Committed to Science

– Scientific publishing in the web age –

DRAFT

Members of the Open Science Community

Abstract

About this project:

- This file serves the collaborative drafting of a project proposal on an **Encyclopaedia of (and GitHub for) science**, as explained in this blog post. The .tex file was started by pasting below the leftovers from the drafting of the above blog post. We then turned this into LaTeX format and continue drafting that way (cf. version history).
- Unless something is clearly marked as being imported from elsewhere, all of this text is licensed CC0/Public Domain, while the LaTeX code is available under the LaTeX license, with the origin being the Elsevier article bundle for the .cls file and Copernicus for the .bst file .
- You can **get involved**.
- **Submission of the proposal is anticipated for the end of July, 2011**.

The real abstract, or at least some potential phrasing for it: One of the basic rights of society is universal access to knowledge. Information can be transformed into useful knowledge when it is accurate, up-to-date and freely available. Scientific knowledge is at the core of social and community development, but access to up-to date information is limited for those outside narrow academic circles. Even those of us who do have access to the published information are limited with respect on how we can reuse it to maximise the social impact of scientific findings. These limitations result from restrictive formats and licencing terms that characterise traditional scientific publication systems. Our ultimate objective is to place the existing openly licensed scientific literature where it can become dynamic and where it can facilitate public discussion and outreach. We want these formats to be compatible with the needs to:

1. record science as it happens
2. review how it happened
3. review the interpretation of the results
4. identify gaps in knowledge, infrastructure or methodology
5. lay the ground for further research
6. stimulate public engagement
7. deliver useful outcomes in local and global communities

Key words:
Science as a wiki, GitHub for science, open access, Creative Commons, defragmentation of science, version control, digital encyclopaedia, digital collection, digital museum

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Contents

1. Introduction

1.1. Science as we know it

Scientific research consists of collaboratively exploring and pushing the boundaries of human knowledge through well-documented and contextualized sets of observations. The newly acquired knowledge is shared with the scientific and wider community through published reports, usually in scientific periodicals. In most areas of science, these reports take the form of 'complete stories' that describe a series of experiments that contribute a relatively complete picture of the new findings by reporting on sets of experiments that complement each other. One consequence of this mode of reporting is that the data that is being generated (and the knowledge that can be derived from them) are not made known until the entire set of experiments are completed and formally published. In some instances, the process of producing a 'complete' paper can take years. There are several consequences of this ubiquitous practice:

1. while scientific knowledge within a research group grows in small continuous incremental steps, the community outside the research group does not gain access to that knowledge until the process is completed.
2. unaware of the existence of those intermediate steps, research groups end up duplicating work, quite possibly in a way that is less efficient than if the relevant groups would have worked together.
3. data that has been generated but may not be justifiably included in a scientific report (because it does not contribute to the overall 'story') does not get published and remains unknown to the wider community.
4. the costs of this orphaned data are burdened upon the funding agencies, and indirectly, upon taxpayers.
5. the narrative of scientific publications (especially as they continue to increase in number) becomes highly redundant, layering unnecessary burdens on the scientists' time occupied with 're-writing' text for publications, that in themselves, do not constitute new knowledge.
6. The sequence of steps leading to a formal publication (writing, peer review, revisions, copy editing) further delays the availability of the work from its completion to the published state.

7. Once published, further modifications to the work that may be suitable due to new results cannot be incorporated into the existing work without going through an new cycle of publication.

Research publishing can be therefore best described as the business of providing low-resolution snapshots of these steadily evolving processes. Scientific publications in themselves become poor containers of knowledge because they do not reflect the granular nature of the scientific process nor do they allow further contributions to or enhancements of the original work.

The prevailing structure of scientific publishing has seen few changes since its origins in the mid-17th century. At this time, communication between different parts of the globe was characterised by long time delays. Scientific publishers offered the advantages of the printing press to overcome some of these limitations. In 1665, the Royal Society of London began publishing the Philosophical Transactions (Spier 2002). The creation of the journal by Henry Oldenburg not only let findings be known, but established a system (and culture) of attributing the new knowledge to its creators. In the words of (Guédon, 2001):

> In short, the Republic of Science claimed the right to grant intellectual property to scientific "authors" and Phil Trans was its instrument of choice.

