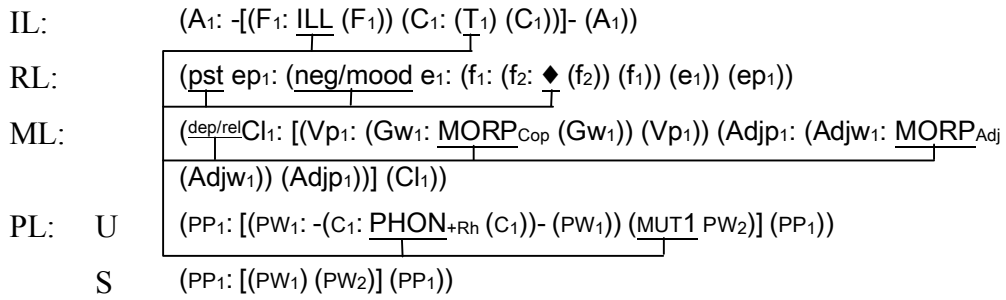
OL: [ˈelʲ.ˌvʲeːs]

recognisability for the elements in these lexicalised compounds which may result in multiple possible analyses for the same element within a given dialect population.

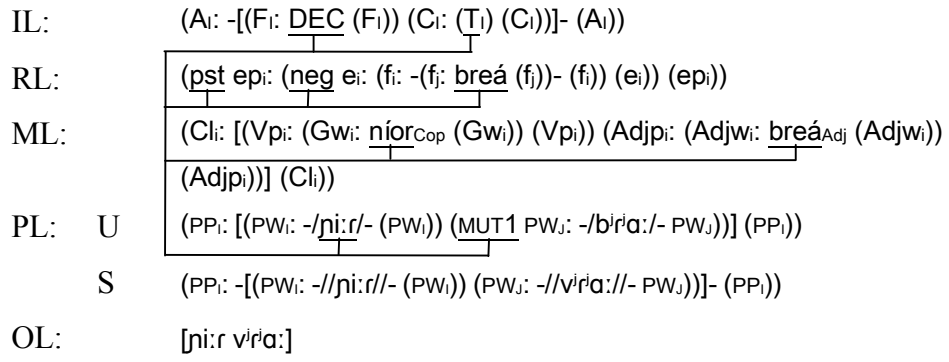
6.1.1.2 COPULA

Past forms of the copula ending in a rhotic consonant activate the first paradigm in a following adjective as in (16) leading to (246).[174] The relevant copula is triggered by

(246) a.



b.

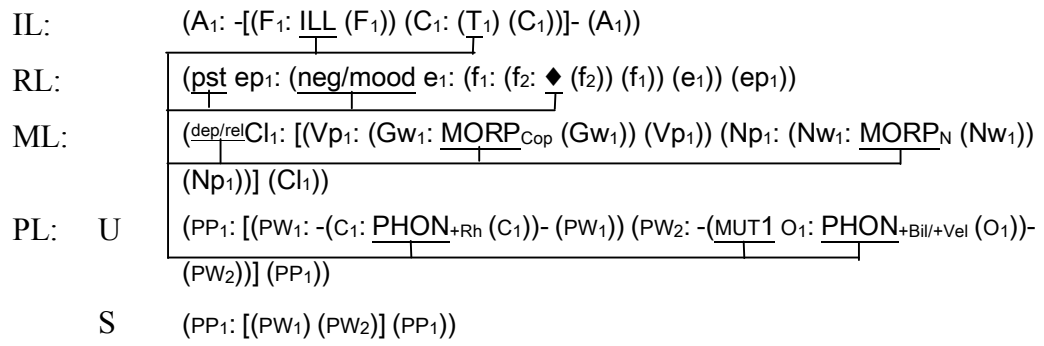


(a specific combination of) an illocution, a Subact of Ascription, a Past, Negative, and/or Mood operator as well as possibly by the dependency or relativisation of the clause[175]. The non-verbal predication of the lexeme and the syntactic placement of the copula followed by the adjective together with the rhotic coda of the copula activates the Mutation operator. Although this general rule is appealing, it is likely that the speaker operates on the basis of individual copular entries rather than on a general rule. This seems logical for usage-based language acquisition whereby the learner first learns each individual copula with and without activation and then extrapolates the grammatical rule on the basis of acquired forms, with both the specific occurrences and the general rule applicable to the fluent native speaker.

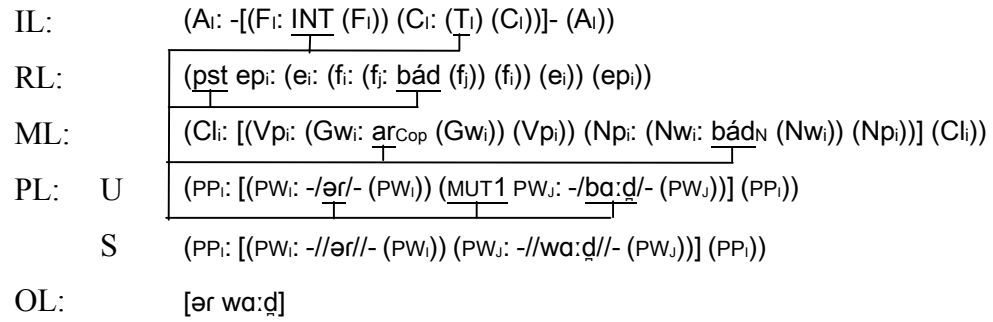
[174] The representations in this thesis include personalised operators and (sub)class designations. I do not represent grammatical processes on morphemes/phonemes which are not relevant to the example at hand/activation of a mutation. Whereas some general representations show the fixed combination of features necessary to activate a mutation, others show a possible combination of various features to activate a mutation.
[175] Dependency and relativisation are not represented at the Interpersonal Level in this thesis but would both be represented in the form of respectively an argument semantic layer and a modification semantic layer.

Past forms of the copula ending in a rhotic consonant also systematically activate the first paradigm in a following noun beginning with a bilabial or velar consonant as in (17) bringing about (247). The difference here is that not only is it the final consonant of the

(247) a.

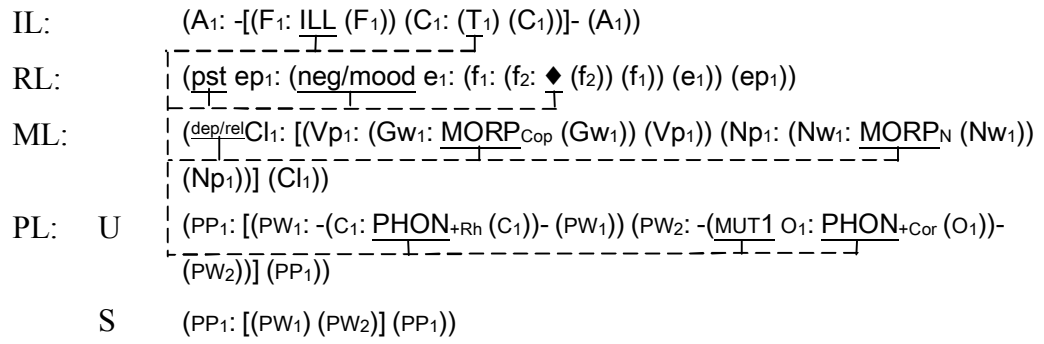


b.



trigger which is important for the activation of the mutation but also the initial consonant of the target. Past forms of the copula ending in a rhotic consonant in contrast only *optionally* activate the first paradigm in a following noun beginning with a coronal consonant as in (19) giving either (248) or (249).[176] Whereas the coronal consonants are generally mutated in the

(248) a.



[176] This thesis concentrates on the systematic activation of mutational paradigms. An optional/speaker variation or historic/questionable/future activation is only discussed where relevant. An optional/speaker variation activation pathway is represented by a dashed line and a questionable/future/past activation by a dotted line.

b. IL: $(A_I: -[(F_I: \underline{INT}\ (F_I))\ (C_I: (\underline{T_I})\ (C_I))]- (A_I))$

RL: $(\underline{pst}\ ep_i: (e_i: (f_i: (f_j: \underline{dlíobh}\ (f_j))\ (f_i))\ (e_i))\ (ep_i))$

ML: $(Cl_i: [(Vp_i: (Gw_i: \underline{marar}_{Cop}\ (Gw_i))\ (Vp_i))\ (Np_i: (Nw_i: \underline{dlíobh}_N\ (Nw_i))\ (Np_i))]\ (Cl_i))$

PL: U $(PP_I: [(PW_I: -/\underline{ma.rər}/-\ (PW_I))\ (\underline{MUT1}\ PW_J: -/\underline{dlʲi:w}/-\ (PW_J))]\ (PP_I))$

S $(PP_I: [(PW_I: -//ma.rər//-\ (PW_I))\ (PW_J: -//ɣlʲi:w//-\ (PW_J))]\ (PP_I))$

OL: ['ma.rər 'ɣlʲi:w]

(249) a. IL: $(A_1: -[(F_1: ILL\ (F_1))\ (C_1: (T_1)\ (C_1))]- (A_1))$

RL: $(pst\ ep_1: (neg/mood\ e_1: (f_1: (f_2: \blacklozenge\ (f_2))\ (f_1))\ (e_1))\ (ep_1))$

ML: $(^{dep/rel}Cl_1: [(Vp_1: (Gw_1: MORP_{Cop}\ (Gw_1))\ (Vp_1))\ (Np_1: (Nw_1: MORP_N\ (Nw_1))\ (Np_1))]\ (Cl_1))$

PL: U $(PP_1: [(PW_1: -(C_1: PHON_{+Rh}\ (C_1))- (PW_1))\ (PW_2: -(O_1: PHON_{+Cor}\ (O_1))\ (PW_2))]\ (PP_1))$

S $(PP_1: -[(PW_1)\ (PW_2)]- (PP_1))$

b. IL: $(A_I: -[(F_I: INT\ (F_I))\ (C_I: (T_I)\ (C_I))]- (A_I))$

RL: $(pst\ ep_i: (e_i: (f_i: (f_j: dlíobh\ (f_j))\ (f_i))\ (e_i))\ (ep_i))$

ML: $(Cl_i: [(Vp_i: (Gw_i: marar_{Cop}\ (Gw_i))\ (Vp_i))\ (Np_i: (Nw_i: dlíobh_N\ (Nw_i))\ (Np_i))]\ (Cl_i))$

PL: U $(PP_I: [(PW_I: -/ma.rər/-\ (PW_I))\ (PW_J: -/dlʲi:w/-\ (PW_J))]\ (PP_I))$

S $(PP_I: [(PW_I: -//ma.rər//-\ (PW_I))\ (PW_J: -//dlʲi:w//-\ (PW_J))]\ (PP_I))$

OL: ['ma.rər 'dlʲi:w]

dialect, the palatal consonants are normally only mutated in older speakers. The mutation would thus either not be expected to be activated in younger speakers or the mutation would be activated but there would be no paradigmatic mutation available. Both cases ultimately result in the non-application of a mutation.

The first paradigm is also regularly activated in a restricted set of highly frequent adjectives beginning with a fricative after a special copula form which takes the place of the regular form ending in a rhotic consonant due to elision of the initial fricative as in (26) and (27) leading to (250). The standard copula form activates the first paradigm which results in the deletion of the initial fricative of the noun. The copula form subsequently needs to be

(250) a. IL: $(A_1: -[(F_1: \underline{ILL}\ (F_1))\ (C_1: (\underline{T_1})\ (C_1))]-\ (A_1))$

RL: $(\underline{pst}\ ep_1: (\underline{neg/mood}\ e_1: (f_1: (f_2: \blacklozenge_{Freq}\ (f_2))\ (f_1))\ (e_1))\ (ep_1))$

ML: $(\underline{^{dep/rel}Cl_1}: [(Vp_1: (Gw_1: \underline{MORP}_{Cop}\ (Gw_1))\ (Vp_1))\ (Adjp_1: (Adjw_1: \underline{MORP}_{Adj}\ (Adjw_1))\ (Adjp_1))]\ (Cl_1))$

PL: U $(PP_1: [(PW_1: -(C_1: \underline{PHON}_{+Rh}\ (C_1))-\ (PW_1))\ (PW_2: -(\underline{MUT1}\ O_1: \underline{PHON}_{+Fr}\ (O_1))-\ (PW_2))]\ (PP_1))$

S $(PP_1: [(PW_1)\ (PW_2)]\ (PP_1))$

b. IL: $(A_I: -[(F_I: \underline{DEC}\ (F_I))\ (C_I: (\underline{T_I})\ (C_I))]-\ (A_I))$

RL: $(\underline{pst}\ ep_i: (\underline{neg}\ e_i: (f_i: (f_j: \underline{féidir}_{Freq}\ (f_j))\ (f_i))\ (e_i))\ (ep_i))$

ML: $(Cl_i: [(Vp_i: (Gw_i: \underline{níor}_{Cop}\ (Gw_i))\ (Vp_i))\ (Adjp_i: (Adjw_i: \underline{féidir}_{Adj}\ (Adjw_i))\ (Adjp_i))]\ (Cl_i))$

PL: U $(PP_I: [(PW_i: -/\underline{ɲiːr}/-\ (PW_i))\ (\underline{MUT1}\ PW_J: -/\underline{fʲeː.dʲəʳ}/-\ PW_J))]\ (PP_I))$

S $(PP_I: [(PW_i: -//ɲiː.rəvʲ//-\ (PW_i))\ (PW_J: -//eː.dʲəʳ//-\ PW_J))]\ (PP_I))$

OL: ['ɲiː.rəvʲ 'eː.dʲəʳ/ɲiːr 'vʲeː.dʲəʳ]

phonologically adjusted to precede the noun which now begins with a vowel. It is clear from this example that in the temporal phonological sequencing of these two Phonological Words, the Phonological Encoder needs to look ahead to the second Phonological Word in order to correctly determine the form of the first Phonological Word. It is also clear that the Phonological Encoder needs to have access to the deleted radical consonant in order to correctly determine the palatalisation of the coda consonant of the first Phonological Word. The schwa of the adjusted copula may be elided and the coda consonant of the copula may be procliticised to the adjective during Articulation. This process may in time develop into a new restricted mutational paradigm giving (251). The procliticised consonant becomes in this case

(251) a. IL: $(A_1: -[(F_1: \underline{ILL}\ (F_1))\ (C_1: (\underline{T_1})\ (C_1))]-\ (A_1))$

RL: $(\underline{pst}\ ep_1: (\underline{neg/mood}\ e_1: (f_1: (f_2: \blacklozenge\ (f_2))\ (f_1))\ (e_1))\ (ep_1))$

ML: $(\underline{^{dep/rel}Cl_1}: [(Vp_1: (Gw_1: \underline{MORP}_{Cop}\ (Gw_1))\ (Vp_1))\ (Adjp_1: (Adjw_1: \underline{MORP}_{Adj}\ (Adjw_1))\ (Adjp_1))]\ (Cl_1))$

PL: U $(PP_1: [(PW_1: -(C_1: \underline{PHON}_{+Rh}\ (C_1))-\ (PW_1))\ (PW_2: -(\underline{MUT\#}\ O_1: \underline{PHON}_{+Fr}\ (O_1))-\ (PW_2))]\ (PP_1))$

S $(PP_1: [(PW_1)\ (PW_2)]\ (PP_1))$

b. IL: $(A_I: -[(F_I: \underline{DEC}\ (F_I))\ (C_I: (\underline{T_I})\ (C_I))]-\ (A_I))$

RL: $(\underline{pst}\ ep_i: (\underline{neg}\ e_i: (f_i: (f_j: \underline{féidir}\ (f_j))\ (f_i))\ (e_i))\ (ep_i))$

ML: $(Cl_i: [(Vp_i: (Gw_i: \underline{níor}_{Cop}\ (Gw_i))\ (Vp_i))\ (Adjp_i: (Adjw_i: \underline{féidir}_{Adj}\ (Adjw_i))\ (Adjp_i))]\ (Cl_i))$

PL: U $(PP_I: [(PW_I: -/\underline{ɲi:r}/-\ (PW_I))\ (\underline{MUT1}\ PW_J: -/\underline{f^je:.d^jər^j}/-\ PW_J))]\ (PP_I))$

S $(PP_I: [(PW_I: -//ɲi:.r//-\ (PW_I))\ (PW_J: -//v^je:.d^jər^j//-\ PW_J))]\ (PP_I))$

OL: [ɲi:r 'v^je:.d^jər^j]

reinterpreted as a new paradigmatic mutation whereby the standard copula form remains unadjusted. It is interesting that word frequency may play a role in a mutational activation.

The first paradigm is lastly activated as a result of the morpheme *ba* followed by the same restricted set of adjectives beginning with a fricative as in (28) represented in (252). The

(252) a. IL: $(A_1: -[(F_1: \underline{ILL}\ (F_1))\ (C_1: (\underline{T_1})\ (C_1))]-\ (A_1))$

RL: $(\underline{pst}\ ep_1: (\underline{mood}\ e_1: (f_1: (f_2: \blacklozenge_{Freq}\ (f_2))\ (f_1))\ (e_1))\ (ep_1))$

ML: $(\underline{^{rel}}Cl_1: [(Vp_1: (Gw_1: \underline{ba}_{Cop}\ (Gw_1))\ (Vp_1))\ (Adjp_1: (Adjw_1: \underline{MORP}_{Adj}\ (Adjw_1))\ (Adjp_1))]\ (Cl_1))$

PL: U $(PP_1: [(PW_1: -/bə/-\ (PW_1))\ (PW_2: -(\underline{MUT1}\ O_1: \underline{PHON}_{+Fr}\ (O_1))-\ (PW_2))]\ (PP_1))$

S $(PP_1: [(PW_1: -//bə//-\ (PW_1))\ (PW_2)]\ (PP_1))$

b. IL: $(A_I: -[(F_I: \underline{DEC}\ (F_I))\ (C_I: (\underline{T_I})\ (C_I))]-\ (A_I))$

RL: $(\underline{pst}\ ep_i: (e_i: (f_i: (f_j: \underline{féidir}_{Freq}\ (f_j))\ (f_i))\ (e_i))\ (ep_i))$

ML: $(Cl_i: [(Vp_i: (Gw_i: \underline{ba}_{Cop}\ (Gw_i))\ (Vp_i))\ (Adjp_i: (Adjw_i: \underline{féidir}_{Adj}\ (Adjw_i))\ (Adjp_i))]\ (Cl_i))$

PL: U $(PP_I: [(PW_I: -/bə/-\ (PW_I))\ (\underline{MUT1}\ PW_J: -/\underline{f^je:.d^jər^j}/-\ (PW_J))]\ (PP_I))$

S $(PP_I: [(PW_I: -//bə//-\ (PW_I))\ (PW_J: -//e:.d^jər^j//-\ (PW_J))]\ (PP_I))$

OL: ['b^je:.d^jər^j]

copula *ba* is activated as a result of (a specific combination of) the illocution, a Subact of Ascription, the Past operator, a Mood operator, and/or the relativisation of the clause. The syntactic placement of the copula *ba* before the adjective activates the first paradigm which deletes the initial fricative of the adjective. The coda schwa of the copula is removed whereby the remaining consonant is procliticised to the adjective and adjusted to match the

palatalisation of the deleted radical consonant of the adjective during Articulation. The procliticisation of the copula might again be reinterpreted as an initial mutation resulting in the creation of a new restricted mutational paradigm giving (253). Such a mutation would be

(253) a.

IL:		$(A_1$: -[$(F_1$: ILL $(F_1))$ $(C_1$: (T_1) $(C_1))]$- $(A_1))$
RL:		$($pst ep$_1$: $($mood e$_1$: $(f_1$: $(f_2$: ♦$_{Freq}$ $(f_2))$ $(f_1))$ $(e_1))$ $(ep_1))$
ML:		$(Adjw_1$: MORP$_{Cop.Adj}$ $(Adjw_1))$
PL:	U	$(PW_1$: -($_{MUT}$# O_1: PHON$_{+Fr}$ $(O_1))$- $(PW_1))$
	S	(PW_1)

b.

IL:		$(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))]$- $(A_I))$
RL:		$($pst ep$_i$: $(e_i$: $(f_i$: $(f_j$: féidir$_{Freq}$ $(f_j))$ $(f_i))$ $(e_i))$ $(ep_i))$
ML:		$(Adjw_i$: b'fhéidir$_{Cop.Adj}$ $(Adjw_i))$
PL:	U	$($MUT# PW_I: -/f^je:.d^jər^j/- $(PW_I))$
	S	$(PW_I$: -//b^je:.d^jər^j//- $(PW_I))$
OL:		['b^je:.d^jər^j]

quite unusual as the mutation of the underlying phonological form of the adjective would result in the formation of a unique 'copular adjective' with corresponding fused features.

6.1.1.3 DEFINITE ARTICLE

The definite article is linked to several mutational paradigms in the dialect (see § 6.1.2.1 and § 6.1.4.1). The first paradigm is activated as a result of the masculine genitive singular and feminine common singular definite articles in a noun which does not begin with a sibilant as in (31) and (32) which are represented in (254) and (255). The Identifiability of the Referent

(254) a.

IL:		(+id +s R_1)
RL:		$(1$ α_1: $(f_1$: ♦ $(f_1))$ $(\alpha_1))_{Poss}$
ML:		$(Np_1$: [$(Gw_1$: $^{gen.msg}$an$_{Def}$ $(Gw_1))$ $(Nw_1$: -$^{gen.msg}$MORP$_N$- $(Nw_1))]$ $(Np_1))$
PL:	U	$(PP_1$: [$(PW_1$: -/ən/- $(PW_1))$ $(PW_2$: -($_{MUT}$1 O_1: PHON$_{-Sib}$ $(O_1))$- $(PW_2))]$ $(PP_1))$
	S	$(PP_1$: [$(PW_1$: -//ən//- $(PW_1))$ $(PW_2)]$ $(PP_1))$

b. IL: (+id +s R_I)

RL: (1 x_i: (f_i: bád (f_i)) (x_i))$_{Poss}$

ML: (Np$_i$: [(Gw$_i$: $^{gen.msg}$an$_{Def}$ (Gw$_i$)) (Nw$_i$: -$^{gen.msg}$báid$_N$- (Nw$_i$))] (Np$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ən/- (PW$_I$)) (MUT1 PW$_J$: -/bɑ:d^j/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//ən//- (PW$_I$)) (PW$_J$: -//wɑ:d^j//- (PW$_J$))] (PP$_I$))

OL: [ə(n) wɑ:d^j]

(255) a. IL: (+id +s R_1)

RL: (1 α_1: (f_1: ♦ (f_1)) (α_1))

ML: (Np$_1$: [(Gw$_1$: $^{com.fsg}$an$_{Def}$ (Gw$_1$)) (Nw$_1$: $^{com.fsg}$MORP$_N$ (Nw$_1$))] (Np$_1$))

PL: U (PP$_1$: [(PW$_1$: -/ən/- (PW$_1$)) (PW$_2$: -(MUT1 O$_1$: PHON$_{-Sib}$ (O$_1$))- (PW$_2$))] (PP$_1$))

S (PP$_1$: [(PW$_1$: -//ən//- (PW$_1$)) (PW$_2$)] (PP$_1$))

b. IL: (+id +s R_I)

RL: (1 x_i: (f_i: cloch (f_i)) (x_i))

ML: (Np$_i$: [(Gw$_i$: $^{com.fsg}$an$_{Def}$ (Gw$_i$)) (Nw$_i$: $^{com.fsg}$cloch$_N$ (Nw$_i$))] (Np$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ən/- (PW$_I$)) (MUT1 PW$_J$: -/klox/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//ən//- (PW$_I$)) (PW$_J$: -//xlox//- (PW$_J$))] (PP$_I$))

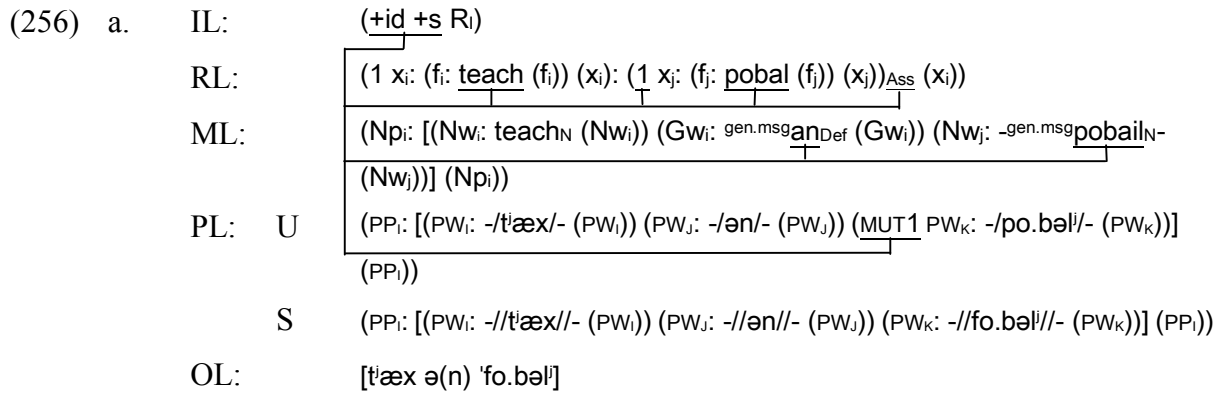
OL: [ə(n) xlox]

together with the Singular operator modifying the lexical head of the semantic category and possibly the semantic function of the semantic category triggers the required morphemes. The syntactic placement of the definite article and the following nominal morpheme which are both differentiated for case, gender, and number together with the non-sibilant nature of the nominal onset activates the first paradigm in the noun. The (abstract) Possessive semantic functions of Associative (alienable possession) and Reference (inalienable possession) clearly play an important role in the selection of the genitive form of both the noun and the article.

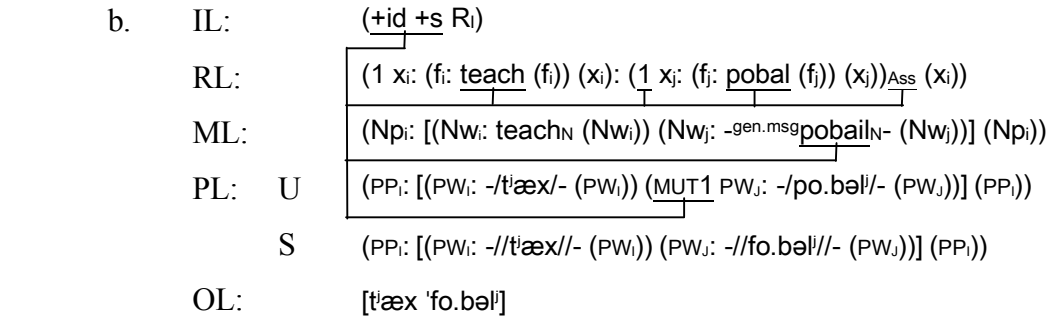
The activation of the first paradigm in *teach phobail* presumably as a result of activation in the more regular expression *teach an phobail* is interesting as it shows a more direct activation of the mutation as a result of identifiability as in (33) leading to (256).[177] The

[177] The semantic representation of Associative in this thesis deviates from the current standard representation. The representation I use considers the semantic variable designated for the Associative semantic function to directly modify the head noun as in (256a) rather than place this variable within a Property modifying the head

(256) a.



b.



identifiability of *pobal* is expressed in the definite article which triggers the mutation in accordance with inherent features of the noun in (256a). The definite article is not coded in (256b) which means that the activation of the mutation is the sole marker of identifiability in this case.[178] The mutation carries a higher functional load as a result and not only marks the male genitive singular but now also identifiability. There has thus been a shift in the 'activational pathway' of the mutation whereby the activation has become more transparent in the reduction of an activational element in the chain but where the mutation represents fused features. It is possible that this shift could further develop and ultimately result in the loss of identifiability whereby the expression becomes either a noun with an attributive non-definite noun or even an endocentric compound as in (257). The reinterpretation of the expression as a noun with an attributive non-definite noun would likely result in the loss of the mutation as these nouns are generally not mutated (IIA 1702). The reinterpretation of this expression as an endocentric compound would most likely result in the loss of the genitive case as well as leading to the embedding of both Phonological Words into a single Phonological Word.

noun which would be represented as: (1 x_i: (f_i: teach (f_i)) (x_i): (f_j: (1 x_j: (f_k: pobal (f_k)) (x_j))$_{Ass}$ (f_j)) (x_i)). I thus do not consider this type of possessive modification to be strictly based on a predication frame for relational Properties (cf. Hengeveld & Mackenzie 2008:243; in agreement with Hengeveld p.c.).

[178] See § 7.3 for further discussion of the elision of a particle whereby the mutation inherits the functional load.

(257) a. RL: $(1\ x_i: (f_i: \text{teach}\ (f_i))\ (x_i): (1\ x_j: (f_j: \text{pobal}\ (f_j))\ (x_j))_{Ass}\ (x_i))$

ML: $(Np_i: [(Nw_i: \text{teach}_N\ (Nw_i))\ (Nw_j: \text{-}^{gen.msg}\text{pobail}_N\text{-}\ (Nw_j))]\ (Np_i))$

PL: U $(PP_I: [(PW_I: \text{-/t}^j\text{æx/-}\ (PW_I))\ (PW_J: \text{-/po.bəl}^j\text{/-}\ (PW_J))]\ (PP_I))$

S $(PP_I: [(PW_I: \text{-//t}^j\text{æx//-}\ (PW_I))\ (PW_J: \text{-//po.bəl}^j\text{//-}\ (PW_J))]\ (PP_I))$

OL: [t^{j}æx 'po.bəl^j]

b. RL: $(f_i: (f_j: \underline{\text{teach}}\ (f_j): (f_k: \underline{\text{pobal}}\ (f_k))\ (f_j))\ (f_i))$

ML: $(Nw_i: [(Ns_i: \underline{\text{teach}}_N\ (Ns_i))\ (Ns_j: \underline{\text{pobal}}_N\ (Ns_j))]\ (Nw_i))$

PL: U $(PW_I: [(PW_J: \text{-/t}^j\text{æx/-}\ (PW_J))\ (\underline{\text{MUT1}}\ PW_K: \text{-/po.bə̯l/-}\ (PW_K))]\ (PW_I))$

S $(PW_I: [(PW_J: \text{-//t}^j\text{æx//-}\ (PW_J))\ (PW_K: \text{-//fo.bə̯l//-}\ (PW_K))]\ (PW_I))$

OL: ['t^{j}æx.ˌfo.bə̯l]

6.1.1.4 HEAD NOUNS

The first paradigm is activated in attributive adjectives following a singular head noun which is either masculine in the genitive case as in (34d) or in the vocative case as in (35) or which is feminine in the common case as in (36) giving (258-260).[179] The presence or absence of the Vocative illocution or a Possessive semantic function determines the case of the noun. The Singular operator determines the number, with the gender being lexically or even semantically determined. The modification of the head determines the attributive nature of the adjective. The correct combination of features and the morphosyntactic realisation of all relevant morphemes activates the first paradigm in each case. Although the first paradigm is

(258) a. IL: $(\underline{\text{+id +s}}\ R_I)$

RL: $(1\ \alpha_1: (f_1: \blacklozenge\ (f_1))\ (\alpha_1): (f_2: \blacklozenge\ (f_2))\ (\alpha_1))_{\underline{\text{Poss}}}$

ML: $(Np_1: [(Gw_1: \text{}^{gen.msg}\underline{\text{an}}_{\text{Def}}\ (Gw_1))\ (Nw_1: \text{-}^{gen.msg}\underline{\text{MORP}}_N\text{-}\ (Nw_1))\ (Adjp_1:$
$(Adjw_1: \text{-}^{gen.msg}\underline{\text{MORP}}_{Adj}\text{-}\ (Adjw_1))\ (Adjp_1))]\ (Np_1))$

PL: U $(PP_1: [(PW_1: \text{-/ən/-}\ (PW_1))\ (\text{MUT1}\ PW_2)\ (\underline{\text{MUT1}}\ PW_3)]\ (PP_1))$

S $(PP_1: [(PW_1: \text{-/ən/-}\ (PW_1))\ (PW_2)\ (PW_3)]\ (PP_1))$

[179] The general representations for semantic modification are based on the modification of a variable higher than the Property which occurs predominantly in the example material. The modification of a Property may of course also occur and would in that case be generally represented as: $(\alpha_1: (f_1: \underline{\blacklozenge}\ (f_1): (f_2: \underline{\blacklozenge}\ (f_2))\ (f_1))\ (\alpha_1))$.

b. IL: (+id +s R_I)

RL: (1 e_i: (f_i: toras (f_i)) (e_i): (f_j: mór (f_j)) (e_i))$_{Poss}$

ML: (Np_i: [(Gw_i: $^{gen.msg}an_{Def}$ (Gw_i)) (Nw_i: -$^{gen.msg}torais_{N}$- (Nw_i)) ($Adjp_i$: ($Adjw_i$: -$^{gen.msg}móir_{Adj}$- ($Adjw_i$)) ($Adjp_i$))] (Np_i))

PL: U (PP_I: [(PW_I: -/ən/- (PW_I)) (MUT1 PW_J: -/t̪o.ɾəʃ/- (PW_J)) (MUT1 PW_K: -/mo:ʳʲ/- (PW_K))] (PP_I))

S (PP_I: [(PW_I: -//ən//- (PW_I)) (PW_J: -//t̪o.ɾəʃ//- (PW_J)) (PW_K: -//wo:ʳʲ//- (PW_K))] (PP_I))

OL: [ə(n) ˈt̪o.ɾəʃ wo:ʳʲ]

(259) a. IL: (F_1: VOC (F_1))

RL: (1 α_1: (f_1: ♦ (f_1)) (α_1): (f_2: ♦ (f_2)) (α_1))

ML: (Np_1: [Gw_i: a_{Voc} (Gw_i)) (Nw_1: -$^{voc.msg}MORP_{N}$- (Nw_1)) ($Adjp_1$: ($Adjw_1$: -$^{voc.msg}MORP_{Adj}$- ($Adjw_1$)) ($Adjp_1$))] (Np_1))

PL: U (PP_1: [(PW_1: -/ə/- (PW_1)) (MUT1 PW_2) (MUT1 PW_3)] (PP_1))

S (PP_1: [(PW_1: -//ə//- (PW_1)) (PW_2) (PW_3)] (PP_1))

b. IL: (F_I: VOC (F_I))

RL: (1 x_i: (f_i: bréantas (f_i)) (x_i): (f_j: bocht (f_j)) (x_i))

ML: (Np_i: [(Gw_i: a_{Voc} (Gw_i)) (Nw_i: -$^{voc.msg}bréantais_{N}$- (Nw_i)) ($Adjp_i$: ($Adjw_i$: -$^{voc.msg}boicht_{Adj}$- ($Adjw_i$)) ($Adjp_i$))] (Np_i))

PL: U (PP_I: [(PW_I: -/ə/- (PW_I)) (MUT1 PW_J: -/bʲɾʲe:n.t̪əʃ/- (PW_J)) (MUT1 PW_K: -/boxtʲ/- (PW_K))] (PP_I))

S (PP_I: [(PW_I: -//ə//- (PW_I)) (PW_J: -//vʲɾʲe:n.t̪əʃ//- (PW_J)) (PW_K: -//woxtʲ//- (PW_K))] (PP_I))

OL: [(ə) ˈvʲɾʲe:n.t̪əʃ woxtʲ]

(260) a. RL: (1 α_1: (f_1: ♦ (f_1)) (α_1): (f_2: ♦ (f_2)) (α_1))

ML: (Np_1: [(Nw_1: $^{com.fsg}MORP_{N}$ (Nw_1)) ($Adjp_1$: ($Adjw_1$: $^{com.fsg}MORP_{Adj}$ ($Adjw_1$)) ($Adjp_1$))] (Np_1))

PL: U (PP_1: [(PW_1) (MUT1 PW_2)] (PP_1))

S (PP_1: [(PW_1) (PW_2)] (PP_1))

b. RL: (1 x_i: (f_i: tine (f_i)) (x_i): (f_j: breá (f_j)) (x_i))

ML: (Np_i: [(Nw_i: com.fsg tine$_N$ (Nw_i)) ($Adjp_i$: ($Adjw_i$: com.fsg breá$_{Adj}$ ($Adjw_i$)) ($Adjp_i$)] (Np_i))

PL: U (PP_I: [(PW_I: -/tʲi.nʲə/- (PW_I)) (MUT1 PW_J: -/bʲrʲɑ:/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//tʲi.nʲə//- (PW_I)) (PW_J: -//vʲrʲɑ://- (PW_J))] (PP_I))

OL: ['tʲi.nʲə vʲrʲɑ:]

activated as a result of the head noun which is clear in (260), it is interesting that the presence of a definite article or vocative particle also activates the first paradigm in the head noun as in (258) and (259) (see § 3.1.1.3 and § 3.1.1.8). In such cases the activation of the first paradigm in the adjective may also be considered to be a form of 'mutational agreement' whereby the modifier adjective is mutated according to the same mutational paradigm as the head noun.

