

## The Development of Middle Welsh *ap* Names: A Dynamic Perspective

Toby D. Griffen

*Professor Emeritus*

*Southern Illinois University Edwardsville*

In the Middle Ages, Welsh males were generally identified by name and patronymic, with the intervening particle *ap*. Thus, for example, we find such famous names as Llywelyn *ap* Gruffydd, Dafydd *ap* Gwilym, Gruffudd *ap* Cynan, and so forth.

As they were required to take family names, the Welsh incorporated the patronymic in one of two ways. On the one hand, they might add an English possessive *s* to an Anglicized form of the patronymic, changing such combinations as *ap* *Sion* to *Jones*, *ap* *Rhisiard* to *Richards*, and so forth. On the other hand, they might blend the particle with the patronymic, changing such combinations as *ap* *Rhys* to *Prys* (or *Price*), *ap* *Evan* to *Bevan*, etc. It is this latter practice that we shall examine here.

There are two variants to the *ap* names, one beginning with *B* and the other with *P*. When the *ap* joins a patronymic beginning with a vowel, the result is a name beginning with *B*. Thus, *ap* + *Owen* yields *Bowen*, *ap* + *Evan* yields *Bevan*, etc. When the patronymic begins with the aspirant *H* or *Rh*, however, the name begins with *P*. Thus, *ap* + *Huw* yields *Pugh*, *ap* + *Rhisiard* yields *Prichard*, etc.

At this point, phonologists could come up with a very simple rule stating – in convoluted jargon, of course – that the vowel of *ap* is deleted and the *p* assimilates in voice to the following segment in accordance with the usual type of assimilation rules found throughout the literature. But how much closer would such a rule bring us to understanding just *why* the combination results in *Bowen*, on the one hand, and *Pugh*, on the other? In order to understand that, we shall have to delve a bit more deeply into the actual phonetics of the situation.

The first thing we need to do in examining the phonetic event is to dispense with the old convenient fiction of “cross-sectional segmentation.” Born of habits associated with alphabetic writing, cross-sectional segmentation holds that sound is produced and perceived as discrete bundles of features, with each bundle – each phone in phonetics and phoneme in phonology – occurring in sequence. So, after the deletion of the *a*, a cross-sectional segmental analysis of the *Bowen* development would change the *p* to a *b* by changing the specification of voice from minus to plus. An analysis of the *Pugh* development would retain the *p*, but delete the *h*. The closest thing to an explanation that such analyses could provide would be structural – the

difference in the environment.

However, as useful as alphabetic writing is for facilitating graphic communication, it really tells us nothing about the actual phonetic event. For the past half century, phoneticians have recognized that the various features of speech sound are realized not in discrete sequential bundles (that is, written letters), but in a system of “dynamic coarticulatory constraint.” In the speech continuum, certain features are articulated along with other features over time. (See especially Mermelstein 1973.)

For the past three decades (since Griffen 1976), I have been developing a nonsegmental system of phonology that directly abstracts the features within the dynamic framework characteristic of dynamic phonetics and without recourse to phones, phonemes, or letters. The best way to illustrate the system, especially to the nonspecialist, is through the syllabic frame in figure 1.

