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The Geometric Data Analysis and Correspondence Analysis Platform: New Potential and New Challenges, including Ethics, of Big Data Analytics

The central themes here are data aggregation and the inclusion of context. These are for focus of analytical exploration and investigation. These themes are also for technical and computational reasons. However, we seek to ensure that such aspects will always be subordinate to our analytical objectives. Newly emerging ethical issues are noted, whereby the individual is subordinate to the aggregated groupings.

At issue in the various case studies are the following, which, for the most part, encompass both qualitative and quantitative perspectives: (i) using taxonomies or ontologies or conceptual hierarchies in narrative studies and in performance and trend monitoring that is providing a basis for decision support; these are giving rise to resolution or scale in the analysis; (ii) using convergence and consolidation of processes for analyzing impact; (iii) focus and context in social media data analytics; (iv) large scale surveys and multiply sourced survey data, with relevance to calibrating outcomes and findings, and also, separately, with relevance to addressing potential bias in outcomes; (v) finally there is discussion of what should constitute the main orientation of the analytics and what should constitute context for such analytics.

Primarily underpinning all of this work is the geometry and topology of data and associated and derived information, in particular tree topology defined by hierarchical clustering.

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