

Digital Problems/Digital Solutions?

By Alkim Almila Akdag Salah¹

Abstract

Digital humanities faces – at least – two major problems: First, humanities scholars need to work with scientists and programmers in order to execute computational methods, and this requires new types of collaborative environments. Second, there is a gap between the critical thinking of humanities research and the quantitative approach common to computational studies. Concerning the first point, unlike typical collaborations, where either research questions, means or methods are shared, the new collaborative environments work by churning the research questions of a humanities scholars through the skills of scholars coming from different research paradigms with different research aims. What is asked for is a new division of labor, which influences the research practices and work flows of humanities scholars, computer scientists and institutional frameworks supporting them. The second problem relates to the difference in the goals and epistemic traditions of these groups, which creates a major research hurdle. In order to be able to negotiate new forms of specialization and their re-integration into research agendas of the humanities, the above mentioned gap has to be bridged. One aspect of this task is the ability to reformulate abstract research questions in such a way that quantitative analysis could be useful. However, this requires insights into the potential of computational methods and quantitative analysis. Eventually, a new mixture of curricula is required to seamlessly integrate traditional and digital humanities. This paper empirically illustrates and conceptually discusses the struggle around digital humanities based on two case studies the author has been working on.

DIGITAL HUMANITIES

My interest in Digital Humanities (from now on DH in short) grew exponentially when I started to work as an ITC (Instructional Technology Consultant) at the Center for Digital Humanities (CDH) at UCLA. The primary activity of the CDH was to support humanities faculty with the necessary technological infrastructure for using instructional technological tools in/out of the classroom. To achieve this aim, CDH was using primarily WebCT for undergraduate classes, and the main workload of ITC's was to explore and eventually teach the capabilities of this software to meet each professors specific needs. At the same time, CDH offered grants to faculty to enhance their research projects with the help of digital tools and to provide the humanities scholars with the technological know-how; to search for applications and tools to suit their needs, to install and give technical support for these programs, even to organize tutorial and training sessions for their use. Consequently, it required an understanding of both sides of the issue, what the scholars needed, and how the technology worked. The center was an active meeting point for professors and programmers, and the ongoing discussions focused on how instructional technology should be used and broadened, what the benefits are, and how it could be improved. These problems are relatively easier to solve in comparison to the difficulties that come up when technology is used as a research tool in humanities.

My first digital research project proposed to analyze a selected corpus of papers from three disciplines (art history, visual cultural studies, and cognitive science) that focused on certain shared keywords, and to apply various text analysis procedures to extract

¹ Virtual Knowledge Studio, Royal Netherlands Academy of Arts & Sciences (KNAW), Cruquiusweg 31, Amsterdam, the Netherlands.

reference information from the corpus in order to see the connections between these disciplines. This was my first attempt to explore techniques over which I had just a general knowledge, and I found myself in a difficult situation. Because of discipline-specific terminology and language, I had difficulty communicating my abstract research goals/questions to the more practical team of programmers. In the end, I was able to prepare a network out of my corpus, but to use that network in a way to enhance my research was almost impossible, as I realized that I am not capable of 'reading' the network properly. This was partially due a lack of knowledge in statistics, and my skills in interpreting information visualization results, but also due to the gap between the theoretical (and thus rather elusive) nature of my questions and the tangible ways of how the questions could be answered through the use of information visualization software.

This gap, which I have observed in other projects working under the umbrella of digital humanities, forced me to think on the nature of Digital Humanities itself. I tried to formulate my concerns about the concept of digital humanities, and how it is applied today. I have stressed elsewhere² the similarities between digital humanities and electronic art, especially the resistance they faced until they received some acceptance from scholars. The disownment of their 'home' disciplines (which is hard to pinpoint in the case of DH) is but an example and perhaps an outcome. Here what is more relevant is the problem of interdisciplinarity. Which departments or disciplines should be home to these venues, who should benefit from the outcome of the production of these venues, how should the language between various disciplines be cleaned from disciplinary jargon so that a common terminology could be built?

Interdisciplinary research always calls for a collaborative effort, but the real problem is that emerging interdisciplinary research itself is preoccupied with its own questions and does not always contribute to the main disciplines out of which it grew. In the case of Digital Humanities, this problem is neglected so far, as the venue itself is not considered as a new discipline in itself, but rather a research initiative that would/should help all humanities scholars. I perceive Digital Humanities not only as the future of humanities in general, but as a new discipline, since today, discussions about the nature of DH establish new rules of research, as well as developing new methods and theories to fit the digital age. Seen from this perspective, it is obvious that the ultimate goal of DH should be to educate its own scholars, who in turn will uncover and solve the problems of digital humanities to pave the way to the visionary version of digital humanities encompassing (or becoming the infrastructure of) all humanities disciplines.

In most DH Labs, the technology is offered by way of hired professionals, and the research questions of humanities scholars are explored through ready-made applications that are already in the market. However, these programs are rarely customized to meet specific needs, and consequently, humanities scholars experience problems in fine-tuning software for their own research. This creates one of the most important problems of DH research: A scholar solely educated in humanities lacks the necessary expertise in utilizing a given software for his or her own needs, and has trouble producing actual computer programs and algorithms in order to implement a computational procedure. Being one such scholar myself, I have to collaborate with scientists and/or programmers

² See: <http://stream.humlab.umu.se/>

to overcome this difficulty. However, to find a collaborator who is solely interested in answering ‘my’ research questions is a luxury I have not experienced yet.