Since its early inception, the printed format has continued to offer widespread dissemination of results and, in the process, strengthened its role in the adjudication of prestige. As the assessment values shift from the data (the currency of science) to the paper (the currency of publishers) (Dobbs 2010, Mietchen et al. 2011) and as the number of research groups increase, so inevitably does the number of articles.

> The number of scientific papers, since about 1750, has multiplied tenfold every 50 years. The number of abstract journals has multiplied tenfold since 1880, every 30 years. The number of computer indexes to the scientific literature, since 1950, has increased tenfold in every ten years. Where will this exponential increase stop? (Glass, 1972)

The number of scientific publications has increased from the few hundreds published in 1774 to a projected 50 millions by the end of 2008 (Jinha, 2010). It is therefore not surprising to see a high degree of redundancy between different articles, in particular in the introduction and results sections (Mietchen et al 2011).

Science is also characterised by multiple almost simultaneous discoveries (Merton 1957, 1963). This multiplication of efforts is achieved at the cost of time spent re-inventing the narrative wheel instead of in producing original research. Further, in a climate where publishing in "high impact factor" journals is a priority (and given that these journals only publish "novel" findings on a first-come-first-serve basis) researchers find themselves trying to balance the ethos of scientific openness and collaboration and the need for secrecy prior to publication. Some of these issues could be ameliorated by alternative publishing models that allow new data to be incorporated to existing published artifacts and that provide appropriate author attribution.

Researchers have historically been early and eager adopters of new technology, especially when it accelerates the gathering or analysis of data, that is, when it increases productivity. In contrast, the publishing system has remained virtually unchanged since its inception. Scientific publications have not shown much innovationAside from the possibility to publish media (e.g., audio and video) that cannot by its very nature be published on paper. Fundamentally, despite the new possibilities associated with web 2.0 tools and the rise of social networks, how readers interact with the published article article (and how the authors interact with the readers) remains intact.

The 21st century has seen a rise in the number of researchers that reflect upon whether science is best served by continuing with traditional publication practices. How can we retain the value of the process of scientific communication and peer review but also take advantage of the technology that has the potential of accelerating (and enhancing) the way in which scientists communicate their results? We have successfully embraced the use of technology to accelerate the generation of data but lagged behind in adopting it to accelerate the communication of these results.

The role of pre-publication peer review is to quality filter that which gets published, and is therefore a way in which to associate the published work with a certain degree of credibility. With increased number of

publications, the burden on individual researchers (who provide this service free of charge) has also increased, and with the increase in multidisciplinary science a challenge has been set as to whether an individual reviewer is able to fully review the variety of techniques that are usually included in multidisciplinary research. By placing the literature in collaborative environments, we are able to offer post-publication peer review where an open discussion can be had with contributions of experts of small granular aspects of the whole document.

Distribution of the scientific literature in the form of an individual paper in a journal continues to depend on print, but most journals also have online and/or pdf ways of distributing the work. Articles are given a digital object identifier and are indexed in subject-specific databases (such as PubMed, Science Citation Index, Scopus, etc). These databases (and sometimes the journals websites themselves) provide an efficient way of making the published work discoverable by individual researchers and provide links to citing articles and in some cases the reference list of the article itself, even when the article itself is only made available behind a paywall.

But the online version of articles does not have much added value from the printed versions:

1. Corrections cannot be made directly on the article
2. Specialists identifying flaws with the methodology are unable to share their views through comments
3. New interpretation of the data based on new findings cannot be incorporated

We propose that placing articles in online formats that allow the above to happen can:

1. Prevent the disemination of erroneous facts that arise from typos or omissions
2. Clarify methodological issues that may be inadequately or incompletely represented in the article
3. Challenge the validity of the articles through post-publication peer review
4. Allow the incorporation of orphaned data from other groups that may enhance or contribute to the published article
5. Incorporate new findings to the interpretation of the presented results (i.e., continuous updating)

Once the articles are placed in these dynamic formats they can become living documents that work in parallel with the scientific community. At the moment, any enhancement (or criticism) of any article continues to occur at lab meetings, journal clubs, etc. These online platforms would allow to have these open discussions regardless of geographic or temporal barriers, and the results of the discussions can become available to the scientific and general audience.