The current depletion of the genitive and vocative cases in the dialect results in a diminishing activational pathway of the first paradigm in these cases, which ultimately seems to predict the complete loss of activation. The three main possibilities highlight the stages in this demise of the mutation as in (34d-f) leading to (261). In (261a) the Singular operator and

(261) a. RL: (1 e_i: (f_i: toras (f_i)) (e_i): (f_j: mór (f_j)) (e_i))$_{Poss}$

ML: (Np_i: [(Nw_i: -gen.msg torais$_N$- (Nw_i)) ($Adjp_i$: ($Adjw_i$: -gen.msg móir$_{Adj}$- ($Adjw_i$)) ($Adjp_i$:] (Np_i))

PL: U (PP_I: [(PW_I: -/t̪o.rəʃ/- (PW_I)) (MUT1 PW_J: -/mo:rʲ/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//t̪o.rəʃ//- (PW_I)) (PW_J: -//wo:rʲ//- (PW_J))] (PP_I))

OL: ['t̪o.rəʃ wo:rʲ]

b. RL: (1 e_i: (f_i: toras (f_i)) (e_i): (f_j: mór (f_j)) (e_i))$_{Poss}$

ML: (Np_i: [(Nw_i: com.msg toras$_N$ (Nw_i)) ($Adjp_i$: ($Adjw_i$: com.msg mór$_{Adj}$ ($Adjw_i$)) ($Adjp_i$))] (Np_i))

PL: U (PP_I: [(PW_I: -/t̪o.rəs/- (PW_I)) (MUT1 PW_J: -/mo:r/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//t̪o.rəs//- (PW_I)) (PW_J: -//wo:r//- (PW_J))] (PP_I))

OL: ['t̪o.rəs wo:r]

c. RL: (1 e_i: (f_i: toras (f_i)) (e_i): (f_j: mór (f_j)) (e_i))$_{Ass}$

ML: (Np_i: [(Nw_i: $^{com.msg}toras_N$ (Nw_i)) ($Adjp_i$: ($Adjw_i$: $^{com.msg}mór_{Adj}$ ($Adjw_i$)) ($Adjp_i$))] (Np_i))

PL: U (PP_I: [(PW_I: -/t̪o.rəs/- (PW_I)) (PW_J: -/mo:ɾ/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//t̪o.rəs//- (PW_I)) (PW_J: -//mo:ɾ//- (PW_J))] (PP_I))

OL: [ˈt̪o.rəs mo:ɾ]

Possessive semantic function determine the genitive case singular in the head noun which subsequently triggers the genitive case singular and the First Paradigm operator in the modifier adjective. In (261b) the loss of the genitive case means that the noun is marked for the common case whereby the adjective is also marked for the common case. The first paradigm is still activated most likely due to the historical activation pathway and remains the sole formal marker of the genitive case. In (261c) the first paradigm is not activated due to the loss of the genitive case and the apparent loss of the activational pathway. The loss of the mutation with the loss of the genitive case is now analogous to head nouns in the masculine common case singular which do not activate a mutation in a following attributive adjective.

Both native nouns ending in a palatalised or (alveo)palatal consonant and borrowed nouns ending in an alveolar sibilant in the common case plural activate the first paradigm in a following attributive adjective as in (38) and (40) giving (262) and (263). The Plural operator

(262) a. RL: (m α_1: (f_1: ♦ (f_1)) (α_1): (f_2: ♦ (f_2)) (α_1))

ML: (Np_1: [(Nw_1: $^{-com.pl}MORP_N$- (Nw_1)) ($Adjp_1$: ($Adjw_1$: $^{-com.pl}MORP_{Adj}$- ($Adjw_1$)) ($Adjp_1$))] (Np_1))

PL: U (PP_1: [(PW_1: -(C_1: $PHON_{+Pal/+2Pal}$ (C_1))- (PW_1)) ($MUT1$ PW_2)] (PP_1))

S (PP_1: [(PW_1) (PW_2)] (PP_1))

b. RL: (m x_i: (f_i: fear (f_i)) (x_i): (f_j: beag (f_j)) (x_i))

ML: (Np_i: [(Nw_i: $^{-com.pl}fir_N$- (Nw_i)) ($Adjp_i$: ($Adjw_i$: $^{-com.pl}beaga_{Adj}$- ($Adjw_i$)) ($Adjp_i$))] (Np_i))

PL: U (PP_I: [(PW_I: -/f^jir^j/- (PW_I)) ($MUT1$ PW_J: -/b^jo.gə/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//f^jir^j//- (PW_I)) (PW_J: -//v^jo.gə//- (PW_J))] (PP_I))

OL: [f^jir^j ˈv^jo.gə]

(263) a.

RL:		(m α_1: (f_1: ♦$_{Loan}$ (f_1)) (α_1): (f_2: ♦ (f_2)) (α_1))
ML:		(Np_1: [(Nw_1: -$^{com.pl}$MORP$_N$- (Nw_1)) ($Adjp_1$: ($Adjw_1$: -$^{com.pl}$MORP$_{Adj}$- ($Adjw_1$)) ($Adjp_1$))] (Np_1))
PL:	U	(PP_1: [(PW_1: -(C_1: PHON$_{+Alv.+Sib}$ (C_1))- (PW_1)) (MUT1 PW_2)] (PP_1))
	S	(PP_1: [(PW_1) (PW_2)] (PP_1))

b.

RL:		(m x_i: (f_i: boc$_{Loan}$ (f_i)) (x_i): (f_j: mór (f_j)) (x_i))
ML:		(Np_i: [(Nw_i: -$^{com.pl}$bocs$_N$- (Nw_i)) ($Adjp_i$: ($Adjw_i$: -$^{com.pl}$móra$_{Adj}$- ($Adjw_i$)) ($Adjp_i$))] (Np_i))
PL:	U	(PP_I: [(PW_I: -/boks/- (PW_I)) (MUT1 PW_J: -/mo:.rə/- (PW_J))] (PP_I))
	S	(PP_I: [(PW_I: -//boks//- (PW_I)) (PW_J: -//wo:.rə//- (PW_J))] (PP_I))
OL:		[boks 'wo.:rə]

and the lack of a Vocative illocution or Possessive semantic function triggers the common case plural in the head noun. The act of modification together with the common case plural and either the palatal(ised) final consonant of a native head noun or the alveolar sibilant final consonant of a borrowed head noun triggers the Mutation operator in the attributive adjective. The fact that loan word status makes a grammatical difference implies that loan words need to be tagged as loan words in the Fund, with loan phonemes possibly also needing to be tagged. Native words and phonemes form the default case and would logically not need to be tagged.

Although the activation of a mutation is normally restricted to a single target, a series of adjectives modifying the same head noun may often be serially mutated as in (42g) resulting in (264). Serial activation may thus be clearly equated with modifier marking in the

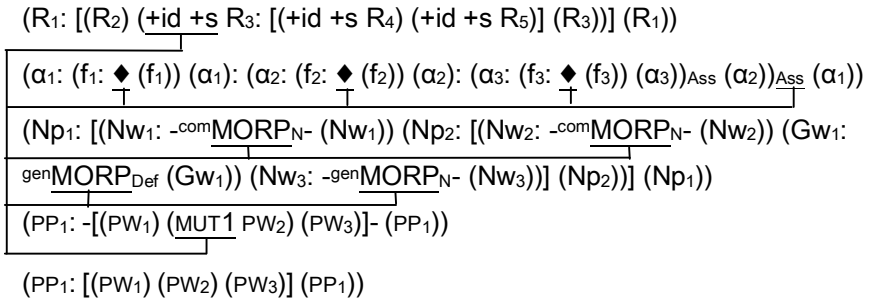
(264)

IL:		(+id +s R_I)
RL:		(1 x_i: (f_i: bodóg (f_i)) (x_i): (f_j: beag (f_j)) (x_i)): (f_k: buí (f_k)) (x_i))
ML:		(Np_i: [(Gw_i: $^{com.fsg}$an$_{Def}$ (Gw_i)) (Nw_i: $^{com.fsg}$bodóg$_N$ (Nw_i)) ($Adjp_i$: ($Adjw_i$: $^{com.fsg}$beag$_{Adj}$ ($Adjw_i$)) ($Adjw_j$: $^{com.fsg}$buí$_{Adj}$ ($Adjw_j$)) ($Adjp_i$))] (Np_i))
PL:	U	(PP_I: [(PW_I: -/ən/- (PW_I)) (MUT1 PW_J: -/bu.d̪o:g/- (PW_J)) (MUT1 PW_K: -/b^jog/- (PW_K)) (MUT1 PW_L: -/bi:/- (PW_L))] (PP_I))
	S	(PP_I: [(PW_I: -//ən//- (PW_I)) (PW_J: -//wu.d̪o:g//- (PW_J)) (PW_K: -//v^jog//- (PW_K)) (PW_L: -//wi://- (PW_L))] (PP_I))
OL:		[ə(n) 'wu.d̪o:g v^jog wi:]

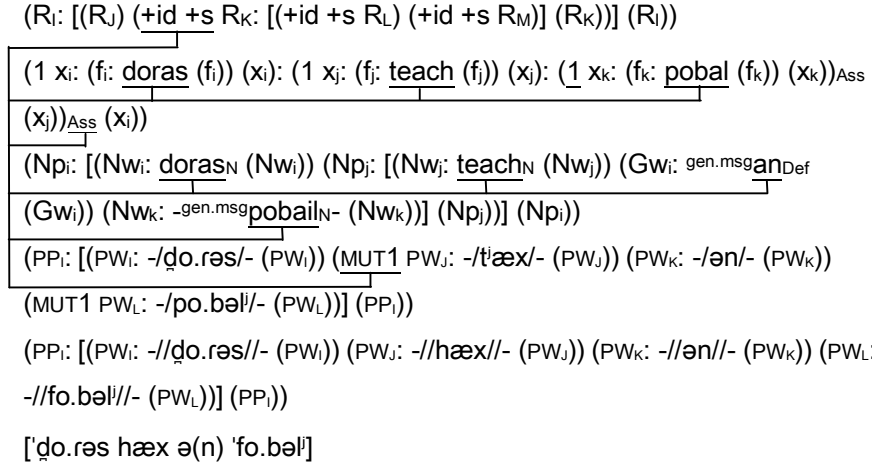
absence of a mutation in the head noun or may even be a form of mutational agreement in the presence of a mutation in the head noun.

The first paradigm is lastly activated in attributive definite nouns and proper names (which are by nature definite) as in (43) and (44) leading to (265) and (266).[180] The Identifiability of the Referent corresponding to the attributive noun or the presence of a proper

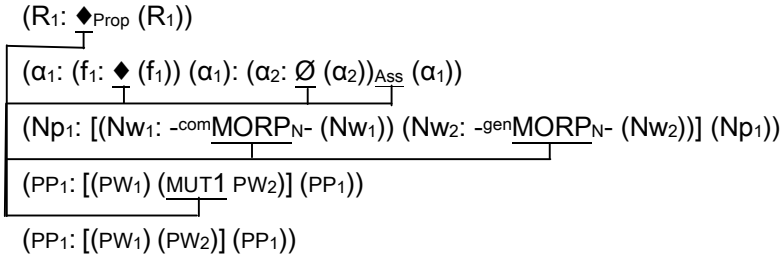
(265) a.



b.



(266) a.



[180] The semantic representation in (265a) applies for definite nouns which form the head of a complex definite noun construction which is alienably possessed. The definite noun may also less commonly be a simple definite noun in which case the general representation would be: $(\alpha_1: (f_1: \underline{\blacklozenge}\ (f_1))\ (\alpha_1): (\alpha_2: (f_2: \underline{\blacklozenge}\ (f_2))\ (\alpha_2))_{\underline{Ass}}\ (\alpha_1))$. I have represented alienable possession as this is considered to be closer to real possession (Hengeveld p.c.). The general representation for a complex definite noun which is inalienably possessed would be $(\alpha_1: (f_1: [(f_2: \underline{\blacklozenge}\ (f_2))\ (\alpha_2: (f_3: [(f_4: \underline{\blacklozenge}\ (f_4))\ (\alpha_3: (f_5: \underline{\blacklozenge}\ (f_5))\ (\alpha_3))_{\underline{Ref}}]\ (f_3))\ (\alpha_2))_{\underline{Ref}}]\ (f_1))\ (\alpha_1))$. The general representation for a simple definite noun which is inalienably possessed would be: $(\alpha_1: (f_1: [(f_2: \underline{\blacklozenge}\ (f_2))\ (\alpha_2: (f_3: \underline{\blacklozenge}\ (f_3))\ (\alpha_2))_{\underline{Ref}}]\ (f_1))\ (\alpha_1))$.

b. IL: $(R_I: \underline{Seán}_{Prop}\ (R_I))$

RL: $(1\ x_i: (f_i: \underline{bó}\ (f_i))\ (x_i): (x_j: \underline{Ø}\ (x_j))_{\underline{Ass}}\ (x_i))$

ML: $(Np_i: [(Nw_i: {}^{com}\underline{bó}_N\ (Nw_i))\ (Nw_j: {}^{-gen}\underline{Seáin}\text{-}\ (Nw_j))]\ (Np_i))$

PL: U $(PP_I: [(PW_I: \text{-/bo:/-}\ (PW_I))\ (\underline{MUT1}\ PW_J: \text{-/ʃɑ:n}^j\text{/-}\ (PW_J))]\ (PP_I))$

S $(PP_I: [(PW_I: \text{-//bo://-}\ (PW_I))\ (PW_J: \text{-//hjɑ:n}^j\text{//-}\ (PW_J))]\ (PP_I))$

OL: [bo: hjɑ:n^j]

name together with the Possessive semantic function and the morphosyntactic realisation of relevant morphemes activates the first paradigm in the attributive noun. The nominal trigger is usually in the common case while the nominal target takes the common case as the head of a complex definite noun construction but the genitive case as a proper name. It is apparent that for a mutation to be activated in proper names, the noun must be recognised and tagged as a proper name in the Fund. It is interesting that the definite noun is mutated irrespective of whether it is a simple noun or the head of a complex noun construction. This would suggest that the mutation is strictly phonologically applied to the target Phonological Word.

6.1.1.5 INDIVIDUAL WORDS

The spontaneous *optional* activation of the first paradigm in specific words as in (45) is triggered in each case individually by the specific words themselves as in (267) and (268).[181]

(267) a. ML: $(Xw_1: \underline{MORP}\ (Xw_1))$

PL: U $(\underline{MUT1}\ PW_1)$

S (PW_1)

b. RL: $(f_i: \underline{cead}\ (f_i))$

ML: $(Nw_i: \underline{cead}_N\ (Nw_i))$

PL: U $(\underline{MUT1}\ PW_I: \text{-/k}^j\text{æd̪/-}\ (PW_I))$

S $(PW_I: \text{-//x}^j\text{æd̪//-}\ (PW_I))$

OL: [x^{j}æd̪]

[181] The general representations of these individual words do not include the Interpersonal Level or Representational Level due to the varying nature of the lexical and grammatical words in question.

(268) a. ML: (Xw_1: MORP (Xw_1))
PL: U (PW_1)
S (PW_1)

b. RL: (f_i: cead (f_i))
ML: (Nw_i: $cead_N$ (Nw_i))
PL: U (PW_i: -/kʲæd̪/- (PW_i))
S (PW_i: -//kʲæd̪//- (PW_i))
OL: [kʲæd̪]

Such spontaneous activation would seem to occur in both lexemes and grammemes.[182] These words are most likely not tagged for this spontaneous mutation in the Fund, but rather have become connected in a network to the First Paradigm Mutational operator giving rise to a mutational activation pathway. The frequency of use of such words coupled with the frequency of activation may play a role in the distinction between optional and systematic mutation, with high frequency of use and activation leading to systematic activation but low frequency of use and activation resulting in optional or even loss of activation. Systematic activation in a particular word would suggest that the entry in the Fund needs to be tagged as a form which is regularly mutated. This would presumably be the penultimate step before the mutation becomes completely lexicalised or grammemicalised.

The optional nature of these spontaneous mutations results in the redundant availability of two possible phonological forms for the same lexeme as in (45). The presence of words which historically were optionally mutated but which now solely occur with the mutation as in (47) suggests that language users seek to reduce such redundancy by reinterpreting the mutation to be inherently part of the phonology of the word resulting in a lexicalised mutation or 'grammemicalised mutation' as in (269). The mutation in such cases would thus synchronically not be considered a mutation. The fourth paradigm also

(269) a. ML: (Xw_1: MORP (Xw_1))
PL: U (PW_1)
S (PW_1)

[182] I will thus refer to this mutation as a 'spontaneous' mutation rather than a 'lexical' mutation (cf. IIA 1785).

b. RL: (f_i: cheithre (f_i))

ML: ($Adjw_i$: $cheithre_{Car}$ ($Adjw_i$))

PL: U (PW_I: -/xʲe.rʲə/- (PW_I))

S (PW_I: -//xʲe.rʲə//- (PW_I))

OL: ['xʲe.rʲə]

seems to be activated in a highly restricted set of specific words beginning with a fricative although this activation is noticeably *questionable* rather than *optional* (see § 6.1.4.2).

6.1.1.6 NUMERALS

The numerals in the dialect are lexical modifiers which are essentially preposed quantifier adjectives. The cardinal numerals 1-6 all activate the first paradigm in a following common singular noun as in (51) leading to (270).[183] The modification of the noun by the relevant

(270) a. RL: (α_1: (f_1: ♦ (f_1)) (α_1): (f_j: ♦ (f_j)) (α_1))

ML: (Np_1: -[($Adjp_1$: ($Adjw_1$: $^{1\text{-}6}MORP_{Car}$ ($Adjw_1$)) ($Adjp_1$)) (Nw_1: $^{com.sg}MORP_N$ (Nw_1))]- (Np_1))

PL: U (PP_1: [(PW_1) (MUT1 PW_2)] (PP_1))

S (PP_1: [(PW_1) (PW_2)] (PP_1))

b. RL: (x_i: (f_i: duine (f_i)) (x_i): (f_j: cheithre (f_j)) (x_i))

ML: (Np_i: [($Adjp_i$: ($Adjw_i$: $cheithre_{Car}$ ($Adjw_i$)) ($Adjp_i$)) (Nw_i: $^{com.sg}duine_N$ (Nw_i))] (Np_i))

PL: U (PP_I: [(PW_I: -/xʲe.rʲə/- (PW_I)) (MUT1 PW_J: -/d̠i.nʲə/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//xʲe.rʲə//- (PW_I)) (PW_J: -//ɣi.nʲə//- (PW_J))] (PP_I))

OL: ['xʲe.rʲə 'ɣi.nʲə]

cardinal numeral results in the syntactic preplacement of the numeral before the common singular noun and activates the first paradigm in the nominal Phonological Word. The singular number of the noun seems to play an important role in the activation of the mutation

[183] Superscript numerals on a cardinal numeral morpheme refer to any cardinal numeral involving the numerals 1-10 and not solely the numerals 1-10. It may be remembered that these numerals always come before the noun.

as the restricted set of plural nouns which are used after numerals are generally not mutated as in (54) leading to (271). Such plural nouns have interestingly been noted to mutate according

(271)

RL:		$(t_i$: $(f_i$: bliain $(f_i))$ (t_i): $(f_j$: trí $(f_j))$ $(t_i))$
ML:		$(Np_i$: $[(Adjp_i$: $(Adjw_i$: $trí_{Car}$ $(Adjw_i))$ $(Adjp_i))$ $(Nw_i$: $^{com.pl}bliana_N$ $(Nw_i))]$ $(Np_i))$
PL:	U	$(PP_I$: $[(PW_I$: -/tʲrʲi:/- $(PW_I))$ $(PW_J$: -/bʲlʲiə.nə/- $(PW_J))]$ $(PP_I))$
	S	$(PP_I$: $[(PW_I$: -//tʲrʲi://- $(PW_I))$ $(PW_J$: -//bʲlʲiə.nə//- $(PW_J))]$ $(PP_I))$
OL:		[tʲrʲi: 'bʲlʲiə.nə]

to the fourth paradigm after the numerals 7-10, highlighting a clear grammatical division between the numerals 1-6 and 7-10 in terms of activation and paradigms (see § 6.1.4.3).

The first paradigm is also activated by the ordinal numeral 1 in a definite noun in the common singular or plural as in (55) giving (272). The Identifiability of the Referent together

(272) a.

IL:		(+id +s R_1)
RL:		(num α_1: $(f_1$: ♦ $(f_1))$ (α_1): $(f_2$: chéad $(f_2))$ $(\alpha_1))$
ML:		$(Np_1$: -[$(Gw_1$: $^{com.sg/pl}MORP_{Def}$ $(Gw_1))$ $(Adjp_1$: $(Adjw_1$: $chéad_{Ord}$ $(Adjw_1))$ $(Adjp_1))$ $(Nw_1$: $^{com.sg/pl}MORP_N$ $(Nw_1))]$- $(Np_1))$
PL:	U	$(PP_1$: $[(PW_1)$ $(PW_2$: -/xʲeːḏ/- $(PW_2))$ $(MUT1$ $PW_3))]$ $(PP_1))$
	S	$(PP_1$: $[(PW_1)$ $(PW_2$: -//xʲeːḏ//- $(PW_2))$ $(PW_3))]$ $(PP_1))$

b.

IL:		(+id +s R_I)
RL:		(1 x_i: $(f_i$: fear $(f_i))$: $(f_j$: chéad $(f_j))$ $(f_i))$ $(x_i))$
ML:		$(Np_i$: $[(Gw_i$: $^{com.sg}an_{Def}$ $(Gw_i))$ $(Adjp_i$: $(Adjw_i$: $chéad_{Ord}$ $(Adjw_i))$ $(Adjp_i))$ $(Nw_i$: $^{com.sg}fear_N$ $(Nw_i))]$ $(Np_i))$
PL:	U	$(PP_I$: $[(PW_I$: -/ən/- $(PW_I))$ $(PW_J$: -/xʲeːḏ/- $(PW_J))$ $(MUT1$ PW_K: -/fʲær/- $(PW_K))]$ $(PP_I))$
	S	$(PP_I$: $[(PW_I$: -//ən//- $(PW_I))$ $(PW_J$: -//xʲeːḏ//- $(PW_J))$ $(PW_K$: -//ær//- $(PW_K))]$ $(PP_I))$
OL:		[ə(n) xʲeːḏ ær]

with the grammatical modification by the Number operator and the lexical modification by the lexical ordinal numeral of the relevant lexeme result in the singular or plural definite article preceding the numeral which in turn precedes the singular or plural definite noun and activates the first paradigm. The Number operator is apparently not crucial to the activation of

the mutation with the ordinal numeral *chéad* as a Plural operator resulting in a plural noun with a plural definite article also activates a mutation as in (56) giving (273). The activation

(273)

IL:		(+id +s R_l)
RL:		(m x_i: (f_i: fear (f_i)): (f_j: chéad (f_j)) (f_i)) (x_i))
ML:		(Np_i: [(Gw_i: com.plna_{Def} (Gw_i)) ($Adjp_i$: ($Adjw_i$: chéad$_{Ord}$ ($Adjw_i$)) ($Adjp_i$)) (Nw_i: com.plfir_N (Nw_i))] (Np_i))
PL:	U	(PP_l: [(PW_l: -/nə/- (PW_l)) (PW_J: -/x^{j}e:d̪/- (PW_J)) (MUT1 PW_K: -/f^{j}ir^j/- (PW_K))] (PP_l))
	S	(PP_l: [(PW_l: -//nə//- (PW_l)) (PW_J: -//x^{j}e:d̪//- (PW_J)) (PW_K: -//ir^j//- (PW_K))] (PP_l))
OL:		[nə x^{j}e:d̪ ir^j]

of the mutation thus seems to be inherent to the ordinal numeral *chéad* rather than stemming from the number of the definite article plus the ordinal numeral plus the number of the noun. This example further illustrates a theoretical distinction in the model of FDG between cardinal numeral modification which may not co-occur with a Number operator and ordinal numeral modification which may co-occur with a Singular or Plural operator.

The personal numeral 2 lastly activates the first paradigm in a following noun in the common singular as in (57) which is represented in (274). The lexical modification by the

(274) a.

RL:		(α_1: (f_1: ♦ (f_1)) (α_1): (f_2: beirt (f_2)) (α_1))
ML:		(Np_1: -[($Adjp_1$: ($Adjw_1$: beirt$_{Per}$ ($Adjw_1$)) ($Adjp_1$)) (Nw_1: com.sg$MORP_N$ (Nw_1))]- (Np_1))
PL:	U	(PP_1: [(PW_1: -/b^{j}er^{j}t^j/- (PW_1)) (MUT1 PW_2)] (PP_1))
	S	(PP_1: [(PW_1: -//b^{j}er^{j}t^j//- (PW_1)) (PW_2)] (PP_1))

b.

RL:		(x_i: (f_i: ceoltóir (f_i)) (x_i): (f_j: beirt (f_j)) (x_i))
ML:		(Np_i: [($Adjp_i$: ($Adjw_i$: beirt$_{Per}$ ($Adjw_i$)) ($Adjp_i$)) (Nw_i: com.sg ceoltóir$_N$ (Nw_i))] (Np_i))
PL:	U	(PP_l: [(PW_l: -/b^{j}er^{j}t^j/- (PW_l)) (MUT1 PW_J: -/k^{j}o:l̪to:r^j/- (PW_J))] (PP_l))
	S	(PP_l: [(PW_l: -//b^{j}er^{j}t^j//- (PW_l)) (PW_J: -//x^{j}o:l̪to:r^j//- (PW_J))] (PP_l))
OL:		[b^{j}er^{j}t^j ˈx^{j}o:l̪to:r^j]

personal numeral results in the preplacement of the numeral before the noun and activates the

first paradigm. The personal numerals are treated similar to the cardinal numerals in FDG in that they may not co-occur with a Number operator. The difference in the dialect is that the personal numerals are used with human referents while the cardinal numerals are used with non-human referents or numbers of human referents not covered by the personal numerals. It is interesting that the personal numerals historically governed the genitive plural in the dialect but now govern the common singular (IIA 581). This would have resulted in the personal numeral forming the head of the noun phrase and being modified by the quantified noun as is still the case for personal numerals in Scottish Gaelic (Hengeveld & Mackenzie 2008:269).

6.1.1.7 NUMERAL + NOUN

The modification of a head noun by a cardinal numeral results in the activation of the first paradigm in a following attributive adjective irrespective of whether the numeral activates the first or fourth paradigm in the noun as in (58) and (59) leading to the representations in (275). This activation of the first paradigm involves a complex staging of mutational activation. The head noun is modified first by the adjective and then by the relevant numeral. The numeral is morphosyntactically realised first and activates a relevant paradigm in the noun which is followed by the adjective. The morphosyntactic combination of the numeral and noun

(275) a.

RL: $(\alpha_1: (f_1: \blacklozenge (f_1)) (\alpha_1): (f_2: \blacklozenge (f_2)) (\alpha_1): (f_3: \blacklozenge (f_3)) (\alpha_1))$

ML: $(Np_1: -[(Adjp_1: (Adjw_1: {}^{1\text{-}10}MORP_{Car} (Adjw_1)) (Adjp_1)) (Nw_1: {}^{com.sg}MORP_N (Nw_1)) (Adjp_2: (Adjw_1: -{}^{com.sg/pl}MORP_{Adj}- (Adjw_1)) (Adjp_2))]- (Np_1))$

PL: U $(PP_1: [(PW_1) (MUT1/4\ PW_2) (MUT1\ PW_3)]) (PP_1))$

S $(PP_1: [(PW_1) (PW_2) (PW_3)]) (PP_1))$

b.

RL: $(x_i: (f_i: \text{buideál} (f_i)) (x_i): (f_j: \text{mór} (f_j)) (x_i): (f_k: \text{trí} (f_k)) (x_i))$

ML: $(Np_i: [(Adjp_i: (Adjw_i: \text{trí}_{Car} (Adjw_i)) (Adjp_i)) (Nw_i: {}^{com.sg}\text{buidéal}_N (Nw_i)) (Adjp_j: (Adjw_j: -{}^{com.pl}\text{móra}_{Adj}- (Adjw_j)) (Adjp_j))] (Np_i))$

PL: U $(PP_I: [(PW_I: -/t^jr^ji:/- (PW_I)) (MUT1\ PW_J: -/bi.d^je:l/- (PW_J)) (MUT1\ PW_K: -/mo:.rə/- (PW_K))] (PP_I))$

S $(PP_I: [(PW_I: -//t^jr^ji://- (PW_I)) (PW_J: -//wi.d^je:l//- (PW_J)) (PW_K: -//wo:.rə//- (PW_K))] (PP_I))$

OL: [t^jr^ji: 'wi.d^je:l 'wo.:rə]

c. RL: $(x_i: (f_i: \underline{faobhar}\ (f_i))\ (x_i): (f_j: \underline{géar}\ (f_j))\ (x_i): (f_k: \underline{seacht}\ (f_k))\ (x_i))$

ML: $(Np_i: [(Adjp_i: (Adjw_i: \underline{seacht}_{Car}\ (Adjw_i))\ (Adjp_i))\ (Nw_i: {}^{com.sg}\underline{faobhar}_{N}\ (Nw_i))$
$(Adjp_j: (Adjw_j: {}^{com.sg}\underline{géar}_{Adj}\ (Adjw_j))\ (Adjp_j))]\ (Np_i))$

PL: U $(PP_I: [(PW_I: \text{-/ʃax̪t/-}\ (PW_I))\ (MUT4\ PW_J: \text{-/f}^{j}\text{i:.vər/-}\ (PW_J))\ (\underline{MUT1}\ PW_K: \text{-/g}^{j}\text{e:r/-}$
$(PW_K))]\ (PP_I))$

S $(PP_I: [(PW_I: \text{-//ʃax̪t//-}\ (PW_I))\ (PW_J: \text{-//v}^{j}\text{i:.vər//-}\ (PW_J))\ (PW_K: \text{-//je:r//-}\ (PW_K))]\ (PP_I))$

OL: [ʃax̪t 'vʲi:.vər je:r]

subsequently activates the first paradigm in the adjective. It may be recalled that the activation of the first paradigm in attributive adjectives is restricted to specific head nouns (see § 6.1.1.4). The semantic modification of the noun and adjective by the numeral coupled with the morphosyntactic construction involving the numeral and noun is thus important and involves a clear sequence of events leading up to the activation of the first paradigm in the adjective. The mutation of the adjective can solely be activated once the numeral and noun are realised morphosyntactically. This example of the 'percolation' of features from higher levels/layers to lower levels/layers cannot be captured in the static model but would only be adequately represented in a complex dynamic model of FDG (cf. Fortescue 2004:164). The choice of the plural form of the adjective in (275b) is interesting in that it does not agree in number with the head noun which is singular. It would thus seem that the conceptually plural nature of the numeral alone activates the plural form of the adjective, giving rise to a grammatical mismatch in morphosyntactic agreement. There is no mutational agreement in this case between the head noun and the modifier adjective as the noun may be mutated in the first and fourth paradigms but the adjective solely in the first paradigm.

