Scharnhorst, A., & Smiraglia, R. (2013). Evolution of Classification Systems. Advances In Classification Research Online, 23(1), 56. doi:10.7152/acro.v23i1.14264

Lightning Abstract

Evolution of Classification Systems

Andrea Scharnhorst and Richard P. Smiraglia

The question of how to order our knowledge is as old as systematic acquisition, circulation, and storage of knowledge. Classification systems are known since ancient times. Web technologies foster self-organized knowledge production and folksonomies are pictured as counter examples to expert-based designed knowledge ordering systems, such as library classifications or domain-specific ontologies. However, a closer look into the structure of user-generated content (e.g., the category system of Wikipedia) and its temporal evolution reveals surprising similarities to more traditional classification systems. In related work we have used evolutionary analysis of the *UDC,* treating it as a stable reference system over against the volatility of the knowledge landscape represented by the constantly shifting knowledge network in Wikipedia (Akdag Salah et al. 2011; Scharnhorst et al. 2011). We also have used the UDC as a case study in ontogeny to demonstrate the instantiating evolutionary tree of the UDC over time (Akdag Salah et al. 2012), reflecting the socio-cultural knowledge landscape of the 20th century in which it developed. We see KOSs functioning like artificial languages to describe information objects in a controlled way, rather than as hierarchical trees designed to allocate documents. In this manner both the user-generated category system of Wikipedia and stable reference classifications give evidence of gradual evolution of intension over time as lexical content mutates rather than sudden or jarring theoretical shifts in base knowledge. In this talk we feature work done to visualize the evolution of classification systems, to compare them and to develop new interfaces to collections that make use of available metadata, including classifications.

References

Akdag Salah, A., Gao, C., Suchecki, K., and Scharnhorst,A. 2011. Need to categorize: A comparative look at the categories of the Universal Decimal Classification system (UDC) and Wikipedia . Leonardo 45 (1) 2012: 84-85. Preprint available at arXiv:1105.5912v1 [cs.DL]

Akdag Salah, A., Gao, C., Suchecki, K., Scharnhorst, A. and Smiraglia, R.P. 2012. The evolution of classification systems: Ontogeny of the UDC. In Neelameghan, A. and Raghavan, K.S. eds., *Categories, contexts and relations in knowledge organization, Proceedings of the Twelfth International ISKO Conference, 6-9 August 2012, Mysore, India*, pp. 51-57. Würzburg: Ergon-Verlag.

Scharnhorst, A., A. Akdag Salah, C. Gao, K. Suchecki, and Smiraglia, R.P. 2011. The evolution of knowledge, and its representation in classification systems. In Salvic, Aida ed., *Classification & ontology: formal approaches and access to knowledge , Proceedings of the International UDC Seminar, The Hague, 19-20 September 2011*, pp. 269-282. Würzburg: Ergon-Verlag.

ISSN: 2324-9773