Title: Historical linguistics in schools: a problem-based learning approach

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Abstract:
Knowledge about language (KAL) is frequently cited as an important component of literacy strategies, but there is considerable debate about what that knowledge is, how it should be communicated, and how understanding of KAL should be assessed. At advanced levels in the English school system, the topic of language change is often a specified component of particular assessments of KAL (e.g. the AQA A-level in English Language has an area of study in which candidates "explore processes of language change") and assessment of classical languages involves specific questions on grammatical terminology (e.g. the OCR A-level in Latin has questions on "syntax and accidence"). As such, the curricula draw on concepts from approaches to both diachronic linguistics and the synchronic analysis of older languages.

More recently, new incentives to encourage a deeper understanding of how language works have been made available to British schools. One of these is UKLO, the United Kingdom Linguistics Olympiad, a national competition for school children in which they have to solve linguistics problems, typically involving an unfamiliar language. Problems in the UKLO competition have involved puzzles about historical linguistic data sets, focussing on e.g. reconstruction and early writing systems. As one of the science Olympiads, UKLO has clear overlaps with the British Mathematical Olympiad (BMO), especially in that they have both involved problem-solving and enquiry-based learning over small data sets.

In this talk, we report on a project at the University of Edinburgh designed to enhance children's capacity to think like mathematicians and linguists. In doing so, we intend to address the fifth question posed by the workshop organisers, i.e. 'In general, does (or can) historical linguistics contribute to the reinvention of language courses at schools among more scientific lines?' We focus particularly on puzzles we have created on historical themes (e.g. a number system used by Cistercian monks, runic transcriptions, introducing the comparative method using mathematics-related datasets such as numerals) and show how such puzzles serve a number of educational purposes. At a subject-specific level, they provide opportunities to introduce complex historical concepts (e.g. sound change) in an engaging way, and offer ways of exploring connections between language families that may not be immediately apparent in the modern language classroom. They also encourage abstract thinking at a cross-linguistic level (e.g. grammaticalization of gender systems across languages spoken in Europe). At a more general level, they develop problem-solving and lateral thinking skills which transcend traditional discipline boundaries (e.g. by looking at how historical and contemporary writing systems involve patterns of rotation and reflection, it is possible to see how an understanding of language links to mathematical concepts).