In a more general sense, these platforms have the potential of benefiting not only the articles and the scientists who benefit from the individual findings. There are several uses for such aggregates that can potentially have a wider impact. Health articles about specific regional diseases can be translated and delivered to the local communities where they will have their most impact General articles can be enhanced by accompanying plain English summaries that can be used by science reporters and educators as OERs.

Museums could use these articles to link to them enhancing digital collections.

1.2. Science in the age of the interactive web

Every step within the research cycle can in principle be published, not just the “final” result.
The project aims at a bit of all of these:

- Encyclopaedia of original research
- Science as a wiki - i.e. collaboratively updatable database of interlinked articles
- GitHub for Science - distributed version control
- CC-BY - reusably licensed; forkability
- Lab notebook - science as it happens, rather than ”scientists found out”

Perhaps best to use the above shorthands as titles for the subsections of the aims and goals section?

1.2.1. Encyclopaedias

- Encyclopaedia Britannica, Wikipedia, Scholarpedia
- review articles

1.2.2. Lab notebooks

- OpenWetWare

1.2.3. Version control

- Centralized version control (SVN, CVS)
- Distributed version control (GitHub, Mercurial, Bazaar)

1.2.4. Collaboratively editable databases

- most wikis, especially Wikipedia
- many scientific databases, like GeneBank
- Images from PMC OA subset already being uploaded to Figshare (recently reviewed by (Singh, 2011))

1.2.5. OA-to-wiki export

- images and taxon treatments from ZooKeys/ Plazi to Species ID and Wikispecies
- images from PMC to Figshare

1.2.6. Semantic enhancement

- Semantic MediaWiki

1.2.7. Reputation system

- StackOverflow

1.3. Notes

Room for "fishing expeditions" (data-driven research not directed at particular hypotheses; cf. (Botstein, 2010)) in addition to hypothesis-driven research

2. Aims, goals and objectives

See also the draft over at Species ID

2.1. Turning science into a wiki to make research communication more efficient

We want to render scientific information more efficient by adapting it to the age of the Web. Specifically, we want to explore the potential of openly licensed scientific information to provide a basis for systematic reuse both within and beyond research contexts.

2.1.1. Encyclopaedic structuring of knowledge instead of flood of journal articles

"So what would you rather havesomething checked by three experts over six months to a year, or something checked by 1,727 people in the first 100 hours? [..] Also remember that the refereed journal article is fixed at a moment in time, and beyond that any errors or new developments arent included." - see also this comment

early mention of "science as a wiki"

2.1.2. Collaborative updatability

2.1.3. Forkability

2.1.4. Contextualization of research findings

Paves the way for **Journal of Research Proposals** (demo) and **Journal of Science Contests**

2.1.5. Semantic enhancements

2.1.6. Reputation schemes compatible with collaboratively edited versioned documents

See this blog post

2.1.7. Major hurdles to overcome

Traditional publications do not reflect (nor have they room for) the continued updating and revising of the published material. This contradicts the nature of science where ideas and results are under constant revision and where interpretation of results are adaptable to new findings.

Furthermore, even if research communication would take place in a versioned encyclopaedic environment as envisaged here, integration of non-versioned legacy publications still provides a number of challenges, even if they are already digitized and their data made available.

2.2. Illustrating the potential of open licenses for reuse in new academic contexts

Re-use as a measure of impact "When PubMed Central has permission from the copyright holders, it makes articles libre OA and allows bulk downloading. It calls this the Open Access Subset of PMC. http://www.ncbi.nlm.nih.gov/pmc/tools/openftlist/ But only 10% of PMC belongs in the libre OA subset. The other 90% is gratis OA, not libre, and PMC is obliged by the rights-holders to block bulk downloading. (Thanks to PMC's Ed Sequeira for these details.) Because BioMed Central offers libre OA to its whole corpus, it can offer its whole corpus for bulk downloading. http://www.biomedcentral.com/info/about/datamining/ In this sense, libre OA removes custody barriers that gratis OA may leave in place. The difference between gratis and libre OA isn't limited to permission barriers; permission barriers can create downstream possession and custody barriers."