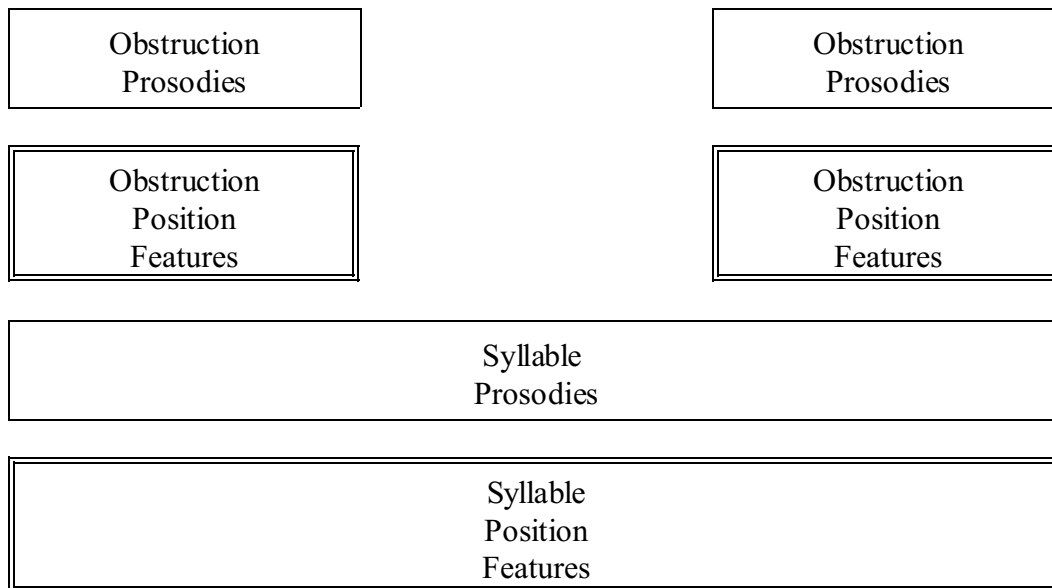


Figure 1: The Syllabic Frame

Speech sound is based upon the vibration of the vocal cords that produces the fundamental frequency. This frequency is modified by the position of the tongue and the shape of the lips to form the vowels. In general terms, consonants are not independent sounds, but are dependent upon the vowels they constrain. We can see

this by noting the differences in the *f* between *feel* and *fool*, the former being produced with unprotruded lips and the latter with protruded. Traditionally, these have been considered to be allophonic variants with complex assimilation rules to show where one is used as opposed to the other. However, if the consonant is simply a constraint on the vowel, then the differences in the protrusion of the *f* can be seen as nothing but the coarticulated feature of the vowel. The only things relevant to the consonant are the facts that it is produced by contact of the lower lip with the upper front teeth (labiodental), it weakly constrains the vowel (fricative), and it obstructs the voicing of the vowel (voiceless).

Using the example of *fool* in English, then, we can fill in the syllabic frame as in figure 2. The obstruction itself is defined by its position – in this case labial. The obstruction prosodies (providing manner) are voicelessness and frication.

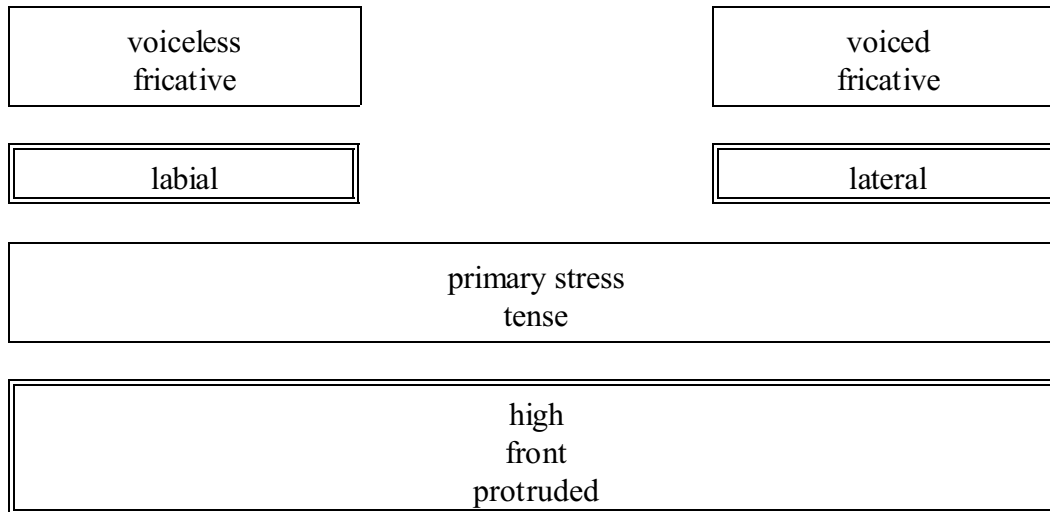


Figure 2: Syllabic Frame of *fool* [fu:l]

Turning our attention to Welsh, we find a very different phonetic obstruction system, one not based upon voicing, but upon aspiration. Once again, the nature of the Welsh aspiration system has been uncovered in the past three decades, and it has been illustrated most recently in *Phonetic Regularity in Welsh Poetry* (Griffen 2004). And once again, the nuances of this system are technically rather challenging and would be loved only by the specialist in phonetics and phonology.

