On the representation of coronals and velars across theories[*]

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0 Introduction

The purpose of this paper is to discuss and compare the representations of coronal and velar consonants in some phonological theories. The major aim is to argue against the mainstream view that coronals are phonologically placeless (see Paradis–Prunet 1991) by presenting a number of approaches to show that there is actually no universal agreement that coronals universally lack a place of articulation. This issue is, of course, related to a major claim according to which it is velars that are placeless.

It is admitted, of course, that for the view to hold that coronals do indeed have a place of articulation, the mere fact of presenting a number of theories to support this position is not enough, nevertheless it is instructive to review their ideas, either implicit or explicit. In particular, it will be shown in this paper (a) that the basic ingredients for the velar placelessness view are implicit in certain ways even in classical generative phonology, and (b) some varieties of feature geometry are equally not incompatible with such views, while (c) government phonology explicitly claims that velars are "empty" and had an interesting debate in connection with the representation of coronals.

The choice of theories for the present discussion is somewhat arbitrary. Only classical generative phonology, feature geometry and government phonology will be dealt with in detail. Dependency phonology, for example, would definitely be worth including here by virtue of its well-articulated theory of how segments are built up from smaller units. At the same time, theories that take surface markedness relations to be basic to their claims, such as Radical Underspecification Theory, Natural Phonology and Optimality Theory, are not examined here on the general grounds that it is exactly markedness that is under attack (see Huber 2006a for details of this argument). The really relevant question is what theories say that do not directly incorporate markedness relations in their explanatory machinery. It also has to be noted that this paper does not intend to support the segmental representations in any of these theories – the only point being what they say about coronals and velars.

Theoretical issues regarding the placelessness of velars or coronals involve, in general, discussion of the following problems:

   a) representation of velars and coronals;
   b) epenthesis;
   c) markedness relations of places of articulation.

This paper only deals with the first of these, the representation of velars and coronals. The present analysis also draws on the results of Chapter 7 ("From features to elements") of my 2002 MA Thesis, but this is a more thorough treatment. Other aspects of this issue have been discussed elsewhere, particularly in Huber 2006a.

1 Representation of velars and coronals in SPE terms

The analysis of the representation of velars and coronals will have to begin with a review of feature-based analyses since they bring out important characteristics of velars as well as their structural relations with other major and minor places of articulation. The argumentation here is based on the detailed and thoughtful presentation of the ("classical") theory of distinctive features (DF's) in Chapter 2 of Durand (1990). It will be discussed in particular what consequences it has that velars are negatively specified for all place features in classical featural terms.

One interesting aspect of such a feature theory is that it encodes a number of connections between velars and other classes of sounds. Feature theory does not recognize an independent [velar] place feature in its inventory in the first place. While in the classification of DF's [coronal] is found among primary stricture features and [labial] also figures as a lip-attitude feature – not a feature originally, but later (definitely by Durand 1990) it came to be regarded as a place defining feature –, no feature makes reference to [velar]. Although an extremely controversial air-stream mechanism feature [velaric] is mentioned by Durand (1990:58), it is crucially not a place feature. Obviously, velars are marked [–coronal] and [–labial], which already seems to suggest that they lack a phonologically relevant place of articulation for which they could be specified positively even in feature-based analyses – they are defined negatively with respect to coronality and labiality. This is shown by the feature specifications below (following Durand 1990):

(1)   SPE type features: labials: [+labial]([–coronal])
                                              coronals: [+coronal] ([–labial])
                                              velars: [–labial][–coronal]

In SPE every segment had to be specified for all features. As for the three major places of articulation, they were defined in terms of two only: [labial] and [coronal]. In the case of velars, whatever [labial] and [coronal] stand for, velars are negatively specified for them. First, some consequences will be dealt with of these negative specifications, and then the connection between labials and velars in featural terms will be discussed.

