Data publishing – visions of the future

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This poster describes future scenarios of information infrastructures in science and other fields of research. The scenarios presented are based on practical experience resulting from interaction with research data in a research center and its library, and further enriched by the results of a baseline study of existing data repositories and data infrastructures. The baseline study was conducted as part of the project "Requirements for a multi-disciplinary research data infrastructure (Radieschen)", which is funded by the German Research Foundation (DFG).
Current changes in information infrastructures pose new challenges to libraries and scientific journals, which both act as information service providers, facilitating access to digital media, support publications of research data and enable their long-term archiving.
Digital media and research data open new aspects in the field of activity of libraries and scientific journals. What will a library of the future look like? Will a library purely serve as interface to data centres? Will libraries and data centres merge into a new service unit? Will a future library be the interface to academic cloud services? Scientific journals already converted from mostly print editions to print and e-journals. What type of journals will emerge in the future? Is there a role for data-centred journals? Will there be journals to publish software code to make this type of research result citable and a part of the record of science?
Just as users evolve from being consumers of information into producers, the role of information service providers, such as libraries, changes from a purely supporting to a contributing role. Furthermore, the role of the library changes from a central point of access for the search of publications to an important link in the value-adding chain from author to publication.
Journals for software publication might be another vision for the future in data publishing. Software forms the missing link between big data collected by experiments, monitoring or simulation. In order to verify the results presented, a paper should also report on the process of data analysis applied to the data sets stored at data centers. In this case data, software, and interpretation supplement each other as a trustworthy, reproducible presentation of research results.
Another approach is suggested by researchers of the EU-funded project "Liquid Publications" (1). Instead of traditional publications the researchers propose liquid journals as evolving collections of links and material, and recommend new methods in reviewing and assessing publications.

Another point of interest are workflows in data publication. The commonly used model to depict the data life cycle might look appealing but does not necessarily represent reality. The model proposed by Treloar et. al. (2) offers a better approach to depict transition of research data between different domains of use, e.g. from the group domain to the public domain. However, several questions need to be addressed, such as how to avoid the loss of contextual information during transitions between domains, and the influence of the size of the data on the workflow process.

This poster aims to present different scenarios of the future – from the point of view of researchers, libraries and scientific journals and will invite for further discussion.

(1) LiquidPub Green Paper, https://dev.liquidpub.org/svn/liquidpub/papers/deliverables/LPGreenPaper.pdf

(2) Treloar, A., Harboe-Ree, C. (2008). Data management and the curation continuum: how the Monash experience is informing repository relationships. In VALA2008, Melbourne, Australia. Retrieved from http://www.valaconf.org.au/vala2008/papers2008/111_Treloar_Final.pdf