The cardinal numeral 2 shows aberrant activation when modifying a head noun which is modified by an adjective. The first paradigm is sometimes activated in the adjective only when the adjective is plural and receives primary phrasal stress as in (60) leading to (276).[184] The plural number of the adjective is again unusual as the noun is singular which results in a mismatch in morphosyntactic agreement. The stressing of the adjective is also unusual as the noun would be expected to receive the primary phrasal stress. Both the form of the morpheme at the Morphosyntactic Level and the High operator at the Phonological Level thus play a crucial role in the activation of the mutation. Although this is the only case of stress playing a

[184] The Stress operator is placed before the Mutation operator in (276a) as primary phrasal stress determines activation of the mutation but is not shown in (276b) as the head noun usually receives primary phrasal stress.

(276) a. RL: $(x_i: (f_i: \underline{\text{gadhar}}\ (f_i))\ (x_i): (f_j: \underline{\text{beag}}\ (f_j))\ (x_i): (f_k: \underline{\text{dhá}}\ (f_k))\ (x_i))$

ML: $(Np_i: [(Adjp_i: (Adjw_i: \underline{\text{dhá}}_{Car}\ (Adjw_i))\ (Adjp_i))\ (Nw_i: {}^{com.sg}\underline{\text{gadhar}}_{N}\ (Nw_i))$
$(Adjp_j: (Adjw_j: {}^{-com.pl}\underline{\text{beaga}}_{Adj}\text{-}\ (Adjw_j))\ (Adjp_j))]\ (Np_i))$

PL: U $(PP_I: [(PW_I: \text{-/ɣɑ:/-}\ (PW_I))\ (\text{MUT1}\ PW_J: \text{-/gair/-}\ (PW_J))\ (\underline{\text{H MUT1}}\ PW_K: \text{-/b}^{j}\text{o.gə/-}$
$(PW_K))]\ (PP_I))$

S $(PP_I: [(PW_I: \text{-//ɣɑ://-}\ (PW_I)))\ (PW_J: \text{-//ɣair//-}\ (PW_J))\ (PW_K: \text{-//v}^{j}\text{o.gə//-}\ (PW_K))]$
$(PP_I))$

OL: [ɣɑ: ɣair ˈv^{j}o.gə]

b. RL: $(x_i: (f_i: \text{gadhar}\ (f_i))\ (x_i): (f_j: \text{beag}\ (f_j))\ (x_i): (f_k: \text{dhá}\ (f_k))\ (x_i))$

ML: $(Np_i: [(Adjp_i: (Adjw_i: \text{dhá}_{Car}\ (Adjw_i))\ (Adjp_i))\ (Nw_i: {}^{com.sg}\text{gadhar}_{N}\ (Nw_i))$
$(Adjp_j: (Adjw_j: {}^{com.sg}\text{beag}_{Adj}\ (Adjw_j))\ (Adjp_j))]\ (Np_i))$

PL: U $(PP_I: [(PW_I: \text{-/ɣɑ:/-}\ (PW_I))\ (\text{MUT1}\ PW_J: \text{-/gair/-}\ (PW_J))\ (PW_K: \text{-/b}^{j}\text{og/-}\ (PW_K))]\ (PP_I))$

S $(PP_I: [(PW_I: \text{-//ɣɑ://-}\ (PW_I)))\ (PW_J: \text{-//ɣair//-}\ (PW_J))\ (PW_K: \text{-//b}^{j}\text{og//-}\ (PW_K))]\ (PP_I))$

OL: [ɣɑ: ɣair b^{j}og]

role in the activation of a mutation, there is a possibility that this unusual activation involving primary phrasal stress could become more systematic in the dialect giving rise to (277).

(277) RL: $(\alpha_1: (f_1: \blacklozenge\ (f_1))\ (\alpha_1): (f_2: \blacklozenge\ (f_2))\ (\alpha_1): (f_3: \blacklozenge\ (f_3))\ (\alpha_1))$

ML: $(Np_1: \text{-}[(Adjp_1: (Adjw_1: \underline{\text{MORP}}_{Car}\ (Adjw_1))\ (Adjp_1))\ (Nw_1: {}^{com.sg}\underline{\text{MORP}}_{N}\ (Nw_1))$
$(Adjp_2: (Adjw_2: {}^{-com.pl}\underline{\text{MORP}}_{Adj}\text{-}\ (Adjw_2))\ (Adjp_2))]\text{-}\ (Np_1))$

PL: U $(PP_1: [(PW_1)\ (\text{MUT1/4}\ PW_2)\ (\underline{\text{H MUT1}}\ PW_3)]\ (PP_1))$

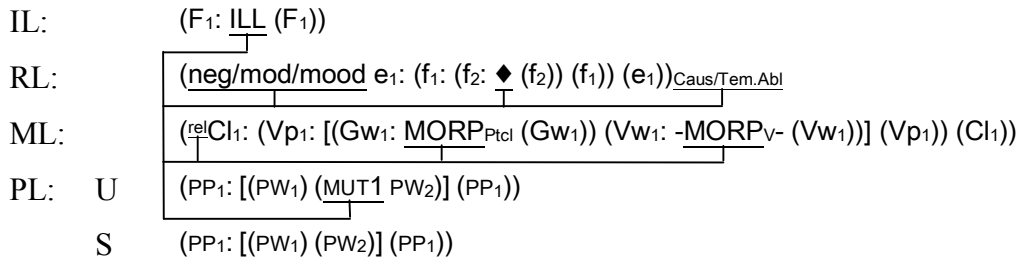
S $(PP_1: [(PW_1)\ (PW_2)\ (PW_3)]\ (PP_1))$

6.1.1.8 PARTICLES

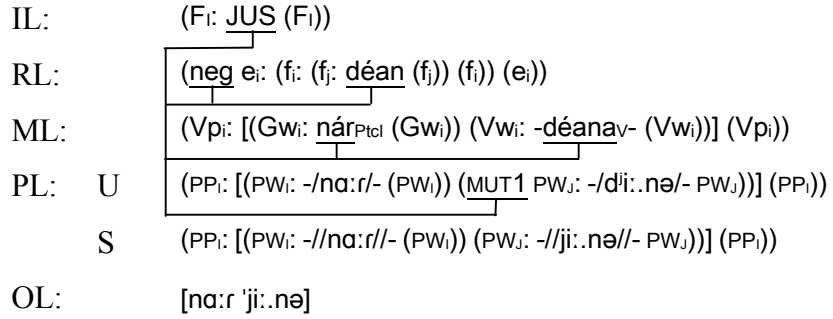
The first paradigm is activated in a verb after some preverbal particles which do not discern a non-past or past form including the negative jussive particle *nár*, the realis conditional particle *má*, the direct relative particle *a*, the temporal ablative particle *ó*, and the causative particle *ó* as in (61) as well after the negative declarative particle *ní* which is the sole non-past form to activate the first paradigm as in (67) giving (278).[185] The relevant particle is triggered by

[185] See Appendix 1 for a summary of activational factors including the particles which activate a mutation.

(278) a.



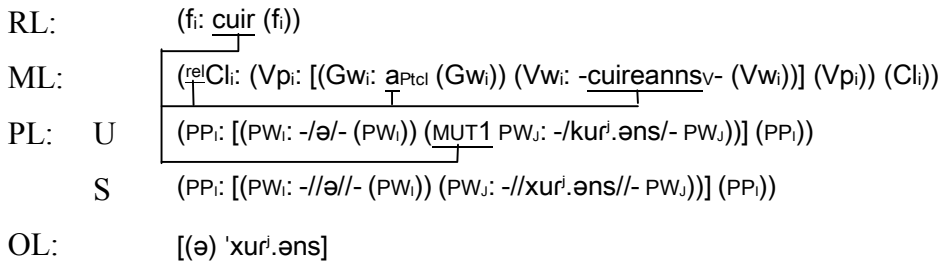
b.



(a specific combination of) an illocution, a Modality or Mood operator coupled with the absence of a Past operator, a Causative or Temporal Ablative function, and/or the relativisation of the clause which in turn activates the first paradigm in the verbal form. The verb is naturally further conjugated in accordance with specific features of the subject.

The direct relative particle *a* may interestingly be elided in normal speech with the retention of the mutation as in (63) giving (279). It is possible that this particle may

(279)



ultimately be lost resulting in a diminished mutational activation pathway whereby the retention of the mutation is the sole marker of the direct relativisation as in (66) giving (280). The elision of a mutational trigger whereby the mutation is retained in the target marking the original features of the trigger seems to be common where the trigger is realised as a schwa. This leads to the prediction that morphosyntactic mutational triggers which are or may be realised as a schwa will disappear in the event of no grammatical ambiguity being created.

(280)

RL:		(fi: cuir (fi))
ML:		(relCli: (Vpi: (Vwi: -cuireannsV- (Vwi)) (Vpi)) (Cli))
PL:	U	(MUT1 PWi: -/kurʲ.əns/- PWi))
	S	(PWi: -//xurʲ.əns//- PWi))
OL:		['xurʲ.əns]

The first paradigm is activated in a verb after all past particle forms ending with a rhotic consonant including the negative declarative particle *níor*, the interrogative particle *ar*, the negative interrogative particle *nar*, the negative conditional particle *marar*, the dependent particle *gur*, the negative dependent particle *nar*, the indirect relative particle *ar*, the negative relative particle *nar*, the indefinite interrogative adverb *cér/cár*, and the antessive particle *shular* as in (69) leading to (281). The relevant particle is activated by (a combination of)

(281) a.

IL:		(F1: ILL (F1))
RL:		(pst ep1: (neg/mood e1: (f1: (f2: ♦ (f2)) (f1)) (e1))Ant (ep1))
ML:		(dep/relCl1: (Vp1: [(Gw1: MORPPtcl (Gw1)) (Vw1: -MORPV- (Vw1))] (Vp1)) (Cl1))
PL:	U	(PP1: [(PW1: -(C1: -PHON+Rh- (C1))- (PW1)) (MUT1 PW2)] (PP1))
	S	(PP1: [(PW1) (PW2)] (PP1))

b.

IL:		(FI: DEC (FI))
RL:		(pst ep1: (neg e1: (f1: (f2: clois (f2)) (f1)) (e1)) (ep1))
ML:		(Vpi: [(Gwi: níorPtcl (Gwi)) (Vwi: -cualaV- (Vwi))] (Vpi))
PL:	U	(PPI: [(PWi: -/ɲiːr/- (PWi)) (MUT1 PWJ: -/cuə.lə/- PWJ))] (PPI))
	S	(PPI: [(PWi: -//ɲiːr//- (PWi)) (PWJ: -//xuə.lə//- PWJ))] (PPI))
OL:		[ɲiːr 'xuə.lə]

an illocution, a Past, Negative, or Mood operator, an Anterior function, and/or the dependency or relativisation of the clause. It is unclear in these cases whether the mutation is activated as a result of both the preverbal particle and the past tense or solely the past tense as the first paradigm is always automatically activated in past tense forms (see § 6.1.1.16).

The vocative particle *a* is the sole prenominal particle which activates the first paradigm regularly in a following noun which may or may not be a proper name and which may or may not be marked for the vocative case as in (79) and (80) giving (282) and (283).

(282) a.

IL:		$(F_1$: VOC $(F_1))$
RL:		$(f_1$: ♦ $(f_1))$
ML:		$(Np_1$: [$(Gw_1$: a_{Ptcl} $(Gw_1))$ $(Nw_1$: -^{voc}MORP$_N$- $(Nw_1))]$ $(Np_1))$
PL:	U	$(PP_1$: [$(PW_1$: -/ə/- $(PW_1))$ (MUT1 $PW_2)]$ $(PP_1))$
	S	$(PP_1$: [$(PW_1$: -//ə//- $(PW_1))$ $(PW_2)]$ $(PP_1))$

b.

IL:		$(F_I$: VOC $(F_I))$
RL:		$(f_i$: maighdean $(f_i))$
ML:		$(Np_i$: [$(Gw_i$: a_{Ptcl} $(Gw_i))$ $(Nw_i$: -^{voc}maighdean$_N$- $(Nw_i))]$ $(Np_i))$
PL:	U	$(PP_I$: [$(PW_I$: -/ə/- $(PW_I))$ (MUT1 PW_J: -/wai.dʲən/- $(PW_J))]$ $(PP_I))$
	S	$(PP_I$: [$(PW_I$: -/ə/- $(PW_I))$ $(PW_J$: -/mɑ:.rʲə/- $(PW_J))]$ $(PP_I))$
OL:		[(ə) ˈwai.dʲən]

(283) a.

IL:		$(A_1$: -[$(F_1$: VOC $(F_1))$ $(C_1$: $(R_1$: ♦$_{Prop}$ $(R_1))$ $(C_1))]$- $(A_1))$
RL:		$(\alpha_1$: Ø $(\alpha_1))$
ML:		$(Np_1$: [$(Gw_1$: a_{Ptcl} $(Gw_1))$ $(Nw_1$: -^{voc}MORP$_N$- $(Nw_1))]$ $(Np_1))$
PL:	U	$(PP_1$: [$(PW_1$: -/ə/- $(PW_1))$ (MUT1 $PW_2)]$ $(PP_1))$
	S	$(PP_1$: [$(PW_1$: -//ə//- $(PW_1))$ $(PW_2)]$ $(PP_1))$

b.

IL:		$(A_I$: -[$(F_I$: VOC $(F_I))$ $(C_I$: $(R_I$: Máire$_{Prop}$ $(R_I))$ $(C_I))]$- $(A_I))$
RL:		$(x_i$: Ø $(x_i))$
ML:		$(Np_i$: [$(Gw_i$: a_{Ptcl} $(Gw_i))$ $(Nw_i$: -^{voc}Máire$_N$- $(Nw_i))]$ $(Np_i))$
PL:	U	$(PP_I$: [$(PW_I$: -/ə/- $(PW_I))$ (MUT1 PW_J: -/mɑ:.rʲə/- $(PW_J))]$ $(PP_I))$
	S	$(PP_I$: [$(PW_I$: -/ə/- $(PW_I))$ $(PW_J$: -/mɑ:.rʲə/- $(PW_J))]$ $(PP_I))$
OL:		[(ə) ˈwɑ:.rʲə]

The Vocative illocution activates the vocative particle which activates the first paradigm in the following noun. The vocative particle is realised as a schwa which according to the

prediction made earlier would suggest that the particle may be dropped with retention of the mutation in the noun and this is indeed the case. Should the vocative particle truly disappear then there would be a 'pragmaticisation' of the activation of the mutation whereby the mutation would be activated solely as a result of the Vocative illocution as in (284). In light of

(284) a.

IL:		$(F_1: \underline{VOC}\ (F_1))$
RL:		$(f_1: \blacklozenge\ (f_1))$
ML:		$(Nw_1: -^{voc}\underline{MORP}_N- (Nw_1))$
PL:	U	$(\underline{MUT1}\ PW_1)$
	S	(PW_2)

b.

IL:		$(A_1: -[(F_1: \underline{VOC}\ (F_1))\ (C_1: (R_1: \blacklozenge_{Prop}\ (R_1))\ (C_1))]- (A_1))$
RL:		$(\alpha_1: \underline{\emptyset}\ (\alpha_1))$
ML:		$(Nw_1: -^{voc}\underline{MORP}_N- (Nw_1))$
PL:	U	$(\underline{MUT1}\ PW_1)$
	S	(PW_2)

the fact that the vocative case is disappearing and is being replaced with the common case in the dialect, the mutation might actually become the sole marker of the vocative case.

The abstract comparative particle *a* is the sole preadjectival particle to activate the first paradigm in a following adjective which may (rarely) take a special comparative form as in (83) leading to (285). The Abstract Comparative operator triggers the abstract comparative particle which activates the first paradigm in the adjective. In contrast to the direct relative and vocative particles which are both realised as a schwa and may be dropped, the abstract comparative particle which is also realised as a schwa may not be dropped. It may be predicted nevertheless that the abstract comparative particle may similar to these particles eventually be allowed to be elided and ultimately disappear whereby the mutation would be

(285) a.

RL:		$(absc\ f_1: \blacklozenge\ (f_1))$
ML:		$(Adjp_1: [(Gw_1: \underline{a}_{Ptcl}\ (Gw_1))\ (Adjw_1: -^{absc}\underline{MORP}_{Adj}- (Adjw_1))]\ (Adjp_1))$
PL:	U	$(PP_1: [(PW_1: -/ə/- (PW_1))\ (\underline{MUT1}\ PW_2)]\ (PP_1))$
	S	$(PP_1: [(PW_1: -/ə/- (PW_1))\ (PW_2)]\ (PP_1))$

b. RL: (absc f_i: gairid (f_i))

ML: (Adjp$_i$: [(Gw$_i$: a$_{Ptcl}$ (Gw$_i$)) (Adjw$_i$: -^{comp}gairdeacht$_{Adj}$- (Adjw$_i$))] (Adjp$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ə/- (PW$_I$)) (MUT1 PW$_J$: -/gairʲ.dʲəxt̪/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -/ə/- (PW$_I$)) (PW$_J$: -/ɣairʲ.dʲəxt̪/- (PW$_J$))] (PP$_I$))

OL: [ə ˈɣairʲ.dʲəxt̪]

retained and activated solely as a result of the Abstract Comparative operator as in (286).

(286) RL: (absc f_1: ♦ (f_1))

ML: (Adjw$_1$: -^{absc}MORP$_{Adj}$- (Adjw$_1$))

PL: U (MUT1 PW$_1$)

S (PW$_1$)

Such a development would be expected only to occur once the particle is optionally elided in regular speech. The prediction is thus that a grammatical word which is or may be realised as a schwa will first be obligatorily realised (first stage) before being optionally elided (second stage) until finally disappearing (third stage). The mutation is correspondingly redundant in the first stage, possibly redundant in the second stage, and necessary in the third stage.

6.1.1.9 POSSESSIVE PRONOUNS

The first paradigm is activated in a noun after the first and second person singular possessive pronouns *mo* and *do* (which are used deictically) and the third person singular masculine possessive pronoun *a* (which may be used deictically or 'phorically') as in (84-86) leading to (287-290). The specific combination of abstract features of a Referent, a Singular operator, a (Masculine) Individual headed by an empty property, and an Associative function trigger the

(287) a. IL: (R_1: [+S,-A] (R_1))

RL: (α_1: (f_1: ♦ (f_1)) (α_1): (1 x_1: (f_2: Ø (f_2)) (x_1))$_{Ass}$ (α_1))

ML: (Np$_1$: [(Gw$_1$: ^{poss}mo$_{Pro}$ (Gw$_1$)) (Nw$_1$: MORP$_N$ (Nw$_1$))] (Np$_1$))

PL: U (PP$_1$: [(PW$_1$: -/mə/- (PW$_1$)) (MUT1 PW$_2$)] (PP$_1$))

S (PP$_1$: [(PW$_1$: -//mə//- (PW$_1$) (PW$_2$)] (PP$_1$))

b. IL: $(R_I$: [+S,-A] $(R_I))$

RL: $(e_i$: $(f_i$: dóthain $(f_i))$ (e_i): $(1\ x_i$: $(f_j$: Ø $(f_j))$ $(x_i))_{Ass}$ $(e_i))$

ML: $(Np_i$: $[(Gw_i$: $^{poss}mo_{Pro}$ $(Gw_i))$ $(Nw_i$: dóthain$_N$ $(Nw_i))]$ $(Np_i))$

PL: U $(PP_I$: $[(PW_I$: -/mə/- $(PW_I))$ $(MUT1\ PW_J$: -/d̪oː.hənʲ/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//mə//- $(PW_I))$ $(PW_J$: -//ɣoː.hənʲ//- $(PW_J))]$ $(PP_I))$

OL: [mə ˈɣoː.hənʲ]

(288) a. IL: $(R_1$: [-S,+A] $(R_1))$

RL: $(\alpha_1$: $(f_1$: ♦ $(f_1))$ (α_1): $(1\ x_1$: $(f_2$: Ø $(f_2))$ $(x_1))_{Ass}$ $(\alpha_1))$

ML: $(Np_1$: $[(Gw_1$: $^{poss}do_{Pro}$ $(Gw_1))$ $(Nw_1$: MORP$_N$ $(Nw_1))]$ $(Np_1))$

PL: U $(PP_1$: $[(PW_1$: -/d̪ə/- $(PW_1))$ $(MUT1\ PW_2)]$ $(PP_1))$

S $(PP_1$: $[(PW_1$: -//d̪ə//- (PW_1) $(PW_2)]$ $(PP_1))$

b. IL: $(R_I$: [-S,+A] $(R_I))$

RL: $(x_i$: $(f_i$: máthair $(f_i))$ (x_i): $(1\ x_j$: $(f_j$: Ø $(f_j))$ $(x_j))_{Ass}$ $(x_i))$

ML: $(Np_i$: $[(Gw_i$: $^{poss}do_{Pro}$ $(Gw_i))$ $(Nw_i$: máthair$_N$ $(Nw_i))]$ $(Np_i))$

PL: U $(PP_I$: $[(PW_I$: -/d̪ə/- $(PW_I))$ $(MUT1\ PW_J$: -/mɑː.hərʲ/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//d̪ə//- $(PW_I))$ $(PW_J$: -//wɑː.hərʲ//- $(PW_J))]$ $(PP_I))$

OL: [d̪ə ˈwɑː.hərʲ]

(289) a. IL: $(R_1$: [-S,-A] $(R_1))$

RL: $(\alpha_1$: $(f_1$: ♦ $(f_1))$ (α_1): $(1\ ^mx_1$: $(f_2$: Ø $(f_2))$ $(x_1))_{Ass}$ $(\alpha_1))$

ML: $(Np_1$: $[(Gw_1$: $^{poss.msg}a_{Pro}$ $(Gw_1))$ $(Nw_1$: MORP$_N$ $(Nw_1))]$ $(Np_1))$

PL: U $(PP_1$: $[(PW_1$: -/ə/- $(PW_1))$ $(MUT1\ PW_2)]$ $(PP_1))$

S $(PP_1$: $[(PW_1$: -//ə//- (PW_1) $(PW_2)]$ $(PP_1))$

b. IL: $(R_I$: [-S,-A] $(R_I))$

RL: $(x_i$: $(f_i$: clann $(f_i))$ (x_i): $(1\ ^mx_j$: $(f_j$: Ø $(f_j))$ $(x_j))_{Ass}$ $(x_i))$

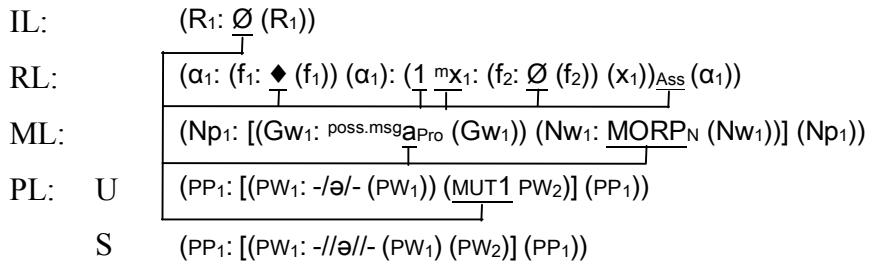
ML: $(Np_i$: $[(Gw_i$: $^{poss.msg}a_{Pro}$ $(Gw_i))$ $(Nw_i$: clann$_N$ $(Nw_i))]$ $(Np_i))$

PL: U $(PP_I$: $[(PW_I$: -/ə/- $(PW_I))$ $(MUT1\ PW_J$: -/klɑːn/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//ə//- $(PW_I))$ $(PW_J$: -//xlɑːn//- $(PW_J))]$ $(PP_I))$

OL: [ə xlɑːn]

(290) a.



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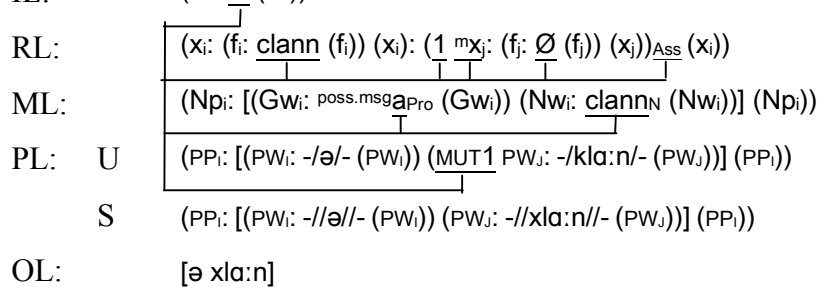
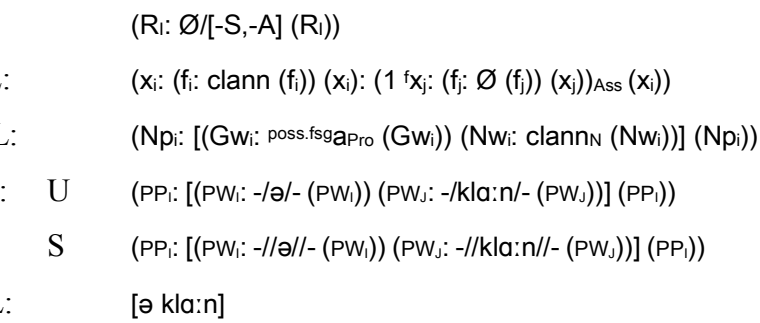


relevant possessive pronoun which activates the first paradigm in the noun. In the case of deictic reference the abstract features must express whether the reference does or does not involve the speaker or addressee. In the case of phoric reference there are no abstract features present whereby the relevant empty-headed Individual designates a previously occurring Individual in the (narrow or broad) context. The gender of the referent is further required to discern a male versus female referent as a male referent will but a female referent will not activate a mutation as in (87) giving (291) (cf. Hengeveld & Mackenzie 2008:118-121). The

(291)



speaker is forced in the case of phoric reference to search for a plausible referent in the Contextual Component whereby the empty-headed Referent and Individual in the Grammatical Component are co-indexed with a Referent and Individual in the Contextual Component. The entries in the Contextual Component contain the specification of information

necessary to allow for complete evocation/designation and differ in this case depending on whether a proper name has been evoked or a lexeme has been designated as in (292). It is

(292) a. CIL: $(R_1: \blacklozenge_{Prop} (R_1))$
CRL $(x_1: (f_1: \emptyset (f_1)) (x_1))$
CML: $(Nw_1: MORP_N (Nw_1))$
CPL: (PW_1)

b. CIL: $(R_1: \emptyset (R_1))$
CRL: $(x_1: (f_1: \blacklozenge (f_1)) (x_1))$
CML: $(Nw_1: MORP_N (Nw_1))$
CPL: (PW_1)

interesting to observe that the third person masculine singular possessive pronoun which is realised as a schwa may not be elided in normal speech. The prediction would be, however, that this might occur in the presence of a mutational distinction between the various pronouns realised as a schwa and in the lack of ambiguity as a result of contextual disambiguation.

The cliticisation of the first and second person singular pronouns to a noun beginning with an initial fricative which has been elided as in (89) and the possible adoption of the palatalisation of the elided fricative as in (90) would not take place in the Grammatical Component but would occur during Articulation as in (293). The articulator in this case would

(293) IL: $(R_I: [+S,-A] (R_I))$
RL: $(e_i: (f_i: \text{fírinne} (f_i)) (e_i): (1\ x_i: (f_j: \emptyset (f_j)) (x_i))_{Ass} (e_i))$
ML: $(Np_i: [(Gw_i: {}^{poss}mo_{Pro} (Gw_i)) (Nw_i: \text{dóthain}_N (Nw_i))] (Np_i))$
PL: U $(PP_I: [(PW_I: -/mə/- (PW_I)) (MUT1\ PW_J: -/f^ji:r^j.əɲ.ə /- (PW_J))] (PP_I))$
S $(PP_I: [(PW_I: -//mə//- (PW_I)) (PW_J: -//i:r^j.əɲ.ə//- (PW_J))] (PP_I))$
OL: [mə 'i:r^j.əɲ.ə/'mi:r^j.əɲ.ə/'m^{j}i:r^j.əɲ.ə]

elide the schwa of the pronoun and then either cliticise the pronoun directly to the noun or also adopt the feature of palatalisation of the elided fricative. The articulator thus clearly needs to have access not only to the representations at the Surface Phonological Level but

also at the Underlying Phonological Level to apply the correct palatalisation. The plural possessive pronouns activate the fourth paradigm in a following noun (see § 6.1.4.5).

6.1.1.10 PREFIXES

All bound grammatical prefixes activate the first paradigm in a following adjective or noun as in (91) and (95) represented in (294) and (295).[186] The relevant Aspect, Gradability, or

(294) a.

RL:		(asp/grad/mod f_1: ♦ (f_1))
ML:		(Adjw$_1$: [(Aff$_1$: $^{type1-3}$MORP$_{Pref}$ (Aff$_1$)) (Adjs$_1$: MORP$_{Adj}$ (Adjs$_1$))] (Adjw$_1$))
PL:	U	(PW$_1$: [(S$_1$) (MUT1 PW$_2$)] (PW$_1$))
	S	(PW$_1$: [(S$_1$) (PW$_2$)] (PW$_1$))

b.

RL:		(poss f_i: gearr (f_i))
ML:		(Adjw$_i$: [(Aff$_i$: ^{type1}in$_{Pref}$ (Aff$_i$)) (Adjs$_i$: -gearrtha$_{Adj}$- (Adjs$_i$))] (Adjw$_i$))
PL:	U	(PW$_I$: [(S$_I$: -/ən/- (S$_I$)) (MUT1 PW$_J$: -/gʲɑːr.hə/- (PW$_J$))] (PW$_I$))
	S	(PW$_I$: [(S$_I$: -//ən//- (S$_I$)) (PW$_J$: -//jɑːr.hə//- (PW$_J$))] (PW$_I$))
OL:		[ən.ˈjɑːr.hə]

(295) a.

RL:		(asp/grad/mod f_1: ♦ (f_1))
ML:		(Nw$_1$: [(Aff$_1$: $^{type1-3}$MORP$_{Pref}$ (Aff$_1$)) (Ns$_1$: MORP$_N$ (Ns$_1$))] (Nw$_1$))
PL:	U	(PW$_1$: [(S$_1$) (MUT1 PW$_2$)] (PW$_1$))
	S	(PW$_1$: [(S$_1$) (PW$_2$)] (PW$_1$))

b.

RL:		(mal f_i: sláinte (f_i))
ML:		(Nw$_i$: [(Aff$_i$: ^{type2}mí$_{Pref}$ (Aff$_i$)) (Ns$_i$: -sláinte$_N$- (Ns$_i$))] (Nw$_i$))
PL:	U	(PW$_I$: [(H S$_I$: -/mʲiː/- (S$_I$)) (MUT1 PW$_J$: -/slaɲ.tʲə/- (PW$_J$))] (PW$_I$))
	S	(PW$_I$: [(S$_I$: -//ˈmʲiː//- (S$_I$)) (PW$_J$: -//hlaɲ.tʲə//- (PW$_J$))] (PW$_I$))
OL:		[ˈmʲiː.ˌhlaɲ.tʲə]

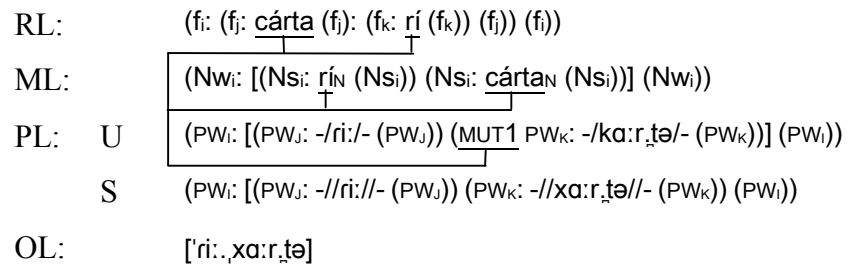
Modality operator triggers the relevant prefix which subsequently activates the first paradigm

[186] I have chosen to represent prefixes as Syllables as they are neither independent Phonological Words nor Feet.

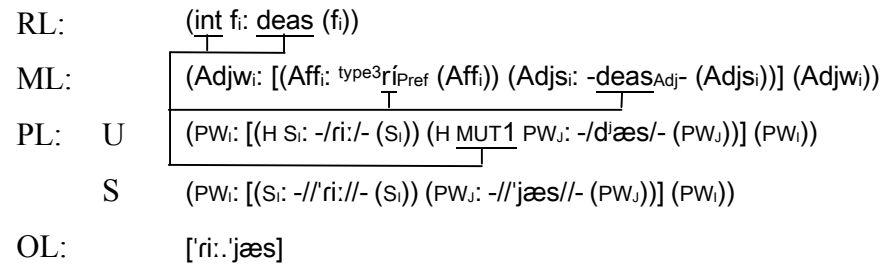
in the following adjectival or nominal stem. The type of the prefix determines whether the prefix will be unstressed, take primary word stress, or share primary word stress. Whereas the stress of the prefix Syllable is strictly associated with the prefix type and thus must be applied by a phonological operator, the stress of the nominal or adjectival Phonological Word is generally predictable and will thus be applied during Articulation. Due to the fact that the prefixes vary in productivity, it is likely that some prefixes may have become lexicalised in specific words whereby the mutation has similarly been lexicalised.

