

Brief Description of Interests and Goals

I was trained in the History and Philosophy of Science at the Warburg with A.I. Sabra and Sir Ernst Gombrich. After the doctorate I spent over 15 years of post-doctoral work on research focussed on the history of perspective, Leonardo da Vinci and the history of universal measuring instruments (sector, proportional compass). This work on one word, one man and one object brought me to the limits of knowledge in these fields and provoked to think about new methods of knowledge organization. For the past five years I have been scientific director of the Maastricht McLuhan Institute which was closed to lack of funding.

I began writing on these problems in 1980, was put in contact with Dr. Ingetraut Dahlberg via Professor Toellner, joined the Gesellschaft für Klassifikation (1982); subsequently joined ISKO, edited one of the first numbers of Knowledge Organization devoted to visual knowledge (1993), and developed a prototype System for Universal Media Searching (SUMS). This represented Canada at the G7 meetings in Brussels and Halifax (1995) and as one of 4 demos for G7 Pilot Project 5: Multimedia Access to World Cultural Heritage (Midrand, 1996). A demo is available at www.sumscorp.com. The system as it exists is only a hint of what is planned. What sets this work apart from most other work is that the approach is defined by a scholar in the field rather than as a theoretical plan by a computer scientist without specific knowledge qua problems of content and method.

Philosophically my work offers a challenge and alternative to work on the semantic web as practiced today, and offers a vision for new kinds of digital libraries, topics on which I have published at length.¹ The approach of the W3 Consortium follows the approach of Sowa and uses semantic in the sense of semantic primitives, namely, existence, coreference, relation, conjunction, negation. They ignore distinctions made in the fields of classification and knowledge organization qua specific kinds of relations (e.g. Dahlberg, Perreault). Ultimately the quest of the W3 is to arrive at truths that can be proven or rather to deal only with knowledge, which is assumed to be completely true. This is very useful for purposes of business transactions. But a transaction web is not yet a semantic web, if we use the “recent” term semantics (introduced in the late 19th century) in its original sense as the science of meaning.

The vision has five fundamental features:

- 1) In terms of access we need multilingualism in a new sense: not just databases in multiple languages but so arranged via standard names such that a Hungarian can type in a title in their language and arrive at the standard title in the original language. This implies a new approach which acknowledge authority files and includes variant names as an integral part of search engines. A concrete example can be seen in the perspective bibliography if one types in A fest under What at <http://sumscorp.com/develop/> and then clicks on Standard title.
- 2) Unless we link words, terms and concepts with their definitions, we cannot pretend to know what they mean. Hence, the vision is to create virtual reference rooms which will give us systematic evidence to reference works (dictionaries, encyclopaedias, bibliographies etc.) which are so aptly called the *Handapparat* in German.
- 3) Roughly a century ago Otlet and Lafontaine began the process of systematic access to secondary literature. Needed are further distinctions in this category. New work towards

automatic citation indexes (e.g. the HyperNietzsche and Hyperjournal projects) offer elements that need to be included. This will lead to a more nuanced view of digital libraries.

4) Digital libraries are about enduring knowledge. The electronic revolution is introducing much in terms of personal and collaborative knowledge, of which only subsets will eventually become part of our enduring knowledge. This calls for virtual agoras which enable scholars and workers to explore and share personal and collaborative knowledge.

5) In the sciences, the claims to truth are maintained at least rhetorically. In the humanities most claims cannot be absolutely proven. Good scholarship is measured in terms of the care in formulation, in the quality of sources, in the extent to which claims are supported or defended. In this context we need to develop new tools qua directness of links; degrees and levels of certainty; the weight of the authority cited and significance.²

Each of these features could be a lifetime's work. Features 1 to 4 have a strong practical dimension and lend themselves to pilot projects. Feature 5 is the most obviously research dimension. If Europe is to develop its own approach to knowledge organization, or more accurately to keep intact and integrate in new technologies the subtle approaches that it has developed, then major projects will eventually be necessary. If Berlin positions itself, it could play a significant role in the vision for a new European Library as outlined a few months ago by Viviane Reding.

If the framework at Berlin is sufficiently ambitious qua funding and space then it is likely that I shall be able to reacquire the library of Frau Dahlberg which could serve as a superb theoretical underpinning for the work ahead.

Notes

¹ See for instance: "Towards a Semantic Web for Culture," *JoDI (Journal of Digital Information)*, Volume 4, Issue 4, Article No. 255, 2004-03-15. Special issue on New Applications of Knowledge Organization Systems.

See: <http://jodi.ecs.soton.ac.uk/Articles/v04/i04/Veltman/> . Cf. also my forthcoming book: *Augmented Knowledge and Culture*. See: <http://www.sumscorp.com/kavai/newmedia/>

² These problems are discussed in an article in press in *Progress in Informatics*:

http://sumscorp.com/articles/html/2005_Access_Claims_and_Quality_on_the_Internet_Future%20Challenges.htm