1.1.1 Velars and articulatory features: velars are negatively specified for place features

On the one hand, velars share [–coronal] with labials, uvulars and pharyngeals. In fact, as Durand himself confirms (1990:63), "[–coronal] sounds are defined negatively – *ie* as involving the absence of a raising of the tongue blade". The feature [labial], on the other hand, is not part of the SPE inventory proper, but Durand argues that it is needed as distinct from [round] because a number of rules become simpler and more natural to explain, while an analysis with [round] only does not bring out what is really at work. The feature [labial] stands for *constriction* at the lips as opposed to the *protrusion* of the lips associated with [round]. These articulatory gestures must be kept apart. As an example, Durand cites (1990:49) a rule from Finnish where a voiced velar fricative [γ] becomes a labial fricative [v] between high round vowels (/u/ and /ü/):

(2)   γ –> v / [+high]   _____   [+high]
                [+round]   [+round]

Durand rightly argues that in the above formulation of the rule the actual change does not receive a natural explanation since why should a velar become labial between high round vowels – unless there is some more intimate connection between them. With [labial] instead of [round], however, the change boils down to a simple case of assimilation:

(3)   [+high]   –>   [+labial] /   [+high]   _____   [+high]
      [+back]   [+labial]   [+labial]
      [+continuant]
      [+voice]

In other words, a [+high] voiced non-labial fricative becomes a labial between [+high] labial vowels: an assimilation of [+high] segments in a labial environment. An interesting corollary of the change itself is the establishing of another case of interaction between velars and labials, a phenomenon already treated elsewhere (Huber 2006b).

        A further point of connection betwen velars and other classes of sounds is the feature [anterior], the other primary stricture feature besides [coronal]. Velars share a negative setting for this feature with palato-alveolars and palatals on the one hand, and uvulars and pharyngeals on the other. It is then not due to coincidence that velars often develop to [+coronal] palato-alveolars/palatals, with which a [+high] feature is common as well (although note the existence of affricates /pf/ and /kx/ which are [–coronal]). Again, it is suggested to be a straightforward case of assimilation in the feature [coronal]. It can then be concluded that velars are negatively specified for place features: [–coronal], [–anterior] and [–labial]. Consequently, assimilation processes to both coronals and labials also receive a natural interpretation in such a feature system: the acquisition of a positive specification for these features. Since, however, place specifications are in fact associated with either the raising of the tongue blade (coronals) or with a constriction at the lips (labials), the negative specification of velars for both these features does mean that velars actually lack these gestures. This situation might then be considered an encouragement to claim placelessness for velars.

1.1.2 Velars and acoustic features: velars share [grave] with labials

Besides encoding a number of connections between velars and other classes of sound, feature theory has a further remarkable aspect, namely that it brings out a direct connection between velars and labials in the acoustic feature [grave] as well. The feature [grave] marks labials and velars (as well as back rounded vowels) positively specified. This is the formal recognition of the observation that not all phonological processes are based on "local" assimilation/ adjustment (articulatory) processes, but a number of them are actually based on acoustic similarity of some sort. In establishing this feature, one of the main pieces of support was the recognition that well-attested phenomena that relate labials and velars (see Huber 2006b for a detailed treatment) are rather difficult to explain with articulatory, that is, "production" features: "For what affinity is there between the lip gesture which defines labials and the raising of the back of the tongue towards the velum which defines velars?" (Durand 1990:63). Durand also admits that in a feature-based theory this phenomenon cannot be explained. In theories cherishing some form of element theory on the other hand, such phenomena are interpreted to be cases of element suppression of some sort: the labial element is suppressed and it yields a velar. This issue will be taken up later.

2 Feature geometry

The next approach to be discussed is feature geometry, which arranges the features into a tree hierarchy instead of a matrix format. This approach supercedes classical SPE in recognizing the internal structure of segments as well as establishing the various connections among the individual features. In feature geometry (*cf* Kenstowicz 1994:462), the Dorsal node dominates both velars and all the vowels since it is under Dorsal that the [high][back][low] vowel features reside. Again, velars are defined in terms of features which are not unique to them, but rather they only have a set of features that they share with all the vowels: [high][back][low]. Implicit in this configuration is that velars have something to do with vowels, which is indeed the case: take palatalizations of velars and vocalizations, for example. Pulleyblank (1997:206) in addition claims: "The insertion of a Dorsal node by default into the empty place node of the vowel root corresponds to the insertion of [ə]." This consideration seems to agree with the government phonology approach, namely that both velars and reduced vowels (eg, a schwa or yer) are "empty" in a technical sense. Moreover, according to one of the two models to be presented, coronals have no really special status since their [coronal] feature defines front vowels: it is not a purely consonantal feature.

In this area, Clements and Hume (1995) is an influential article. They present a constriction-based feature geometry in which the geometry is defined by the combinability of the various constrictions. They provide an excellent comparison of two competing models of feature geometry, their constriction-based model and that of Sagey's articulator-based model (1995:275-7). Their model seems to square better with attested phenomena.