The prefixes *rí-* 'very' and *sean-* 'utmost' seem to behave both lexically and grammatically, with the lexical modifier taking primary stress in compounds but with the grammatical prefix sharing primary stress in prefixed words as in (101) and (99) which are represented in (296).[187] This lexical versus grammatical distinction is not a case of coercion

(296) a.

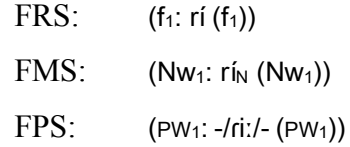


b.



but may instead be considered to reflect two historically related but synchronically unrelated lexical and grammemical entries in the Fund as in (297). The representation in (297b) is

(297) a.



[187] The Stress operator is placed before the Mutation operator in (296b) as the Stress operator would be applied at the layer of the Syllable while the Mutation Operator would be applied at the layer of the Onset.

b. FRS: (int f_1)

FMS: (Aff$_1$: ^{type3}rí$_{Pref}$ (Aff$_1$))

FPS: (PW$_1$ -/ɾi:/- (PW$_1$))

somewhat misleading in that the Intensive operator seems to be solely equated with this particular prefix. As has been noted, however, some lexical modifiers have or seem to be currently undergoing grammaticalisation towards intensification prefixes. The Intensive operator is thus most likely linked to multiple morphosyntactic and phonological entries in the Fund, with the selection of a particular prefix being dependent upon the modified lexeme. It is interesting that almost all grammatical prefixes are monosyllables consisting of solely a vowel or consonant and vowel. The loss of lexical designation in lexical modifiers in compounds during the process of prefix grammaticalisation would seem to go hand in hand with the phonological reduction of the corresponding Phonological Word. The prefix *sean* which is aberrant in this respect may similarly be expected to be phonologically reduced. While some lexical modifiers have been clearly 'grammemically extended' and have not disappeared whereby there are two historically related entries in the Fund, there are also lexical modifiers which seem to have been 'grammemically replaced' whereby the lexical entry has disappeared and only the grammemical entry remains. A possible additional but not necessary step in the prefix grammaticalisation process in the latter case may be that the lexical entry loses its independent status and solely occurs as a bound lexical morpheme in compounds.

The fact that the prefixes *ath-* 're-/second' and *neamh-* 'in-/un-/non-' are realised without a final consonant before consonants but with a final consonant before vowels suggests that the respective prefixes are linked to two separate phonological realisations in the Fund as in (298). This would similarly apply for any lexical or grammemical entry that has

(298) a. FRS: (iter f_1)

FMS: (Aff$_1$: ^{type2}ath$_{Pref}$ (Aff$_1$))

FPS: (PW$_1$: -/æh/- (PW$_1$)) | (PW$_1$: -/æ/- (PW$_1$))

b. FRS: (neg f_1)

FMS: (Aff$_1$: ^{type2}neamh$_{Pref}$ (Aff$_1$))

FPS: (PW$_1$: -/ɲæw/- (PW$_1$)) | (PW$_1$: -/ɲæ/- (PW$_1$))

distinct phonological realisations before a vowel and a consonant. While the full respective Phonological Words are represented in both cases, it is also possible that the two possible forms in each case differ simply at the layer of the Coda whereby the Onset and/or Nucleus are essentially shared. In the case of a mutation involving the elision of an initial fricative it would seem that both forms would actually need to be selected as in (299). The form of the

(299)

RL:		(iter f_i: fás (f_i))
ML:		(Nw_i: [(Aff_i: $^{type2}ath_{Pref}$ (Aff_i)) (Ns_i: -$fás_N$- (Ns_i))] (Nw_i))
PL:	U	(PW_i: [(H S_i: -/æ/- (S_i)) (MUT1 PW_J: -/fɑːs/- (PW_J))] (PW_i))
	S	(PW_i: [(S_i: -//'æh//- (S_i)) (PW_J: -//ɑːs//- (PW_J))] (PW_i))
OL:		['æ.hɑːs]

prefix before a consonant would first need to be selected at the Underlying Phonological Level as the underlying form of the nominal or adjectival stem begins with a fricative. The mutation is subsequently applied resulting in the elision of the fricative whereby the form of the prefix before a vowel must then be selected at the Surface Phonological Level. It may be speculated that while a distinction has been drawn between an Underlying Phonological Level and Surface Phonological Level, there is currently no reason to assume that a similar distinction may exist for the phonological primitives in the Fund. Both levels in this view would thus select from the same set of primitives at a single Fundal Phonological Stratum (see Figure 12). The sequential selection of the two possible phonological forms of a trigger as a result of a target beginning with a fricative would again apply to all lexical and grammemical entries which have separate realisations before a vowel and a consonant.

6.1.1.11 PREPOSED ADJECTIVES

The lexical universal quantifier *(a)chuile* 'every' is the sole preposed adjective that regularly activates a mutation/the first paradigm in a following noun in the common singular as in (104) leading to (300).[188] Although it is unlikely that the activation of the first paradigm by a non-numeral quantifier will become generalised given that this is the only non-numeral quantifier to activate a mutation systematically, it may be speculated that such a process could

[188] The aberrant stress pattern of *(a)chuile* needs to be represented in the Fund and thus also in the grammar.

(300) a. RL: (α1: (f1: ♦ (f1)) (α1): (f2: (a)chuile (f2)) (α1))

ML: (Np1: -[(Adjp1: (Adjw1: quan(a)chuileAdj (Adjw1)) (Adjp1)) (Nw1: com.sgMORPN (Nw1))]- (Np1))

PL: U (PP1: [(PW1: -/ə.'xi.lʲə/- (PW1)) (MUT1 PW2)] (PP1))

S (PP1: [(PW1: -//ə.'xi.lʲə//- (PW1)) (PW2)] (PP1))

b. RL: (xi: (fi: duine (fi)) (xi): (fj: (a)chuile (fj)) (xi))

ML: (Npi: [(Adjpi: (Adjwi: quan(a)chuileAdj (Adjwi)) (Adjpi)) (Nwi: com.sgduineN (Nwi))] (Npi))

PL: U (PPI: [(PWI: -/ə.'xi.lʲə/- (PWI)) (MUT1 PWJ: -/d̪i.nʲə/- (PWJ))] (PPI))

S (PPI: [(PWI: -//ə.'xi.lʲə//- (PWI)) (PWJ: -//ɣi.nʲə//- (PWJ))] (PPI))

OL: [(ə.)'xi.lʲə 'ɣi.nʲə]

eventually become a more general rule similar to the activation of the first paradigm as a result of numeral quantification as in (301) (see § 6.1.1.6).

(301) RL: (α1: (f1: ♦ (f1)) (α1): (fj: ♦ (fj)) (α1))

ML: (Np1: -[(Adjp1: (Adjw1: quanMORPAdj (Adjw1)) (Adjp1)) (Nw1: com.sgMORPN (Nw1))]- (Np1))

PL: U (PP1: [(PW1) (MUT1 PW2)] (PP1))

S (PP1: [(PW1) (PW2)] (PP1))

6.1.1.12 PREPOSITIONS

A number of simple prepositions activate the first paradigm in a following noun. These prepositions would generally seem to be lexical in nature as they designate semantic content which may be further modified (Hengeveld p.c.). This criterion is somewhat simplified, however, as the modification of a preposition may not only be highly restricted but some prepositions may show polysemy whereby the same preposition may express multiple semantic functions and be both lexical and grammatical depending on the context.[189,190]

[189] See Mackenzie (1992a; 1992b) and Keizer (2008) on the (problematic) distinction between lexical and grammatical prepositions in English within the framework of Functional (Discourse) Grammar.

[190] Representations will be given for lexical prepositions and also for grammatical prepositions when relevant.

Whereas the prepositions *ar* ‘on’, *dhe* ‘from/off’, *dho* ‘to’, *faoi* ‘under’, *ó* ‘from’, *roimhe* ‘before’, *tha(i)r* ‘over/past’, and *thrí* ‘through’ are all lexically employed as in (105), only the prepositions *dhe* ‘of’ and *faoi* ‘about’ may also be grammatically employed as in (106) leading to (302) and (303). The lexical prepositions clearly express a locative and/or temporal

(302) a.

RL:		$(f_1: [(f_2: \blacklozenge (f_2))\ (\alpha_1: \blacklozenge (\alpha_1))_{\underline{Ref}}]\ (f_1))$
ML:		$(Adpp_1: [(Adpw_1: \underline{MORP}_{Prep}\ (Adpw_1))\ (Np_1: (Nw_1: {}^{com}\underline{MORP}_{N}\ (Nw_1))\ (Np_1))]\ (Adpp_1))$
PL:	U	$(PP_1: [(PW_1)\ (\underline{MUT1}\ PW_2)]\ (PP_1))$
	S	$(PP_1: [(PW_1)\ (PW_2)]\ (PP_1))$

b.

RL:		$(f_i: [(f_j: \underline{ar}\ (f_j))\ (1\ x_i: \underline{capall}\ (x_i))_{\underline{Ref}}]\ (f_i))$
ML:		$(Adpp_i: [(Adpw_i: \underline{ar}_{Prep}\ (Adpw_i))\ (Np_i: (Nw_i: {}^{com.sg}\underline{capall}_{N}\ (Nw_i))\ (Np_i))]\ (Adpp_i))$
PL:	U	$(PP_I: [(PW_I: \text{-/er}^j\text{/-}\ (PW_I))\ (\underline{MUT1}\ PW_I: \text{-/ka.pəl/-}\ (PW_I))]\ (PP_I))$
	S	$(PP_I: [(PW_I: \text{-//er}^j\text{//-}\ (PW_I))\ (PW_I: \text{-//xa.pəl//-}\ (PW_I))]\ (PP_I))$
OL:		$[\text{er}^j\ \text{'xa.pəl}]$

(303) a.

RL:		$(\alpha_1: (f_1: \blacklozenge (f_1))\ (\alpha_1))_{\underline{Poss/Conc}}$
ML:		$(Adpp_1: [(Gw_1: \underline{MORP}_{Prep}\ (Gw_1))\ (Np_1: (Nw_1: {}^{com}\underline{MORP}_{N}\ (Nw_1))\ (Np_1))]\ (Adpp_1))$
PL:	U	$(PP_1: [(PW_1)\ (\underline{MUT1}\ PW_2)]\ (PP_1))$
	S	$(PP_1: [(PW_1)\ (PW_2)]\ (PP_1))$

b.

RL:		$(1\ x_i: (f_i: \underline{draein}\ (f_i))\ (x_i))_{\underline{Poss}}$
ML:		$(Adpp_i: [(Gw_i: \underline{dhe}_{Prep}\ (Gw_i))\ (Np_i: (Nw_i: {}^{com.sg}\underline{draein}_{N}\ (Nw_i))\ (Np_i))]\ (Adpp_i))$
PL:	U	$(PP_I: [(PW_I: \text{-/gə/-}\ (PW_I))\ (\underline{MUT1}\ PW_I: \text{-/dre:n}^j\text{/-}\ (PW_I))]\ (PP_I))$
	S	$(PP_I: [(PW_I: \text{-//gə//-}\ (PW_I))\ (PW_I: \text{-//jre:n}^j\text{//-}\ (PW_I))]\ (PP_I))$
OL:		$[\text{gə jre:n}^j]$

relation as would prototypically be expected of prepositions. The grammatical prepositions, on the other hand, seem to express either a possessive relation or the actual topic of

discussion.[191] The activation of the first paradigm by prepositions is clearly associated with specific lexemes or semantic functions.[192] It seems, however, that the activation of a mutation may be specifically associated with the morphosyntactic form rather than the semantic form as the mutation is activated consistently as a result of the same morphosyntactic prepositional form regardless of differing semantic representations which lead to the selection of that form. The prepositions *dhe* and *faoi* which seem to be employed both lexically and grammatically will be analysed as consisting of multiple entries in the Fund which may share some morphosyntactic and/or phonological features as in (304) and (305). The specific lexical

(304)	a.	FRS:	$(f_1$: dhe $(f_1))$	b.	FRS:	$(\alpha_1)_{Poss}$
		FMS:	$(Adpw_1$: dhe$_{Prep}$ $(Adpw_1))$		FMS:	$(Gw_1$: dhe$_{Prep}$ $(Gw_1))$
		FPS:	$(PW_1$: -/gə/- $(PW_1))$		FPS:	$(PW_1$: -/gə/- $(PW_1))$

(305)	a.	FRS:	$(f_1$: faoi $(f_1))$	b.	FRS:	$(\alpha_1)_{Conc}$
		FMS:	$(Adpw_1$: faoi$_{Prep}$ $(Adpw_1))$		FMS:	$(Gw_1$: faoi$_{Prep}$ $(Gw_1))$
		FPS:	$(PW_1$: -/fi:/- $(PW_1))$		FPS:	$(PW_1$: -/fi:/- $(PW_1))$

content designated by the preposition is associated with the relevant morphosyntactic and phonological realisation of the preposition. It is clear that the model does not represent the actual lexical semantic designation in the Grammatical Component although this is implied in the spelled form of the lexeme. Representing the lexical entry in a similar fashion in the Fund is descriptively inadequate as the specific designation or presence of multiple designations is not addressed. The specific grammatical semantic designation is on the contrary spelled out more clearly in the Grammatical Component and thus also in the Fund.[193] It may be recalled

[191] Should there be prepositions in the dialect which appear to grammatically express a locative and/or temporal relation then this would be expressed by a relevant locative/temporal semantic function which would be semantically represented as: $(\alpha_1$: $(f_1$: ♦ $(f_1))$ $(\alpha_1))_{L.}$ The various semantic functions may be further distinguished not only for specific (sub)types of location/temporalness but also depending on whether the type expresses stative rest, motion to, motion from, or motion past the variable taking the semantic function (Comrie & Smith 1997:§ 2.1.1.5). The various prepositions and the contexts in which they appear are termed standardly according to the relevant anglicised Latin preposition plus stem (such as *inessive* = *in* 'in' + *essive* 'to be').

[192] See Appendix 1 for a summary of activational factors including the prepositions which activate a mutation. Appendix 1 only represents the main functions of each preposition and does not include the many possible finer distinctions which may be distinguished for each preposition depending on the context.

[193] Although the model currently considers functions to be intrinsic to specific frames and templates, it may be worthwhile to explore the possibility that functions similarly form grammemes in the Fund and may thus be inserted into the function slot of frames and templates.

that lexical and grammatical heads and modifiers may represent the same conceptual entities. A possible solution to this descriptive inadequacy would be to represent a non-linguistic Conceptual Level which would represent the pure Saussurean 'signifier' while the Fundal Levels and Grammatical Levels would represent the 'signified' as well as aspects of the 'signifier' in the linguistic form of pragmatic and semantic representations.[194]

The non-activation of a mutation in compound prepositions and fixed (adverbial) phrases with the preposition *ar* which have nonspecific reference may be considered as evidence that these prepositions and phrases have become fixed collocational constructions whereby the construction as a whole has a non-specific lexical designation and is stored as such in the Fund as in (113) leading to (306). This may similarly apply to any construction

(306) FIS: (-id -s R_1)

FRS: (f_1: ar cuairt (f_1))

FMS: ($Adpp_1$)) [($Adpw_1$: ar_{Prep} ($Adpw_1$)) (Np_1: (Nw_1: cuairt (Nw_1)) (Np_1))] ($Adpp_1$))

FPS: (PP_1: [(PW_1: -/er^j/- (PW_1)) (PW_2: -/kuərt^j/- (PW_2))] (PP_1))

which has been lexicalised to some degree. Whereas several prepositions activate the first paradigm, only the preposition *i* 'in' activates the fourth paradigm in a noun (§ 6.1.4.6).

6.1.1.13 PREPOSITION + DEFINITE ARTICLE

The lexical prepositional articles *dhen* 'from/off the' and *dhon* 'to the' as in (116) and the grammatical prepositional article *dhen* 'of the' as in (115) activate the first paradigm in a following noun not beginning with a sibilant in the common singular giving (307) and (308).

(307) a. IL: (+id +s R_1)

RL: (f_1: [(f_2: ♦ (f_2)) (1 α_1: (f_3: ♦ (f_3)) (α_1))$_{Ref}$] (f_1))

ML: ($Adpp_1$: [($Adpw_1$: $^{com.sg}MORP_{Prep.Def}$ ($Adpw_1$)) (Np_1: (Nw_1: $^{com.sg}MORP_N$ (Nw_1)) (Np_1))] ($Adpp_1$))

PL: U (PP_1: [(PW_1) (PW_2: -(MUT1 O_1: PHON$_{-Sib}$ (O_1))- (PW_2))] (PP_1))

S (PP_1: [(PW_1) (PW_2)] (PP_1))

[194] Such a Conceptual Level might benefit from insights from Parallel Architecture (which seems to use semantic units) (Jackendoff 2010) and Cognitive Grammar (which seems to use symbolic units) (Langacker 1987; 1991).

b. IL: (+id +s R_I)

RL: (f_i: [(f_j: do (f_j)) (1 x_i: (f_k: bó (f_k)) (x_i))$_{Ref}$] (f_i))

ML: ($Adpp_i$: [($Adpw_i$: com.sg**dhon**$_{Prep.Def}$ ($Adpw_i$)) (Np_i: (Nw_i: com.sg**bó**$_N$ (Nw_i)) (Np_i))] ($Adpp_i$))

PL: U (PP_I: [(PW_I: -/gən/- (PW_I)) (MUT1 PW_I: -/bo:/- (PW_I))] (PP_I))

S (PP_I: [(PW_I: -//gən//- (PW_I)) (PW_I: -//wo://- (PW_I))] (PP_I))

OL: [gən wo:]

(308) a. IL: (+id +s R_I)

RL: (1 α_1: (f_1: ♦ (f_1)) (α_1))$_{Poss}$

ML: ($Adpp_1$: [(Gw_1: com.sg**dhen**$_{Prep.Def}$ (Gw_1)) (Np_1: (Nw_1: com.sg**MORP**$_N$ (Nw_1)) (Np_1))] ($Adpp_1$))

PL: U (PP_1: [(PW_1: -/gən/- (PW_1)) (PW_2: -(MUT1 O_1: PHON$_{-Sib}$ (O_1))- (PW_2))] (PP_1))

S (PP_1: [(PW_1: -//gən//- (PW_1)) (PW_2)] (PP_1))

b. IL: (+id +s R_I)

RL: (1 x_i: (f_i: píopa (f_i)) (x_i))$_{Poss}$

ML: ($Adpp_i$: [(Gw_i: com.sg**dhen**$_{Prep.Def}$ (Gw_i)) (Np_i: (Nw_i: com.sg**píopa**$_N$ (Nw_i)) (Np_i))] ($Adpp_i$))

PL: U (PP_I: [(PW_I: -/gən/- (PW_I)) (MUT1 PW_I: -/p^ji:.pə/- (PW_I))] (PP_I))

S (PP_I: [(PW_I: -//gən//- (PW_I)) (PW_I: -//f^ji:.pə//- (PW_I))] (PP_I))

OL: [gən 'f^ji:.pə]

The identifiability operators together with either the relevant lexical preposition or Possessive semantic function and the Singular operator triggers the appropriate prepositional article which activates the first paradigm in a noun when the initial consonant is not a sibilant. These obligatory forms are not formed productively but would instead be stored separately in the Fund as in (309) and (310), with there being two entries for the preposition *dhe* which is both

(309) a. FIS: (+id +s R_1)

FRS: (f_1: [(f_2: dhe (f_2)) (1 α_1)$_{Ref}$] (f_1))

FMS: ($Adpw_1$: com.sg**dhen**$_{Prep.Def}$ ($Adpw_1$))

FPS: (PW_1: -/gən/- (PW_1))

b. FIS: (+id +s R_1)

FRS: (1 α_1)$_{Poss}$

FMS: (Gw_1: $^{com.sg}$dhen$_{Prep.Def}$ (Gw_1))

FPS: (PW_1: -/gən/- (PW_1))

(310) FIS: (+id +s R_1)

FRS: (f_1: [(f_2: dho (f_2)) (1 α_1)$_{Ref}$] (f_1))

FMS: ($Adpw_1$: $^{com.sg}$dhon$_{Prep.Def}$ ($Adpw_1$))

FPS: (PW_1: -/gən/- (PW_1))

lexical and grammatical but one entry for the preposition *dho* which is solely lexical. These same prepositional forms activate the second paradigm in a noun which does begin with a sibilant (see § 6.1.2.2). It is curious that the combination of a simple preposition followed by the singular definite article in these two cases activates the first paradigm as the majority of prepositional articles and simple prepositions followed by the singular definite article activates the fourth paradigm in a noun (see § 6.1.4.7).

6.1.1.14 PREPOSITION + POSSESSIVE PRONOUN

The lexical prepositions *dhe* 'from/off', *dho* 'to', *faoi* 'under', *i* 'in', *ó* 'from', and *thrí* 'through' as in (121) as well as the grammatical prepositions *dhe* 'of', *faoi* 'about', and *le* 'with' as in (120) merge with the third person singular masculine possessive pronoun *a* to form a prepositional possessive which activates the first paradigm in a noun and which may be used deictically or phorically leading to (311) and (312). The relevant prepositional possessive is triggered in such cases as a result of the same pragmatic and semantic features

(311) a. IL: (R_1: Ø/[-S,-A] (R_1))

RL: (f_1: [(f_2: ♦ (f_2)) (α_1: (f_3: ♦ (f_3)) (α_1): (1 $^{m}x_1$: (f_4: Ø (f_4)) (x_1))$_{Ass}$ (α_1))$_{Ref}$] (f_1))

ML: ($Adpp_1$: [($Adpw_1$: -$^{poss.msg}$MORP$_{Prep.Pro}$- ($Adpw_1$)) (Np_1: (Nw_1: MORP$_N$ (Nw_1)) (Np_1))] ($Adpp_1$))

PL: U (PP_1: [(PW_1) (MUT1 PW_2)] (PP_1))

S (PP_1: [(PW_1) (PW_2)] (PP_1))

b. IL: $(R_I$: Ø/[-S,-A] $(R_I))$

RL: $(f_i$: $[(f_j$: i $(f_j))$ $(x_i$: $(f_k$: póca $(f_k))$ (x_i): $(1\ {}^{m}x_j$: $(f_l$: Ø $(f_l))$ $(x_j))_{Ass}$ $(x_i))_{Ref}]$ $(f_i))$

ML: $(Adpp_i$: $[(Adpw_i$: $-^{poss.msg}ina_{Prep.Pro}-$ $(Adpw_i))$ $(Np_i$: $(Nw_i$: $póca_N$ $(Nw_i))$ $(Np_i))]$ $(Adpp_i))$

PL: U $(PP_I$: $[(PW_I$: -/ə.nə/- $(PW_I))$ $(MUT1\ PW_I$: -/poː.kə/- $(PW_I))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//ə.nə//- $(PW_I))$ $(PW_I$: -//foː.kə//- $(PW_I))]$ $(PP_I))$

OL: ['ə.nə 'foː.kə]

(312) a. IL: $(R_1$: Ø/[-S,-A] $(R_1))$

RL: $(\alpha_1$: $(f_1$: ♦ $(f_1))$ (α_1): $(1\ {}^{m}x_1$: $(f_2$: Ø $(f_2))$ $(x_1))_{Ass}$ $(\alpha_1))_{Poss/Conc/Inst/Com}$

ML: $(Adpp_1$: $[(Gw_1$: $-^{poss.msg}MORP_{Prep.Pro}-$ $(Gw_1))$ $(Np_1$: $(Nw_1$: $MORP_N$ $(Nw_1))$ $(Np_1))]$ $(Adpp_1))$

PL: U $(PP_1$: $[(PW_1)$ $(MUT1\ PW_2)]$ $(PP_1))$

S $(PP_1$: $[(PW_1)$ $(PW_2)]$ $(PP_1))$

b. IL: $(R_I$: Ø/[-S,-A] $(R_I))$

RL: $(x_i$: $(f_i$: cois $(f_i))$ (α_i): $(1\ {}^{m}x_j$: $(f_j$: Ø $(f_j))$ $(x_j))_{Ass}$ $(x_i))_{Conc}$

ML: $(Adpp_i$: $[(Gw_i$: $-^{poss.msg}faoina_{Prep.Pro}-$ $(Gw_i))$ $(Np_i$: $(Nw_i$: $cois_N$ $(Nw_i))$ $(Np_i))]$ $(Adpp_i))$

PL: U $(PP_I$: $[(PW_I$: -/fiː.nə/- $(PW_I))$ $(MUT1\ PW_I$: -/koʃ/- $(PW_I))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//fiː.nə// $(PW_I))$ $(PW_I$: -//xoʃ//- $(PW_I))]$ $(PP_I))$

OL: ['fiː.nə xoʃ]

which in other cases would trigger an independent preposition and possessive pronoun. The difference is thus that the selection of a suppletive prepositional possessive form during lexical/grammemical insertion is forced in these cases as opposed to the selection of the standard underlying forms of the preposition and the possessive pronoun. Each individual prepositional possessive would be stored separately in the Fund as in (313-319). This raises

(313) a. FIS: $(R_1$: [-S,-A] $(R_1))$ | $(R_1$: Ø $(R_1))$

FRS: $(f_1$: $[(f_2$: dhe $(f_2))$ (α_1): $(1\ {}^{m}x_1$: $(f_3$: Ø $(f_3))$ $(x_1))_{Ass}$ $(\alpha_1))_{Ref}]$ $(f_1))$

FMS: $(Adpw_1$: $^{poss.msg}dhá_{Prep.Pro}$ $(Adpw_1))$

FPS: $(PW_1$: -/gɑː/- $(PW_1))$

b. FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: \emptyset\ (R_1))$

FRS: $(\alpha_1): (1\ {}^{m}x_1: (f_2: \emptyset\ (f_2))\ (x_1))_{Ass}\ (\alpha_1))_{Poss}$

FMS: $(Gw_1: {}^{poss.msg}dhá_{Prep.Pro}\ (Gw_1))$

FPS: $(PW_1: \text{-/gɑ:/-}\ (PW_1))$

(314) FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: \emptyset\ (R_1))$

FRS: $(f_1: [(f_2: \text{dho}\ (f_2))\ (\alpha_1): (1\ {}^{m}x_1: (f_3: \emptyset\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.msg}dhá_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/gɑ:/-}\ (PW_1))$

(315) a. FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: \emptyset\ (R_1))$

FRS: $(f_1: [(f_2: \text{faoi}\ (f_2))\ (\alpha_1): (1\ {}^{m}x_1: (f_3: \emptyset\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.msg}faoina_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/fi:.nə/-}\ (PW_1))$

b. FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: \emptyset\ (R_1))$

FRS: $(\alpha_1): (1\ {}^{m}x_1: (f_2: \emptyset\ (f_2))\ (x_1))_{Ass}\ (\alpha_1))_{Conc}$

FMS: $(Gw_1: {}^{poss.msg}faoina_{Prep.Pro}\ (Gw_1))$

FPS: $(PW_1: \text{-/fi:.nə/-}\ (PW_1))$

(316) FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: \emptyset\ (R_1))$

FRS: $(f_1: [(f_2: \text{i}\ (f_2))\ (\alpha_1): (1\ {}^{m}x_1: (f_3: \emptyset\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.msg}ina_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/ə.nə/-}\ (PW_1))$

(317) FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: \emptyset\ (R_1))$

FRS: $(\alpha_1): (1\ {}^{m}x_1: (f_2: \emptyset\ (f_2))\ (x_1))_{Ass}\ (\alpha_1))_{Inst/Com}$

FMS: $(Gw_1: {}^{poss.msg}lena_{Prep.Pro}\ (Gw_1))$

FPS: $(PW_1: \text{-/lʲe.nə/-}\ (PW_1))$

(318) FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: Ø\ (R_1))$

FRS: $(f_1: [(f_2: ó\ (f_2))\ (\alpha_1): (1\ {}^{m}x_1: (f_3: Ø\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.msg}óna_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/o:.nə/-}\ (PW_1))$

(319) FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: Ø\ (R_1))$

FRS: $(f_1: [(f_2: thrí\ (f_2))\ (\alpha_1): (1\ {}^{m}x_1: (f_3: Ø\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.msg}thrína_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/hri:.nə/-}\ (PW_1))$

the question as to how much information needs to be specified in the Fund as it is clear that these entries require a high degree of specification. I would argue for a minimal representation of specification in the Fund whereby solely those features which are not productively derivable from systematic grammatical rules and which are necessary for the selection of a specific form are represented. This entails that suppletive forms must inevitably involve a degree of specification. The question also arises whether the activation of a mutation should be stored in the Fund whereby (314) may be refined as in (320). Such detailed specification

(320) FIS: $(R_1: [-S,-A]\ (R_1)) \mid (R_1: Ø\ (R_1))$

FRS: $(f_1: [(f_2: dho\ (f_2))\ (\alpha_1): (1\ {}^{m}x_1: (f_3: Ø\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.msg}dhá_{Prep.Pro}\ (Adpw_1))$

FPS: $(PP_1: [(PW_1: \text{-/gɑ:/-}\ (PW_1))\ (MUT1\ PW_2)]\ (PP_1))$

may clearly result in the quasi-representation of grammatical processes in the Fund. I understand such a complex entry not to represent actual grammatical processes but rather the *static association* of primitives and the associated aspects of entries in the Fund which when *dynamically implemented* result in the execution of grammatical processes. The fourth paradigm is activated after the plural forms of these prepositional possessives (see § 6.1.4.8).

6.1.1.15 PREPOSITION + POSSESSIVE PRONOUN + NOUN

The productive stative construction consisting of the preposition *i* 'in' followed by a possessive pronoun (in the first and second person singular) or merged with a possessive

pronoun (in the third person singular and plural) followed by a noun systematically activates the first paradigm in a following adjective as in (125) giving (321) and (322). This productive construction highlights the simple nature of the distinctions proposed in the Fund regarding lexical, grammemical, and structuring entries (see § 5.1). This construction shows that this distinction is in fact too strict and that there may be degrees of overlap between abstract frames/templates on the one hand and lexemes/grammemes on the other hand. Whereas entries in the Fund may be categorised as either lexemes, grammemes, or frames/templates,

(321) a. IL: (R$_1$: [±S,±A] (R$_1$))

RL: (f$_1$: [(f$_2$: i (f$_2$)) (α$_1$: (f$_3$: ♦ (f$_3$)) (α$_1$): (f$_4$: ♦ (f$_4$)) (α$_1$): (1 x$_1$: (f$_5$: Ø (f$_5$)) (x$_1$))$_{Ass}$ (α$_1$))$_{Ref}$] (f$_1$))

ML: (Adpp$_1$: [(Adpw$_1$: i$_{Prep}$ (Adpw$_1$)) (Np$_1$: [(Gw$_1$: $^{poss.sg}$MORP$_{Pro}$ (Gw$_1$)) (Nw$_1$: MORP$_N$ (Nw$_1$)) (Adjp$_1$: (Adjw$_1$: MORP$_{Adj}$ (Adjw$_1$)) (Adjp$_1$))] (Np$_1$))] (Adpp$_1$))

PL: U (PP$_1$: [(PW$_1$: -/ə/- (PW$_1$)) (PW$_2$) (MUT1 PW$_3$) (MUT1 PW$_4$)] (PP$_1$))

S (PP$_1$: [(PW$_1$: -//ə//- (PW$_1$)) (PW$_2$) (PW$_3$) (PW$_4$)] (PP$_1$))

b. IL: (R$_I$: [+S,-A] (R$_I$))

RL: (f$_i$: [(f$_j$: i (f$_j$)) (x$_i$: (f$_k$: gasúr (f$_k$)) (x$_i$): (f$_l$: beag (f$_l$)) (x$_i$): (1 x$_j$: (f$_m$: Ø (f$_m$)) (x$_j$))$_{Ass}$ (x$_i$))$_{Ref}$] (f$_i$))

ML: (Adpp$_i$: [(Adpw$_i$: i$_{Prep}$ (Adpw$_i$)) (Np$_i$: [(Gw$_i$: $^{poss.sg}$mo$_{Pro}$ (Gw$_i$)) (Nw$_i$: gasúr$_N$ (Nw$_i$)) (Adjp$_i$: (Adjw$_i$: beag$_{Adj}$ (Adjw$_i$)) (Adjp$_i$))] (Np$_i$))] (Adpp$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ə/- (PW$_I$)) (PW$_J$: -/mə/- (PW$_J$)) (MUT1 PW$_K$: -/ga.su:r/- (PW$_K$)) (MUT1 PW$_L$: -/b^{j}og/- (PW$_L$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//ə//- (PW$_I$)) (PW$_J$: -//mə//- (PW$_J$)) (PW$_K$: -//ɣa.su:r//- (PW$_K$)) (PW$_L$: -//v^{j}og//- (PW$_L$))] (PP$_I$))

OL: [ə mə ˈɣa.su:r v^{j}og]

(322) a. IL: (R$_1$: Ø/[±S,±A] (R$_1$))

RL: (f$_1$: [(f$_2$: i (f$_2$)) (α$_1$: (f$_3$: ♦ (f$_3$)) (α$_1$): (f$_4$: ♦ (f$_4$)) (α$_1$): (num x$_1$: (f$_5$: Ø (f$_5$)) (x$_1$))$_{Ass}$ (α$_1$))$_{Ref}$] (f$_1$))

ML: (Adpp$_1$: [(Adpw$_1$: ^{poss}ina$_{Prep.Pro}$ (Adpw$_1$)) (Np$_1$: [(Nw$_1$: MORP$_N$ (Nw$_1$)) (Adjp$_1$: (Adjw$_1$: MORP$_{Adj}$ (Adjw$_1$)) (Adjp$_1$))] (Np$_1$))] (Adpp$_1$))

PL: U (PP$_1$: [(PW$_1$: -/ə.nə/- (PW$_1$)) (MUT1/4 PW$_2$) (MUT1 PW$_3$)] (PP$_1$))

S (PP$_1$: [(PW$_1$: -//ə.nə//- (PW$_1$)) (PW$_2$) (PW$_3$)] (PP$_1$))

b. IL: $(R_I$: Ø/[-S,-A] $(R_I))$

RL: $(f_i$: [$(f_j$: i $(f_j))$ $(x_i$: $(f_k$: gasúr $(f_k))$ (x_i): $(f_l$: beag $(f_l))$ (x_i): $(1$ $^{f}x_j$: $(f_m$: Ø $(f_m))$ $(x_j))_{Ass}$ $(x_i))_{Ref}$] $(f_i))$

ML: $(Adpp_i$: [$(Adpw_i$: $^{poss.fsg}$ina$_{Prep.Pro}$ $(Adpw_i))$ $(Np_i$: [$(Nw_i$: gasúr$_N$ $(Nw_i))$ $(Adjp_i$: $(Adjw_i$: beag$_{Adj}$ $(Adjw_i))$ $(Adjp_i))]$ $(Np_i))]$ $(Adpp_i))$

PL: U $(PP_I$: [$(PW_I$: -/ə.nə/- $(PW_I))$ $(PW_J$: -/ga.su:r/- $(PW_J))$ $(MUT1$ PW_K: -/b^{j}og/- $(PW_K))]$ $(PP_I))$

S $(PP_I$: [$(PW_I$: -//ə.nə//- $(PW_I))$ $(PW_J$: -//ga.su:r//- $(PW_J))$ $(PW_K$: -//v^{j}og//- $(PW_K))]$ $(PP_I))$

OL: ['ə.nə 'ɣa.su:r v^{j}og]

there are clear cases of prefabricated frames/templates which may already be assumed to contain specific (types of) lexemes/grammemes. I expect that there are varying degrees of abstraction from empty to fully filled frames/templates. The Fund must accordingly be flexible enough to allow and account for such degrees of overlap. This construction also again shows the association of a specific mutational paradigm with a complex combination of pragmatic, semantic, and morphosyntactic features. The activation of a mutation would thus also seem to range from simple to more abstract (combinations of) grammatical features.

