

# Chapter 1

## The Welsh Mutation System

To the linguist, the Welsh mutation system is technically a system of consonant gradation (or ablaut), and it has been treated widely in both the linguistic literature and traditional Welsh grammars.<sup>1</sup> As we shall see, this mutation system is closely tied to the “fortis-lenis scale” – a progression of consonants from weak (lenis) to strong (fortis). Indeed, the fortis-lenis scale provides the phonetic foundation of the mutation system itself.

Before we delve into this phonetic foundation, we must first see how the system functions. A summary of the mutations are found in table 1.1, in the form in which they are generally presented in textbooks. Wherever the “radical” would occur in a certain “environment” – as, for example, the object of an inflected verb, an adjective following a feminine noun, a noun possessed by a possessive pronoun, etc. – it is realized by one of the three mutation forms.

Table 1.1: The Mutations of Welsh			
radical	soft	nasal	spirant
pâl [p <sup>h</sup> a:l] spade	bâl [ba:l]	mhâl [m̥ha:l]	phâl [fa:l]
tâl [t <sup>h</sup> a:l] payment	dâl [da:l]	nhâl [n̥ha:l]	thâl [θa:l]
cân [k <sup>h</sup> a:n] poem, song	gân [ga:n]	ngħn [ŋ̥ha:n]	chân [χa:n]
bal [bal] fault	fâl [val]	mal [mal]	
dal [dal] to hold	ddal [ðal]	nal [nal]	
gar [gar] shank	ar [ar]	ngar [ŋar]	
man [man] place	fan [van]		
llan [ʈan] church, parish	lan [lan]		
rhan [r̥han] part	ran [ran]		

For example, the word for ‘father’ is *tad* [t<sup>h</sup>a:d] in its radical, nonmutated form. Possessed by the third person singular masculine possessive pronoun *ei* [i:], it is realized in soft mutation in the phrase *ei dad* [i: da:d] ‘his father’; possessed by the first person singular possessive pronoun *fy* [(v)θ], it is realized in nasal mutation in the phrase *fy nhad* [(v)θ(n) ŋhad] ‘my father’; and possessed by the third person singular feminine possessive pronoun *ei* [i:], it is realized in spirant mutation as *ei thad* [i: θa:d] ‘her father’.<sup>2</sup>

Here we should note that the *t* is definitely and necessarily aspirated – produced with a puff of breath.<sup>3</sup> Indeed, an informant from Colwyn Bay, although she pronounced the *t* in English as a simple aspirate (as in *Todd* [t<sup>h</sup>a:d]), was observed pronouncing the *t* in Welsh with so much aspiration that it came out as a *t+s* affricate (as in *tad* [t<sup>s</sup>a:d] ‘father’).<sup>4</sup> We can thus designate this particular type of sound as an “aspirata” rendered in phonetic transcription (for Welsh in general) as [t<sup>h</sup>].

### 1.1 Soft Mutation

As there is no reason to change the traditional designations for these mutations (and indeed to do so could lead to misunderstandings), we can call the alternation in the second column “soft mutation.” This is classic lenition – a shift “down” the fortis-

lenis scale. In the terminology of lenition, we would say that the aspiratae of the first group of three rows “alternate with” (are realized in soft mutation as) the corresponding “mediae” (voiced stops), and the mediae in the second group of three rows alternate with the “susurratae” (voiced fricatives, or “weak” consonants in general). The sounds in the third group of three rows also weaken along the scale.

Historically, the lenition of soft mutation came about because a consonant occurred intervocalically – the classic lenitive environment.<sup>5</sup> For example, in the Brythonic (pre-Welsh) feminine *\*oinā mammā* ‘one mother’, the initial *m* occurred between vowels and was lenited first to [ṽ] and then to [v]; while in masculine *\*oinos markos* ‘one horse’, the *m* was not intervocalic and did not undergo lenition. Although both *\*oinā* and *\*oinos* subsequently became *un* (with no distinction between genders), the lenition remained in the feminine to differentiate between the feminine *un fam* [ɨn vam] ‘one mother’ and the masculine *un march* [ɨn marɕ] ‘one horse’ in Modern Welsh.<sup>6</sup>

As we can see in the example, when Brythonic lost most final syllables (including many of the grammatical endings),<sup>7</sup> the motivating phonetic environment ceased to exist. However, people had become used to the lenited soft mutation form in the grammatical environment, so they maintained the pronunciation. Thus, the grammatical environment came to be the motivating

environment, and soft mutation (as well as the others) came to be viewed as elements of grammar – of the syntax or morphology.