For the nonspecialist, perhaps the clearest and simplest approach would be to jump to the end and examine the finished obstruction system as in figure 3.

	Degree of Aspiration (series)			
Position of Obstruction (orders)	1 aspirate	2 aspirate	3 aspirate	4 aspirate
	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> [ʎ]/[l <sup>h</sup> ]	
trill	<i>r</i> [r]		<i>rh</i> [r <sup>h</sup> ]	
	Nasals			
labial	<i>m</i> [m]		<i>mh</i> [m <sup>h</sup> ]	
dental	<i>n</i> [n]		<i>nh</i> [n <sup>h</sup> ]	
velar	<i>ng</i> [ŋ]		<i>nhg</i> [ŋ <sup>h</sup> ]	
	Aspirate			
laryngeal	<i>h</i> [h]			

Figure 3: Welsh Obstruction System

Each vertical column in the figure represents a degree of aspiration (increasing from left to right). These four degrees have been established acoustically by the rise

in the high-to-low frequency ratio and physiologically in the concomitant increase in the width of the orifice of the larynx. Both of these phenomena indicate an increase in “breathiness.” (Compare Perkell 1969: 36-37.)

The relationships among the columns and this feature of breathiness can be seen in several rather common occurrences in Welsh pronunciation. For example, the combination of *ad* [a:d] ‘again’ and *heb* [he:b] ‘quoth’ results in the word *ateb* [at<sup>h</sup>eb] ‘answer’. Moreover, the feminine singular possessive *ei* [i:] motivates the spirant mutation, as in the phrase *ei chath* [i: χa:θ] ‘her cat’ from *cath* [k<sup>h</sup>a:θ] ‘cat’; and 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’.

Perhaps the most useful application of the Welsh obstruction system in figure 3 for the nonspecialist is in understanding the mutation system. As has been demonstrated in detail elsewhere (for example, Griffen 1988: Chapter 7), the reduction of one degree of aspiration from column 2 or 3 results in the soft mutation form in column 1 or 2, respectively. The increase of one degree of aspiration from column 3 results in the aspirate mutation form in column 4.

Several other “irregular” mutations are also explicable through the system. For example, the third person feminine pronoun is marked by an increase in aspiration from column 3 to column 4. Thus, Fynes-Clinton (1913:xviii) notes such pronunciations as *ei thad hi* ‘her father’ as *i θa:t i* (his notation). Likewise, in some dialects, the aspiration is also realized in the nasal, causing a shift to the next available, more aspirate column. Thus, Fynes-Clinton (ibid.) also notes the pronunciation of *ei mab hi* ‘her son’ as *i m̥ha:p i*. We should also note how the *d* mutates to *t* in the first example and how the *b* mutates to *p* in the second through increased aspiration directly from the *h* in *hi*.

It is this last little detail that leads us into our explanation of the Welsh *ap* names. The first thing we need to recognize is that the final position in the Middle Welsh and the Modern Welsh word is what we call a “position of neutralization.” Since, as we have seen, voice is not the deciding factor in Welsh but aspiration is, the final position neutralizes the feature of aspiration. *Ap* therefore is realized with an unaspirated final *p* (in phonetic notation a [p<sup>-</sup>]), in essence making it a *b* in the functioning of the system. Because the feature is neutralized, it makes no difference whether we write *b* or *p* in this position. In Middle Welsh, *p* seems to have been preferred, though *b* can also be found in such names as Hywel ab Owain Gwynedd, perhaps anticipating the changes described below. In Modern Welsh, however, the *b* prevails, and the use of the media over the tenuis in general in this position results in some curious spellings from English loan words, such as *asb* ‘asp’ and *desg* ‘desk’.

What we find in the development of Middle Welsh *ap* names is what we may call a “coalescence” (see Griffen 1988: Chapter 9). The final unaspirated *p* ([p̄]) joins with the initial position of the first syllable of the patronymic as the weakly accented *a* routinely drops out in the position before primary stress. In the case of such names as *Bowen*, as illustrated in figure 4, the obstruction slips into an unoccupied position; and since it is unaspirated, it is realized with the second degree of aspirate prosody.