6.1.1.16 TENSES

The first paradigm is activated in past, past habitual, and conditional verb forms which do not begin with a fricative as in (127) giving (323). The presence of an initial fricative in these verb forms instead results in the activation of the third paradigm (see § 6.1.3.1). The mutation may be the sole marker of the tense although a verbal suffix usually co-expresses the relevant tense. Whereas a morphosyntactic trigger is usually present and activates a mutation in the immediately following morphosyntactic target, the activation of the first paradigm in these

(323) a. IL: $(A_1$: -[$(F_1$: DEC $(F_1))$ $(C_1$: (T_1) $(C_1))]$- $(A_1))$

RL: $(pst$ ep_1: $(hab/cond$ e_1: $(f_1$: $(f_2$: ♦ $(f_2))$ $(f_1))$ $(e_1))$ $(ep_1))$

ML: $(Vw_1$: -MORP$_V$- $(Vw_1))$

PL: U $(PW_1$: -$(MUT1$ O_1: PHON$_{-Fr}$ $(O_1))$- $(PW_1))$

S (PW_1)

b. IL: $(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))]$- $(A_I))$

RL: (pst ep_i: $(e_i$: $(f_i$: $(f_j$: cuir $(f_j))$ $(f_i))$ $(e_i))$ $(ep_i))$

ML: $(Vw_i$: -$cuir_V$- $(Vw_i))$

PL: U ($MUT1$ PW_I: -/kir^j/- $(PW_I))$

S $(PW_I$: -//xir^j//- $(PW_I))$

OL: [xir^j]

verb forms is purely a result of abstract grammatical pragmatic and semantic features as there is obviously no morphosyntactic trigger present. This is a clear example of a synchronic grammemically driven mutation which skips the Morphosyntactic Level and is only expressed at the Phonological Level as in the basic fundal entries in (324). The diachronic development

(324) a. FIS: $(F_1$: DEC $(F_1))$

FRS: (pst ep_1)

FMS:

FPS: $(PW_1$: -$(MUT1$ O_1: $PHON_{\text{-}Fr}$ $(O_1))$- $(PW_1))$

b. FIS: $(F_1$: DEC $(F_1))$

FRS: (pst ep_1: (hab e_1) $(ep_1))$

FMS:

FPS: $(PW_1$: -$(MUT1$ O_1: $PHON_{\text{-}Fr}$ $(O_1))$- $(PW_1))$

c. FIS: $(F_1$: DEC $(F_1))$

FRS: (cond e_1)

FMS:

FPS: $(PW_1$: -$(MUT1$ O_1: $PHON_{\text{-}Fr}$ $(O_1))$- $(PW_1))$

of this mutation shows that the mutation was originally activated by the preverbal particle *do* which expressed the past, past habitual, and conditional tenses as in (128) giving (325). The particle eventually disappeared before verb forms beginning with a non-fricative consonant whereby the mutation remained the sole marker for the past, past habitual, and conditional tense excluding a possible marked past, past habitual, and conditional verbal suffix inflection. This development resulted in a semanticisation/pragmaticisation of the activation of the

(325) a. IL: $(A_1$: -[(F_1: DEC (F_1)) (C_1: (T_1) (C_1))]- (A_1))

RL: (pst ep_1: (hab/cond e_1: (f_1: (f_2: ♦ (f_2)) (f_1)) (e_1)) (ep_1))

ML: (Vp_1: [(Gw_1: do_{Ptcl} (Gw_1)) (Vw_1: -$MORP_V$- (Vw_1))] (Vp_1))

PL: U (PP_1: [(PW_1: -/d̪ə/- (PW_1)) (MUT1 PW_2)] (PP_1))

S (PP_1: [(PW_1: -//d̪ə//- (PW_1)) (PW_2)] (PP_1))

b. IL: $(A_I$: -[(F_I: DEC (F_I)) (C_I: (T_I) (C_I))]- (A_I))

RL: (pst ep_i: (e_i: (f_i: (f_j: cuir (f_j)) (f_i)) (e_i)) (ep_i))

ML: (Vp_i: [(Gw_i: do_{Ptcl} (Gw_i)) (Vw_i: -$cuir_V$- (Vw_i))] (Vp_i))

PL: U (PP_I: [(PW_i: -/d̪ə/- (PW_I)) (MUT1 PW_J: -/kir^j/- (PW_J))] (PP_I))

S (PP_I: [(PW_i: -//d̪ə//- (PW_I)) (PW_J: -//xir^j//- (PW_J))] (PP_I))

OL: [d̪ə xir^j]

mutation whereby the loss of the morphosyntactic trigger resulted in a decrease in the activational pathway of the mutation.

The activation of the first paradigm in these tenses interacts interestingly with preverbal particles which either do not activate a mutation or activate the first or fourth paradigm in the verb as in (129-131) leading to (326). In (326a) the particle *mar* does not

(326) a. IL: $(A_I$: -[(F_I: DEC (F_I)) (C_I: (T_I) (C_I))$_{Mot}$]- (A_I))

RL: (pst ep_i: (e_i: (f_i: (f_j: cuir (f_j)) (f_i)) (e_i)) (ep_i))

ML: (Vp_i: [(Gw_i: mar_{Ptcl} (Gw_i)) (Vw_i: -$cuir_V$- (Vw_i))] (Vp_i))

PL: U (PP_I: [(PW_i: -/mar/- (PW_I)) (MUT1 PW_J: -/kir^j/- (PW_J))] (PP_I))

S (PP_I: [(PW_i: -//mar//- (PW_I)) (PW_J: -//xir^j//- (PW_J))] (PP_I))

OL: [mar xir^j]

b. IL: $(A_I$: -[(F_I: DEC (F_I)) (C_I: (T_I) (C_I))]- (A_I))

RL: (pst ep_i: (neg hab e_i: (f_i: (f_j: cuir (f_j)) (f_i)) (e_i)) (ep_i))

ML: (Vp_i: [(Gw_i: $ní_{Ptcl}$ (Gw_i)) (Vw_i: -$cuireadh_V$- (Vw_i))] (Vp_i))

PL: U (PP_I: [(PW_i: -/ɲi:/- (PW_I)) (MUT1 PW_J: -/kir^j.əx/- (PW_J))] (PP_I))

S (PP_I: [(PW_i: -//ɲi://- (PW_I)) (PW_J: -//xir^j.əx//- (PW_J))] (PP_I))

OL: [ɲi: ˈxir^j.əx]

c. IL: $(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))]$- $(A_I))$

RL: (cond e_i: $(f_i$: $(f_j$: cuir $(f_j))$ $(f_i))$ $(e_i))$

ML: ($^{rel}C_i$: $(Vp_i$: [$(Gw_i$: a_{Ptcl} $(Gw_i))$ $(Vw_i$: -cuirtheadh$_V$- $(Vw_i))]$ $(Vp_i))$ $(C_i))$

PL: U $(PP_I$: [$(PW_I$: -/ə/- $(PW_I))$ (MUT4 MUT1 PW_J: -/kir^j.həx/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: [$(PW_I$: -//ə//- $(PW_I))$ $(PW_J$: -//gir^j.həx//- $(PW_J))]$ $(PP_I))$

OL: [ə 'gir^j.həx]

activate a mutation and thus the first paradigm is activated solely by the past tense. In (326b) the first paradigm is activated by both the particle *ní* and the past habitual tense whereby there is complementary activation of the same paradigm. In (326c) there is conflicting activation of paradigms as the fourth paradigm should be activated by the particle *a* but the first paradigm should be activated by the conditional tense. I have chosen to represent both paradigm activations during Underlying Phonological Encoding whereby the choice of which paradigm is actually applied takes place during Surface Phonological Encoding. The fourth paradigm seems to take precedence over the first paradigm and thus the fourth paradigm is applied. It is possible that (the dynamic implementation of) features from the higher levels (in a depth-first manner) determine the choice of the fourth paradigm over the first paradigm although this selection is not evident from this single example. Further study of conflicting activation may yield a more conclusive understanding of the selection of one activated operator over another.

6.1.2 SECOND PARADIGM

6.1.2.1 DEFINITE ARTICLE

The second paradigm is activated after the masculine genitive singular and feminine common singular definite articles *an* in a noun which specifically begins with a sibilant as in (132) and (133) leading to (327) and (328). This differs from the more general rule where the first

(327) a. IL: (+id +s R_1)

RL: (1 α_1: $(f_1$: ♦ $(f_1))$ $(\alpha_1))_{Poss}$

ML: $(Np_1$: [$(Gw_1$: $^{gen.msg}an_{Def}$ $(Gw_1))$ $(Nw_1$: -$^{gen.msg}$MORP$_N$- $(Nw_1))]$ $(Np_1))$

PL: U $(PP_1$: [$(PW_1$: -/ən/- $(PW_1))$ $(PW_2$: -(MUT2 O_1: PHON$_{+Sib}$ $(O_1))$- $(PW_2))]$ $(PP_1))$

S $(PP_1$: [$(PW_1$: -//ən//- $(PW_1))$ $(PW_2)]$ $(PP_1))$

b. IL: (+id +s R_I)

RL: (1 x_i: (f_i: sagart (f_i)) (x_i))$_{Poss}$

ML: (Np$_i$: [(Gw$_i$: $^{gen.msg}$an$_{Def}$ (Gw$_i$)) (Nw$_i$: -$^{gen.msg}$sagairt$_N$- (Nw$_i$))] (Np$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ən/- (PW$_I$)) (MUT2 PW$_J$: -/sa.gə̱rt/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//ən//- (PW$_I$)) (PW$_J$: -//t̪a.gərt^j//- (PW$_J$))] (PP$_I$))

OL: [ə(n) 't̪a.gərt^j]

(328) a. IL: (+id +s R_1)

RL: (1 α_1: (f_1: ♦ (f_1)) (α_1))

ML: (Np$_1$: [(Gw$_1$: $^{com.fsg}$an$_{Def}$ (Gw$_1$)) (Nw$_1$: $^{com.fsg}$MORP$_N$ (Nw$_1$))] (Np$_1$))

PL: U (PP$_1$: [(PW$_1$: -/ən/- (PW$_1$)) (PW$_2$: -(MUT2 O$_1$: PHON$_{+Sib}$ (O$_1$))- (PW$_2$))] (PP$_1$))

S (PP$_1$: [(PW$_1$: -//ən//- (PW$_1$)) (PW$_2$)] (PP$_1$))

b. IL: (+id +s R_I)

RL: (1 x_i: (f_i: seachtain (f_i)) (x_i))

ML: (Np$_i$: [(Gw$_i$: $^{com.fsg}$an$_{Def}$ (Gw$_i$)) (Nw$_i$: $^{com.fsg}$seachtain$_N$ (Nw$_i$))] (Np$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ən/- (PW$_I$)) (MUT2 PW$_J$: -/ʃax.t̪ən^j/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//ən//- (PW$_I$)) (PW$_J$: -//t^{j}ax.t̪ən^j//- (PW$_J$))] (PP$_I$))

OL: [ə(n) 't^{j}ax.t̪ən^j]

paradigm is activated as a result of the masculine genitive singular and feminine common singular definite articles in a noun not beginning with a sibilant (see § 6.1.1.3).

The combination of a final non-bilabial nasal with an initial sibilant in the activation of the second paradigm as a result of the definite article where the first paradigm would otherwise be activated in the absence of a final non-bilabial nasal with an initial sibilant has become somewhat generalised in some speakers and may possibly become a more systematic general rule activating the second paradigm in the future as in (137) leading to (329). This

(329) a. ML: (X$_1$: -[(Xw$_1$: -MORP- (Xw$_1$)) (Xw$_2$: -MORP- (Xw$_2$))]- (X$_1$))

PL: U (PP$_1$: [(PW$_1$: -(C$_1$: PHON$_{-Bil.+Nas}$ (C$_1$))- (PW$_1$)) (PW$_2$: -(MUT2 O$_1$: PHON$_{+Sib}$ (O$_1$))- (PW$_2$))] (PP$_1$))

S (PP$_1$: [(PW$_1$)) (PW$_2$))] (PP$_1$))

b. RL: $(x_i: (f_i: \underline{\text{siúcra}}\ (f_i))\ (x_i): (f_j: \underline{\text{aon}}\ (f_j))\ (x_i))$

ML: $(Np_i: [(Adjp_i: (Adjw_i: {}^{quan}\underline{aon}_{Adj}\ (Adjw_i))\ (Adjp_i))\ (Nw_i: \underline{\text{siúcra}}_N\ (Nw_i))]\ (Np_i))$

PL: U $(PP_I: [(PW_I: -/\underline{e{:}n}/-\ (PW_I))\ (\underline{MUT2}\ PW_J: -/\underline{ʃu{:}.krə}/-\ (PW_J))]\ (PP_I))$

S $(PP_I: [(PW_I: -//e{:}n//-\ (PW_I))\ (PW_J: -//t^{j}u{:}.krə//-\ (PW_J))]\ (PP_I))$

OL: [e:(n) 'tʲu:.krə]

shows that phonological features of both the trigger and the target of a mutation may be important in the actual activation of the mutation. The fact that the final consonant of the trigger must be a non-bilabial nasal is interesting in this case of activation in that the quantifier *aon* 'one/any' may in fact be realised without the final non-bilabial nasal. This would suggest that this final consonant although possibly not phonetically present must be phonologically present in the underlying form for this systematic mutation to be activated.

6.1.2.2 PREPOSITION + DEFINITE ARTICLE

The lexical prepositional articles *dhen* 'from/off the' and *dhon* 'to the' as in (141) and the grammatical prepositional article *dhen* 'of the' as in (140) activate the second paradigm in a noun which begins with a sibilant giving (330) and (331). The difference between the activation of the first and second paradigms by these prepositional articles lies in the presence of a sibilant onset in the target noun (see § 6.1.1.13). In the absence of a sibilant onset the more general first paradigm would be activated. This implies that the Phonological Encoder must in all cases check to see whether the onset of the target may play a role in future phonological processes. This checking process is not captured directly in the grammar but indirectly in cases where the onset brings or does not bring about an expected phonological process (see § 6.2.1 and § 6.2.4).

(330) a. IL: $(\underline{+id\ +s}\ R_1)$

RL: $(f_1: [(f_2: \blacklozenge\ (f_2))\ (\underline{1}\ \alpha_1: \underline{\blacklozenge}\ (\alpha_1))_{\underline{Ref}}]\ (f_1))$

ML: $(Adpp_1: [(Adpw_1: {}^{com.sg}\underline{MORP}_{Prep.Def}\ (Adpw_1))\ (Np_1: (Nw_1: {}^{com.sg}\underline{MORP}_N\ (Nw_1))\ (Np_1))]\ (Adpp_1))$

PL: U $(PP_1: [(PW_1: -/gən/-\ (PW_1))\ (PW_2: -(\underline{MUT2}\ O_1: \underline{PHON}_{+Sib}\ (O_1))-\ (PW_2))]\ (PP_1))$

S $(PP_1: [(PW_1: -//gən//-\ (PW_1))\ (PW_2)]\ (PP_1))$

b. IL: (+id +s R_l)

RL: (f_i: [(f_j: do (f_j)) (1 l_i: seomra (l_i))$_{Ref}$] (f_i))

ML: (Adpp$_i$: [(Adpw$_i$: com.sg dhon$_{Prep.Def}$ (Adpw$_i$)) (Np$_i$: (Nw$_i$: com.sg seomra$_N$ (Nw$_i$)) (Np$_i$))] (Adpp$_i$))

PL: U (PP_l: [(PW_l: -/gən/- (PW_l)) (MUT2 PW_l: -/ʃu:m.rə/- (PW_l))] (PP_l))

S (PP_l: [(PW_l: -//gən//- (PW_l)) (PW_l: -//tʲu:m.rə//- (PW_l))] (PP_l))

OL: [gən ˈtʲu:m.rə]

(331) a. IL: (+id +s R_l)

RL: (1 α_1: (f_1: ♦ (f_1)) (α_1))$_{Poss}$

ML: (Adpp$_1$: [(Gw$_1$: com.sg dhen$_{Prep.Def}$ (Gw$_1$)) (Np$_1$: (Nw$_1$: com.sg MORP$_N$ (Nw$_1$)) (Np$_1$))] (Adpp$_1$))

PL: U (PP_1: [(PW_1: -/gən/- (PW_1)) (PW_2: -(MUT2 O_1: PHON$_{+Sib}$ (O_1))- (PW_2))] (PP_1))

S (PP_1: [(PW_1: -//gən//- (PW_1)) (PW_2)] (PP_1))

b. IL: (+id +s R_l)

RL: (1 e_i: (f_i: sláinte (f_i)) (e_i))$_{Poss}$

ML: (Adpp$_i$: [(Gw$_i$: com.sg dhen$_{Prep.Def}$ (Gw$_i$)) (Np$_i$: (Nw$_i$: com.sg sláinte$_N$ (Nw$_i$)) (Np$_i$))] (Adpp$_i$))

PL: U (PP_l: [(PW_l: -/gən/- (PW_l)) (MUT2 PW_l: -/slaɲ.tʲə/- (PW_l))] (PP_l))

S (PP_l: [(PW_l: -//gən//- (PW_l)) (PW_l: -//t̪laɲ.tʲə//- (PW_l))] (PP_l))

OL: [gən ˈt̪laɲ.tʲə]

The fourth paradigm is also activated by a simple preposition with the definite article singular although this activation applies to many more prepositions (see § 6.1.4.7). The activation of the second paradigm seems to be encroaching upon this mutational domain as many speakers have been observed to activate the second paradigm in a noun beginning with a sibilant after prepositional article forms other than *dhen* and *dhon* as well as after simple prepositions followed by an independent definite article as in (142) giving (332).[195,196]

[195] It may be recalled that the sibilants generally do not mutate in the fourth paradigm (see Tables 1 and 2).

[196] The general representation in (330a) also applies for the activation of the second paradigm by lexical prepositional articles other than *dhen* and *dhen*. The grammatical prepositional article *faoin* 'about the' is better represented as in (331a) where the Possessive semantic function may be replaced with a Concernative function.

(332) a.

IL: (+id +s R_1)

RL: (f_1: [(f_2: ♦ (f_2)) (1 α_1: ♦ (α_1))$_{Ref}$] (f_1))

ML: (Adpp$_1$: [(Adpw$_1$: MORP$_{Prep}$ (Adpw$_1$)) (Np$_1$: [(Gw$_1$: $^{com.sg}$an$_{Def}$ Gw$_1$)) (Nw$_1$: $^{com.sg}$MORP$_N$ (Nw$_1$))] (Np$_1$))] (Adpp$_1$))

PL: U (PP$_1$: [(PW$_1$) (PW$_2$: -/ən/- (PW$_2$)) (PW$_3$: -(MUT2 O$_1$: PHON$_{+Sib}$ (O$_1$))- (PW$_3$))] (PP$_1$))

S (PP$_1$: [(PW$_1$) (PW$_2$: -//ən//- (PW$_2$)) (PW$_3$)] (PP$_1$))

b.

IL: (+id +s R_I)

RL: (f_i: [(f_j: ar (f_j)) (1 x_i: sráid (x_i))$_{Ref}$] (f_i))

ML: (Adpp$_i$: [(Adpw$_i$: ar$_{Prep}$ (Adpw$_i$)) (Np$_i$: [(Gw$_i$: $^{com.sg}$an$_{Def}$ Gw$_i$)) (Nw$_i$: $^{com.sg}$sráid$_N$ (Nw$_i$))] (Np$_i$))] (Adpp$_i$))

PL: U (PP$_I$: [(PW$_i$: -/er^j/- (PW$_I$)) (PW$_J$: -/ən/- (PW$_J$)) (MUT2PW$_K$: -/srɑ:d^j/- (PW$_K$))] (PP$_I$))

S (PP$_I$: [(PW$_i$: -//er^j//- (PW$_I$)) (PW$_J$: -//ən//- (PW$_J$)) (PW$_K$: -//t̠rɑ:d^j//- (PW$_K$))] (PP$_I$))

OL: [er^j ə(n) t̠rɑ:d^j]

6.1.3 THIRD PARADIGM

6.1.3.1 TENSES

The third paradigm is activated in past, past habitual, and conditional verb forms which specifically begin with a fricative as in (143) giving (333). The same tenses alternatively activate the first paradigm in verb forms beginning with a non-fricative (see § 6.1.1.16). The third paradigm similarly consists of grammemically driven mutations which skip the Morphosyntactic Level and are only expressed at the Phonological Level as in the basic

(333) a.

IL: (A_1: -[(F_1: DEC (F_1)) (C_1: (T_1) (C_1))]- (A_1))

RL: (pst ep$_1$: (hab/cond e$_1$: (f_1: (f_2: ♦ (f_2)) (f_1)) (e$_1$)) (ep$_1$))

ML: (Vw$_1$: -MORP$_V$- (Vw$_1$))

PL: U (PW$_1$: -(MUT3 O$_1$: PHON$_{+Fr}$ (O$_1$))- (PW$_1$))

S (PW$_1$)

b. IL: $(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))]$- $(A_I))$

RL: (pst ep_i: $(e_i$: $(f_i$: $(f_j$: fág $(f_j))$ $(f_i))$ $(e_i))$ $(ep_i))$

ML: $(Vw_i$: -fág$_V$- $(Vw_i))$

PL: U ($_{MUT3}$ PW_I: -/fɑ:g/- $(PW_I))$

S $(PW_I$: -//d̪ɑ:g//- $(PW_I))$

OL: [d̪ɑ:g]

fundal entries (which could be further expanded to represent the verb) in (334). This was

(334) a. FIS: $(F_1$: DEC $(F_1))$

FRS: (pst ep_1)

FMS:

FPS: $(PW_1$: -($_{MUT3}$ O_1: $PHON_{+Fr}$ $(O_1))$- $(PW_1))$

b. FIS: $(F_1$: DEC $(F_1))$

FRS: (pst ep_1: (hab e_1) $(ep_1))$

FMS:

FPS: $(PW_1$: -($_{MUT3}$ O_1: $PHON_{+Fr}$ $(O_1))$- $(PW_1))$

c. FIS: $(F_1$: DEC $(F_1))$

FRS: (cond e_1)

FMS:

FPS: $(PW_1$: -($_{MUT3}$ O_1: $PHON_{+Fr}$ $(O_1))$- $(PW_1))$

historically not the case, however, as these tenses were originally morphosyntactically expressed by the particle *do* which activated the first paradigm in the verb. Whereas the particle disappeared before verbs beginning with a non-fricative, the particle was retained before verbs beginning with a fricative as the fricative was elided by the mutation as in (144). The particle developed first into an optional proclitic and then into an obligatory proclitic as in (335) before finally being reinterpreted as a new mutational paradigm as in (333). The fact that the particle was only retained before verbs beginning with a fricative shows that the morphosyntactic realisation of the particle was dependent upon the verbal phonological form. This indicates that the grammar must as has been suggested (Hengeveld & Smit 2009) be able

(335) a. IL: $(A_1$: -[$(F_1$: DEC $(F_1))$ $(C_1$: (T_1) $(C_1))]$- $(A_1))$

RL: (pst ep_1: (hab/cond e_1: $(f_1$: $(f_2$: ♦ $(f_2))$ $(f_1))$ $(e_1))$ $(ep_1))$

ML: $(Vp_1$: [$(Gw_1$: do_{Ptcl} $(Gw_1))$ $(Vw_1$: -$MORP_V$- $(Vw_1))]$ $(Vp_1))$

PL: U $(PP_1$: [$(PW_1$: -/d̪ə/- $(PW_1))$ $(PW_2$: -(MUT1 O_1: $PHON_{+Fr}$ $(O_1))$- $(PW_2))]$ $(PP_1))$

S $(PP_1$: [$(PW_1$: -//d̪ə//- $(PW_1))$ $(PW_2)]$ $(PP_1))$

b. IL: $(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))]$- $(A_I))$

RL: (pst ep_i: $(e_i$: $(f_i$: $(f_j$: fág $(f_j))$ $(f_i))$ $(e_i))$ $(ep_i))$

ML: $(Vp_i$: [$(Gw_i$: do_{Ptcl} $(Gw_i))$ $(Vw_i$: -fág$_V$- $(Vw_i))]$ $(Vp_i))$

PL: U $(PP_I$: [$(PW_i$: -/d̪ə/- $(PW_I))$ (MUT1 PW_J: -/fɑ:g/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: [$(PW_i$: -//d̪ə//- $(PW_I))$ $(PW_J$: -//ɑ:g//- $(PW_J))]$ $(PP_I))$

OL: [d̪ə ɑ:g/d̪ɑ:g]

to 'look ahead' whereby the operation of Morphosyntactic Encoding must have had access to the operation of Phonological Encoding to determine if the particle needed to be realised.

The activation of the third paradigm interacts with preverbal particles in a similar fashion as the activation of the first paradigm in the same tenses as in (145-147) giving (336). In (336a) the particle *mar* does not activate a mutation and thus does not influence the

(336) a. IL: $(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))_{Mot}]$- $(A_I))$

RL: (pst ep_i: $(e_i$: $(f_i$: $(f_j$: fág $(f_j))$ $(f_i))$ $(e_i))$ $(ep_i))$

ML: $(Vp_i$: [$(Gw_i$: mar_{Ptcl} $(Gw_i))$ $(Vw_i$: -fág$_V$- $(Vw_i))]$ $(Vp_i))$

PL: U $(PP_I$: [$(PW_i$: -/mar/- $(PW_I))$ (MUT3 PW_J: -/fɑ:g/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: [$(PW_i$: -//mar//- $(PW_I))$ $(PW_J$: -//d̪ɑ:g//- $(PW_J))]$ $(PP_I))$

OL: [mar d̪ɑ:g]

b. IL: $(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))]$- $(A_I))$

RL: (pst ep_i: (neg hab e_i: $(f_i$: $(f_j$: fág $(f_j))$ $(f_i))$ $(e_i))$ $(ep_i))$

ML: $(Vp_i$: [$(Gw_i$: $ní_{Ptcl}$ $(Gw_i))$ $(Vw_i$: -fágadh$_V$- $(Vw_i))]$ $(Vp_i))$

PL: U $(PP_I$: [$(PW_i$: -/ɲi:/- $(PW_I))$ (MUT1 MUT3 PW_J: -/fɑ:g.əx/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: [$(PW_i$: -//ɲi://- $(PW_I))$ $(PW_J$: -//ɑ:g.əx//- $(PW_J))]$ $(PP_I))$

OL: [ɲi: ˈɑ:g.əx]

c. IL: $(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (T_I) $(C_I))]$- $(A_I))$

RL: (cond e_i: $(f_i$: $(f_j$: fág $(f_j))$ $(f_i))$ $(e_i))$

ML: ($^{rel}Cl_i$: $(Vp_i$: [$(Gw_i$: a_{Ptcl} $(Gw_i))$ $(Vw_i$: -fágthadh$_V$- $(Vw_i))]$ $(Vp_i))$ $(Cl_i))$

PL: U (PP_I: [$(PW_I$: -/ə/- $(PW_I))$ (MUT4 MUT3 PW_J: -/fɑ:g.həx/- $(PW_J))]$ $(PP_I))$

S (PP_I: [$(PW_I$: -//ə//- $(PW_I))$ $(PW_J$: -//wɑ:g.həx//- $(PW_J))]$ $(PP_I))$

OL: [ə 'wɑ:g.həx]

activation of the third paradigm. In (336b) there is an activational conflict as the particle *ní* activates the first paradigm which is mutually exclusive with the activation of the third paradigm. In (336c) the particle *a* activates the fourth paradigm which is again mutually exclusive with the activation of the third paradigm. The mutation triggered by the particle consistently outranks the mutation triggered by the tense in both cases of double activation.

6.1.4 FOURTH PARADIGM

6.1.4.1 DEFINITE ARTICLE

While the masculine genitive singular and feminine common singular definite articles *an* activate the first or second paradigm in a following noun (see § 6.1.1.3 and § 6.1.2.1), the fourth paradigm is regularly activated in a noun after the masculine and feminine genitive plural definite articles *na* as in (148) which is represented in (337). The Identifiability of the Referent together with the Plural operator and Possessive semantic function trigger the relevant definite article which is not distinguished for gender and which activates the fourth paradigm in a following noun in the genitive plural. The definite article is particularly interesting as it shows a varied activation of mutational paradigms based on the gender, case, and number (morphosyntax) as well as the initial consonant (phonology) of the definite noun.

(337) a. IL: (+id +s R_1)

RL: (m α_1: $(f_1$: ♦ $(f_1))$ $(\alpha_1))_{Poss}$

ML: (Np_1: [$(Gw_1$: $^{gen.pl}na_{Def}$ $(Gw_1))$ $(Nw_1$: -$^{gen.pl}MORP_N$- $(Nw_1))]$ $(Np_1))$

PL: U (PP_1: [$(PW_1$: -/nə/- $(PW_1))$ (MUT4 PW_2)] $(PP_1))$

S (PP_1: [$(PW_1$: -//nə//- $(PW_1))$ $(PW_2)]$ $(PP_1))$

b. IL: (+id +s R_I)

RL: (m x_i: (f_i: bád (f_i)) (x_i))$_{Poss}$

ML: (Np_i: [(Gw_i: $^{gen.mpl}$na$_{Def}$ (Gw_i)) (Nw_i: -$^{gen.mpl}$bád$_N$- (Nw_i))] (Np_i))

PL: U (PP_I: [(PW_I: -/nə/- (PW_I)) (MUT4 PW_J: -/bɑ:d/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//nə//- (PW_I)) (PW_J: -//mɑ:d//- (PW_J))] (PP_I))

OL: [nə mɑ:d]

6.1.4.2 INDIVIDUAL WORDS

The fourth paradigm is *questionably* activated in a select number of lexical words beginning with a fricative which originally occurred in set phrases with the preposition *i* 'in' as in (151) but which now may also occur without the preposition as in (150). The staged development of the mutation may be postulated as in (338). In (338a) the perfect tense applied to the lexical

(338) a. RL: (perf f_i: (f_j: fastaigh (f_j)) (f_i))

ML: (Np_i: [(Gw_i: i_{Prep} (Gw_i)) (Nw_i: -fastú$_{V.N}$- (Nw_i))] (Np_i))

PL: U (PP_I: [(PW_I: -/ə/- (PW_I)) (MUT4 PW_J: -/fas̪tu:/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//ə//- (PW_I)) (PW_J: -//was̪tu://- (PW_J))] (PP_I))

OL: [(ə) 'was̪tu:]

b. RL: (perf f_i: (f_j: fastaigh (f_j)) (f_i))

ML: (Vw_i: -fastú$_{Ptcp}$- (Vw_i))

PL: U (MUT4 PW_I: -/fas̪tu:/- (PW_I))

S (PW_I: -//was̪tu://- (PW_I))

OL: ['was̪tu:]

c. RL: (perf f_i: (f_j: fastaigh (f_j)) (f_i))

ML: (Vw_i: -bhfastú$_{Ptcp}$- (Vw_i))

PL: U (PW_I: -/was̪tu:/- (PW_I))

S (PW_I: -//was̪tu://- (PW_I))

OL: ['was̪tu:]

d. RL: (f_i: bhfastú (f_i))

ML: (Nw_i: bhfastú$_N$ (Nw_i))

PL: U (PW_I: -/was̪tu:/- (PW_I))

S (PW_i: -//was̪tu://- (PW_I))

OL: ['was̪tu:]

verb *fastaigh* 'catch' determines (presumably in combination with specific semantic factors) a prepositional construction with a verbal noun whereby the preposition activates the fourth paradigm in the verbal noun. The preposition is realised as a schwa and may expectedly be phonetically elided. In (338b) the constant elision of the preposition results in the verbal noun without the preposition being reinterpreted as a past participle with retention of the activation of the mutation whereby the preposition has completely disappeared. In (338c) the mutation then becomes lexicalised and is reinterpreted as inherent to the phonological form of the participle whereby the historically mutated form has basically become a verbal suppletive. In (338d) the participle has through frequent specific contextual usage become a noun which refers to the entity contextually associated with the verbal predication.