By alternating along the fortis-lenis scale, though, the mutation system is definitely phonological – a systematic function of the phonetics. However, the morphological (grammatical) motivation for the phonological alternations places the entire phenomenon in something of a transition area between phonology and morphology, an area we call “morphophonology” or simply “morphonology.”<sup>8</sup>

## 1.2 Spirant Mutation

While soft mutation is classic lenition along the fortis-lenis scale, spirant mutation represents a fortition. This is a shift in the opposite direction, toward the fortis (“up” the fortis-lenis scale).

In the study of Welsh, fortition has traditionally been termed provection – a “drawing out” of a sound.<sup>9</sup> Where Brythonic (or Latin loans) had *pp*, *tt*, or *kk/cc*, these were spirantized to the “homorganic” fricatives (those produced at the same position in the mouth): *ph* [φ] (whence to [f]), *th* [θ], and *ch* [χ], respectively. Thus, for example, the Latin loanword *cippus* [kippus] ‘stem’ is realized in Welsh as *cyff* [kɨf], Brythonic *Brittones* [brittones] ‘Britons’ is realized in Welsh as *Brython* [brəθon], and the Latin loanword *peccātum* ‘offense’ is realized in Welsh as *pechod* [peχod].

Within the morphophonological mutation system proper, the spirant mutation occurs where the Brythonic maintained an “oxytonic” *s* (in the final, accented syllable) before an initial aspirata. For example, Brythonic *trei<sub>9</sub>és* ‘three’ ended in *s* and motivated spirantization which remained even after the *s* had disappeared, as in Welsh *tre chant* [tʰe: χant] ‘three hundred’ from *cant* [k<sup>h</sup>ant] ‘hundred’. Of course, this is the typical development of a morphophonological relationship within the mutation system.

### 1.3 Nasal Mutation

Nasal mutation, on the other hand, is not properly a function of the fortis-lenis scale. Nonetheless, as we shall see in subsequent chapters, it does provide significant insights into the workings of the scale.

Technically, nasal mutation is what is known as “eclipsis.”<sup>10</sup> A stop following a nasal assimilated the nasality. For example, Brythonic *\*men* ‘my’ caused an assimilation of the initial stop in the following word (the one possessed). Although the final nasal has since disappeared in that context (in most dialects), the mutation remains, providing us with such phrases as *fy mâr* [(v)ə ma:r] ‘my anger’ from *bâr* ‘anger’ and *fy mhâr* [(v)ə m̥ha:r] ‘my suit’ from *pâr* [p<sup>h</sup>a:r] ‘suit’, *fy nol* [(v)ə nol] ‘my doll’ from *dol* [dol] ‘doll’

and *fy nhol* [(v)ə̃ ɲhol] ‘my roof’ from *tol* [tʰol] ‘roof’, and *vy ngar* [(v)ə̃ ɲar] ‘my shank’ from *gar* [gar] ‘shank’ and *vy nhar* [(v)ə̃ ɲhar] ‘my car’ from *car* [kʰar] ‘car’.

The important thing to note in the nasal mutation (eclipsis) is that the voiced<sup>11</sup> unaspirated stop becomes a voiced unaspirated nasal, while the voiceless aspirated stop becomes a voiceless aspirated nasal. These features will prove quite crucial in chapters 3 and 4; but for the fortis-lenis scale developed thus far, the salient fact is that the voiced unaspirated nasal patterns with the media and the voiceless aspirated nasal patterns with the aspirata. Besides nasality, the main difference between the voiceless aspirated nasal and the aspirata is that the former is aspirated to a greatly heightened degree (thus, we tend to transcribe the [h] as a full symbol rather than as a superscript in the notation).

#### 1.4 Other Mutations

There are two more mutations that are not consistently grouped together with the three preceding mutations proper, but which nevertheless provide important data for our understanding of the fortis-lenis scale. These mutations are the aspirate mutation and the hard mutation.