As for the connection between the representations of vowels and consonants, the two approaches make quite different predictions. To begin with, in Sagey's model major consonant places dominate vowel features: for instance, Labial dominates [round] in vowels. In Clements and Hume's model, on the other hand, consonant and vowel places are defined by the same set of features: [labial, coronal, dorsal] for both consonants and vowels. From this a second major difference follows, namely that while coronality is usually non-distinctive in vowels (it is reserved for retroflex vowels) according to Sagey, it defines front vowels for Clements and Hume. This is summarized below:

(4a)   Sagey's model   Clements and Hume's model

        major C-places dominate vowel features   C-place and V-place are defined by the same set

        labial dominates: [labial, coronal, dorsal]
        [round]

                                    [labial]   = rounded vocoids
        dorsal dominates: [coronal]   = palatal (front) vocoids
        [back]   [dorsal]   = back vocoids
        [high]   [*no place*] = central vocoids
        [low]

        coronal is usually non-distinctive in vowels,
        it is reserved for retroflex vowels

        coronal is not significant for vowels   coronal defines front vowels

In consequence, there are also a number of differences with respect to what

phonological interactions can happen among the various classes of sound. The most important difference is what connection there is between dorsals and vowels: according to Sagey all vowels form a natural class with dorsals, while according to Clements and Hume front vowels form a natural class with coronals, back vowels with dorsals, round vowels with labials. The second most important difference is that for Sagey dorsals are opaque, while for Clements and Hume they are transparent to spreading of vowel features. This is summarized below (with some further differences):

(4b)   Sagey's model   Clements and Hume's model

	vocalic [back] and [round] features are superfluous (> more economical system)
all vowels form a natural class with dorsals, no other C classes define vowels on their own ([round] must combine with a features under Dorsal)	front vowels form a natural class with coronals, back vowels with dorsals, round vowels with labials
dorsal consonants are opaque to spreading of vowel features	dorsal consonants are transparent to spreading of vowel features
only dorsal can function as a single unit (in spreading, for instance) combinations like [back] + [round] cannot	all plain consonants (=major articulation) are transparent to rules spreading lip rounding with one or more vowel features

Of course, (4a-b) above only concentrate on the points that are relevant for a comparison of velars and coronals. The most important difference between the two approaches is the relation of dorsals and vowels, and the possibilities of combinations this relation implies between the two sets of segments. Overall, Clements and Hume seem to be essentially correct for a number of reasons. For instance, dorsal and other plain consonants tend to be transparent to spreading of vowel features (eg, in vowel harmony); all vowel features can spread individually; central vocoids (such as a schwa or yer) are associated with no place specification. And most importantly for the present discussion, according to the Clements–Hume model coronals have no really special status since the [coronal] feature is shared with front vowels. Their insights will be cited later as well in support for claiming frontness (or palatality) for coronals.

3 Kenstowicz on the coronal syndrome

Michael Kenstowicz has made his views known in various places on what he terms the coronal syndrome. For example, in the Foreword to the 1991 Paradis–Prunet collection he wrote the following about the specialty of coronals (1991:xiii): there is "an intuition shared by most phonologists: that dental (more generally coronal) is the unmarked consonantal point of articulation." Nevertheless, he eventually closes the Foreword with this phrasing: "…no definite answer emerges…".

    In his *Phonology in Generative Grammar*, Kenstowicz basically draws on the above work, and summarizes the major observations with respect to coronality (1994:516-521). First, he enumerates the main pieces of evidence supporting the unmarked status of coronals:

(5)   Coronals

          (a) are the most frequent on a number of counts;
          (b) are the outcome of neutralizations;
          (c) are most commonly chosen in epenthesis;
          (d) combine more freely;
          (e) are more susceptible to place assimilations;
          (f) are transparent to transconsonantal vowel-echo (complete assimilation) rules.