The activation of the fourth paradigm in the absence of a preposition is questionable due to the unsystematic and restricted nature of the mutation. It is thus not possible to determine whether a mutation is activated in this particular case as in (338b) or whether the mutation has simply become lexicalised as in (338c). It may be speculated that such a mutation might become more systematic over time whereby the fourth paradigm is activated in verbal nouns beginning with a fricative to form past participles This process would essentially involve a change of regular morphosyntactic category whereby a verbal noun is coerced into behaving as a participle. In this case the relevant verbal noun form is tagged as such in the Fund but is applied not in an expected slot for verbal nouns but in an unexpected slot for participles as is clear in (339). It is clear from the representation of the general lexeme in (339a) that I consider morphemes and phonemes not necessarily to be strictly independent but rather to be acquainted with and possibly even stored in specific templates in the

(339) a. FRS: (f_1: ♦ (f_1))

FMS: (Nw_1: -MORP$_{V.N}$- (Nw_1))

FPS: (PW_1: -(O_1: PHON$_{+Fr}$ (O_1))- (PW_1))

b. RL: (perf f_1: (f_2: ♦ (f_2)) (f_1))

ML: (Vw_1: -$MORP_{V.N}$- (Vw_1))

PL: U (MUT4 PW_1: -(O_1: $PHON_{+Fr}$ (O_1))- (PW_1))

S (PW_1)

Fund.[197] This model adequately shows the coerced nature of the morpheme which normally belongs to the verbal noun subclass and appears as the head of a Nominal Word but which now mimics the participle word class and appears as the head of a Verbal Word. It may be speculated that regular coercion might diachronically lead to the development of an independent entry in the Fund resulting in the synchronic loss of coercion as in (340). The

(340) FRS: (f_1: ♦ (f_1))

FMS: (Vw_1: -$MORP_{Ptcp}$- (Vw_1))

FPS: (PW_1: -(O_1: $PHON_{+Fr}$ (O_1))- (PW_1))

general process of coercion may speculatively be proposed to be an instigator of grammatical change and to lead to the creation of new morphosyntactic and phonological forms/processes.

6.1.4.3 NUMERALS

While the cardinal numerals 1-6 all activate the first paradigm in a following noun in the common singular (see § 6.1.1.6), the cardinal numerals 7-10 all activate the fourth paradigm in a following noun in the common singular as in (152) leading to (341). It is surprising that although a mutation is usually not activated in a restricted set of nouns which always occur in the common plural after a numeral, when a mutation does occur in these nouns in speaker

(341) a. RL: (α_1: (f_1: ♦ (f_1)) (α_1): (f_j: ♦ (f_j)) (α_1))

ML: (Np_1: -[($Adjp_1$: ($Adjw_1$: $^{7\text{-}10}MORP_{Car}$ ($Adjw_1$)) ($Adjp_1$)) (Nw_1: $^{com.sg}MORP_N$ (Nw_1))]- (Np_1))

PL: U (PP_1: [(PW_1) (MUT4 PW_2)] (PP_1))

S (PP_1: [(PW_1) (PW_2)] (PP_1))

[197] See § 7.5 for further discussion of the distinction of lexemes, grammemes, and frames/templates in the Fund.

b. RL: $(x_i$: $(f_i$: capall $(f_i))$ (x_i): $(f_j$: seacht $(f_j))$ $(x_i))$

ML: $(Np_i$: $[(Adjp_i$: $(Adjw_i$: seacht$_{Car}$ $(Adjw_i))$ $(Adjp_i))$ $(Nw_i$: $^{com.sg}$capall$_N$ $(Nw_i))]$ $(Np_i))$

PL: U $(PP_I$: $[(PW_I$: -/ʃaxt̪/- $(PW_I))$ $(\underline{MUT4}$ PW_J: -/ka.pəl/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//ʃaxt̪//- $(PW_I))$ $(PW_J$: -//ga.pəl//- $(PW_J))]$ $(PP_I))$

OL: [ʃaxt̪ 'ga.pəl]

variation it is never the first paradigm but always the fourth paradigm that is activated as in (156) giving (342). A clear mutational line is thus drawn in the dialect between the numerals

(342) RL: $(t_i$: $(f_i$: bliain $(f_i))$ (t_i): $(f_j$: seacht $(f_j))$ $(t_i))$

ML: $(Np_i$: $[(Adjp_i$: $(Adjw_i$: seacht$_{Car}$ $(Adjw_i))$ $(Adjp_i))$ $(Nw_i$: $^{-com.pl}$bliana$_N$- $(Nw_i))]$ $(Np_i))$

PL: U $(PP_I$: $[(PW_I$: -/ʃaxt̪/- $(PW_I))$ $(PW_J$: -/MUT4 bʲlʲiə.nə/- $(PW_J))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//ʃaxt̪//- $(PW_I))$ $(PW_J$: -//mʲlʲiə.nə//- $(PW_J))]$ $(PP_I))$

OL: [ʃaxt̪ 'mʲlʲiə.nə]

1-6 and 7-10 in the general population, with the numerals 7-10 furthermore solely responding to plural nouns in speaker variation. The question arises whether such a grammatical division may have cognitive implications (linguistic relativity). It is interesting to note that linguistic counting categorisations may be reflected in bodily counting routines. Whereas base five counting languages may count using the five fingers of a hand, base six counting languages may count using the five fingers of a hand plus the wrist/arm (Evans 2009:330).

6.1.4.4 PARTICLES

The fourth paradigm is activated in a verb after the jussive particle *go* and the irrealis conditional particle *dhá* which do not discern a non-past or past form as in (157) giving (343). The relevant particle is triggered by (a specific combination of) an illocution, a Modality and/or Mood operator which then activates the fourth paradigm in the verb. The jussive verb is a dependent verb form which may usually only occur in combination with a particle. The fact that the jussive particle *go* may be realised as a schwa and even be elided altogether is an exception to this but it may be noted that the jussive form in this case retains the mutation. The elision of the jussive particle may again possibly result in the pragmaticisation of the

(343) a.

IL:		$(F_1$: ILL $(F_1))$
RL:		$(\underline{\text{mod/mood}}\ e_1$: $(f_1$: $(f_2$: ♦ $(f_2))$ $(f_1))$ $(e_1))$
ML:		$(Vp_1$: $[(Gw_1$: $\underline{\text{MORP}}_{\text{Ptcl}}$ $(Gw_1))$ $(Vw_1$: -$\underline{\text{MORP}}_{\text{V}}$- $(Vw_1))]$ $(Vp_1))$
PL:	U	$(PP_1$: $[(PW_1)$ $(\underline{\text{MUT4}}\ PW_2)]$ $(PP_1))$
	S	$(PP_1$: $[(PW_1)$ $(PW_2)]$ $(PP_1))$

b.

IL:		$(F_I$: JUS $(F_I))$
RL:		$(f_i$: ♦ $(f_i))$
ML:		$(Vp_i$: $[(Gw_i$: $\underline{\text{go}}_{\text{Ptcl}}$ $(Gw_i))$ $(Vw_i$: -$\underline{\text{tarrthaí}}_{\text{V}}$- $(Vw_i))]$ $(Vp_i))$
PL:	U	$(PP_I$: $[(PW_i$: -/gə/- $(PW_I))$ $(\underline{\text{MUT4}}\ PW_J$: -/t̪ɑ:r.hi:/- $PW_J))]$ $(PP_I))$
	S	$(PP_I$: $[(PW_i$: -//gə//- $(PW_I))$ $(PW_J$: -//d̪ɑ:r.hi://- $PW_J))]$ $(PP_I))$
OL:		[(g)ə 'd̪ɑ:r.hi:]

activation of the mutation whereby the illocution solely activates the mutation as in (344).

(344)

IL:		$(F_I$: JUS $(F_I))$
RL:		$(f_i$: ♦ $(f_i))$
ML:		$(Vw_i$: -$\underline{\text{tarrthaí}}_{\text{V}}$- $(Vw_i))$
PL:	U	$(\underline{\text{MUT4}}\ PW_I$: -/t̪ɑ:r.hi:/- $PW_I))$
	S	$(PP_I$: -//d̪ɑ:r.hi://- $PW_I))$
OL:		['d̪ɑ:r.hi:]

Most of the particles which differentiate a non-past form activate the fourth paradigm in a following verb including the interrogative particle *an*, the negative interrogative particle *nach*, the negative conditional particle *mara*, the dependent particle *go*, the negative dependent particle *nach*, the indirect relative particle *a*, the negative relative particle *nach*, the indefinite interrogative adverb *cé/cá*, and the antessive particle *shula* as in (160) giving (345). Both the interrogative particle *an* and the dependent particle *go* are or may be realised as a schwa but they are never be elided. It is thus interesting to observe that some particles which are realised as a schwa in the dialect are often elided while others are or perhaps even may not be elided. It is likely that the avoidance of ambiguity plays a key role in the optional elision or obligatory non-elision of such preverbal particles.

(345) a. IL: $(F_1: \underline{ILL}\ (F_1))$

RL: $(\underline{neg/mood}\ e_1: (f_1: (f_2: \blacklozenge\ (f_2))\ (f_1))\ (e_1))_{\underline{Ant}}$

ML: $(\underline{^{dep/rel}Cl_1}: (Vp_1: [(Gw_1: \underline{MORP}_{Ptcl}\ (Gw_1))\ (Vw_1: \text{-}\underline{MORP}_{V}\text{-}\ (Vw_1))]\ (Vp_1))\ (Cl_1))$

PL: U $(PP_1: [(PW_1)\ (\underline{MUT4}\ PW_2)]\ (PP_1))$

S $(PP_1: [(PW_1)\ (PW_2)]\ (PP_1))$

b. IL: $(F_I: \underline{INT}\ (F_I))$

RL: $(prs\ ep_i: (e_i: (f_i: (f_j: \underline{craiseáil}\ (f_j))\ (f_i))\ (e_i))\ (ep_i))$

ML: $(Vp_i: [(Gw_i: \underline{an}_{Ptcl}\ (Gw_i))\ (Vw_i: \text{-}\underline{craiseáileann}_{V}\text{-}\ (Vw_i))]\ (Vp_i))$

PL: U $(PP_I: [(PW_i: \text{-/ə/-}\ (PW_I))\ (\underline{MUT4}\ PW_J: \text{-/kraʃ.ɑ:l.ən/-}\ PW_J))]\ (PP_I))$

S $(PP_I: [(PW_i: \text{-//ə//-}\ (PW_I))\ (PW_J: \text{-//graʃ.ɑ:l.ən//-}\ PW_J))]\ (PP_I))$

OL: [ə 'graʃ.ɑ:l.ən]

The fourth paradigm is lastly activated as a result of the negative declarative particle *ní* in a restricted set of both dependent and independent (irregular) verb forms beginning with a fricative as in (170) giving (346). The normal past tense form of the verb *faigh* is irregular in

(346) a. IL: $(F_1: \underline{DEC}\ (F_1))$

RL: $(\underline{neg}\ e_1: (f_1: (f_2: \blacklozenge\ (f_2))\ (f_1))\ (e_1))$

ML: $(Vp_1: [(Gw_1: \underline{ní}_{Ptcl}\ (Gw_1))\ (Vw_1: \text{-}\underline{MORP}_{V}\text{-}\ (Vw_1))]\ (Vp_1))$

PL: U $(PP_1: [(PW_1: \text{-/ɲi:/-}\ (PW_1))\ (PW_2: \text{-}(\underline{MUT4}\ O_1: \underline{PHON}_{+Fr}\ (O_1))\text{-}\ (PW_2))]\ (PP_1))$

S $(PP_1: [(PW_1: \text{-//ɲi://-}\ (PW_1))\ (PW_2)]\ (PP_1))$

b. IL: $(F_I: \underline{DEC}\ (F_I))$

RL: $(pst\ ep_i: (\underline{neg}\ e_i: (f_i: (f_j: \underline{faigh}\ (f_j))\ (f_i))\ (e_i))\ (ep_i))$

ML: $(Vp_i: [(Gw_i: \underline{ní}_{Ptcl}\ (Gw_i))\ (Vw_i: \text{-}\underline{fuair}_{V}\text{-}\ (Vw_i))]\ (Vp_i))$

PL: U $(PP_I: [(PW_i: \text{-/ɲi:/-}\ (PW_I))\ (\underline{MUT4}\ PW_J: \text{-/}\underline{fuər}\text{/-}\ PW_J))]\ (PP_I))$

S $(PP_I: [(PW_i: \text{-//ɲi://-}\ (PW_I))\ (PW_J: \text{-//wuər//-}\ PW_J))]\ (PP_I))$

OL: [ɲi: wuər]

that it is formed unproductively and does not take a mutation as would be expected for verbs

in the past tense beginning with a fricative (see § 6.1.3.1). This suppletive form of the past tense is stored in the Fund and is triggered by the Past operator together with the selection of the lexeme *faigh*. The negative declarative particle is selected on the basis of the illocution and the Past operator as well as importantly due to the fact that a dependent verb form has been selected. It may be recalled that dependent verb forms generally always take the non-past form of a particle regardless of the tense. The particle *ní* is thus selected in this case rather than the more expected *níor*. The fourth paradigm is activated subsequently as a result of the particle and the verb together with the fact that the verb begins with a fricative. Due to the restricted nature of this activation it hard to determine whether there is real systematicity or whether the mutation is simply 'collocationally activated' whereby activation is not systematised but rather takes place as a result of the co-occurrence of these particular triggers and targets. It may be speculated nevertheless that such collocational activation may lead to the development of systematic activation of a mutation and/or mutational paradigm.

6.1.4.5 POSSESSIVE PRONOUNS

The fourth paradigm is activated in a noun after the first, second, and third person plural possessive pronouns as in (172) leading to (347-349). The activation of the fourth paradigm by a possessive pronoun is thus mainly determined by the plural operator which activates the

(347) a.

IL:		$(R_1$: [+S,-A] $(R_1))$
RL:		$(\alpha_1$: $(f_1$: ♦ $(f_1))$ (α_1): $(m\ x_1$: $(f_2$: Ø $(f_2))$ $(x_1))_{Ass}$ $(\alpha_1))$
ML:		$(Np_1$: $[(Gw_1$: $^{poss.pl}a_{Pro}$ $(Gw_1))$ $(Nw_1$: $MORP_N$ $(Nw_1))]$ $(Np_1))$
PL:	U	$(PP_1$: $[(PW_1$: -/ə/- $(PW_1))$ $(MUT4\ PW_2)]$ $(PP_1))$
	S	$(PP_1$: $[(PW_1$: -//ə//- (PW_1) $(PW_2)]$ $(PP_1))$

b.

IL:		$(R_I$: [+S,-A] $(R_I))$
RL:		$(x_i$: $(f_i$: clann $(f_i))$ (x_i): $(m\ x_i$: $(f_j$: Ø $(f_j))$ $(x_i))_{Ass}$ $(x_i))$
ML:		$(Np_i$: $[(Gw_i$: $^{poss.pl}a_{Pro}$ $(Gw_i))$ $(Nw_i$: $clann_N$ $(Nw_i))]$ $(Np_i))$
PL:	U	$(PP_I$: $[(PW_I$: -/ə/- $(PW_I))$ $(MUT4\ PW_J$: -/klɑ:n/- $(PW_J))]$ $(PP_I))$
	S	$(PP_I$: $[(PW_I$: -//ə//- $(PW_I))$ $(PW_J$: -//glɑ:n//- $(PW_J))]$ $(PP_I))$
OL:		[ə glɑ:n]

(348) a.

IL:		$(R_1$: [-S,+A] $(R_1))$
RL:		$(\alpha_1$: $(f_1$: ♦ $(f_1))$ (α_1): $(m\ x_1$: $(f_2$: Ø $(f_2))$ $(x_1))_{Ass}$ $(\alpha_1))$
ML:		$(Np_1$: $[(Gw_1$: $^{poss.pl}a_{Pro}$ $(Gw_1))$ $(Nw_1$: $MORP_N$ $(Nw_1))]$ $(Np_1))$
PL:	U	$(PP_1$: $[(PW_1$: -/ə/- $(PW_1))$ $(MUT4\ PW_2)]$ $(PP_1))$
	S	$(PP_1$: $[(PW_1$: -//ə//- (PW_1) $(PW_2)]$ $(PP_1))$

b.

IL:		$(R_I$: [-S,+A] $(R_I))$
RL:		$(x_i$: $(f_i$: clann $(f_i))$ (x_i): $(m\ x_i$: $(f_j$: Ø $(f_j))$ $(x_i))_{Ass}$ $(x_i))$
ML:		$(Np_i$: $[(Gw_i$: $^{poss.pl}a_{Pro}$ $(Gw_i))$ $(Nw_i$: $clann_N$ $(Nw_i))]$ $(Np_i))$
PL:	U	$(PP_I$: $[(PW_i$: -/ə/- $(PW_I))$ $(MUT4\ PW_J$: -/klɑ:n/- $(PW_J))]$ $(PP_I))$
	S	$(PP_I$: $[(PW_i$: -//ə//- $(PW_I))$ $(PW_J$: -//glɑ:n//- $(PW_J))]$ $(PP_I))$
OL:		[ə glɑ:n]

(349) a.

IL:		$(R_1$: Ø/[-S,-A] $(R_1))$
RL:		$(\alpha_1$: $(f_1$: ♦ $(f_1))$ (α_1): $(m\ x_1$: $(f_2$: Ø $(f_2))$ $(x_1))_{Ass}$ $(\alpha_1))$
ML:		$(Np_1$: $[(Gw_1$: $^{poss.pl}a_{Pro}$ $(Gw_1))$ $(Nw_1$: $MORP_N$ $(Nw_1))]$ $(Np_1))$
PL:	U	$(PP_1$: $[(PW_1$: -/ə/- $(PW_1))$ $(MUT4\ PW_2)]$ $(PP_1))$
	S	$(PP_1$: $[(PW_1$: -//ə//- (PW_1) $(PW_2)]$ $(PP_1))$

b.

IL:		$(R_I$: Ø/[-S,-A] $(R_I))$
RL:		$(x_i$: $(f_i$: clann $(f_i))$ (x_i): $(m\ x_i$: $(f_j$: Ø $(f_j))$ $(x_i))_{Ass}$ $(x_i))$
ML:		$(Np_i$: $[(Gw_i$: $^{poss.pl}a_{Pro}$ $(Gw_i))$ $(Nw_i$: $clann_N$ $(Nw_i))]$ $(Np_i))$
PL:	U	$(PP_I$: $[(PW_i$: -/ə/- $(PW_I))$ $(MUT4\ PW_J$: -/klɑ:n/- $(PW_J))]$ $(PP_I))$
	S	$(PP_I$: $[(PW_i$: -//ə//- $(PW_I))$ $(PW_J$: -//glɑ:n//- $(PW_J))]$ $(PP_I))$
OL:		[ə glɑ:n]

plural possessive form. The different plural possessive pronouns are not formally or mutationally or semantically differentiated, with the sole exception residing in the involvement of speech-act participants at the Interpersonal Level. The search for possible antecedents by the hearer in the processing of an utterance would logically be complicated by this fact and might result in divergent/avoidance production strategies by the hearer to avoid such possible contextual ambiguity. The activation of the fourth paradigm is the sole marker

which distinguishes the plural possessive forms from the third person singular possessive forms which are also realised as a schwa but behave mutationally different (see § 6.1.1.9).

6.1.4.6 PREPOSITIONS

The simple preposition *i* ‘in’ is the only preposition which activates the fourth paradigm in a following noun as in (173) leading to (350). This stands in contrast to several other simple

(350) a.

RL:		$(\alpha_1: (f_1: [(f_2: \underline{i}\ (f_2))\ (\alpha_2: \blacklozenge\ (\alpha_2))_{\underline{Ref}}]\ (f_1))\ (\alpha_1))$
ML:		$(Adpp_1: [(Adpw_1: i_{Prep}\ (Adpw_1))\ (Np_1: (Nw_1: {}^{com}\underline{MORP}_N\ (Nw_1))\ (Np_1))]\ (Adpp_1))$
PL:	U	$(PP_1: [(PW_1: \text{-/e/-}\ (PW_1))\ (\underline{MUT4}\ PW_2)]\ (PP_1))$
	S	$(PP_1: [(PW_1: \text{-//e//-}\ (PW_1))\ (PW_2)]\ (PP_1))$

b.

RL:		$(l_i: (f_i: [(f_j: \underline{i}\ (f_j))\ (1\ l_j: \underline{páirc}\ (l_j))_{\underline{Ref}}]\ (f_i))\ (l_i))$
ML:		$(Adpp_i: [(Adpw_i: i_{Prep}\ (Adpw_i))\ (Np_i: (Nw_i: {}^{com.sg}\underline{páirc}_N\ (Nw_i))\ (Np_i))]\ (Adpp_i))$
PL:	U	$(PP_I: [(PW_I: \text{-/ə/-}\ (PW_I))\ (\underline{MUT4}\ PW_J: \text{-/pɑːrʲkʲ/-}\ (PW_J))]\ (PP_I))$
	S	$(PP_I: [(PW_I: \text{-//ə//-}\ (PW_I))\ (PW_J: \text{-//bɑːrʲkʲ//-}\ (PW_J))]\ (PP_I))$
OL:		[ə bɑːrʲkʲ]

prepositions which activate the first paradigm in a following noun (see § 6.1.1.12).

6.1.4.7 PREPOSITION + DEFINITE ARTICLE

The fourth paradigm is regularly activated in a noun in the common singular after the simple lexical prepositions *ag* ‘at’, *ar* ‘on’, *as* ‘from’, *roimhe* ‘before’, and *tha(i)r* ‘over/past’ followed by the definite article singular as in (174) as well as after the simple grammatical preposition *le* ‘with’ and the simple lexical preposition *thrí* ‘through’ which both take a special form when preceding the definite article singular as in (179) leading to the representations of the lexical prepositions in (351) and the grammatical preposition in (352). The two prepositions which take a special form before the definite article singular would need to store the two different phonological realisations of the preposition separately in the Fund as

(351) a. IL: (+id +s R_1)

RL: (f_1: [(f_2: ♦ (f_2)) (1 α_1: ♦ (α_1))$_{Ref}$] (f_1))

ML: (Adpp$_1$: [(Adpw$_1$: MORP$_{Prep}$ (Adpw$_1$)) (Np$_1$: [(Gw$_1$: com.sg an$_{Def}$ Gw$_1$)) (Nw$_1$: com.sg MORP$_N$ (Nw$_1$))] (Np$_1$))] (Adpp$_1$))

PL: U (PP_1: [(PW_1) (PW_2: -/ən/- (PW_2)) (MUT4 PW_3)] (PP_1))

S (PP_1: [(PW_1) (PW_2: -//ən//- (PW_2)) (PW_3)] (PP_1))

b. IL: (+id +s R_I)

RL: (f_i: [(f_j: ag (f_j)) (1 x_i: céibh(x_i))$_{Ref}$] (f_i))

ML: (Adpp$_i$: [(Adpw$_i$: ag$_{Prep}$ (Adpw$_i$)) (Np$_i$: [(Gw$_i$: com.sg an$_{Def}$ Gw$_i$)) (Nw$_i$: com.sg céibh$_N$ (Nw$_i$))] (Np$_i$))] (Adpp$_i$))

PL: U (PP_I: [(PW_I: -/eg^j/- (PW_I)) (PW_J: -/ən/- (PW_J)) (MUT4 PW_K: -/k^{j}e:v^j/- (PW_K))] (PP_I))

S (PP_I: [(PW_I: -//eg^j//- (PW_I)) (PW_J: -//ən//- (PW_J)) (PW_K: -//g^{j}e:v^j//- (PW_K))] (PP_I))

OL: [eg^j ə(n) g^{j}e:v^j]

(352) a. IL: (+id +s R_I)

RL: (1 α_1: (f_1: ♦ (f_1)) (α_1))$_{Inst/Com}$

ML: (Adpp$_1$: [(Gw$_1$: le$_{Prep}$ (Gw$_1$)) (Np$_1$: [(Gw$_2$: com.sg an$_{Def}$ Gw$_2$)) (Nw$_1$: com.sg MORP$_N$ (Nw$_1$))] (Np$_1$))] (Adpp$_1$))

PL: U (PP_1: [(PW_1: -/l^{j}eʃ/- (PW_1)) (PW_2: -/ən/- (PW_2)) (MUT4 PW_3)] (PP_1))

S (PP_1: [(PW_1: -//l^{j}eʃ//- (PW_1)) (PW_2: -//ən//- (PW_2)) (PW_3)] (PP_1))

b. IL: (+id +s R_I)

RL: (1 x_i: (f_i: páiste (f_i)) (x_i))$_{Com}$

ML: (Adpp$_i$: [(Gw$_i$: le$_{Prep}$ (Gw$_i$)) (Np$_i$: [(Gw$_j$: com.sg an$_{Def}$ Gw$_j$)) (Nw$_i$: com.sg páiste$_N$ (Nw$_i$))] (Np$_i$))] (Adpp$_i$))

PL: U (PP_I: [(PW_I: -/l^{j}eʃ/- (PW_I)) (PW_J: -/ən/- (PW_J)) (MUT4 PW_K: -/pɑ:ʃ.t^{j}ə/- (PW_K))] (PP_I))

S (PP_I: [(PW_I: -//l^{j}eʃ//- (PW_I)) (PW_J: -//ən//- (PW_J)) (PW_K: -//bɑ:ʃ.t^{j}ə//- (PW_K))] (PP_I))

OL: [l^{j}eʃ ə(n) bɑ:ʃ.t^{j}ə]

in (353) and (354). The pre-article form is simply selected on the basis of the morphosyntactic placement of the preposition before the article and is inserted into the phonological template during Underlying Phonological Encoding. These pre-article forms may possibly develop into

(353) FRL: $(\alpha_1)_{Inst/Com}$

FML: $(Gw_1: le_{Prep}\ (Gw_1))$

FPL: $(PW_1: -/l^j e/-\ (PW_1)) \mid (PW_1: -/l^j eʃ/-\ (PW_1))$

(354) FRL: $(f_1: thrí\ (f_1))$

FML: $(Adpw_1: thrí_{Prep}\ (Adpw_1))$

FPL: $(PW_1: -/hri:/-\ (PW_1)) \mid (PW_1: -/hri:d^j/-\ (PW_1))$

independent prepositional articles whereby the singular definite article (which may be realised as a schwa) would disappear altogether and the prepositional article form would adopt the definite function of the article and activate the fourth paradigm as in (355) and (356).

(355) FIS: $(+id\ +s\ R_1)$

FRS: $(1\ \alpha_1)_{Inst/Com}$

FMS: $(Gw_1: leis_{Prep.Def}\ (Gw_1))$

FPS: $(PW_1: -/l^j eʃ/-\ (PW_1))$

(356) FIS: $(+id\ +s\ R_1)$

FRS: $(f_1: [(f_2: thrí\ (f_2))\ (1\ \alpha_1)_{Ref}]\ (f_1))$

FMS: $(Adpw_1: thríd_{Prep.Def}\ (Adpw_1))$

FPS: $(PW_1: -/hri:d^j/-\ (PW_1))$

The fourth paradigm is also activated in a noun following the lexical prepositional articles *faoin* ‘under the’, *ón* ‘from the’, and *sa* ‘in the’ as in (182) as well as following the grammatical prepositional article *faoin* ‘about the’ as in (181) leading to (357) and (358).

(357) a. IL: $(+id\ +s\ R_1)$

RL: $(f_1: [(f_2: \blacklozenge\ (f_2))\ (1\ \alpha_1: \blacklozenge\ (\alpha_1))_{Ref}]\ (f_1))$

ML: $(Adpp_1: [(Adpw_1: {}^{com.sg}MORP_{Prep.Def}\ (Adpw_1))\ (Np_1: (Nw_1: {}^{com.sg}MORP_N\ (Nw_1))\ (Np_1))]\ (Adpp_1))$

PL: U $(PP_1: [(PW_1)\ (MUT4\ PW_2)]\ (PP_1))$

S $(PP_1: [(PW_1)\ (PW_2)]\ (PP_1))$

b. IL: (+id +s R_I)

RL: (f_i: [(f_j: i (f_j)) (1 l_i: gleann (l_i))$_{Ref}$] (f_i))

ML: ($Adpp_i$: [($Adpw_i$: $^{com.sg}$sa$_{Prep.Def}$ ($Adpw_i$)) (Np_i: (Nw_i: $^{com.sg}$gleann$_N$ (Nw_i))

(Np_i))] ($Adpp_i$))

PL: U (PP_I: [(PW_I: -/sə/- (PW_I)) (MUT4 PW_I: -/gʲlʲɑ:n/- (PW_I))] (PP_I))

S (PP_I: [(PW_I: -//sə//- (PW_I)) (PW_I: -//ŋʲlʲɑ:n//- (PW_I))] (PP_I))

OL: [sə ŋʲlʲɑ:n]

(358) a. IL: (+id +s R_I)

RL: (1 α_1: (f_1: ♦ (f_1)) (α_1))$_{Conc}$

ML: ($Adpp_1$: [(Gw_1: $^{com.sg}$faoin$_{Prep.Def}$ (Gw_1)) (Np_1: (Nw_1: $^{com.sg}$MORP$_N$ (Nw_1))

(Np_1))] ($Adpp_1$))

PL: U (PP_1: [(PW_1: -/fi:n/- (PW_1)) (MUT4 PW_2)] (PP_1))

S (PP_1: [(PW_1: -//fi:n//- (PW_1)) (PW_2)] (PP_1))

b. IL: (+id +s R_I)

RL: (1 x_i: (f_i: fearthainn (f_i)) (x_i))$_{Conc}$

ML: ($Adpp_i$: [(Gw_i: $^{com.sg}$faoin$_{Prep.Def}$ (Gw_i)) (Np_i: (Nw_i: $^{com.sg}$fearthainn$_N$ (Nw_i))

(Np_i))] ($Adpp_i$))

PL: U (PP_I: [(PW_I: -/fi:n/- (PW_I)) (MUT4 PW_J: -/fʲær.həɲ/- (PW_J))] (PP_I))

S (PP_I: [(PW_I: -//fi:n//- (PW_I)) (PW_J: -//vʲær.həɲ//- (PW_J))] (PP_I))

OL: [fi:n ˈvʲær.həɲ]

These unproductive prepositional articles would again be stored in the Fund as in (359-361). The activation of the fourth paradigm as a result of a preposition followed by the definite article singular or by a prepositional article is much more numerous than the limited cases in which the first or second paradigms are activated (see § 6.1.1.13 and § 6.1.2.2).

(359) a. FIS: (+id +s R_1)

FRS: (f_1: [(f_2: faoi (f_2)) (1 α_1)$_{Ref}$] (f_1))

FMS: ($Adpw_1$: $^{com.sg}$faoin$_{Prep.Def}$ ($Adpw_1$))

FPS: (PW_1: -/fi:n/- (PW_1))

b. FIS: (+id +s R_1)

FRS: $(1\ \alpha_1)_{Conc}$

FMS: $(Gw_1$: com.sg faoin$_{Prep.Def}$ $(Gw_1))$

FPS: $(PW_1$: -/fiːn/- $(PW_1))$

(360) FIS: (+id +s R_1)

FRS: $(f_1$: $[(f_2$: ó $(f_2))$ $(1\ \alpha_1)_{Ref}]$ $(f_1))$

FMS: $(Adpw_1$: com.sg ón$_{Prep.Def}$ $(Adpw_1))$

FPS: $(PW_1$: -/oːn/- $(PW_1))$

(361) FIS: (+id +s R_1)

FRS: $(f_1$: $[(f_2$: i $(f_2))$ $(1\ \alpha_1)_{Ref}]$ $(f_1))$

FMS: $(Adpw_1$: com.sg sa$_{Prep.Def}$ $(Adpw_1))$

FPS: $(PW_1$: -/sə/- $(PW_1))$

An interesting case of word reduplication results in the copy activation of the fourth paradigm in the reduplicated word as in (184) giving (362). Although there is a single act of

(362) IL: (+id +s AFF R_I)

RL: $(f_i$: $[(f_j$: ag $(f_j))$ $(1$ x_i: fruislín $(x_i))_{Ref}]$ $(f_i))$

ML: $(Adpp_i$: $[(Adpw_i$: ag$_{Prep}$ $(Adpw_i))$ $(Np_i$: $[(Gw_j$: com.sg an$_{Def}$ $Gw_j))$ $(Nw_i$: com.sg fruislín$_N$ $(Nw_i))$ $(Nw_j$: com.sg fraislín$_N$ $(Nw_j))]$ $(Np_i))]$ $(Adpp_i))$

PL: U $(PP_I$: $[(PW_I$: -/eg^j/- $(PW_I))$ $(PW_J$: -/ən/- $(PW_J))$ (MUT4 PW_K: -/friʃ.lʲiːnʲ/- $(PW_K))$ (MUT4 PW_L: -/fræʃ.lʲiːnʲ/- $(PW_L))]$ $(PP_I))$

S $(PP_I$: $[(PW_I$: -//eg^j//- $(PW_I))$ $(PW_J$: -//ən//- $(PW_J))$ $(PW_K$: -//wriʃ.lʲiːnʲ//- $(PW_K))$ $(PW_L$: -/wræʃ.lʲiːnʲ/- $(PW_L))]$ $(PP_I))$

OL: [eg^j ə(n) ˈwriʃ.lʲiːnʲ ˈwræʃ.lʲiːnʲ]

reference coupled with a single lexeme at the formulation levels, the presence of the Affective operator results in the morphosyntactic and phonological reduplication of the original morphosyntactic and phonological word encoding the lexeme. The reduplicated word is thus not an independent word but is instead inherently associated with the original word. This would adequately explain the copy activation of the mutation in the reduplicated word.

