#dhiha5 Panel I: Which changes are currently taking place in our research and academic culture?

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There is a simple question: What would the Digital Humanities do? Let us be honest. This question has not been asked yet by a sufficient number of people. Unlike Jeff Jarvis' pun on an ever present search engine giant "What would the Digital Humanities do?" is less about short-circuiting the Gutenberg Galaxy's merits with digital innovation. It seems more like a constant struggle (if you're German) or like a playful approach to new media (if you look at recent French successes like hypotheses.org from the ever worried German point of view).

So the blog parade that was set in motion by the German Historical Institute Paris is a way of asking rather openly "What should the Digital Humanities do?" So in our introduction to Panel I we are going to map the current situation a bit. And to be clear and precise: Every argument about a "digital revolution" has to take into account that "the Digital" and scientific practice have never been wide apart. Yet still plain old analogue dialog is what drives digital intellectual's pursuits in most cases. So let us go explore.

Along with all the fine contributions in the #dhiha5 blog parade we ask two questions, with the first being:

Which (media-induced) changes are taking place in research and academic culture and in how far do these changes affect young scientists' career? Which competencies, professional skills and merits do they have to gain – and can these be achieved in their education/socialisation?

So we want to give you a couple of points to meditate about. First, consider **Inter- and Multidisciplinarity**:

Do we still adhere to the two cultures of science? Or may we speak of three or rather infinitely more? It might also be helpful to think of all science being reconfigured by what networked computers gave us. So the common language of Inter- and Multidisciplinarity that we can agree upon might already be there. Unfortunately, this is a rather shallow way to be part of Digital Humanities' babel situation. Or, as we might add: It's not just about the tools and their protocols! Rather, the overall transformation of disciplinary knowledges into digital domains forms a common ground for discussion. This is what removes DH significantly from the specialty problems of single disciplines, at least at first glance.

So there might be what one could call a pragmatic and structural need for the "inter" part that digital methods provide to interconnect the humanities and social sciences. It is indeed the domain of software tools and the tacit knowledge of every scientific computer usage. We envision Multidisciplinarity to open up a slightly different way to exchange ideas. It should

include an overall openness towards the understanding of terms, concepts, theories and methods of different disciplines which work in the field of DH. We should think of this as an alterity mode of knowledge production. And yes, it can be a bit alienating to accept different epistemic values, methods, and ideas even when you use the same software!

So here comes a second important point. Let's speak about the **democratization of scientific discourses**:

The liberal, democratizing spirit at Universities has been stronger in the 1970s, following on the events of 1968. Mass universities and cheap academic books have had their specific values; the neoliberal turn of the 1990s has not completely destroyed that heritage (yet). The Bologna process itself created new and reinvigorated old hierarchies. So the fresh air of scientific blogging, social media, new kinds of reviewing and communicating knowledge comes as a necessity and not as a set of digital gadgets. For every rigid campus management system we do at least need an opening counterpart like Moodle. For every hyped "marketing only" Massive Open Online Course we do at least need a good set of Open Educational Resources.

But let us be optimistic about the new horizons: A decline of hierarchy might happen, at least in online discourses. Non-scientific publics are only one click or web trawl away. Publishing companies hold their grip on the scientific communities but are unlikely to do so forever. New forms of debates have already emerged, uniting the oral qualities of the spoken argument with the writing styles of online communication. Mistakes might count less than the mutual learning effects (that is an ideal, for sure). We are already well aware of the fact that public funding calls for public accountability beyond the printed book. The new digital public spheres must be openly accessible or they do hardly exist. A dialogic ideal will continue to help Digital Humanities' scholars to prevent splendid isolations. At last, elements of the Bologna reforms might be used to establish a regular infrastructure to develop the "digital skills" of graduate as policy now regards the doctorate as part of the education. Thus, we can demand for a respective resources.

A third value to keep in mind is the actual **Media literacy**:

University scholars always had to base their assumptions about students on the standards of the school system of their countries. And the woes and worries about the existing and nonexisting skills of first semesters have their very own media history. Yet we find a mighty paradox at work when it comes to digital media literacy of "born digital" generations. Young students happen to be more conservative than their professors although they should be the persons that are more fluent in all things digital. This came up in the #dhiha5 blog parade quite often: Blogs, Facebook, Twitter and the like are considered to be rather personal media than tools for scholarly communication. Even progressive professors have to deal with that sort of gap.

This also raises questions for a new Work-Life-Balance: Social Media became an integral part of our every-day-life. Perhaps it is not a problem for those called "digital natives" to distinguish between communications as part of free-time or as element of their scientific work in social media channels. But at least, we have to develop a sensitivity to detect that not everything that is suitable for social media will be accepted in science and vice versa. Furthermore, we have to learn to cope with "mixed modes" of communication within the scientific discourse.