2.3. Illustrating use cases of open scientific information beyond scholarly contexts

2.3.1. Medical information for rural areas in the developing world

- openZim for slicing up wikis for offline use; see also Wikipedia's WikiProject Wikislice
- distributed version control via WikipediaFs (on something like GitHub)? The documentation states "For example, it would be possible to use WikipediaFS to perform a massive content migration from an existing site to a Mediawiki". See also other tools for using Wikipedia offline

Potential side project: FigShare/ GBIF-IPT for OLPC. Here, kids could upload images and sensor data as they explore their environment; sample case (summary) for possible scholarly reuse; biodiversity data could be ideal. Also relevant for #altmetrics.

2.3.2. Museums of the future

2.4. Documenting in public the process of writing a grant proposal

2.4.1. Collaborative drafting

2.4.2. Feedback from the public

3. Timeline

3.1. Notes

- Discussion of Gantt chart tools

4. Sustainability of the project

4.1. Sustainability of content

Key aspect: open licensing; starting with CC-BY. Also important: content curation.

4.2. Sustainability of code

Key aspect: open licensing; starting with the GNU General Public License (GPL) under which Mediawiki is available.

4.3. Sustainability of platform

the example of FigShare

4.4. Sustainability of proposal

The whole proposal has been drafted in public, so as to provide an example anyone can use to learn or teach about grant writing, to invite others to come up with similar proposals, to test the potential for public pre-submission peer review, and to stimulate the debate about doing science in the open.

5. Project team

5.1. Applicants

5.2. Partners

We have not defined any formal partnerships yet, but the following are amongst those we are considering:

- enspiral - partner for software development
- PubMed Central - content partner for seeding of the platform with content

6. Description of work

6.1. Work packages (subtasks)

6.2. Timeline

6.3. Deliverables

7. Resource requirements

8. Budget

9. Acknowledgements

People

Anyone who helped in one way or another

Tools

LaTeX, GitHub, Wikiversity, Species-ID, Google Docs, any other tools we used. Creative Commons, P2PU.

10. References

References

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Guédon, J.: In Oldenburg's Long Shadow: Librarians, Research Scientists, Publishers, and the Control of Scientific Publishing, in: Creating the Digital Future: Association of Research Libraries 138th Annual Meeting, Toronto, Ontario (Canada), May, pp. 23–25, URL http://www.arl.org/resources/pubs/mmproceedings/138guedon.shtml, 2001.

Singh, J.: FigShare, Journal of Pharmacology and Pharmacotherapeutics, 2, 138, doi:10.4103/0976-500X.81919, URL http://dx.doi.org/10.4103/0976-500X.81919, 2011.

11. Figures

- Call for ideas
- the research cycle in a classical variant (publication as the last step) and a web one (continuous publication of the progress of a project)

12. Notes from earlier stages of the drafting process

*Nice piece by David Dobbs about Jonathan Eisen's attempts to publish his father's papers online - could be cited on several points, including Knowledge Blog ("So what could be more fitting than to revamp science through a platform explicitly built to be revised, commented on, and updated?") and the four essential functions of science that are currently wrapped up in the scientific paper: registration, certification, dissemination, and preservation

Also cites Antonio Panizzi and mentions ADNI and Mendeley ("Many of the metrics and connections between papers arent accessible on the desktop, presumably because they require the servers data and processing power, and finding them on the web interface feels vaguely opaque.").

12.1. Possibly useful quotes

"Before the wiki revolution, each time science advanced a new generation would bring out a new generation of textbooks. With the wiki revolution the bits of your work that are superseded will be replaced, and as language changes other bits will be rephrased. But those of your words that are still valid for future generations are likely to be read long after other works have come out of copyright."

12.2. In focus: The encyclopaedia of original research

*Yesterday I asked one of my students if she knew what an encyclopedia is, and she said, Is it something like Wikipedia? . merging research projects, and linking them with each other as well as with the concepts and methods behind them.