6.1.4.8 PREPOSITION + POSSESSIVE PRONOUN

The simple prepositions which merge with the third person singular masculine possessive pronoun may similarly merge with the plural possessive pronouns to form a suppletive plural prepositional possessive (see § 6.1.1.14). The lexical prepositions *dhe* 'from/off', *dho* 'to', *faoi* 'under', *i* 'in', *ó* 'from', and *thrí* 'through' as in (186) as well as the grammatical prepositions *dhe* 'of', *faoi* 'about', and *le* 'with' as in (187) merge with the plural possessive pronoun *a* to form a prepositional possessive which activates the fourth paradigm in a noun and which may be used deictically or phorically (in third person usage) giving (363) and (364). The difference between the activation of the first and fourth paradigm as a result of the formally identical forms of the third person singular masculine prepositional possessive and

(363) a.

IL: $(R_1$: Ø/[±S,±A] $(R_1))$

RL: $(f_1$: [$(f_2$: ♦ $(f_2))$ $(\alpha_1$: $(f_3$: ♦ $(f_3))$ (α_1): $(\underline{m}$ x_1: $(f_4$: Ø $(f_4))$ $(x_1))_{Ass}$ $(\alpha_1))_{Ref}$] $(f_1))$

ML: $(Adpp_1$: [$(Adpw_1$: -$^{poss.pl}$MORP$_{Prep.Pro}$- $(Adpw_1))$ $(Np_1$: $(Nw_1$: MORP$_N$ $(Nw_1))$ $(Np_1))$] $(Adpp_1))$

PL: U $(PP_1$: [(PW_1) $(\underline{MUT4}$ $PW_2)$] $(PP_1))$

S $(PP_1$: [(PW_1) (PW_2)] $(PP_1))$

b.

IL: $(R_I$: Ø/[+S,+A] $(R_I))$

RL: $(f_i$: [$(f_j$: dho $(f_j))$ $(x_i$: $(f_k$: dreithiúr $(f_k))$ (x_i): $(\underline{m}$ x_j: $(f_l$: Ø $(f_l))$ $(x_j))_{Ass}$ $(x_i))_{Ref}$] $(f_i))$

ML: $(Adpp_i$: [$(Adpw_i$: -$^{poss.pl}$dhá$_{Prep.Pro}$- $(Adpw_i))$ $(Np_i$: $(Nw_i$: dreithiúr $_N$ $(Nw_i))$ $(Np_i))$] $(Adpp_i))$

PL: U $(PP_I$: [$(PW_I$: -/gɑ:/- $(PW_I))$ $(\underline{MUT4}$ PW_I: -/dʲrʲe.hu:r/- $(PW_I))$] $(PP_I))$

S $(PP_I$: [$(PW_I$: -//gɑ://- $(PW_I))$ $(PW_I$: -//ɲrʲe.hu:r//- $(PW_I))$] $(PP_I))$

OL: [gɑ: ˈɲrʲe.hu:r]

(364) a.

IL: $(R_1$: Ø/[±S,±A] $(R_1))$

RL: $(\alpha_1$: $(f_1$: ♦ $(f_1))$ (α_1): $(\underline{m}$ x_1: $(f_2$: Ø $(f_2))$ $(x_1))_{Ass}$ $(\alpha_1))_{Poss/Conc/Inst/Com}$

ML: $(Adpp_1$: [$(Gw_1$: -$^{poss.pl}$MORP$_{Prep.Pro}$- $(Gw_1))$ $(Np_1$: $(Nw_1$: MORP$_N$ $(Nw_1))$ $(Np_1))$] $(Adpp_1))$

PL: U $(PP_1$: [(PW_1) $(\underline{MUT4}$ $PW_2)$] $(PP_1))$

S $(PP_1$: [(PW_1) (PW_2)] $(PP_1))$

b. IL: $(R_I: \underline{Ø/[-S,+A]}\ (R_I))$

RL: $(x_i: (f_i: \underline{cois}\ (f_i))\ (\alpha_i): (\underline{m}\ x_j: (f_j: \underline{Ø}\ (f_j))\ (x_j))_{\underline{Ass}}\ (x_i))_{\underline{Conc}}$

ML: $(Adpp_i: [(Gw_i: -^{poss.pl}\underline{faoina}_{Prep.Pro}\text{-}\ (Gw_i))\ (Np_i: (Nw_i: \underline{cois}_N\ (Nw_i))\ (Np_i))]$
$(Adpp_i))$

PL: U $(PP_I: [(PW_i: -/fi:.nə/\text{-}\ (PW_I))\ (\underline{MUT4}\ PW_i: -/koʃ/\text{-}\ (PW_I))]\ (PP_I))$

S $(PP_I: [(PW_i: -/fi:.nə/\ (PW_I))\ (PW_i: -//goʃ//\text{-}\ (PW_I))]\ (PP_I))$

OL: ['fi:.nə goʃ]

plural prepositional possessive is mainly determined by the number operator. The plural prepositional possessives would also be stored separately in the Fund as in (365-371). It may once again be argued that the associated activation of the mutation may be represented in the

(365) a. FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: Ø\ (R_1))$

FRS: $(f_1: [(f_2: dhe\ (f_2))\ (\alpha_1): (m\ x_1: (f_3: Ø\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.pl}dhá_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: -/gɑ:/\text{-}\ (PW_1))$

b. FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: Ø\ (R_1))$

FRS: $(\alpha_1): (m\ x_1: (f_2: Ø\ (f_2))\ (x_1))_{Ass}\ (\alpha_1))_{Poss}$

FMS: $(Adpw_1: {}^{poss.pl}dhá_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: -/gɑ:/\text{-}\ (PW_1))$

(366) FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: Ø\ (R_1))$

FRS: $(f_1: [(f_2: dho\ (f_2))\ (\alpha_1): (m\ x_1: (f_3: Ø\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.pl}dhá_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: -/gɑ:/\text{-}\ (PW_1))$

(367) a. FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: Ø\ (R_1))$

FRS: $(f_1: [(f_2: faoi\ (f_2))\ (\alpha_1): (m\ x_1: (f_3: Ø\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.pl}faoina_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: -/fi:.nə/\text{-}\ (PW_1))$

b. FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: \varnothing\ (R_1))$

FRS: $(\alpha_1): (m\ x_1: (f_2: \varnothing\ (f_2))\ (x_1))_{Ass}\ (\alpha_1))_{Conc}$

FMS: $(Adpw_1: {}^{poss.pl}faoina_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/fiː.nə/-}\ (PW_1))$

(368) FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: \varnothing\ (R_1))$

FRS: $(f_1: [(f_2: i\ (f_2))\ (\alpha_1): (m\ x_1: (f_3: \varnothing\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.pl}ina_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/ə.nə/-}\ (PW_1))$

(369) FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: \varnothing\ (R_1))$

FRS: $(\alpha_1): (m\ x_1: (f_2: \varnothing\ (f_2))\ (x_1))_{Ass}\ (\alpha_1))_{Inst/Com}$

FMS: $(Adpw_1: {}^{poss.pl}lena_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/lʲe.nə/-}\ (PW_1))$

(370) FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: \varnothing\ (R_1))$

FRS: $(f_1: [(f_2: ó\ (f_2))\ (\alpha_1): (m\ x_1: (f_3: \varnothing\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.pl}óna_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/oː.nə/-}\ (PW_1))$

(371) FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: \varnothing\ (R_1))$

FRS: $(f_1: [(f_2: thrí\ (f_2))\ (\alpha_1): (m\ x_1: (f_3: \varnothing\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.pl}thrína_{Prep.Pro}\ (Adpw_1))$

FPS: $(PW_1: \text{-/hriː.nə/-}\ (PW_1))$

Fund whereby (366) could be more specified as in (372). The difference between the third

(372) FIS: $(R_1: [\pm S,\pm A]\ (R_1))\ |\ (R_1: \varnothing\ (R_1))$

FRS: $(f_1: [(f_2: dho\ (f_2))\ (\alpha_1): (m\ x_1: (f_3: \varnothing\ (f_3))\ (x_1))_{Ass}\ (\alpha_1))_{Ref}]\ (f_1))$

FMS: $(Adpw_1: {}^{poss.pl}dhá_{Prep.Pro}\ (Adpw_1))$

FPS: $(PP_1: [(PW_1: \text{-/gɑː/-}\ (PW_1))\ (MUT4\ PW_1\ (PW_1))]\ (PP_1))$

person singular masculine prepositional possessives as in (320) and the plural prepositional

possessives as in (372) would not only be semantically apparent but also phonologically apparent employing this more specified fundal representation system. The nature of paradigmatic forms is not captured in such a fundal representation system as the various individual entries are either suppletive in nature or are combined during the operations to produce systematic paradigmatic forms. The collective association of paradigmatic forms would be assumed to derive from the strong(er) network associations between the related (aspects of) entries which are perceived to collectively form a specific paradigm.

6.2 RESTRICTION OF INITIAL CONSONANT MUTATION

The activation of a mutation may be blocked in the presence of restrictions whereby the radical initial consonant of the onset remains unmutated. The standard model of FDG with a single Phonological Level adequately captures the non-activation versus the activation of a mutation as in (192) giving (373) and (374) but fails to capture the non-activation versus the restriction of a mutation as in (193) which is represented in (375) and (376). The differentiation of the Phonological Level into an Underlying Phonological Level and Surface Phonological Level adequately captures the non-activation of a mutation versus the restriction

(373) a. PL: (PW$_1$: -(F$_1$: (S$_1$: [(O$_1$: (P$_1$: /PHON$_C$/ (P$_1$)) (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

b. PL: (PW$_I$: (F$_I$: (S$_I$: [(O$_I$: (P$_I$: /b$_C$/ (P$_I$)) (O$_I$)) (R$_I$: -/ɑːd̪/- (R$_I$)) (S$_I$))] (F$_I$)) (PW$_I$))]
OL: [bɑːd̪]

(374) a. PL: (PW$_1$: -(F$_1$: (S$_1$: [(MUT O$_1$: (P$_1$: /PHON$_C$/ (P$_1$)) (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

b. PL: (PW$_I$: (F$_I$: (S$_I$: [(MUT1 O$_I$: (P$_I$: /b$_C$/ (P$_I$)) (O$_I$)) (R$_I$: -/ɑːd̪/- (R$_I$)) (S$_I$))] (F$_I$)) (PW$_I$))]
OL: [wɑːd̪]

(375) a. PL: (PW$_1$: -(F$_1$: (S$_1$: [(O$_1$: (P$_1$: /PHON$_C$/ (P$_1$)) (O$_1$)) (R$_1$)] (S$_1$)) (F$_1$))- (PW$_1$))

b. PL: (PW$_I$: (F$_I$: (S$_I$: [(O$_I$: (P$_I$: /ʃ$_C$/ (P$_I$)) (O$_I$)) (R$_I$: -/oːl/- (R$_I$)) (S$_I$))] (F$_I$)) (PW$_I$))]
OL: [ʃoːl]

(376) a. PL: (PW1: -(F1: (S1: [(MUT O1: (P1: /PHONC/ (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: (PWI: (FI: (SI: [(MUT1 OI: (PI: /ʃC/ (PI)) (OI)) (RI: -/oːl/- (RI)) (SI))] (FI)) (PWI))]

OL: [ʃoːl]

of a mutation as in (193) leading to (377) and (378).[198,199] The relevant Mutation operator is

(377) a. PL: U (PW1: -(F1: (S1: [(O1: (P1: /PHONC/ (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(O1: (P1: //PHONC// (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: (SI: [(OI: (PI: /ʃC/ (PI)) (OI)) (RI: -/oːl/- (RI)) (SI))] (FI)) (PWI))]

S (PWI: (FI: (SI: [(OI: (PI: //ʃC// (PI)) (OI)) (RI: -//oːl//- (RI)) (SI))] (FI)) (PWI))]

OL: [ʃoːl]

(378) a. PL: U (PW1: -(F1: (S1: [(~~MUT~~ O1: (P1: /PHONC/ (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

S (PW1: -(F1: (S1: [(O1: (P1: //PHONC// (P1)) (O1)) (R1)] (S1)) (F1))- (PW1))

b. PL: U (PWI: (FI: (SI: [(~~MUT1~~ OI: (PI: /ʃC/ (PI)) (OI)) (RI: -/oːl/- (RI)) (SI))] (FI)) (PWI))]

S (PWI: (FI: (SI: [(OI: (PI: //ʃC// (PI)) (OI)) (RI: -//oːl//- (RI)) (SI))] (FI)) (PWI))]

OL: [ʃoːl]

activated during Underlying Phonological Encoding but is then blocked and not applied during Surface Phonological Encoding. It may be proposed that a sub-operation of 'Check Restriction' is carried out during Surface Phonological Encoding to determine whether any restrictions are applicable which may block the application of the phonological mutation operator. Such a restriction sub-operation would speculatively also be applicable during Morphosyntactic Encoding where there may also be restrictions on the morphosyntactic form. The (non-)application of a mutation is clearly evident at the Surface Phonological Level.

[198] The blocking of an activated mutational operator is represented by crossing out the operator. This does not mean that the operator is 'deleted' but rather that it is simply not applied during Surface Phonological Encoding. See § 7.4 for discussion of the deletion versus non-application of a form/process in the model of FDG.

[199] The lines in the restriction examples represent mutational 'restriction pathways' and not activation pathways.

6.2.1 HOMORGANIC CONSONANTS

The first paradigm is restricted when the final consonant of the morphosyntactic trigger (which may be a Phonological Word or Syllable) of the mutation and the initial consonant of the morphosyntactic target (which is usually a Phonological Word) of the mutation are homorganic dental, alveolar, and (alveo)palatal consonants as in (194) giving (379). The

(379) a. PL: U (PP$_1$: [(PW$_1$: -(C$_1$: PHON$_{+Hom}$ (C$_1$))- (PW$_1$)) (PW$_2$: -(~~MUT1~~ O$_1$: PHON$_{+Hom}$ (O$_1$))- (PW$_2$))] (PP$_1$))

S (X$_1$: [(X$_1$) (X$_2$)] (X$_1$))

b. PL: U (PP$_I$: [(PW$_I$: -/e:n/ (PW$_I$)) (~~MUT1~~ PW$_J$: -/t͡i:w/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//e:n//- (PW$_I$)) (PW$_J$: -//t͡i:w//- (PW$_J$))] (PP$_I$))

OL: [e:(n) t͡i:w]

homorganic consonants constraint applies to most cases of activation of the first paradigm except for after head nouns and in compounds which show less systematicity. The restriction would simply be applied less systematically in these cases during Surface Phonological Encoding. The fact that the numeral *aon* and the definite article *an* are generally realised as a schwa as in (194) and (196) but the homorganic consonants constraint is nevertheless applicable is a clear argument that the final alveolar nasal must be present in the underlying phonological form. The restriction would otherwise not be expected to be applicable in the absence of the final alveolar nasal in the underlying phonological form. It may be predicted that should the final alveolar nasal ultimately disappear in these forms then the restriction may no longer apply whereby the mutation would as a result be standardly applied as in (380).

(380) PL: U (PP$_I$: [(PW$_I$: -/e:/ (PW$_I$)) (MUT1 PW$_J$: -/t͡i:w/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//e://- (PW$_I$)) (PW$_J$: -//hi:w//- (PW$_J$))] (PP$_I$))

OL: [e: hi:w]

A further alternative is that the final alveolar nasal ultimately disappears but the restriction nevertheless remains. The restriction would in this case no longer form a homorganic consonants constraint but rather a specific lexical/grammemical restriction (see § 6.2.3).

It may be recalled that older dialect speakers show a wider variety of possible mutations in the first paradigm and may also mutate dental and palatal lateral approximants and nasals (see Tables 1 and 2). This difference between older and younger speakers lies not in the restriction of the first paradigm but in the (non-)applicability of the first paradigm with respect to specific consonants in specific speakers as in (206) giving (381). In (381a) the

(381) a. PL: U (PW$_I$: [(S$_I$: -/rə/- (S$_I$)) (MUT1 PW$_J$: -/lɑː.dʲərʲ/- (PW$_J$))] (PW$_I$))
S (PW$_I$: [(S$_I$: -//rə//- (S$_I$)) (PW$_J$: -//lɑː.dʲərʲ//- (PW$_J$))] (PW$_I$))
OL: [rə.ˈlɑː.dʲərʲ]

b. PL: U (PW$_I$: [(S$_I$: -/rə/- (S$_I$)) (MUT1 PW$_J$: -/l̪ɑː.dʲərʲ/- (PW$_J$))] (PW$_I$))
S (PW$_I$: [(S$_I$: -//rə//- (S$_I$)) (PW$_J$: -//lɑː.dʲərʲ//- (PW$_J$))] (PW$_I$))
OL: [rə.ˈlɑː.dʲərʲ]

Mutation operator is activated but there is no mutation applicable for younger dialect speakers. In (381b) the Mutation operator is also activated but this time there is a mutation applicable for older dialect speakers. Whereas the homorganic consonants constraint has no bearing on dental and palatal lateral approximants and nasals in younger speakers, there is a clear effect on these consonants in older dialect speakers as in (202) leading to (382). In

(382) a. PL: U (PW$_I$: [(S$_I$: -/an/- (S$_I$)) (~~MUT1~~ PW$_J$: -/lɑː.dʲərʲ/- (PW$_J$))] (PW$_I$))
S (PW$_I$: [(S$_I$: -//an//- (S$_I$)) (PW$_J$: -//lɑː.dʲərʲ//- (PW$_J$))] (PW$_I$))
OL: [ˈan.ˈlɑː.dʲərʲ]

b. PL: U (PW$_I$: [(S$_I$: -/an/- (S$_I$)) (~~MUT1~~ PW$_J$: -/l̪ɑː.dʲərʲ/- (PW$_J$))] (PW$_I$))
S (PW$_I$: [(S$_I$: -//an//- (S$_I$)) (PW$_J$: -//l̪ɑː.dʲərʲ//- (PW$_J$))] (PW$_I$))
OL: [ˈan.ˌl̪ɑː.dʲərʲ]

(382a) the activated mutation is restricted as a result of homorganic consonants but there would in fact be no mutation applicable for younger speakers. In (382b) the activated mutation is also restricted but the difference is that there would be a mutation applicable for older speakers. The loss of mutations thus correspondingly results in the loss of restrictions.

The fourth paradigm is also restricted by the homorganic consonants constraint after a preposition with the definite article singular (which ends in an alveolar nasal) in a following noun (see § 6.1.4.7) beginning with an initial dental stop as in (210) giving the representations for lexical/grammatical prepositions in (383) and lexical/grammatical prepositional articles in (384).[200] This is a much more restricted case of the homorganic consonants constraint as the

(383) a. ML: (Adpp$_1$: [(Xw$_1$: MORP$_{Prep}$ (Xw$_1$)) (Np$_1$: [(Gw$_1$: $^{com.sg}$an$_{Def}$ Gw$_1$)) (Nw$_1$: $^{com.sg}$MORP$_N$ (Nw$_1$))] (Np$_1$))] (Adpp$_1$))

PL: U (PP$_1$: [(PW$_1$) (PW$_2$: -(C$_1$: /n/$_{+Alv.+Nas}$ (C$_1$))- (PW$_2$)) (PW$_3$: -(~~MUT4~~ O$_1$: PHON$_{+Den.+St}$ (O$_1$))- (PW$_3$))] (PP$_1$))

S (PP$_1$: [(PW$_1$) (PW$_2$) (PW$_3$)] (PP$_1$))

b. ML: (Adpp$_i$: [(Adpw$_i$: ar$_{Prep}$ (Adpw$_i$)) (Np$_i$: [(Gw$_i$: $^{com.sg}$an$_{Def}$ Gw$_i$)) (Nw$_i$: $^{com.sg}$taobh$_N$ (Nw$_i$))] (Np$_i$))] (Adpp$_i$))

PL: U (PP$_I$: [(PW$_I$: -/er^j/- (PW$_I$)) (PW$_J$: -/ən/- (PW$_J$)) (~~MUT4~~ PW$_K$: -/t̠i:w/- (PW$_K$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//er^j//- (PW$_I$)) (PW$_J$: -//ən//- (PW$_J$)) (PW$_K$: -//t̠i:w//- (PW$_K$))] (PP$_I$))

OL: [er^j ə(n) t̠i:w]

(384) a. ML: (Adpp$_1$: [(Xw$_1$: $^{com.sg}$MORP$_{Prep.Def}$ (Xw$_1$)) (Np$_1$: (Nw$_1$: $^{com.sg}$MORP$_N$ (Nw$_1$))] (Np$_1$)) (Adpp$_1$))

PL: U (PP$_1$: [((PW$_1$: -(C$_1$: /n/$_{+Alv.+Nas}$ (C$_1$))- (PW$_1$)) (PW$_2$: -(~~MUT4~~ O$_1$: PHON$_{+Den.+St}$ (O$_1$))- (PW$_2$))] (PP$_1$))

S (PP$_1$: [(PW$_1$) (PW$_2$)] (PP$_1$))

b. ML: (Adpp$_i$: [(Gw$_i$: $^{com.sg}$faoin$_{Prep.Def}$ (Gw$_i$)) (Np$_i$: (Nw$_i$: $^{com.sg}$taobh$_N$ (Nw$_i$)) (Np$_i$))] (Adpp$_i$))

PL: U (PP$_I$: [(PW$_I$: -/fi:n/- (PW$_I$)) (~~MUT4~~ PW$_J$: -/t̠i:w/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//fi:n//- (PW$_I$)) (PW$_J$: -//t̠i:w//- (PW$_J$))] (PP$_I$))

OL: [fi:n t̠i:w]

restriction not only solely applies to the activation of the fourth paradigm in a noun after a preposition with the definite article singular but also solely to nouns beginning with a dental stop. There are also phonological restrictions on initial sibilant clusters in the dialect (§ 6.2.4).

[200] The specific example in (384b) does not correspond to any example given earlier but is comparable to (181).

6.2.2 IMPERSONAL VERBS

The activation of the first and third paradigms as a result of the past, past habitual, and conditional tenses (see § 6.1.1.16 and § 6.1.3.1) is restricted in all impersonal verbs as in (213) and (214) leading to (385) and (386). In both cases the Declarative illocution,

(385) a.

IL:		$(A_1$: -[$(F_1$: DEC $(F_1))$ $(C_1$: (-id -s $R_1)$ $(C_1))]$- $(A_1))$
RL:		(pst ep_1: (hab/cond e_1: (f_1: [(f_2: ♦ (f_2)) (1 $^{anim}x_1$)] (f_1)) (e_1)) (ep_1))
ML:		(Vw_1: -^{imp}MORP$_V$- (Vw_1))
PL:	U	(PW_1: -(~~MUT1~~ O_1: PHON$_{-Fr}$ (O_1))- (PW_1))
	S	(PW_1)

b.

IL:		$(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (-id -s $R_I)$ $(C_I))]$- $(A_I))$
RL:		(pst ep_i: (e_i: (f_i: [(f_j: cuir (f_j)) (1 $^{anim}x_i$)] (f_i)) (e_i)) (ep_i))
ML:		(Vw_i: -^{imp}cuireadh$_V$- (Vw_i))
PL:	U	(~~MUT1~~ PW_I: -/ki.ʲu:/- (PW_I))
	S	(PW_I: -//ki.ʲu://- (PW_I))
OL:		[ˈki.ʲu:]

(386) a.

IL:		$(A_1$: -[$(F_1$: DEC $(F_1))$ $(C_1$: (-id -s $R_1)$ $(C_1))]$- $(A_1))$
RL:		(pst ep_1: (hab/cond e_1: (f_1: [(f_2: ♦ (f_2)) (1 $^{anim}x_1$)] (f_1)) (e_1)) (ep_1))
ML:		(Vw_1: -^{imp}MORP$_V$- (Vw_1))
PL:	U	(PW_1: -(~~MUT3~~ O_1: PHON$_{+Fr}$ (O_1))- (PW_1))
	S	(PW_1)

b.

IL:		$(A_I$: -[$(F_I$: DEC $(F_I))$ $(C_I$: (-id -s $R_I)$ $(C_I))]$- $(A_I))$
RL:		(ep_i: (cond e_i: (f_i: [(f_j: fág (f_j)) (1 $^{anim}x_i$)] (f_i)) (e_i)) (ep_i))
ML:		(Vw_i: -^{imp}fágfaí$_V$- (Vw_i))
PL:	U	(~~MUT3~~ PW_I: -/fɑ:g.fi:/- (PW_I))
	S	(PW_I: -//fɑ:g.fi://- (PW_I))
OL:		[ˈfɑ:g.fi:]

non-Identifiability and non-Specificity of the Referent, the Singular operator, and the empty-headed Animate Individual trigger the impersonal verb form which subsequently blocks the application of the activated first and third paradigms. This is a clear example of a combination of pragmatic, semantic, and morphosyntactic features which serve to block the application of a phonological process.

The blocking of the first and third paradigms as a result of impersonal verb forms also applies for the activation of the first paradigm as a result of a (past and non-past) preverbal particle in impersonal verb forms beginning with a (non-)fricative in all tenses as in (215) and (216) giving (387). This interestingly does not apply for the activation of the fourth

(387) a.

IL:		$(A_I$: -[(F_I: DEC (F_I)) (C_I: (-id -s R_I) (C_I))]- (A_I))
RL:		(ep_i: (neg e_i: (f_i: [(f_j: cuir (f_j)) (1 $^{anim}x_i$)] (f_i)) (e_i)) (ep_i))
ML:		(Cl_i: (Vp_i: [(Gw_i: níor (Gw_i)) (Vw_i: -^{imp}cuireadh$_V$- (Vw_i))] (Vp_i)) (Cl_i))
PL:	U	(PP_I: [(PW_I: -/ɲiːr/- (PW_I)) (~~MUT1~~ PW_J: -/kiːʲuː/- (PW_J))] (PP_I))
	S	(PP_I: [(PW_I: -//ɲiːr//- (PW_I)) (PW_J: -//kiːʲuː//- (PW_J))] (PP_I))
OL:		[ɲiːr ˈkiːʲuː]

b.

IL:		$(A_I$: -[(F_I: DEC (F_I)) (C_I: (-id -s R_I) (C_I))]- (A_I))
RL:		(ep_i: (neg cond e_i: (f_i: [(f_j: fág (f_j)) (1 $^{anim}x_i$)] (f_i)) (e_i)) (ep_i))
ML:		(Cl_i: (Vp_i: [(Gw_i: ní (Gw_i)) (Vw_i: -^{imp}fágfaí$_V$- (Vw_i))] (Vp_i)) (Cl_i))
PL:	U	(PP_I: [(PW_I: -/ɲiː/- (PW_I)) (~~MUT1~~ ~~MUT3~~ PW_J: -/fɑːg.fiː/- (PW_J))] (PP_I))
	S	(PP_I: [(PW_I: -//ɲiː//- (PW_I)) (PW_J: -//fɑːg.fiː//- (PW_J))] (PP_I))
OL:		[ɲiː ˈfɑːg.fiː]

paradigm by a preverbal particle as in (217) giving (388). In this case the conditional tense

(388)

IL:		(A_I: -[(F_I: DEC (F_I)) (C_I: (-id -s R_I) (C_I))]- (A_I))
RL:		(ep_i: (cond e_i: (f_i: [(f_j: fág (f_j)) (1 $^{anim}x_i$)] (f_i)) (e_i)) (ep_i))
ML:		($^{dep}Cl_i$: (Vp_i: [(Gw_i: go (Gw_i)) (Vw_i: -^{imp}fágfaí$_V$- (Vw_i))] (Vp_i)) (Cl_i))
PL:	U	(PP_I: [(PW_I: -/gə/- (PW_I)) (MUT4 ~~MUT3~~ PW_J: -/fɑːg.fiː/- (PW_J))] (PP_I))
	S	(PP_I: [(PW_I: -//gə//- (PW_I)) (PW_J: -//wɑːg.fiː//- (PW_J))] (PP_I))
OL:		[g(ə) ˈwɑːg.fiː]

activates the third paradigm in the verb beginning with a fricative which is then restricted by the impersonal verb constraint. The particle *go* simultaneously activates the fourth paradigm which is not restricted by the impersonal verb constraint and which is thus applied. The Surface Phonological Encoder is not forced to choose between the two activated paradigms in this case as the third paradigm is restricted leaving solely the fourth paradigm remaining. It is hereby unclear whether the blocking of a mutation by a restriction actually differs from the selection of one activated mutation over another as in both cases a mutation is not applied.

6.2.3 INDIVIDUAL WORDS

A mutational paradigm may be restricted regularly in a number of specific lexical and grammatical words (in specific constructions) in the absence of any apparent restrictions as in (218) giving (389). The relevant word would necessarily need to be tagged in the Fund as

(389) a.

ML:		$(Xw_1$: MORP $(Xw_1))$
PL:	U	$(\sout{MUT}\ {}^{unm}PW_1)$
	S	(PW_1)

b.

IL:		$(F_I$: DEC $(F_I))$
RL:		(pst ep_i: $(e_i$: $(f_i$: $(f_j$: faigh $(f_j))$ $(f_i))$ $(e_i))$ $(ep_i))$
ML:		$(Vw_i$: -fuair$_V$- $(Vw_i))$
PL:	U	$(\sout{MUT1}\ PW_i$: -/^{unm}fuər^j/- $(PW_i))$
	S	$(PW_i$: -//fuər^j//- $(PW_i))$
OL:		[fuər^j]

a form which resists mutation to account for the systematic blocking of a mutation as in (390).

(390)

FMS:	$(Xw_1$: MORP $(Xw_1))$
FPS:	$({}^{unm}PW_1)$

The tendency of loan words and proper names to resist being mutated may develop into a full systematic restriction although the limited nature of restrictions would suggest otherwise.

6.2.4 INITIAL SIBILANT CLUSTERS

Both the first and second paradigms are restricted in initial clusters beginning with a sibilant followed by a voiceless stop or a bilabial nasal as in (222) and (229) giving (391) and (392).

(391) a. PL: U (PW$_1$: -(~~MUT1~~ O$_1$: [(P$_1$: PHON$_{+Sib}$ (P$_1$)) (P$_2$: PHON$_{+Voic.+St/+Bil.+Nas}$ (P$_2$)) (O$_1$))- (PW$_1$))

S (PW$_1$)

b. RL: (x_i: (f_i: speal (f_i)) (x_i): (f_j: dhá (f_j)) (x_i))

ML: (Np$_i$: [(Adjp$_i$: (Adjw$_i$: dhá$_{Car}$ (Adjw$_i$)) (Adjp$_i$)) (Nw$_i$: $^{com.sg}$speal$_N$ (Nw$_i$))] (Np$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ɣɑ:/- (PW$_I$)) (~~MUT1~~ PW$_J$: -/sp^{j}æl/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//ɣɑ://- (PW$_I$)) (PW$_J$: -//sp^{j}æl//- (PW$_J$))] (PP$_I$))

OL: [ɣɑ: sp^{j}æl]

(392) a. PL: U (PW$_1$: -(~~MUT2~~ O$_1$: [(P$_1$: PHON$_{+Sib}$ (P$_1$)) (P$_2$: PHON$_{+Voic.+St/+Bil.+Nas}$ (P$_2$)) (O$_1$))- (PW$_1$))

S (PW$_1$)

b. IL: (+id +s R$_I$)

RL: (1 x_i: (f_i: sméar (f_i)) (x_i))

ML: (Np$_i$: [(Gw$_i$: $^{com.fsg}$an$_{Def}$ (Gw$_i$)) (Nw$_i$: $^{com.fsg}$sméar$_N$ (Nw$_i$))] (Np$_i$))

PL: U (PP$_I$: [(PW$_I$: -/ən/- (PW$_I$)) (~~MUT2~~ PW$_J$: -/sm^{j}e:r/- (PW$_J$))] (PP$_I$))

S (PP$_I$: [(PW$_I$: -//ən//- (PW$_I$)) (PW$_J$: -//sm^{j}e:r//- (PW$_J$))] (PP$_I$))

OL: [ə(n) sm^{j}e:r]

In both cases the first or second paradigm is activated and would be expected to be applied but the onset cluster of the target consisting of an initial sibilant followed by a voiceless stop or a bilabial nasal restricts the application of the mutation. It is interesting to note that phonological constraints form the bulk of the mutational restrictions in the dialect of Iorras Aithneach (see § 6.2.1). This may suggest a general tendency in languages which exhibit (extensive) (initial) consonant mutations although this would need to be further studied.

7 DISCUSSION AND CONCLUSIONS

7.1 DIALECT VERSUS LANGUAGE

This thesis focused on initial consonant mutation in the Irish Gaelic dialect of Iorras Aithneach. A choice was made for a dialect study in order to explore the full complexity of this phonological process in a natural language environment. Standard Irish Gaelic is prescriptive in nature and not only attempts to represent multiple dialect forms but aims for general systematicity. The description of the dialect used (IIA) proved to be extremely extensive (comprising in total 2697 pages) and allowed for a thorough study of the complexities and the variety of initial consonant mutation in the dialect. The description proves, however, to be far more extensive than necessary and this results at times in a lack of general systematicity whereby all possible forms are given and it is left to the reader to determine the systematic tendencies (cf. Wigger 2010). It would seem that dialect studies offer much more in the way of natural language description and variety although there may be a limit to the amount of variety that needs to be described for practical linguistic analysis. There is thus a fine line between a grammar reflecting general systematicity (which tends towards removing variety and irregularities) and a grammar reflecting both tendencies and general systematicity (which tends towards blurring the boundary). One major problem with focusing on a living dialect of Irish Gaelic is that the language is seriously endangered as a native language due to intense pressure from and language shift towards the majority language English. This applies to almost all native speaking dialects and it comes as no surprise that Ó Curnáin concludes that "[g]iven the additional problems of declining populations and nontraditional acquisition of Irish, the future of native Irish in Iorras Aithneach and all of the Conamara Gaeltacht seems bleak and Irish is undoubtedly a dying language" (IIA 36). It is therefore most likely and unfortunate that not only will the analysis in this thesis be out of date within a much quicker than expected period of time but any predictions based on the analysis will not be able to be tested. Hope remains nevertheless in the form of recent grassroots and government efforts to save and promote Irish Gaelic as well as in Standard Irish Gaelic which is not only an official language of the Republic of Ireland and a working language of the European Union but is also seemingly thriving as a second language. The remaining living Celtic languages and other non-Celtic languages which exhibit initial consonant mutation also offer the possibility of comparison and theory testing.

7.2 ALTERNATIONS IN PARADIGMS

The numerous mutations in the dialect group together in a variety of ways. Each individual initial consonant may undergo a mutation according to one of a possible four proposed mutational paradigms which differs from the accepted standard view of initial consonant mutation in Irish Gaelic (cf. Ó Siadhail 1989 111-112) . The first paradigm is clearly the main paradigm regarding the number of mutations and is followed by the fourth paradigm. The second and third paradigms are highly restricted in the number of mutations and essentially form alternative subsets of the first paradigm. The actual mutations consist of phonological processes involving a change in manner of articulation, place of articulation, and/or secondary articulation. Each mutation may involve a change according to one, two, or three of these phonological dimensions although the dialect seems to predominantly favour mutations involving one or two as opposed to three phonological processes. The mutations further seem to group together based on (a) shared phonological process(es) not only generally across paradigms but specifically within paradigms. There thus exist degrees of predictable phonological changes for both individual consonants and individual paradigms. The mutations lastly seem to mainly target the initial consonant of the onset. Speaker variation reveals, however, that there are not only a wider number of mutations and different types of mutations but also that solely the second initial consonant or even both initial consonants of the onset may be targeted for a mutation. The dialect clearly paints a more complex picture of the number, type, and grouping of phonological processes involved in each paradigm as well as the affected consonants of the onset which once again differs from the standard view of Irish Gaelic (cf. Ó Siadhail 1989:111-112). In light of this I wonder whether the traditional notions of ‘lenition’ and ‘eclipsis’ are perhaps not outdated and undescriptive with regard to the synchronic status of initial consonant mutation in the dialects of Irish Gaelic.

It has been argued in this thesis that the mutations generally take place at the layer of the onset as opposed to the layer of the initial phoneme due to the fact that the first two initial consonants of the onset may be mutated in the presence of a possible mutation for a given paradigm and in the absence of any phonological restrictions on the initial onset cluster. I thus propose that the layer of the onset should be recognised as an independent prosodic unit and forms an independent domain for the application of (segmental) phonological rules (cf. Kehrein & Golston 2004). This statement has clear implications for the model of FDG.

The Phonological Level of linguistic analysis in FDG is based predominantly on the Prosodic Hierarchy distinguished in Prosodic Phonology, although FDG operates with a much more fluid view "proposing a basic hierarchy but admitting the possibility of (i) non-instantiation of any of the layers, (ii) recursion of any of the layers, or (iii) addition of further layers in any one language" (Hengeveld & Mackenzie 2008:428). FDG currently does not recognise an onset layer at the Phonological Level and the addition of such a layer poses no apparent theoretical problems for the theory. Prosodic Phonology on the other hand not only does not recognise an onset layer but argues against the existence of such a layer:

> "Not only would the inclusion of onset and rhyme units in the prosodic hierarchy introduce violations of the principles that govern without exception the other prosodic categories, it would also create constituents that are different from all the others in that they do not crucially serve as the domain of application of phonological rules. That is, while the onset and rhyme units may be relevant in accounting for stress patterns and certain phonotactic constraints, as shown for example by Harris (1983) for Spanish, they are not needed in accounting for the domain of application of (segmental) phonological rules. Any domain formulated in terms of an onset or rhyme can be (at least) equally effectively formulated in terms of a syllable (see Vogel, 1985). Thus, we are not claiming that onset and rhyme constituents have no role in phonology, but rather that they cannot, in any case, be considered constituents of the prosodic hierarchy." (Nespor & Vogel 2007:13)

The application of systematic phonological rules associated with initial consonant mutations to the domain of the onset in the dialect of Iorras Aithneach and in Irish Gaelic in general is thus an argument for recognition of an onset layer in the Prosodic Hierarchy. The recognition of an onset layer naturally necessitates a distinction between onset and rhyme and thus a rhyme layer would as a result also need to be recognised in both theories. The fact that Irish Gaelic also exhibits initial vowel mutations (Ó Siadhail 1989:122-123;125-129) which seem to apply at the layer of the nucleus and final consonant mutations (Ó Siadhail 1989:134-139) which seem to apply at the layer of the coda may be an argument to either further distinguish independent nucleus and coda layers within the rhyme or to solely distinguish independent nucleus and coda layers following the onset in both theories (cf. Kehrein & Golston 2004).

7.3 ACTIVATION AND RESTRICTION

The process of initial consonant mutation has been argued to consist of three main stages. A mutational paradigm may first be activated by specific grammatical factors. The activated mutation may subsequently be blocked by an applicable restriction. The mutation may finally be applied in the absence of a restriction or not applied in the presence of a restriction. The mutational paradigms are activated as a result of a complex combination of pragmatic, semantic, morphological, syntactic, phonological, and/or lexical/grammemical factors which target the initial consonants of nouns, verbs, and adjectives (see Appendix 1). The first paradigm comprises the majority of activation factors and is followed by the fourth paradigm which comprises the majority of the remaining activation factors. The second and third paradigms are again highly restricted and form subsets of the first paradigm. The relative number of activation factors thus corresponds directly with the relative number of mutations for each mutational paradigm. The factors which activate the mutations show degrees of generalisation from mutations which are activated generally in all cases to mutations which are tendential and are activated in a majority of cases to mutations which are highly restricted and are activated in specific cases. This gradation of activation reflects the dynamic nature of language and it may be expected that certain activation factors may shift between the degrees of generalisation. The different mutational paradigms are spread across the grammar of the dialect and it would be no exaggeration to claim that the mutations are in fact omnipresent in the dialect. Although the different paradigms may be associated with specific unrelated activation factors, it is interesting that different paradigms may be employed to express related activation factors. This applies to the first and fourth paradigms which may often be used in complementary morphosyntactic distribution but which are individually associated with and draw a clear distinction between certain pragmatic and semantic factors. An activated mutational paradigm may be blocked by a limited number of pragmatic, semantic, morphological, phonological, and/or lexical/grammemical restrictions which target nouns, verbs, and adjectives (see Appendix 2). The majority of the restrictions are phonological in nature and apply to the first, second, and fourth paradigms. The remaining restrictions involve a specific combination of pragmatic, semantic, and morphological features and apply to the first and third paradigms. Before a mutation may be applied a check must thus logically be first carried out to determine whether a restriction is applicable to block the mutation.

The model of FDG is adequately capable, with some minor additions, to capture the pragmatic, semantic, morphological, syntactic, and/or phonological distinctions which are associated with each activation of a mutational paradigm. These minor additions uncontroversially involve specific (sub)classes, operators, and layers. Whereas a limited number of cases involve pragmatic and/or semantic features which are not realised in morphosyntactic and phonological form but have direct realisation in the activation of a mutation, the majority of cases involve pragmatic and/or semantic features which are realised in both morphosyntactic and phonological form and account for the activation of a mutation. This latter case is problematic for determining the exact factors involved in activating a mutation as it is often not possible to differentiate the formulated features of an encoded form from the actual encoded form itself. I have thus chosen in such cases to consider the mutation as being activated by a combination of pragmatic, semantic, morphosyntactic, and/or phonological features. This similarly applies for the restriction of a mutation as a result of pragmatic and semantic features which are realised in morphosyntactic and phonological form. A related point is that certain particles in the dialect which are realised as a schwa may be elided whereby the mutation carries the functional load of the particle. This implies that the pragmatic and semantic features which trigger a morphosyntactic and phonological form and activate a mutation may also be directly associated with the activation of the mutation. The redundancy of the morphosyntactic and phonological realisation of the particle on the one hand and the activation of the mutation it leads to on the other hand allows for the particle to be elided. It is furthermore clear that in those cases where the particle is not redundant the particle is not elided. The conclusion is thus that the grammar prefers the minimum required encoding of pragmatic and semantic features whereby a mutational pathway will attempt to reduce the activation factors involved and strives for the direct realisation of pragmatic and semantic features in the mutation. The current model of FDG does not adequately represent the complex staged process involved in initial consonant mutation resulting in the proposal of a secondary phonological level which will be further discussed below.

7.4 PATTERN VERSUS PROCESS

The differentiation of the Phonological Level into an Underlying Phonological Level and Surface Phonological Level is intended to offer descriptive adequacy to the model of FDG in

order to represent the staging of the activation and restriction or application of a mutation involved in initial consonant mutation. The representation of ordered phonological sequences would seem to come into conflict with the assertion that the model is to be conceived as a 'pattern model' reflecting systematic patterns in linguistic structure rather than a 'process model' reflecting the processes which generate those patterns (Hengeveld 2004:366). The model is thus considered to be a "pattern model that is inspired by process without seeking to model the latter" (Hengeveld & Mackenzie 2008:24). The theory places a strong emphasis on the static outcome of processes within the grammar which are modelled as levels of representation, with the actual processes taking place in the interfaces between the different levels (Smit 2010:56). This assertion conflicts, however, firstly with the fact that FDG claims to be a psychologically adequate theory which is based on a production or process model of the speaker (Levelt 1989). The model is secondly organised in a top-down fashion and allows 'bottom-up feedback' (Hengeveld & Smit 2009), both of which clearly reflect a sequenced process within the grammar. The model interacts thirdly with other components in a wider theory of verbal interaction in a sequenced fashion. Each level in the model is fourthly brought about by the initial selection of frames/templates and the subsequent insertion of relevant primitives into these frames. The encoding levels in the model fifthly represent the temporal sequence of the morphosyntactic and phonological units of an utterance. The model may lastly be implemented either statically or dynamically. This distinction between a static and dynamic model mirrors the distinction between a pattern and process model, with the dynamic model crucially following the two principles of 'depth first' and 'maximal depth' (Hengeveld & Mackenzie 2008:23-25). These factors clearly show that the model of FDG is a static pattern representation of dynamic processes. It is thus no wonder that the model has been argued to be a 'hybrid model' (Fortescue 2004:169) and does in fact (implicitly) represent dynamic processes (Anstey 2004; Bakker & Siewierska 2004; Fortescue 2004; Harder 2004; Nuyts 2004). The proposed representation of an Underlying and Surface Phonological Level within the grammar therefore falls within the boundaries of the hybrid nature of the model, with the respective levels representing the outcomes of processes between levels, namely the operations of Underlying and Surface Phonological Encoding.

The differentiation of sequenced sub-operations within the operation of Phonological Encoding and the subsequent representation of the outcome of these operations at different levels would also seem to come into conflict with the assertion that FDG "constrains potential

analyses of linguistic phenomena to those that do not involve the postulation of transformations and filters" (Hengeveld & Mackenzie 2008:40). The first architectural constraint was inherited from the principle of 'Avoid Transformations' in FG which avoided transformations in the sense of structure-changing operations which "effect changes in pre-established structures through deletion, substitution, and permutation of constituents" (Dik 1997a:29). This principle was inherited in turn from an earlier stage of FG[201] which posited a 'different notion of derivation' (Anstey 2004:28) and stated that "the basic (negative) property of a functional grammar […] is that it does not include transformational rules" (Dik 1968:163). The avoidance of structure-changing operations in FG[202] resulted in the architectural principle that "once a structure has been built up, this structure will be retained throughout the further derivation of the linguistic expression", with a derivation specifically being "a matter of gradual expansion rather than a transformational mapping of one structure onto another" (Dik 1997a:29). It may be noted, however, that FG did actually allow "transformations of a sort" in the Fund whereby predicate formation rules served to derive predicate frames from other predicate frames (Dik 1997a:21), and that FDG similarly allows transformational processes to take place within the Fund "as a process of extending the set of primitives" (Hengeveld & Mackenzie 2008:229-230). The second architectural constraint was inherited from the principle of 'Avoid Filtering Devices' in FG which sought to avoid the use of filtering devices which led to "counterintuitive types of description, in which the grammar is allowed at some stage to generate structures which are produced only to be discarded later on" (Dik 1997a:22). These two architectural constraints from FG have been incorporated into FDG to essentially "ensure that no underlying structures arise that are later discarded" (Hengeveld & Mackenzie 2008:41). The activation and restriction of a mutation operator is in my opinion not formally an act of the deletion of an underlying representation but rather reflects the grammar simply not applying the operation. FDG would seem to adhere to a different notion of 'derivation' than has been employed in the generative tradition which specifically refers to the "set of formally identifiable stages used in generating a [sentence] from an [initial symbol] to a [terminal string]" (Crystal 2008:138-139). It would appear, however, that FDG is not only more derivational than FG but employs derivation across levels rather than within levels. The top-down organisation of the grammar necessitates that the generation of underlying representations at one linguistic level are fully dependent

[201] This earlier stage corresponds to Anstey's FG_0 covering the years 1968-1978 (2004:23-25).
[202] The term FG corresponds in this thesis to Anstey's FG_3 covering the years 1997-2000 (2004:23-25).

upon the underlying representations from a preceding linguistic level. The interaction between the various components within the wider theory of verbal interaction is similarly based on such dependency relationships. The notion of derivation naturally ties in with a process model of language and it is therefore no surprise that FDG has recently been argued to be a 'hybrid model' with respect to derivation (Contreras-García forthcoming; in preparation). Taking the hybrid nature of FDG into account, occupying both a middle position between pattern and process models and between non-derivational and derivational models, the proposal to incorporate an Underlying and Surface Phonological Level which represent the static outcome of dynamic derivational (phonological) processes which do not involve linguistic structures being generated only to be discarded later on falls within the boundaries of the architectural principles of the model of FDG.

The incorporation of an Underlying and Surface Phonological Level allows for complex and sequenced phonological processes to be adequately represented in the model. The proposal of these two phonological levels implies that both levels would always be present in the phonological structure of an utterance regardless of whether there is a change in form from the Underlying to the Surface Phonological Level. I would however argue for the representation of both levels only when the example at hand involves complex sequenced phonological processes which require both levels to be represented to be descriptively adequate. I would thus resort to the single level of representation currently used in the model for those examples which do not involve complex phonological processes. The question arises whether the differentiation of an underlying and surface phonological level is grounded in psychological reality. Research into similarity effects in English, German, and Dutch spoonerisms (Ellis 1979), suffix accommodation in English speech errors (Butterworth 1980), and spoonerisms involving initial consonant mutations in Welsh (Meara & Ellis 1981) clearly argue for such a distinction. A quasi-production model such as FDG which attempts to be psychologically adequate would thus benefit from incorporating this distinction into the model. The differentiation of underlying and surface processes may be further applied to Morphosyntactic Encoding in light of evidence of complex and sequenced morphosyntactic processes. The operation of Underlying Morphosyntactic Encoding would in this view involve the selection and insertion of morphosyntactic primitives which would be represented at the Underlying Morphosyntactic Level. The operation of Surface Morphosyntactic Encoding would then apply further morphosyntactic processes or constraints on the

representations at the Underlying Morphosyntactic Level which would subsequently be represented at the Surface Morphosyntactic Level. I would again only argue for representation of both morphosyntactic levels in examples which involve complex morphosyntactic processes which require both levels to be represented for descriptive adequacy.

7.5 SLOTS AND FILLERS

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The proposed role and nature of the Fund attempts to preliminarily address the relative absence of explicit details on the internal structure of the Fund and the interaction of the Fund with the Grammatical Component in the model of FDG (cf. Van der Auwera & Brisard 2010). The Fund has been proposed to first of all consist of lexical entries in a Lexicon, grammemical entries in a Grammemicon, and structuring entries in a Structicon. The Fund has secondly been proposed to represent the associated linguistic aspects of each entry at each independent level of linguistic representation which is currently recognised in the model. Each entry consists in this view of rhetorical/pragmatic information at an Interpersonal Stratum, semantic information at a Representational Stratum, morphosyntactic information at a Morphosyntactic Stratum, and/or phonological information at a Phonological Stratum. This model of the Fund thus involves a parallel organisation whereby the associated linguistic aspects of each entry are not only inherently connected to each other in a network but also to other (related aspects of other) entries. The Fund is, however, implemented dynamically in a top-down manner whereby the conceptualisation of a prelinguistic communicative intention results in the activation of all relevant entries in the Fund before the operations in the grammar select the relevant fundal entries at each respective fundal stratum and insert them into relevant frames and templates. The strict differentiation of four independent levels of linguistic analysis already in the Grammatical Component and the Contextual Component together with the proposal on the differentiation of four independent levels in the Fund and the restriction of linguistic information solely to each associated level results in the operation of Formulation being divided into Interpersonal Formulation and Representational Formulation. The four available linguistic strata in the Fund logically feed the four operations in the grammar which result in the four independent levels of linguistic analysis in FDG.

This view of the associated linguistic aspects of slots and fillers stored separately in the Fund whereby the slots and fillers are first activated independently and then the fillers are

inserted into the relevant slots proves to be too simple in practice. The various examples of the activation and restriction of mutations show clearly that whereas some entries may be either lexical or grammemical or may comprise abstract empty frames/templates, other entries may be fuzzy in nature whereby the distinction between lexemes, grammemes, and frames/templates is unclear (cf. Keizer 2007). Some entries may be lexical in some cases but grammemical in other cases while other entries may be simultaneously both lexical and grammemical. Some frames/templates also show degrees of abstraction whereby some slots may already be specified for types of lexemes/grammemes or even already contain specific lexemes/grammemes. These cases argue for flexibility in the categorisation of entries in the Fund whereby the distinction between lexemes, grammemes, and frames/templates is prototypical in nature and there may also be varying degrees of overlap between the categories. The fact that there may exist prefabricated frames/templates in the Fund which are already specified and even filled to some degree raises the question whether such specification does not introduce grammatical process into a static Fund. I believe that such entries are purely static in nature, with the active selection and insertion of entries during the operations forming true grammatical processes. The proposal of divisions within the Fund touches on the issue of psychological adequacy which FDG, similar to FG, strives to achieve. The division between lexical and grammatical aspects of utterances has been linked to the psycholinguistically adequate division between declarative and procedural knowledge (Levelt 1989; Ullman 2001). The lexemes, grammemes, and frames/templates may be categorised as (networks of) declarative knowledge when stored in the Fund, with the application of grammatical processes on each of these (networks of) fundal elements forming procedural knowledge. The question arises whether the distinction between lexemes versus grammemes on the one hand and lexemes and grammemes versus frames/templates on the other hand is psychologically plausible. The division between semantic, morphosyntactic, and phonological levels of linguistic analysis has been argued due to the fact that these levels consist of independent units which are combined according to independent rules (Levelt 1989; Jackendoff 2010), with the addition of a rhetorical/pragmatic level to the model of FDG being similarly motivated (Hengeveld & Mackenzie 2008; 2010). The question arises whether such divisions in the Fund are also psychologically adequate. Thorough psycholinguistic testing of the divisions postulated within the Fund might ultimately determine whether they are strictly for theoretical description or whether they represent actual psycholinguistic divisions in the

speaker's mind. What is clear is that prelinguistic concepts are mapped language specifically onto specific lexemes, grammemes, and frames/templates. The model of FDG does not represent in Saussure's terms (1916) the conceptual 'signified' but rather the linguistic 'signifier' together with aspects of the conceptual signified in the form of linguistic representations of rhetorical/pragmatic and semantic categories. The model of FDG emphasises not only the place of FDG within a larger theory of verbal interaction but also the importance of representing aspects of non-grammatical elements which exhibit direct influence on grammatical operations. A refined proposal on the role and nature of the Conceptual Component and a possible representation system for a Conceptual Level would further develop the theory in this light (cf. Nuyts 1992; García Velasco 1998; García Velasco & Hengeveld 2002). It may be stressed hereby that the ultimate goal of FDG is not to account for all factors which interact with the grammar but rather to primarily describe and explain the formal properties of language from a functional linguistic perspective.

7.6 CROSSLINGUISTIC TYPOLOGY

This detailed analysis of initial consonant mutation in the Irish Gaelic dialect of Iorras Aithneach identified a number of independent features associated with initial consonant mutation which may be exploited for further comparative crosslinguistic study in other languages which exhibit initial consonant mutation:

- mutations may be organised into one or more mutational paradigms whereby radical consonants may or may not undergo mutations in each paradigm
- mutations may involve a phonological change in manner of articulation, place of articulation, and/or secondary articulation
- mutations may group together based on related phonological processes both within and across paradigms
- mutations may target one or more radical consonants in the initial onset
- mutations may involve a staged process consisting of activation and then either restriction or application of a mutation
- mutations may be activated as a result of (a combination of) pragmatic, semantic, morphological, syntactic, phonological, and/or lexical/grammemical factors

- mutations may be restricted as a result of (a combination of) pragmatic, semantic, morphological, syntactic, phonological, and/or lexical/grammemical factors
- mutations may either independently or redundantly carry a functional load.

These features allow for a more thorough comparison of the factors involved in initial consonant mutation and may be applied not only to the surviving Celtic languages such as Scottish Gaelic and Welsh, which standardly exhibit initial mutations, but also to other non-Celtic typologically diverse languages such as the Niger-Congo language Fula, the Australian language Iwaidja, and the Austronesian language Nias. A synchronic typological comparison of initial consonant mutation might result in a better understanding of the diachronic processes which lead to the creation and development of initial mutations. These features might also be applicable to other types of consonant mutation such as medial consonant mutations and final consonant mutations as well as possibly to vowel mutations. It would in my opinion certainly be a fruitful endeavour to determine to what extent such mutating languages phonologically treat their four-legged, sharp-clawed, mice-eating, furry companions and whether they are as contemptuous as they appear to be in Irish Gaelic.

APPENDICES

APPENDIX 1: SUMMARY OF ACTIVATION FACTORS

Main Category	Systematic Activation	Mutation	Section
Compounds	Noun-**Noun**	MUT1	§ 3/6.1.1.1
	Adjective-**Noun**		
	Noun-**Adjective**		
	Adjective-**Adjective**		
Copula	Past Copula (rhotic coda) + **Adjective**	MUT1	§ 3/6.1.1.2
	Past Copula (rhotic coda) + **Noun** (labial/velar onset)		
	Past Copula (rhotic coda) + **Adjective** (set with fricative onset)		
	Past Copula (declarative) + **Adjective** (set with fricative onset)		
	Past Copula (conditional) + **Adjective** (set with fricative onset)		
	Past Copula (direct relative) + **Adjective** (set with fricative onset)		
Definite Article	Definite Article (masculine genitive singular) + **Noun** (masculine genitive singular with non-sibilant onset)	MUT1	§ 3/6.1.1.3
	Definite Article (feminine common singular) + **Noun** (feminine common singular with non-sibilant onset)		
	Definite Article (masculine genitive singular) + **Noun** (masculine genitive singular with sibilant onset)	MUT2	§ 3/6.1.2.1
	Definite Article (feminine common singular) + **Noun** (feminine common singular with sibilant onset)		
	Definite Article (genitive plural) + **Noun** (genitive plural)	MUT4	§ 3/6.1.4.1
Head Nouns	Head Noun (masculine genitive singular) + **Adjective** (masculine genitive singular)	MUT1	§ 3/6.1.1.4
	Head Noun (masculine vocative singular) + **Adjective** (masculine vocative singular)		
	Head Noun (feminine common singular) + **Adjective** (feminine common singular)		
	Head Noun (native common plural with palatalised or (alveo)palatal coda) + **Adjective** (common plural)		
	Head Noun (loan common plural with alveolar sibilant coda) + **Adjective** (common plural)		
	Head Noun + **Noun** (attributive definite and proper names)		
Individual Words	Random **Words** (optional activation)	MUT1	§ 3/6.1.1.5
	Random **Words** (questionable activation)	MUT4	§ 3/6.1.4.2
Numerals	Cardinal Numerals (1-6) + **Noun** (common singular)	MUT1	§ 3/6.1.1.6
	Ordinal Numeral (1) + **Noun** (common singular/plural)		
	Personal Numeral (2) + **Noun** (human common singular)		
	Cardinal Numerals (7-10) + **Noun** (common singular/plural)	MUT4	§ 3/6.1.4.3
Numeral + Noun	Numeral (1-10) + Noun (common singular) + **Adjective** (common singular/plural)	MUT1	§ 3/6.1.1.7
Particles	Particle (negative declarative non-past) + **Verb**	MUT1	§ 3/6.1.1.8
	Particle (negative jussive) + **Verb**		
	Particle (realis conditional) + **Verb**		
	Particle (direct relative) + **Verb**		
	Particle (temporal ablative) + **Verb**		
	Particle (causative) + **Verb**		
	Particle (past with rhotic coda) + **Verb**		
	Particle (vocative) + **Noun**		
	Particle (abstract comparative) + **Adjective**		
	Particle (negative declarative non-past) + **Verb** (set with fricative onset)	MUT4	§ 3/6.1.4.4
	Particle (interrogative non-past) + **Verb**		
	Particle (negative interrogative non-past) + **Verb**		
	Particle (jussive) + **Verb**		
	Particle (irrealis conditional) + **Verb**		
	Particle (negative conditional non-past) + **Verb**		

Main Category	Systematic Activation	Mutation	Section
Particles	Particle (dependent non-past) + **Verb**	MUT4	§ 3/6.1.4.4
	Particle (negative dependent non-past) + **Verb**		
	Particle (indirect relative non-past) + **Verb**		
	Particle (negative relative non-past) + **Verb**		
	Particle (indefinite interrogative adverb non-past) + **Verb**		
	Particle (antessive non-past) + **Verb**		
Possessive Pronouns	Possessive Pronoun (first person singular) + **Noun**	MUT1	§ 3/6.1.1.9
	Possessive Pronoun (second person singular) + **Noun**		
	Possessive Pronoun (third person singular masculine) + **Noun**		
	Possessive Pronoun (plural) + **Noun**	MUT4	§ 3/6.1.4.5
Prefixes	Prefix (bound grammatical) + **Noun**	MUT1	§ 3/6.1.1.10
	Prefix (bound grammatical) + **Adjective**		
Preposed Adjective	Quantifier (universal) + **Noun** (common singular)	MUT1	§ 3/6.1.1.11
Prepositions	Simple Preposition (superessive) + **Noun**	MUT1	§ 3/6.1.1.12
	Simple Preposition (ablative/sublative/possessive) + **Noun**		
	Simple Preposition (allative) + **Noun**		
	Simple Preposition (subessive/concernative) + **Noun**		
	Simple Preposition (ablative) + **Noun**		
	Simple Preposition (antessive) + **Noun**		
	Simple Preposition (supraessive/prolative) + **Noun**		
	Simple Preposition (perlative) + **Noun**		
	Simple preposition (inessive/illative) + **Noun**	MUT4	§ 3/6.1.4.6
Preposition + Definite Article	Prepositional Article (ablative/sublative/possessive common singular) + **Noun** (common singular with non-sibilant onset)	MUT1	§ 3/6.1.1.13
	Prepositional Article (allative common singular) + **Noun** (common singular with non-sibilant onset)		
	Prepositional Article (ablative/sublative/possessive common singular) + **Noun** (common singular with sibilant onset)	MUT2	§ 3/6.1.2.2
	Prepositional Article (allative common singular) + **Noun** (common singular with sibilant onset)		
	Simple Preposition (locative) + Definite Article (common singular) + **Noun** (common singular)	MUT4	§ 3/6.1.4.7
	Simple Preposition (superessive) + Definite Article (common singular) + **Noun** (common singular)		
	Simple Preposition (elative/ablative) + Definite Article (common singular) + **Noun** (common singular)		
	Simple Preposition (antessive) + Definite Article (common singular) + **Noun** (common singular)		
	Simple Preposition (supraessive/prolative) + Definite Article (common singular) + **Noun** (common singular)		
	Simple Preposition (instrumental/comitative) + Definite Article (common singular) + **Noun** (common singular)		
	Simple Preposition (perlative) + Definite Article (common singular) + **Noun** (common singular)		
	Prepositional Article (subessive/concernative common singular) + **Noun** (common singular)		
	Prepositional Article (inessive/illative common singular) + **Noun** (common singular)		
	Prepositional Article (ablative common singular) + **Noun** (common singular)		
Preposition + Possessive Pronoun	Prepositional Possessive (ablative/sublative/possessive third person singular masculine) + **Noun** (common)	MUT1	§ 3/6.1.1.14
	Prepositional Possessive (allative third person singular masculine) + **Noun** (common)		
	Prepositional Possessive (subessive/concernative third person singular masculine) + **Noun** (common)		
	Prepositional Possessive (inessive/illative third person singular masculine) + **Noun** (common)		

Main Category	Systematic Activation	Mutation	Section
Preposition + Possessive Pronoun	Prepositional Possessive (instrumental/comitative third person singular masculine) + **Noun** (common)	MUT1	§ 3/6.1.1.14
	Prepositional Possessive (ablative third person singular masculine) + **Noun** (common)		
	Prepositional Possessive (perlative third person singular masculine) + **Noun** (common)		
	Prepositional Possessive (ablative/sublative/possessive plural) + **Noun** (common)	MUT4	§ 3/6.1.4.8
	Prepositional Possessive (allative plural) + **Noun** (common)		
	Prepositional Possessive (subessive/concernative plural) + **Noun** (common)		
	Prepositional Possessive (inessive/illative plural) + **Noun** (common)		
	Prepositional Possessive (instrumental/comitative plural) + **Noun** (common)		
	Prepositional Possessive (ablative plural) + **Noun** (common)		
	Prepositional Possessive (perlative plural) + **Noun** (common)		
Preposition + Possessive Pronoun + Noun	Simple Preposition (inessive/illative) + possessive pronoun (first/second person singular) + Noun + **Adjective**	MUT1	§ 3/6.1.1.15
	Prepositional Possessive (inessive/illative third person singular/plural) + Noun + **Adjective**		
Tenses	Past **Verb** (without fricative onset)	MUT1	§ 3/6.1.1.16
	Past Habitual **Verb** (without fricative onset)		
	Conditional **Verb** (without fricative onset)		
	Past **Verb** (with fricative onset)	MUT3	§ 3/6.1.3.1
	Past Habitual **Verb** (with fricative onset)		
	Conditional **Verb** (with fricative onset)		

APPENDIX 2: SUMMARY OF RESTRICTION FACTORS

Main Category	Systematic Restriction	Mutation	Section
Homorganic Consonants	Coda Consonant (dental/alveolar/(alveo)palatal) + ~~Onset Consonant~~ (dental/alveolar/(alveo)palatal)	~~MUT1~~	§ 3/6.2.1
	Simple Preposition (locative) + Definite Article (common singular) + ~~Noun~~ (common with dental stop onset)	~~MUT4~~	
	Simple Preposition (superessive) + Definite Article (common singular) + ~~Noun~~ (common with dental stop onset)		
	Simple Preposition (elative/ablative) + Definite Article (common singular) + ~~Noun~~ (common with dental stop onset)		
	Simple Preposition (antessive) + Definite Article (common singular) + ~~Noun~~ (common with dental stop onset)		
	Simple Preposition (supraessive/prolative) + Definite Article (common singular) + ~~Noun~~ (common with dental stop onset)		
	Simple Preposition (instrumental/comitative) + Definite Article (common singular) + ~~Noun~~ (common with dental stop onset)		
	Simple Preposition (perlative) + Definite Article (common singular) + ~~Noun~~ (common with dental stop onset)		
	Prepositional Article (subessive/concernative common singular) + ~~Noun~~ (common with dental stop onset)		
	Prepositional Article (inessive/illative common singular) + ~~Noun~~ (common with dental stop onset)		
	Prepositional Article (ablative common singular) + ~~Noun~~ (common with dental stop onset)		
Impersonal Verbs	Impersonal Past ~~Verb~~ (without fricative onset)	~~MUT1~~	§ 3/6.2.2
	Impersonal Past Habitual ~~Verb~~ (without fricative onset)		
	Impersonal Conditional ~~Verb~~ (without fricative onset)		
	Particle + Impersonal ~~Verb~~		
	Impersonal Past ~~Verb~~ (with fricative onset)	~~MUT3~~	
	Impersonal Past Habitual ~~Verb~~ (with fricative onset)		
	Impersonal Conditional ~~Verb~~ (with fricative onset)		
Individual Words	Random ~~Words~~	~~MUT1~~	§ 3/6.2.3
	Random ~~Words~~	~~MUT2~~	
	Random ~~Words~~	~~MUT3~~	
	Random ~~Words~~	~~MUT4~~	
Initial Sibilant Clusters	~~Onset Cluster~~ (sibilant + voiceless stop/bilabial nasal)	~~MUT1~~	§ 3/6.2.4
	~~Onset Cluster~~ (sibilant + voiceless stop/bilabial nasal)	~~MUT2~~	

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