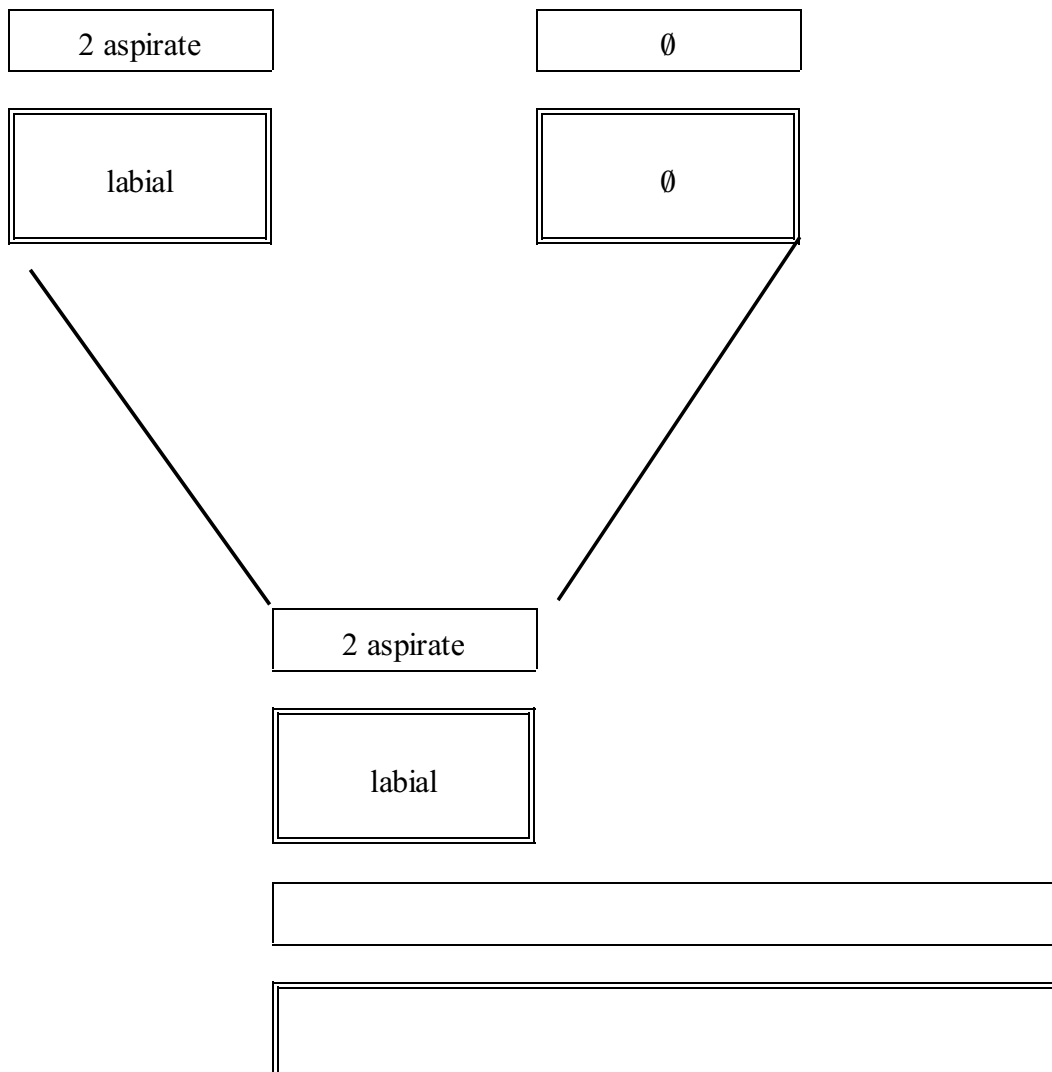


Figure 4: Coalescence of *Bowen*

As for such names as *Pugh*, the situation is only slightly more complicated. Here there is a degree of aspirate prosody already in place constraining an obstruction with no stated position. As illustrated in figure 5, the coalescence is exactly the same as before; but the aspiration is coarticulated with the labial position of obstruction, resulting in the realization of the higher (third-column) degree.

