One of the fundamental parts of segmental phonology is the investigation of the types of laryngeal contrasts which can be made among series of obstruents. While there has been some considerable work in this area, there is still substantial disagreement as to precisely how such contrasts should be accounted for in phonological theory. This paper, for the first time, brings some important but relatively little-known data from phonological change to bear on one major debate in this area, to argue that the subsegmental units that are required to make such contrasts are a small class of simple privative primes, which can be put to use variously in languages in order to make the different types of contrast which are found among languages. The data concerns two substantial changes which have occurred in non-standard varieties of German and English. The set of subsegmental primes (‘features, elements’) used is basically that which has found quite widespread acceptance in phonology since Lombardi (1991), and is, I argue, in essence, the same as that proposed on independent grounds in Harris (1994) and Jessen (1999).

It is uncontroversial that more than one such unit is required in order to be able to characterise the contrasts in languages with more than two series of obstruents, such as, for example, /p, t, k/, /b, d, g/ and /pʰ, tʰ, kʰ/ (as in Thai), or /p, t, k/, /pʰ, tʰ, kʰ/ and /p', t', k'/ (as in Eastern Armenian), or /p, t, k/, /b, d, g/, /pʰ, tʰ, kʰ/ and /bʰ, dʰ, gʰ/ (as in Sanskrit).

Where only two such series occur, however, and where these segments are typically transcribed as /p, t, k/ and /b, d, g/, two main traditions have grown up as to how the subsegmental make-up of the segments should be phonologically characterised. This paper contributes to the debate between these two traditions through the interpretation of data from phonological change, which, I argue, can only be insightfully understood according to the assumptions of one of these traditions.

The debate between the traditions centres around whether the contrast between two series of obstruents should be characterised in exactly the same way or not in all languages. Key issues in this controversy relate to the fact that languages with two such series of stops (and this argumentation is at least partly transferable to series of other types of obstruents) differ from each other both in terms of the segments’ phonological patterning and phonological behaviour. Two linguistic sub-groupings can be recognised among the set of languages with two series of obstruents: ‘type A’ languages, including English and German, and ‘type B’ languages, including Russian and Spanish:

- in type A languages the ‘voiceless’ stops are aspirated, at least under certain circumstances, and the ‘voiced’ series show no evidence of spontaneous voicing, whereas in type B languages the ‘voiceless’ series are unaspirated and the ‘voiced’ series are typically fully voiced
- in type A languages it is typical to find assimilation to ‘voicelessness’ in clusters, whereas in type Bs languages it is typical to find assimilation to ‘voicedness’

The two phonological traditions of analysis of these facts are: (i) that the laryngeal contrast in both type A and type B languages is underlingly the same, and (ii) that the laryngeal contrast in type A languages is made using a different subsegmental prime to that which is used in type B languages. Tradition (i), associated, for example, with Keating (1984), might typically claim that the distinction between obstruent series is underlingly characterised by [+ voice] vs [– voice]; on this set of assumptions, all segments are characterised by an active laryngeal specification. In tradition (ii), associated, for example, with Iverson & Salmons (1995), the contrast in type A languages is made by an opposition of segments specified for privative [spread glottis] with segments with no laryngeal specification, and in type B languages by an opposition of segments with privative [voice] with segments with no specification; on these assumptions, both type of languages feature ‘plain’ stops which are laryngeally non-specified, but have been transcribed differently in different languages: as /b, d, g/ in type A and as /p, t, k/ in type B languages.

The two sets of data which forms the empirical basis of this paper are ‘the Inner-German Consonant Weakening’ (die binnenhochdeutsche Konsonantenschwächung - the ‘IGCW’) and the
'English Initial Fricative voicing' (the ‘EIFV’). The IGCW was first recognised by Lessiak (1933) and has since described by Russ (1982), who shows that it affected a set of segments in all phonological environments in a broad swathe of Central and Upper German dialects. The results of the IGCW can be seen in present-day non-standard dialect forms, as recorded in such dialect monographs, and can be represented segmentally as in (1):

(1)  
\[ p > b \quad t > d \quad k > g \]

The EIFV, described, for example, in Lass (1991-93) and Fisiak (1984) also characterises present-day non-standard dialects. Fisiak (1984) shows that the process affected the dialects of the whole of the South of England and parts of the West Midlands; it was likely innovated in late Old English or early Middle English and can be represented as in (2):

(2)  
\[ f > v \quad \theta > \delta \quad s > z \quad \mathfrak{f} > \mathfrak{z} \]

This process is typically claimed to have left no underlying voiceless fricatives in the resulting phonological system as intersonorant medial fricatives had previously been voiced in any case.

In this paper, I argue that tradition (ii) allows both the IGCW and the EIFV to be understood as a simple type of phonological change - the loss of [spread glottis] in the ‘voiceless’ series of obstruents. More importantly, I claim that the assumptions of tradition (ii) are vital to allow us to reconcile (a) the fact that the IGCW and the EIFV were innovated naturally as phonological processes into the phonology of languages with (b) certain fundamental assumptions of phonological theory.

This is because both the IGCW and EIFV processes, seem, on initial inspection, to be counterexamples to the generalisation (expressed, for example, in Hyman 1975) that no process could be innovated which would result in the voicing of all voiceless stops because it would lead to an “impossible” phonological system. This is because, according to widely held assumptions about segmental markedness, the existence of “/b, d, g/ implies /p, t, k/” (Hyman 1975, 17).

In the phonological systems of the dialects involved, there was only one series of stops left after the IGCW, and one series of fricatives after the EIFV, and yet these are transcribed as the ‘marked’ ‘voiced’ series. On the assumptions of tradition (i), the generalisation about segmental markedness is indeed disproven by the innovation of the IGCW and the EIFV as they would both involve the creation of phonological systems which had only one series of obstruents, specified as [+ voice]. Tradition (ii), however, allows us to maintain the markedness generalisation as (ii) provides the alternative that the stops and fricatives created by the IGCW and EIFV were laryngeal non-specified ‘plain’ obstruents, of the type which are typically transcribed as /b, d, g/ in type A languages and as /p, t, k/ in type B languages. Because the systems into which the IGCW and the EIFV were innovated were both type A languages, it is not surprising that the obstruents created by the innovation of the processes have been transcribed as /b, d, g/ and /v, \delta, z, \mathfrak{z}/.

Given this, I argue that the diachronic evidence which I present in this paper provides novel and important reasons which should lead us to accept tradition (ii) and reject tradition (i) as a means of characterising segmental laryngeal contrasts.

References: