Phonetic comparison, varieties, and networks: Swadesh's influence lives on here too.

While his eponymous basic vocabulary lists and the study of *language* divergence may be Swadesh's most appreciated legacies, he also took great interest in phonetics (e.g. 1934, 1935, 1937, 1941, 1947), and his techniques of lexicostatistics and glottochronology were as equally applicable to *varieties* as to separate languages (e.g. 1950, 1972: 19-20, 276-7). We demonstrate that phonetic quantification of varieties follows very much in the tradition of Swadesh's own work (see also Embleton (1986, 2000) and Heggarty (2000)). First, we draw these strands of Swadesh's work together, from his work on the vowels of English varieties (1947), to his "Mesh Principle" which captures more complex patterns of variety and language relationships than a simple bifurcating tree (1972: 285-92).

Swadesh's views on phonetic similarity in varieties are couched within the older isogloss system (e.g. 1972: 16). In the second part of our paper, we use a more recent phonetic feature methods with a subset of Germanic/English varieties from data in McMahon et al (2005-07). Our results have identified the great need for Swadesh's "Mesh Principle" to display the complexity of the relationships between varieties adequately. For example, though Standard American English and RP always achieve the highest percentage similarity scores across the different methods, the subset of words in which the rhoticity contrast (see Swadesh 1947) between these varieties is exposed behaves differently. Also, a subset of words with particularly retentive pronunciations pulls the Buckie variety away from Standard Scottish English and more towards a different language, High German. Such complexities are lost within methods which assign a single aggregate score of similarity between a pair of varieties. Through the separate use of very simple artificial data, we have demonstrated this and other problems with existing feature methods.

This work leads us to the final part of the paper, in which we attempt to extend to phonetics one proposal of great foresight from Swadesh. Within the context of inferring ancestral relationships, Swadesh outlined ways of assessing whether two languages were more similar than would be expected by chance (1972: 120). Yet outside of ancestry, what does it mean for two *varieties* to be more *phonetically* similar than chance? The percentage similarity scores between two varieties may not be fully interpreted until we can assess them against a baseline chance level. Just as contemporary methods from evolutionary biology can display the type of network models similar to what Swadesh envisioned for varieties in his "Mesh Principle", so too can we adapt techniques from this field (specifically those for testing for a phylogenetic signal) to the problem of inferring a chance level of phonetic similarity. This problem also requires us to remain linguistically grounded, through the incorporation of frequencies, phonetic typology and the lack of independence of phonetic features. We are working on these challenges currently. What we emphasise overall is that Swadesh's influence is palpable, even in domains outside those for which he is best remembered.

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