*1.4.a Aspirate Mutation.* The aspirate mutation occurs with those possessive pronouns that motivate the spirant mutation or the nasal mutation. When the following (possessed) word begins with a vowel, the aspirate *h* [h] is inserted. For example, the feminine singular possessive *ei* [i:] motivates the spirant mutation as in the phrase *ei chath* [i: χaθ] ‘her cat’ from *cath* [k<sup>h</sup>a:θ] ‘cat’; when the word possessed begins with the vowel, the vowel is simply aspirated as in the phrase *ei hadar* [i: ha:dar] ‘her bird’ from *adar* [a:dar] ‘bird’. It is significant that the environment that motivates a fortitive change in spirant mutation and that is marked by heavy aspiration in the nasal mutation of aspiratae should correspond with aspiration in vowel-initial words.

*1.4.b. Hard Mutation.* The hard mutation operates, as its name implies, in the opposite direction from the soft mutation. Because word-final position is a position of “neutralization” between mediae and aspiratae (that is, an aspirata in word-final position is realized either as a media or as an unaspirated tenuis – aspiration is thus neutralized),<sup>12</sup> grammatical endings placed on certain adjectives that end in mediae restore an historical aspirata. For example, the superlative form of *teg* [te:g] ‘pretty’ (with a media proper) is *tecach* [tek<sup>h</sup>aχ] ‘prettiest’ (with an aspirata).



### 1.5 Coalescence

The final phenomenon to be considered may be termed “coalescence.” This occurs in two environments: gemination (provection proper) and aspiration.

We have already seen that the gemination of an aspirata in Brythonic or in Latin loanwords is realized through provection in Welsh as a spirant (see section 1.2). In Welsh, the gemination of a media is realized through provection as an aspirata. This occurs where two words come together in speech and even in the highly formal *cynghanedd* poetry.<sup>13</sup> For example, in a phrase combining *gwybod* [g<sup>w</sup>ɨbod] ‘to know’ and *dim* [dim] ‘not’ (literally ‘any’), the result is [g<sup>w</sup>ɨbo t<sup>h</sup>im].<sup>14</sup> This is a coalescence, as the two consonants merge into one consonant one degree “up” the fortis-lenis scale.

In aspirate coalescence, when an aspirate follows a media, the result is an aspirata. For example, in a phrase combining *onid* [onid] ‘(is it) not’ and *hardd* [harð] ‘beautiful’, the result is [oni t<sup>h</sup>arð]. This is a coalescence just as the one above, since the two consonants merge into one consonant one degree “up” the fortis-lenis scale.

Both phenomena figure into the vocabulary of Modern Welsh as well. For example, the combination of *gwastad* [g<sup>w</sup>astad] ‘flat’ and *dir* [dir] ‘land’ (the soft mutation form of *tir* following the adjective) yields the term *gwastatir* [g<sup>w</sup>astat<sup>h</sup>ir] ‘plain’, and the combination of *ad* [a:d] ‘again’ and *heb* [he:b] ‘quoth’ results in the word *ateb*

[at<sup>h</sup>eb] ‘answer’.

### **1.6 Mutations and the Fortis-Lenis Scale**

At this point, we can see that the mutations in Welsh follow the fortis-lenis scale. This becomes even more evident when we remove the sounds from the traditional grammarians’ mutation table found in table 1.1 and place them into a fortis-lenis scale as in table 1.2.

Table 1.2: The Welsh Mutations				
Position of Obstruction	Susurratae	Mediae	Aspiratae	Spirants
	Obstruents			
labial	<i>f</i> [v]	<i>b</i> [b]	<i>p</i> [p <sup>h</sup> ]	<i>ff/ph</i> [f]
dental	<i>dd</i> [ð]	<i>d</i> [d]	<i>t</i> [t <sup>h</sup> ]	<i>th</i> [θ]
velar	-	<i>g</i> [g]	<i>c</i> [k <sup>h</sup> ]	<i>ch</i> [χ]
	Liquids			
lateral	<i>l</i> [l]			<i>ll</i> [ɬ]/[l̥h]
trill	<i>r</i> [r]			<i>rh</i> [r̥h]
	Nasals			
labial		<i>m</i> [m]		<i>mh</i> [m̥h]
dental		<i>n</i> [n]		<i>nh</i> [n̥h]
velar		<i>ng</i> [ŋ]		<i>nhg</i> [ŋ̥h]

The Welsh mutations other than the nasal can be seen as a lenition or fortition (provection) from one degree to the next available degree along the fortis-lenis scale. In nasal mutation (eclipsis), the nasalization of the media or aspirata must remain within the same degree along the fortis-lenis scale. Thus, when we map out the mutations taking the scale into consideration, every mutation is a change in one and only one available degree (skipping, as it were, blank boxes) along the appropriate phonetic parameter – either the fortis-lenis scale or nasality.