¡del¿and with any info about the giants, on whose shoulders they have been built¡/del¿

¡del¿*Copying, forking (e.g. of this draft), ¡/del¿ ¡del¿*Mention "Science as a wiki" (including blog repository) and Wikis in scholarly publishing and "Towards threaded publications" ¡/del¿ ¡del¿;possibly embed Larry Lessig's talk at CERN, 18 April 2011 ¡/del¿ ¡del¿:Lessig's talk is licenced under CC-BY; could be used to highlight issues of license stacking and reuse, also with respect to the default license of the EOR¡/del¿

*EOR: earlier version

:comment on "Encyclopaedia" (incl. etymology/ kids; could go to the OLPC part), on it being open and on it being a federation of wikis

::::::¡blockquote¿"How cool would it be to fork articles, a la Github." - Jason Priem¡/blockquote¿

::::::¡blockquote¿"We need a GitHub of Science." - Marcio van Muhlen¡/blockquote¿

¡/del¿

12.2.1. Motivation

Including definition of goal. Follow SMART scheme.

12.2.2. Aims

12.3. Zooming in

Discuss what could become of the project ideas that won't end up in the final proposal, and how we plan to go about this decision.

12.4. Zooming out: Testing open vs. traditional science

*Do we need a ? (see also Panton Principles and Altmetrics manifesto)

*What online tools do scientists wish existed to facilitate their work?

:ORCID-coupled cross-platform reputation system

:see also this Nature News piece

12.5. Notes

12.5.1. Quotes

"See also Collection of "science as a wiki" quotes."

- Sandra Bajjalieh: "All of these issues, including the trend towards judging scientists on where they publish instead of what they publish, would be solved if NSF/NIH provided and serviced a highly searchable website onto which people posted results as they obtained them. Search engine capabilities make this entirely feasible. The following features would make the system far superior to the current one of publishing in journals. 1. The comments of interested readers would be added to the posting. Thus there would be peer review. 2. Additional data and revisions that respond to comments could be added. 3. Entry time stamps would solve any issues of priority. 4. The number of "hits" and downloads a link got (similar to the information PLoS One provides for each paper) could serve as a measure of it's interest. This solution is so obvious and the benefits so numerous (NIH program directors would have current updates of research progress, no more publication costs, the ability to imbed movies and animations....)that it's really difficult to understand why there hasn't been more of a move to implement it. Do we, as a community, really want a few people regulating the flow of scientific information?" (Sandra Bajjalieh)

- Paulo Freire: "At the point of encounter there are neither utter ignorance nor perfect sages; there are only people who are attempting, together, to learn more than they now know."

- Larry Lessig's talk at CERN, 18 April 2011: http://vimeo.com/22633948 (Lessig's talk is licenced under CC-BY) :"copyright is a regulation by the state intended to change a regulation by the market; it's an exclusive right, it's a monopoly right, a property right granted by the state which is necessary to solve an inevitable market failure." ... in a more colloquial nutshell by Alex Pasternack: Copyright isn't just hurting creativity: it's killing science :: Notes: If we get above the din of this battle is that both sides agree that copyright is necessary for creative works - There is a place for sensible copyright policy but, however, not only artists rely upon copyright. Publishers do too rely upon copyright - the economic problem for publishers is different from that for the artists. We've been fighting a battle where copyright is essential but not on science where copyright is not essential. There is a trouble that few see - How accessible is information for the public? What does it mean for info to be available on the internet? It is only freely accessible if you are part of the 'elite'. Here copyright is placed to benefit the publishers - not the authors - no author has a business model that is built around profiting from this copyright. Does this limitation serve any of the purposes of copyright? What is the publishers objective? To disseminate knowledge or to profit from it? ::JSTOR archive: has become increasingly criticized because of the cost involved in accessing the articles in the archive. ::Lessig asks: Can we do better? ::Open access self archiving movement ::Open access publishing movement: ::Some open is free (as in free speech) some open access is free as in you dont pay for it but other copyright rules apply. ::Science Commons: "broader strategy for producing the information architecture that science needs" as per the 4 principles of Open Science (check on site).