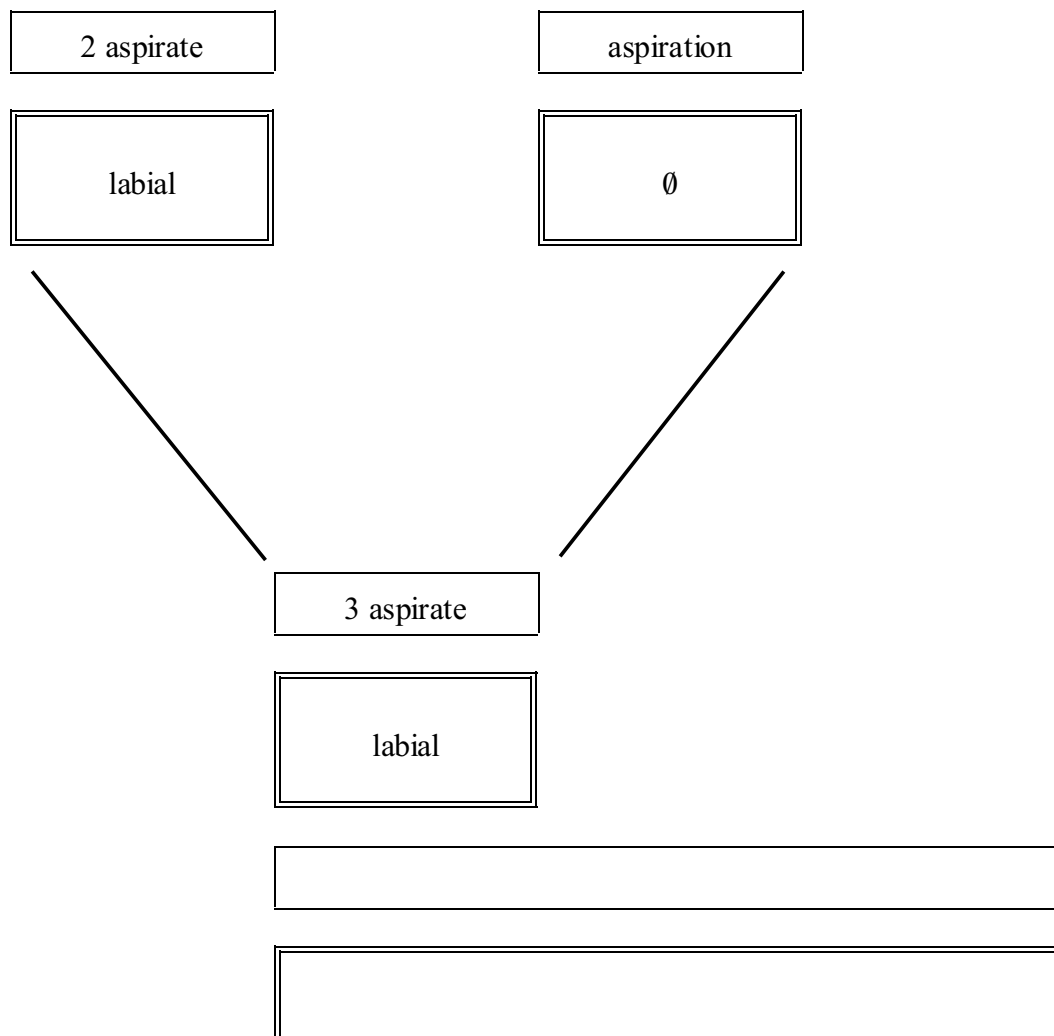


Figure 5: Coalescence of *Pugh*

It is in the case of *Prichard* that the efficacy of this type of analysis really shows through. In the name *Rhisiard*, the initial obstruction is constrained by a degree of aspirate prosody concomitant with column 3 in figure 3. In one of the earliest papers in the development of dynamic phonology (Griffen 1975), it was demonstrated that the aspirate prosody constrains the first position of the syllable, not the first phoneme or letter. When the *p* is coalesced into this position, the labial obstruction finds itself constrained by the degree of aspiration found in column 3. As we see in figure 6, this entails no change whatsoever to the *p*, but simply the natural pattern of coarticulation in the first position of the syllable. Everything else is spelling.

