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Developing facets in UDC for online retrieval

The Universal Decimal Classification (UDC) is a KOS used by libraries and other institutions in many countries across the world. Created in early 20th century by Paul Otlet and Henri Lafontaine, it has been subsequently developed in many ways, and is currently maintained by an international consortium. The way UDC is designed makes it especially suitable for indexing and retrieval in the digital environment, as each concept is usually expressed by a fixed notation that can be combined with others to build compound subjects. One way to do it is by a relationship between two concepts taken from different main classes, that is expressed by a colon between their numbers.

Recent developments of UDC are focused on the revision of main classes according to the principles of facet analysis. A study has started in 2009 aimed at producing a faceted revision proposal of class 1 "Philosophy". To this purpose, an Italian working group is discussing the requirements of an updated classification of philosophy. Some facets specific of philosophy are identified, like branches, periods, viewpoints, methods, etc.

One question raised by the working group concerns the coding of special philosophies, like "philosophy of law" or "philosophy of science". In UDC these are currently expressed by colon relationships, like 5:1 "science in relation to philosophy". However it has been noticed that this is different from "philosophy of science", as the colon relationship itself does not express the kind and direction of the link between the two concepts. Instead such function can be performed by facets, which express the typical specifications of a class by several aspects.

Foci in a facet can be defined either within the class itself, like in "philosophy, from viewpoint: dualism"; or in some other main class, like in "philosophy, about topic: science". Here the notion of science is not taken from inside the schedule of philosophy, but from another main class. Such extra-defined foci [Gnoli 2006] should be distinguished from colon relationships. At the same time, the notation 5 for "science" should be kept distinct from that for the viewpoint facet 1-7, so to make the concept of "science" retrievable by automatic searches independently from the context in which it occurs.

Notational solutions are discussed, aiming at (1) allow for automatic parsing of concepts, (2) identify appropriate nesting of phases and facets, (3) keep the complexity of notation within an acceptable limit. Although the last purpose conflicts with the other two [Austin 1979], solutions are studied to maximize the effectiveness of indexing and retrieval. These can suggest more general considerations concerning facet and phase relationships in KOSs, and their management in future UDC development and applications.