The above "traditional wisdom" can be captured by a default rule assigning Coronal to a consonantal place (1994:517):

(6)   Place > Place (default rule)
                        |
              Coronal

However, Kenstowicz also expresses some doubts on the universal validity of coronal unmarkedness. He points out (1994:519) that "there is a slight inconsistency in the underspecification approach to the coronal syndrome: some properties require a bare Place node (…) while others seem to call for no Place specification at all." For instance, CC clusters tend to be of two types, one where CC is a geminate (C_iC_i), and another where either C_1 or C_2 is a coronal. Both these types can be described – believing in coronal unmarkedness – with maximally one Place specification. Clusters of two non-coronal consonants are rare enough cross-linguistically (although they, significanty, do appear in each language where they should be illicit!). This requires coronals to have a bare but existing Place node so that they do not count. However, no Place node can be assumed at all in cases of vowel harmony spreading across coronals since otherwise it is hard to explain why the bare place node does not take on the spreading vowel specification (see Huber 2006a:53-55 for a detailed analysis of this issue). These two interpretations of what "no place specification" really means, and the apparently strong arguments in favour of both at the same time, casts serious doubts on the *universality* of coronal underspecification.

           Finally, Kenstowicz points out (1994:519), following McCarthy and Taub's 1992 review of Paradis–Prunet, that a "more serious problem arises in the expression of dependent features." The coronal syndrome should only be exhibited by segments with unmarked features (such as /s t n/) but not by /č S tS/, for instance. Again, this is hardly compatible with the universality of coronal underspecification claim since some coronals may be unmarked but others obviously cannot. Moreover, he in fact claims that underspecification approaches are probably wrong since rather embarrasingly they predict coronal underspecification even in languages where the dentals are clearly marked for place (1994:520).

           All in in, Kenstowicz claims that the evidence in support of universal coronal unmarkedness is not as conclusive as one would like to have it.

4 Government Phonology

4.1 The mainstream approach

The mainstream approach to the representation of coronals and velars in Government Phonology can be summarized as follows:

(7)   - velars are headed by the empty element
                       - labials have U
                       - coronals have R (see Harris–Lindsey 1995, Harris 1994)

These properties of the representation of the differences among the three major places of articulation incorporate the two basic ideas proposed in this paper, namely that (a) velars are phonologically placeless and that (b) coronals have a place specification. There have come to light other approaches, though. These will be reviewed in the sections to follow.

4.2 Other views within GP

There are other views withing GP, which can be divided into two groups based on how they represent coronals: those who argue against coronals having R (Backley 1993), and those who argue that coronals have an A "lowness" element (Broadbent 1991, Cyran 1997, Young-Lee 1998). These approaches are presented and contrasted below.

4.2.1 Broadbent 1991

Broadbent (1991:299) analyses r-intrusion phenomena in (West Yorkshire) English, and argues that coronals are headed by the A element. The basic idea is that "…r-formation [linking or intrusive-r] occurs when A is the head of a relevant segment [=the preceding vowel]." Consider the following example where the vowel [a:] is represented by an A-head (underlined) and an empty (v) dependent to make it lax:

```
(8)    O    N    O    N    O    N
       |    | \  |    |    |    |
       x    x  x  x   x    x    x
       |    | /       |    |
       S    A >>>>>>>> _    v
            |
            v

       sh   a h  (r)     of …                    "shah of"
```

In her analysis, A stands for coronality because there is r-intrusion (or linking) when there is a preceding vowel which has A in its representation. In a footnote (1991:300, N21) she interestingly indicates that she intends this analysis as "evidence for coronal underspecification" because it is known that /r/ is coronal and it is not specified before the spreading, and here it is also seen that /r/ has A. Where else could the coronality of /r/ originate, she asks? Her conclusion: coronality is A.

This analysis, however, raises some questions. It is not immediately clear when coronality comes into existence: has the empty, unspecified timing slot been already coronal before the spreading of A from the preceding vowel slot had taken place or has it become coronal by virtue of the spreading itself? The first option would mean all empty timing slots are coronal – not many seem to have considered the implications of this possibility. Apparently, the empty timing slot becomes a coronal because of the spreading of A. It remains unclear then how general this representation is since other coronals, such as /t/ or even /s/, are not known to get inserted in the same or even similar environments in (any

variety of) English.

What Broadbent does in fact is to subscribe to coronal underspecification simply on the grounds that the timing slot that will become /r/ has originally been unspecified. But she eventually does propose an element, A, to dominate coronals since it is A that makes a coronal. Probably it had an effect on her analysis that Paradis–Prunet (1991) was published in the same year and something had to be said about it (although she does not refer to the book).