Those constellations are actually way more heterogeneous and are less a matter of age than of individual preferences and attitudes.

In this overall tricky situation new sets of skills become ever more important. Just think of the distinct types of digital media for research, teaching, publication and scholarly communication. They have to be taught and explored together to be used appropriately and effectively. Plus, digital methods and media literacy are not a given and should be constantly put under review, critique, and de-construction and re-construction. Digital Humanities are a way to facilitate the creative use and adoption of digital technologies, including a tolerance toward trial and error that can lead to success.

Another issue is the emergence of new Research Methodologies, new forms of Knowledge Production and their Scientific Validation.

Interdisciplinarity has been a buzzword inside the academy for decades now. The call for research that embraced more than one academic discipline and worked on synthesis between different approaches promised exiting new insights and a new way of doing research but was never easy to realize. Two major obstacles stand in its way: 1) The challenge to bridge gaps between different research cultures and goals. In order to be successful, researchers need not only be able to fulfil the quality standards of their own, but also need to have a deep understanding of that of a second or third discipline.

Once this step is mastered, researchers face the challenge to synthesize their insights. Arguably this is the biggest challenge: What do the findings generated with methods from one discipline mean for the discussion in another? Next, researchers face the challenge to translate whatever they found back into their home discipline in a way that will be comprehensible to their mono-disciplinary peers. Poor understanding, raised excitement and superficial readings of results have been responsible for unsatisfying practices in interdisciplinary research. Just as critical are responses by peers who are reluctant to evaluate research outside their own field due to a lack of training and willingness to leave familiar grounds. The steep learning curve that comes with interdisciplinary research, the extra effort required and the uncertainty of academic merit often cause "interdisciplinarity light": Research that is mostly monodisciplinary but comes with added flavours from other fields and thus remains easily digestible for peers.

All of this is true for past and current practices in the Digital Humanities. But the fact that "DH" understands and self-identifies as a scientific community (despite its contribution to an unnecessary split in "digital" and "traditional") solves one of the problems outlined above: The DH community widely accepts if not embraces the use of computers and in its wake also the integration of research from different academic disciplines. In fact, interdisciplinarity and multi-method approaches already form an integral part of what a lot of DH research is about: The exploration of common grounds between questions asked in the humanities and in computer science.

The spectrum of tools used for Digital Humanities today is extensive and it probably does not go too far to claim that most software tools available can somehow be used for DH-applications. Typically, software application has been a one-way-street: Humanists would either teach themselves or collaborate with partners with technical skills and make do with what they found. It remains an open question whether the flow of information can be reversed: Can the humanities' capability to handle with texts in all their complexity, relativity and ambivalence be exported into the technical sphere?

The former point leads to another question, the problem of **continuing disciplinary boundaries**: The science system is internally differentiated into disciplines, which can be regarded as the main reference for scholars. The whole process of academic socialization and professionalization takes place in disciplines, journals and conferences get organized by disciplines – and usually study programmes and professorships are bound to a certain discipline. Of course, interdisciplinary efforts do exist in many ways. But nevertheless, the only interdiscipline, which successfully established is gender studies – and even in this respect, often positions are still bound to a certain discipline, e.g. political science with focus on gender aspects.

Working as a young scholar in the context of Digital Humanities or Web Science, this first of all brings along the task to be educated into and permanently commit to a disciplinary context as well as to be engaged in the respectively interdisciplinary field. Thus, young scholars in Digital Humanities or Web Science need to find an anchor in a discipline to perform scientific activities on the brink of this discipline rsp. with a link to their disciplinarily origin. Advisors therefore should take into consideration that they have to train young scholars in disciplinary knowledge, conventions, and communication systems but also have to grant a necessary amount of academic freedom with respect to subjects, methods, journals and conferences which to not build the centre of the discipline.

In the perspective of systems theory, every social system exists and perpetuates through its communications. Thus, disciplines are separated by communications about distinct problem or objects of research (Taubert & Weingart, 2010, 4). This selection of issues is on the one hand very productive and a prerequisite for the exponential growth of the science system as it provides functional differentiation and the reduction of complexity. On the other hand, all communications, which cannot exclusively be assigned to a discipline, will easily be forgotten (Stich, 1994, 19). This is an important point, as it suggests that publishing in the context of DH etc. may have a negative impact on young scholars reputation as the journals etc. are not recognized in a discipline or academic field.