- Read write creativity / read-write communities

- "Sharing is at the core of the architecture of the net" ::Note by Claudia Koltzenburg: [by whom?] Barbara van Schewick points out: On the Internet architecture level, due to corporatism, "enclosures" are rampant. The principle of network neutrality that characterized the Internet in its beginning, thirty years ago, has been put at risk particularly by profit-making interests of network providers, observes

Barabara van Schewick. The effects of this amount to what economists who think in terms of traditional market economy would call a "market failure". Van Schewick holds that we (and the regulators) need to protect the factors that allowed widespread application innovation in the past (modularity, layering and the end-to-end arguments). These factors made for the openness at the core of the Internet until the early 1990s. Van Schewick recommends let users choose, and practice as much 'application agnosticism' as possible. Internet users today are mostly controlled by flatrate offers and application bundles that leave no alternatives to choose from openly. Van Schewick's argument says that users should indeed be allowed to get a sense of how much they need for what they want to do on the internet ?? and yet maintain a predictability of one's bills. – see Barbara van Schewick. Introduction. In: Internet Architecture and Innovation. Cambridge, Massachusetts/ London, England: MIT Press, 2010, 1-15. (see also Internet Architecture and Innovation) – ""'in this vein, what is the "flatrate" in academic/scholarly/scientific publishing today that lures into control?""' – Claudia Koltzenburg 12:12, 1 May 2011 (CEST)

- "In the academy [..] we need to recognise an ethical obligation [...] which is at the core of our mission which is universal access to knowledge." Entails: work needs to be free (this should be an ethical point) - We do not need (and should not practice) exclusivity about our work.
- models of access that block access except to a paying elite and discourages innovation.
- Dorothea Salo: "At the risk of sounding all commie and stuff: we work toward a collective openness, or we die off one by one as the business model sustaining us as well as publishers crumbles to bits."
- Douglas Rushkoff: As soon as a network is in the hands of policy makers and their funders, this network loses its power to effect change. His conclusion is: "Create new forms that exist beyond any authority's ability to grant them protection", The Next Net. 1 March 2011. Shareable - Sharing by Design.

  Vannevar Bush. As we may think. The Atlantic Monthly, 1945
- "There is a growing mountain of research. But there is increased evidence that we are being bogged down today as specialization extends. The investigator is staggered by the findings and conclusions of thousands of other workers - conclusions which he cannot find time to grasp, much less to remember, asthey appear. Yet specialization becomes increasingly necessary for progress, and the effort to bridge between disciplines is correspondingly superficial"
- " Professionally our methods of transmitting and reviewing the results of research are generations old and by now are totally inadequate for their purpose.:
- ". The summation of human experience us being expanded at a prodigious rate, and the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships."
- " A record, if it is to be useful to science, must be continuously extended, it must be stored, and above all it must be consulted"
- "Thus far we seem to be worse off than before - for we can enormously extend the record; yet even in its present bulk we can hardly consult it. This is a much larger matter than merely the extraction of data for the purposes of scientific research; it involves the entire process by which man profits by his inheritance of acquired knowledge."

12.6. Draft of actual proposal

"Use SMART(ER) approach: Specific/ Measurable/ Agreed/ Realistic/ Time constrained."

- Mention subprojects

12.6.1. Potential problems

- Barriers to expert participation
- *Giving credit is key, and if wiki contributions (or any other science 2.0 activities) would be recognized in academic career terms (#altmetrics; requires), scientists would be willing to reallocate their time accordingly
- "'What does "publishing" mean in a wiki context?"' The current use of the term "publishing" in itself can be taken as an illustration of how commercial codes and practices seeping into academic culture have not been counteracted successfully since the invention of the Web. In academic CVs, research output in print only (and in electronic but non-open access format) still figures as a "publication", even though the meaning of "to publish" as "make generally known" and "disseminate to the public" has seen fundamental and indeed groundbreaking changes with the Web as a publishing platform. Indeed, "the public" itself has changed fundamentally because today, a "publication" can be made accessible on the web "'without"' . Had academic institutions been more interested in the benefit offered by such opportunities, publishing openly would be much more widely accepted today. In this light, nothing should be claimed to be a "publication" any longer unless it is open, maybe even "'in the sense of Open publishing"': "Open publishing is a process of creating news or other content that is transparent to the readers. They can contribute a story and see it instantly appear in the pool of stories publicly available. Those stories are filtered as little as possible to help the readers find the stories they want. Readers can see editorial decisions being made by others. They can see how to get involved and help make editorial decisions. If they can think of a better way for the software to help shape editorial decisions, they can copy the software because it is free and change it and start their own site. If they want to redistribute the news, they can, preferably on an open publishing site."