4.2.2 Backley 1993

Backley's article argues (1993: 301) in favour of the view that "coronal obstruents [!] lack an overt phonological place specification, thus rendering them inherently less complex than their non-coronal counterparts." He points out a problem for the mainstream analysis, namely lenitions of the type /s/ > /h/. The problem is that if /s/ is represented as $\{R^0, h^0\}$ (as was the standard representation at the time) then there are 3 possible lenition trajectories:

(9) $\{R^0, h^0\}$ > $\{R^0\}$
                                      > $\{h^0\}$
                                      > $\{0\}$

Backley brings up the following arguments against R (pp.306-307). First of all, the element R is not active in element harmony processes. Second, it does not figure either in short-distance assimilatory or spreading processes. For instance, he points out, coronal NC clusters like /nd nt/ "do not come about via any place assimilation process as such". Third, there are no differences in R as head or operator, which makes it exceptional among the place-defining elements {I U A} since these do behave differently in head than in dependent positions. Furthermore, the system overgenerates since R does not combine with the other place-defining elements I, A and U, which in their turn do regularly and meaningfully combine. Finally, the only real-world "thing" corresponding to the realization of {R} in isolation is a tap [r], and it is not apparent in any other segments.

Backley (1993:309) therefore proposes the following representation for [s]: [s] = $\{h^0\}$. This element, $\{h^0\}$, functions as operator in obstruents and as head to specify stridents – which are coronal by default. Therefore, "we can make a direct association between stridency and the presence of coronality". His representations (1993:310) then fall out as follows (last element is head of expression):

(10)   [s] = $\{v^0, h^0\}$
        [f] = $\{H^-, h^0, U^0\}$
        [x] = $\{h^0, v^0\}$

However, these representations lead to two problems (1993:312). First, what is lost in /s/ > /h/ changes if [s] = $\{h^0\}$? In other words, what is the representation of [h] then? And second, why is there a difference between /s/ > /h/ (in syllable codas) and /s/ > /r/ /V_V (intervocalically)?

He goes on to demonstrate the structure of glottal [h] using Japanese data. His claim is that "'glottal' indicates a lack of any lexically defined resonance property". In this way, [h] can be assigned a representation such as $\{h^0, v^0\}$. Notice that this effectively means that glottals, or [h] specifically, are placeless. There being an empty head position ($\{v^0\}$), the elements I, U can readily spread to it. These are indeed attested in Japanese (1993:315):

(11a) Japanese: [h] > [ç]

```
O    N    O    N    O    N
|    |    |    |    |    |
x    x    x    x    x    x
|    |    |    |    |    |
v⁰ <<< I⁰   d    a    r    i
|
h⁰
```

[çidari]

and also:

(11b) Japanese: [h] > [Φ]

```
O    N    O    N
|    |    |    | \
x    x    x    x   x
|    |    |    | /
v⁰ <<< U⁰   g    o
|
h⁰
```

[Φugoo]

Of course, since his representations above identify [x] and [h], "there must be no language which displays a phonological opposition between a glottal and a velar fricative." And he cites Irish as a possible counterexample, and he admits that the /h/ <-> /x/ opposition "indicates the need for more detailed investigation, and I shall leave the matter open."

Although some problems still remain, Backley concludes that coronality lies in the headship of {h⁰}. What is particularly noteworthy is that {h⁰} is not even a place element. This is taken here to indicate that the assumed specialty of coronals might not actually lie in place specifications at all.

4.2.3 Repercussion of the alternative views

The two lines of thinking above have found followers, and it can be said that the standard view cited in the beginning of this section is no longer strictly adhered to. Cyran 1997 (167ff) adopts the view, and elaborates it in great detail using Munster Irish data, that coronals are headed by the element A. Duck Young-Lee's (1998) work on Korean is mainly interesting for the present purposes because it discusses a coherent approach to phenomena from a language which is very often cited to show a range of phenomena of coronal underspecification. He gives no further justification for choosing A to represent coronals than simply referring to other works in this framework that have already adopted this view (for instance Cyran 1997). These two works would merit a more thorough treatment, which will have to be postponed for a later paper.

By way of conclusion, it also has to be pointed out that while there are more candidates to head coronals, there are no serious proposals for an alternative element to head

velars.

