/Vwl/ Systems

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This paper is an extension of Dinkin's (2013) proposal that /æl/ has merged to /awl/ in the Philadelphia dialect. He argued that

1. Philadelphian /l/ (phonetically varying between [ɫ ~ ɤ ~ o]), has replaced /w/ as the offglide target for /aw/.
2. This facilitated the merger of /æl/ to /awl/.

This paper extends this argument to /uwl/ and /owl/. On the basis of vowel trajectory data from the Philadelphia Neighborhood corpus (Labov & Rosenfelder, 2011, Rosenfelder et al, 2014), I argue that

1. /uwl/ has a different glide target from /uw/, and /owl/ has a different glide target from /ow/.
2. /uwl/ and /owl/ have the *same* glide target.
3. That glide target is probably /l/.

Examining average trajectories across apparent time, we can see that /uwl/ and /owl/ have always had a different glide target from /uw/ and /ow/. This is an especially striking effect for /uw/, resulting in a completely different trajectory through the formant space. Crucially, the glide target for both /uw/ and /ow/ appears to be a region of vowel space which is plausibly /ɤ/.

Importantly, this means that the the process affecting /uw, ow, aw/ can be generalized to one phonological process.

*   Vw → Vl / __l

This is probably not a new process to the dialect, nor is its entry into the grammar likely to be captured by the time depth of the PNC, since it was already reported by Tucker (1944) that *owl* and *Al* were "hardly distinguishable."

However, this process *does* interact with curvillinear front and backing of these vowels (Labov, Rosenfelder & Fruehwald, 2013), categorically blocking /uwl/ and /owl/ from participating. This is an important example of the interaction of phonology and phonetics in two ways. First, it displays how a phonological process interacts with phonetic change by blocking it. Second, it shows how phonological features do double duty by defining phonologically active sets of vowels (/uw/, /ow/ and /aw/ all under go the same phonological process), and sets of vowels that undergo a phonetic change.