### Notes to Chapter 1

1. On Welsh mutation, see T.J. Morgan, *Y Treigladau â'u Cystrawen* (Cardiff, University of Wales Press, 1952). For comparisons of mutation systems among Celtic languages, see Henry Lewis and Holger Pedersen, *A Concise Comparative Celtic Grammar*, 3rd ed. (Göttingen: Vandenhoeck & Ruprecht, 1974), or the more detailed presentation in Holger Pedersen, *Vergleichende Grammatik der keltischen Sprachen* (Göttingen: Vandenhoeck & Ruprecht, 1909 [Rpt. 1976]). More recent works include Martin J. Ball and Nicole Müller, *Mutations in Welsh* (London: Routledge, 1992); and Nicholas J. Kibre, *A Model of Mutation in Welsh* (Bloomington: Indiana University Linguistics Club, 1997).
2. A cursory glance at the difference in the third person mutation forms shows the importance of using the correct mutation. For disambiguation, especially when the noun begins with a nonmutating consonant, a fuller possessive form may be used with the general pronoun following – for example, *ei sach ef* [i: sa:χ e:] ‘his sack’ as opposed to *ei sach hi* [i: sa:χ hi:] ‘her sack’.
3. If one places the back of the hand up to the mouth and says the English word *tie*, one will feel the puff of breath. A similar experiment with the word *sty*, however, will reveal no such puff coming after the *t*. The former is thus considered aspirated and the latter unaspirated.

4. See Toby D. Griffen, *A New Welsh Consonant Shift: Description and Implications*. Ph.D. Dissertation. Gainesville: University of Florida, 1975. P. 15.

5. The effects of this occurrence of a consonant “between vowels” is discussed in detail in chapters 4 and 5. The phenomenon is by no means some arbitrary convention of phonologists, but is the product of natural phonetic conditions, in which the vocalic division is particularly asserted with respect to the consonantal constraint.

6. On the historical forms and processes, see especially John Morris Jones, *A Welsh Grammar: Historical and Comparative* (Oxford: Clarendon Press, 1913), 161-67.

7. This occurred from about the end of the fifth to the middle of the sixth century – see Kenneth H. Jackson, *Language and History in Early Britain* (Edinburgh: Edinburgh University Press, 1953), 695-96.

8. On the historical process leading to such morphophonological relationships, see particularly Roman Jakobson, “Principles de phonologie historique,” in: *Roman Jakobson: Selected Writings*, vol. 1 Phonological Studies, 202-20 (The Hague: Mouton, 1971). On morphophonology proper, compare Nikolai S. Trubetzkoy, *Principles of Phonology*, trans. by Christiane A.M. Baltaxe (Berkeley: University of California Press, 1969).

9. Traditional Welsh linguistics sometimes limits projection to the fortition from media to aspirata, treating the fortition to the spirant as spirantization – see, for example, Jackson, *Language and History in Early Britain*, 565-72. As we shall see in this

investigation, however, the two are phonetically and functionally the same process.

10. See, for example, Lewis and Pedersen, *A Concise Comparative Celtic Grammar*, 119-20. Eclipsis – the joining together of consonants – is a more general process in language development. As shown in section 3.1, this process is dynamically one of “coalescence,” and it is further discussed in section 1.5.

11. A voiced consonant is produced with vibrations of the vocal cords (or more precisely, without suppressing the vibrations produced by the vowel). If one places the hand on the throat and says the word *die*, one will feel the vibrations during the *d*, a voiced consonant. One will not, however, feel the vibrations during the *t* of *tie*, as that is a voiceless or unvoiced consonant.

12. This word-final neutralization is discussed in more detail in section 3.3.a, below.

13. Compare, for example, John Morris Jones, *Cerdd Dafod* (Oxford: Clarendon, 1925).

14. For further examples in speech, see O.H. Fynes-Clinton, *The Welsh Vocabulary of the Bangor District* (Oxford: Clarendon, 1913).