Visualizing complex data and working with visual data representations of multivariate data

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The world is a complex place, and to describe almost any interesting aspect of the world adequately requires multivariate data, or at least a number of related univariate data sets. A collaboration between the House of Commons Library and the SMART Centre and Nomis in Durham University, has developed a variety of open-source, interactive, data visualizations which display a wide range of social, health and demographic variables at the parliamentary constituency level in the United Kingdom. This paper presents contrasting data visualizations; some provide a rich resource of fine-grained evidence to support informed debate in relation to key election issues, and some create a game environment to provoke interest and social engagement around local 'facts'. We outline key design features of the interfaces and the underlying motivations, and describe how they have been used by different groups within the political arena – politicians, journalists in print and TV media, and the public. We discuss opportunities for different sorts of engagement with data by different groups, some of the associated design issues, and some implications for the working practices of data providers.