The advantage of the dynamic description of events is quite simply that it provides an explanation. Relying upon the discrete bundles of features, we had to come up with rules, the only justification for which was that they could formulaically account for the alternation between initial *b* and *p*. This accounting, however, was based upon the premise that we speak in letters that do not overlap – that are segmented cross-sectionally.

The dynamic accounting, on the other hand, is based upon the actual speech event realized in dynamic coarticulatory constraint. It thus provides an explanation as to why *ap Owen* should be realized as *Bowen* and why *ap Hugh* should be realized as *Pugh*. In the process, I hope that those for whom my publications on dynamic phonology may be a bit too technical may see that there is indeed a better way to account for the Welsh sound system, with its mutations, coalescences, and other phenomena.



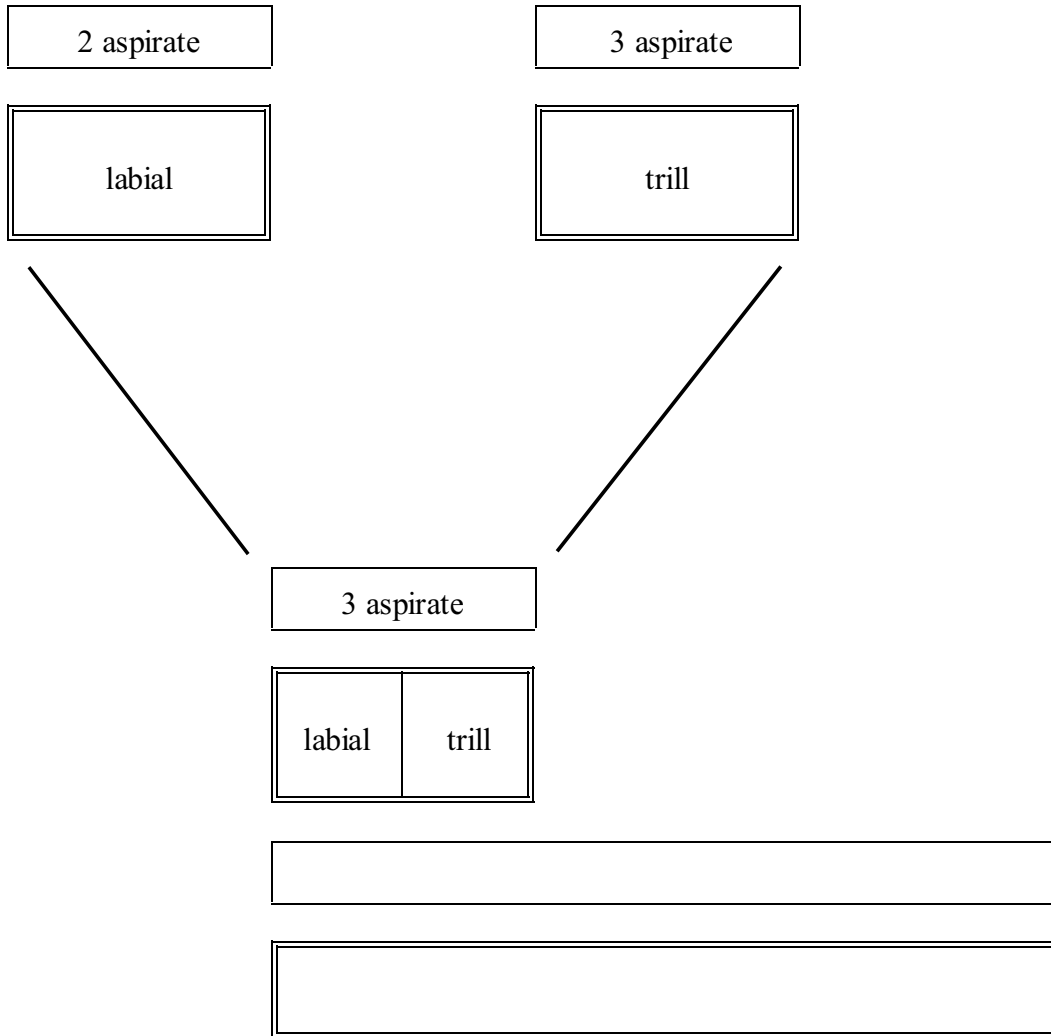


Figure 6: Coalescence of *Prichard*

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