Proposal for NKOS 2007 workshop:
Submitted under the head 'Terminology for language-oriented applications'

Facet analysis as a fundamental theory for structuring subject organization tools

The presentation will examine the potential of facet analysis as a basis for determining status and relationships of concepts in subject based tools using a controlled vocabulary, and the extent to which it can be used as a general theory of knowledge organization as opposed to a methodology for structuring classifications only.

Context and purpose
From the beginnings of the world wide web, 'conventional' library classifications have been tested as web organizers, but have generally been rejected because their rigidity and the level of pre-coordination of concepts makes them inflexible and unresponsive to changes both in subject domains and in user needs. There has been relatively little attention paid to the alternative, the faceted subject terminology.

Many disseminators of information on the web are aware of the ideas initiated by Ranganathan and with the basics of facet analysis. However, few seem to realise the full range and potential of faceted techniques for structuring subject fields, and in particular for determining a variety of inter-concept relationships. The faceted classification scheme is in effect only one face of the faceted terminology which, if accurately constructed, can be output in other formats. Current work on the Bliss Bibliographic Classification (BC2) is looking at the requirements for semi-automatic conversion of the classification format to thesaurus display, and the creation of software for managing the conversion and display.

Methodology
This process is effective because of the underlying conceptual structure of the faceted system. The rigorous analysis of terms clearly identifies a substantial number of relationships between them. These relationships embrace the conventional broader term/narrower term relationships of the thesaurus, but also permit more detailed specification of a variety of types of associative relationships. Unlike most automatically built subject tools and website retrieval systems, facet analysis allows for the specification of non-entity categories, such as process and operation, and for the combination of categories in a predictable manner. Facet analysis also supports a clear distinction between permanent (intra-facet or semantic) relationships and relationships occurring in compound subjects (inter-facet or syntactic) relationships.

Findings
Despite this, conversion using existing BC2 vocabularies is difficult because the element of vocabulary control is lacking in these strictly conceptual systems. Meaning is often dependent on context, and more thought needs to be given to the 'naming' of concepts, if the interdependence of the conceptual and verbal (what Ranganathan would call the Ideas Plane and the Language Plane) is to be realised. It is necessary therefore to provide rules for formatting of concepts in the classification.

As well as providing a strictly intellectual basis for building the vocabulary, it is helpful for retrieval purposes to be able to represent the relationships in a form that can be managed automatically. Recent work on the FATKS project at University College London showed that essential features of a faceted system can be represented in a database, and that if the analysis is sufficiently strictly controlled, some measure of automatic indexing of complex subjects can be attempted. In this situation control is exercised by the use of encoding (notation) of concepts which avoids some of the problems described above.