All this leads to the conclusion, that the development and consolidation of DH etc. as disciplines or ancillary science in different disciplines should be actively pursued. Therefore, we need some kind of a – flexible and tentative – canon, defining the central theories, methods, objects and insights; study programmes should be launched and positions should be devoted to the field.

The use of Social Media has changed the ways in which scientific knowledge is generated and distributed – it is commonly used by researchers in the DH but of course not exclusively. It therefore makes sense to take the DH community's usage of Social Media as an example of how scientific communication changes in general. Recently, Elijah Meeks and Scott Weingart acted as guest editors for a special issue of the Journal of Digital Humanities on topic modelling. Their introduction to the volume is telling of how knowledge (again: not only) in the DH is produced now: Contributions were based on earlier published pieces, presentation slides or had evolved from blog posts and other online texts, authors had learned from and of another through social media and have also used them to promote and critique each others' work. What is remarkable here is that knowledge was aggregated from "traditional" formats such as journal papers and presentations and more dynamic formats such as twitter conversations and blog post comments. In particular with regard to the development of methods and tools, these channels are much faster and direct in their evaluation and critique as institutionalized peer review and/or debates at academic conferences.

In which respects does the academic culture have to change in order to react appropriately to the new digital sciences?

The roots of the Digital Humanities in Computer Science and related disciplines require a strong sense for interdisciplinary research. The emergence of new research methods and tools brings with it the need for updated curricula for students and extra training for researchers. A number of summer schools have taken it upon them to provide novices with the basics of any of the common tools and methods. This arguably is not enough. Humanists need to catch up on maths, statistics in particular as well as in visualization and the philosophy of science. Neither of these fields have typically been part of humanities education but are essential for the ability to critique, to conduct high quality research and for teaching.

But humanities scholars can catch up only to a point: Not everybody wants to learn how to program or to build databases, is interested in webdesign or server management.

This calls for people who are able to act as bridges between academic disciplines. While some scholars may be able to acquire all necessary knowledge themselves, the availability of specialists who are familiar with the humanities research methods as well as the technical world is essential for the further advancement of the Digital Humanities. Today so-called Research Technologists, Scientific Programmers or Data Technologists are trusted to do this work. These terms are not well-defined yet: at this stage they stand for strong method skills, the ability to develop and tailor code and the ability to process, store and retrieve datasets. Following a meeting at the University of Oxford, titled "Recognising "Research Technologists" in research: an action plan" (http://www.eventbrite.co.uk/event/5340072300/) Christof Schöch has recently pointed out (http://dhd-blog.org/?p=1487) that their status is positioned between academic researchers and technical support staff. Their career prospects are still unclear: Are they support staff? Is there a chance to get tenure for them or will they be bound to temporary, project-based contracts? When should they be cited as co-authors?

These specialists but also less specialized researchers and teachers in the DH produce output that can not easily be captured by the usual instruments for the measurement of academic merit: Work on databases, scripts and liaisons between project partners from different disciplines can not easily be packaged in peer-reviewed articles and monographs.

In order to value and evaluate their contributions we need to consider code, working papers and databases and find ways to treat them equally

Science needs to accept the blurring of boundaries of its communication system and the emerging of new publics and publications besides the established ones, i.e. it has to regularly observe relevant contributions in Open Access Journals, Blogs, Tweets etc. and integrate those communications into the disciplinary discourses. As time resources are limited, there is a need for meta- communications to pre-sort and evaluate the amount of digital communication. Young scholars could actively take up the role of a gatekeeper and bridge builder, bringing the relevant contributions into their discipline. By doing so, experienced researchers might recognize that there are scientific communications in new digital formats.

So, scientific communications should no longer only be measured according to their origin. If it is a relevant contribution to a scientific problem, a blog post etc. should become an accepted reference as well and an integral part of young scholars' cv.

Such a – from todays point of view – massive change in the scholarly reputation and communication system will not take place by itself nor will it quite naturally happen in terms of an evolution of media. There needs to be a discussion about the functions and benefits of certain digital formats for the development of science – and these questions have to debated in the traditional journals etc.

But attention also refers to another phenomenon: Young scholars have to learn that contribution in science blogs etc. usually do not gain much attention. Neither in the digital world nor in academia. Of course, this might be frustrating, but there is no significant difference to traditional scholarly publishing: The number of readers and even of citations of a peer reviewed article is quite limited as well. Taubert and Weingart assume that the number of reviewers for most of the articles published in acknowledged journals will be higher than the number of citations (2010). So, being invisible for a long time is part of becoming a scientist. To gain more public or scholarly attention might be question of learning to publish in different genres, with different scopes and tones. Thus, an intensive training for young scholars which addresses both publishing in journals, monographs etc. and in digital formats should be part of the doctorate.