12.6.2. Notes

- Wiki stats tools: Article-level traffic stats, Trending topics, Edit stats, Edit stats for new pages :See also MyADS in astronomy
- virtuelles Museum
- Museum fish MRI & Tierstimmenarchiv
- Micropayments for culture - similar for science
- using Google docs
- Open Science Games? Any equivalent to open vs. public peer review?
- eResearch talk by Mark Gahegan
- , via Twitter
- Filipe Cruz, in Skype chat of May 6, at 19:11 - superfabs: there are a few sites dedicated to harboring science papers and journals in digital free for download formats. would be nice to do a list of them atleast, to analyze and figure out how to better complement them? its similar work i think :Link provided a bit later: http://xdatelier.org/2010/12/11/open-access-repositories/
- More from that chat: scannopolis 19:16 @superfabs, I think that the aim of the project is too wide maybe? Fabiana Kubke 19:17 @scann can you be more specific? Jonas Öberg 19:18 Worthwhile to note in this discussion is that Paul Boshears has been thinking about a project to extend and make Open Journal System (OJS) more suitable for accepting non-text material. Might tie in with other open access projects. scann 19:18 @fabs, yes, I think maybe you need to define what are you going to consider "science", or in which areas you are going to primarily focus on to work 19:18 for example, the scientist who come from humanistic or social sciences network are more resistant to work with

things like wikis Ian Sullivan 19:20 and the scientists from many of the hard sciences will need hosting for the large datasets that make up a lot of their source material Fabiana Kubke 19:20 @scann Ah, I see - I was thinking about that earlier today - how do I phrase this to say "as a first step we will do this in this area" - I thought concentrating on one specific (I was thinking Chagas would be a good candidate - I am more familiar with some implications)

- https://creativecommons.org/weblog/entry/23831
- Jamendo - company based on distributing CC-licensed music
- FigShare as virtual museum?
- Community building in ecology
- Use case (from Wilbanks talk): Reverse Causal Reasoning
- Open science article in the Guardian
- "open-access repository for all research findings, which would let scientists log their hypotheses and methodologies before an experiment, and their results afterwards, regardless of outcome"
- Bruce Alberts "Our goal as teachers and educators should be to expose our students to the discovery process and to excite them about challenges at the frontiers of knowledge." (B. Alberts, "A Wakeup Call for Science Faculty", Cell, vol. 123, 2005, pp. 739-741. DOI:10.1016/j.cell.2005.11.014) Also: "Old habits die hard, and I have been disappointed to discover that this is especially true in academia.", from the same source
- Wiss-ki
- Note to self: For basic help with GitHub, see http://help.github.com/git-cheat-sheets/ .

13. Potential funding schemes

13.1. Calls for proposals

- Ian Sullivan: http://grants.gov/ in the US has a comprehensive listing for all grant opportunities open at the federal level

13.2. Funders with good match in scope

- Shuttleworth Foundation - Fellowship scheme (deadline Nov 1, 2011; sample fellowship pitch video)
- MacArthur Foundation (co-funder of Encyclopedia of Life)
- Sloan Foundation (co-funder of Encyclopedia of Life)
- Gordon & Betty Moore Foundation (co-sponsor of Beyond the PDF meeting)
- http://www.skollfoundation.org/
- see also supporters of P2PU

13.3. Prizes and competitions

- NIH reuse app challenge

13.4. Microfinancing

Invite crowd-sourcing, with link to a description of a project already funded by that source and ideally with some overlap to the current proposal. What role do funders have to play in bringing research into the web age?

- Startl - startup support for socially responsible businesses
- Bitcoin; option for mining
- KulturWertMark
- Kickstarter - could the subprojects perhaps be submitted there, or to similar places (indiegogo, or rockethub)?