5 A further candidate for coronals: frontness / palatality

In the final section of this paper a further candidate is presented to characterize coronals: frontness. The idea is in fact not new at all, it was alluded to by Clements and Hume (see 4a-b above) and also by Kenstowicz (1994:464-5). These considerations are based on the observation that coronals often interact with front vowels in many phonological systems: take palatalizations of coronals by a front vowel, or occasional fronting of non-coronals after front vowels. Clements and Hume (1995) also support this view since they propose that [coronal] characterizes front vowels.

There is indeed some evidence for such a claim from a number of languages. Take the following data from Ancient Greek as an example (data are included here only for $*k^w \rightarrow$ t, more examples are cited in Huber 2006b):

(12) Ancient Greek

$*k^w$	$\rightarrow$ t			
$*g^w$	$\rightarrow$ d	/ ___ [+front]		
$*g^{wh}$	$\rightarrow t^h$			
$*k^w$	$\rightarrow$ t	$*k^we$	> <u>t</u>e	'and'
		$*k^wis$	> <u>t</u>is	'who?'
		$*k^wet^wores$	> <u>t</u>ettares/<u>t</u>essares	'four'
		$*penk^we$	> pen<u>t</u>e	'five'

In Ancient Greek, IE labio-velars turned into dentals before front vowels. The change only affected the place of articulation, voicing and aspiration properties remained constant. The most accepted and most likely course of events was as follows: the secondary labial articulation became a front (coronal/palatal) secondary articulation, that is, a palatal [^{j}]. This palatal [^{j}] palatalized the velar to a palatal stop (or affricate), which later simplified to a plain dental stop. Rix (1976:87) has the following chronology for $*k^we$ > te: $[k^we] > [k^{wy}e] > [k^ye]$ $> [k^śe] > [t^śe] > [te]$. Although this may not be the only logical possibility (and the reduction of a palatal affricate to a plain stop is slightly problematic), one different approach at least can be refuted. It could be argued that in this change the labio-velars lost their labiality and palatalized, as is often the case diachronically (see satem languages where IE plain velars and labio-velars merged into plain velars), and it was these palatals that simplified to plain dentals /t d t^h/. There is an objection against this course of events, namely that plain velars did not palatalize before front vowels (Ancient Greek is not a satem language; *cf* Beekes 1995:110, too) meaning that only the labio-velars show the phenomenon above, plain velars do not. There would be no way to keep these sets apart. This Ancient Greek change is a true case where a plain dental incorporates palatality.

Henderson (1985:20) cites a change from Vietnamese dialects which is similar enough to what has been presented from Ancient Greek, this time at the end of words, however. "In Southern Vietnamese the fronting of the [final] velar appears to have carried it all the way to merge with final –t, while there has been marked centralization of the vowel itself…" This indicates a process where a final velar became "front" (that is, dental/coronal) with concomitant centralization of the preceding vowel. Unfortunately, it does not appear from her description whether this process is restricted to velars after front vowels only or is a

general change to all final velars irrespective of the preceding vowel. Of course, if it is so restricted, then there is direct motivation for the fronting. If, however, there is no motivating environment, it would be hard to explain why a velar has started to become front. This scenario is, therefore, less plausible.

It might be interesting to note that the typical change in many Mandarin (such as Kunming Chinese) varieties where retroflex sounds turn into alveolars is described as fronting. For Kunming Chinese, Gui (2001:72) describes a change where retroflex intitials in Old Kunming Chinese become alveolars in contemporary Kunming Chinese, and he uses the feature [back] for retroflexes and [front] for alveolars.

These examples merely intended to show that there are cases beyond simple palatalizations where coronality can meaningfully be analyzed as frontness (palatality). The aim was simply to draw attention to these phenomena and to encourage further investigation in this area.

6 Conclusion

This paper intended to review some theories as for what they hold about the representations of segments, especially coronal and velar segments. First, it was pointed out that the essential insight for the view the velars lack a place defining element of their own can be found in classical generative distinctive features. Then it was shown that Clements and Hume's feature geometry model is not incompatible with the view that "coronality" is not unique to consonants and also that coronals can be meaningfully associated with frontness. Finally, government phonology was reviewed as for its claim that velars are "empty" and that coronals actually have some place defining element. One view is that coronals are headed by {h} which is not even a place element. The most wide-spread view, however, is that coronals have something to do with A, "lowness". It is right to say then that there is no universal agreement that coronals universally lack a place of articulation. Lowness or even frontness, for instance, seems to be a suitable feature to represent coronals.

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