The second problem is more deeply rooted in the gap between humanities’ ways of thinking and scientific methodology, and in many instances, it is harder to overcome or ignore. This gap makes itself felt usually at the beginning of a research program, where one needs to formulate the basic research questions. The humanities tradition induces a more abstract way of thinking and analyzing, and to scrutinize a research topic with this attitude generates questions that are almost impossible to answer through quantitative means.

In this paper, I’d like to demonstrate these problems, while giving examples from two case studies. The first case is the examination of the art journal *Leonardo* with the help of bibliometrics and network analysis tools. The second case requires data collection from a social network site called DeviantArt, as well as application of social network analysis and visualization software in order to dig-out relevant information for art historians.

LEONARDO

The first case study aims to test whether the journal *Leonardo* achieved its foundational aim of bridging the gap between sciences and humanities. While this is a question with theoretical and historical aspects, digital humanities tools may be employed to create quantitative evidence and insightful visualizations.

Leonardo is one of the major journals in the world of contemporary art, and it is unique in its coverage and style, both being under heavy influence of sciences. From its first appearance in 1968 onwards, the journal and its editor/founder Frank Malina had the aim of providing artists with the means of following the newest scientific developments in order to incorporate these into artistic production. In short, *Leonardo* was created to be *the* place of intersection between arts, sciences and technology. A close look at the references to/from *Leonardo* reveals that the journal has indeed reached its aim in becoming an interdisciplinary publishing venue (Leydesdorff & Akdag Salah 2008).

Bibliometrics as a Tool:

As early as 1964 Garfield and his colleagues suggested to use citation data to evaluate the development of science. The idea here is to apply text analysis in extracting citation data from papers and making use of this data to evaluate scientific publications. This relatively new research venue, called ‘scientometrics’ or ‘bibliometrics’, specializes in drawing network maps for delineating the scientific growth, relations and interactions³. Today, some database providers such as ISI Web of Science, offer the reference

³ To read more on the history of scientometrics see Katy Börner, Jeegar T. Marus, and Robert L. Goldstone. 2004. The simultaneous evolution of author and paper networks, PNAS 101 (suppl.1): 5266-5273.

information of each paper (i.e. who has cited the searched paper, or whom the paper cites) enabling the extraction of citation information without the hurdle of text analysis.

We have made use of all the relevant ISI data domains (i.e. *Sciences Citation Index*, *Social Sciences Citation Index* and *Arts & Humanities Citation Index*) in collecting data about Leonardo's citation environment (i.e. publications that cite papers in Leonardo, as well as publications cited by papers in Leonardo). To that affect, we downloaded 6,186 documents of the 41 volumes (182 issues) of the journal since 1968 (on June 8, 2009). Since the retrieved documents did not contain citation information for the period 1970-1973, the analysis was limited to publications since 1974 (5,859 documents). This set contains 31,147 cited references. Using a free software called BibJourn, the journal names in these references were extracted to construct a matrix of documents versus cited journals for each year since 1974. The resulting 35 matrices (1974-2008) were further processed to build animations for citing and cited environment of Leonardo with the help of a dynamic routine created for this purpose in Visone (Leydesdorff & Schank, 2008).⁴

A close inspection of these animations reveals the following points:

- The animations locate Leonardo as an interdisciplinary journal connected to the sciences, social sciences, and the arts throughout the time span covered. Note that the journal started its publication with an interdisciplinary intention and orientation. This interdisciplinarity in its citation environment did not change over the years in terms of either its referenced knowledge base ("citing") or its ("cited") impact environment. However, the citation patterns are not dense and are therefore volatile from year to year.
- The presence of science journals in this being-cited environment of *Leonardo* is not stable over the years, but in all years science journals are visible in relatively large clusters. Among the science journals citing *Leonardo* from year to year, *Science*, *Nature*, and *Scientific American* dominate the animation. Another cluster contains journals with a focus on computer graphics since the mid-80s. A third, relatively stable cluster is provided by journals in cognitive science that enter the picture at the beginning of the 1990s, with strong connections to a psychology cluster. Through studies on vision and perception, journals in neuroscience, cognitive science, psychology, and computer graphics are related to this citation environment.
- Art journals form another important group in the animations of the citation patterns of *Leonardo*. This group is more or less equally divided into journals focusing on aesthetics, art theory, and contemporary art news. Upon closer inspection of the animations, one

⁴ This animation (using cosine > 0.2 as a threshold) was brought online at <http://www.leydesdorff.net/journals/leonardo/citing/index.htm>. Additionally, we use the sets of documents in each year to generate the citing sets. These documents are processed with the same methods, and the resulting animation is available at <http://www.leydesdorff.net/journals/leonardo/cited/index.htm>. The two animations cover all journals included which are connected to the large component in the respective set (cited or citing) at the level of cosine ≥ 0.2 in any of the years.

can distinguish that theoretically oriented journals are more persistently visible in the animation based on articles citing *Leonardo*, while journals reporting on the latest state of the art market cite *Leonardo* more than they are cited in *Leonardo's* publications. Core journals of arts and art history such as *Art News*, *Studio International*, *Art Forum*, *Art Bulletin*, and *Art Journal* are consistently included.

- After the turn of the century, *Leonardo* has increasingly lost citations from the art world in favor of citations from journals in the sciences. In 2008 (Figure 1), science journals are prevailing in its citation impact environment. In earlier years, however, some core-books by Gombrich (1960), Arnheim (1954 and 1969), and Goodman (1988) were also heavily cited. These art historians are renowned for their interest in psychology and linguistics, and hence their presence as references in the citation networks strengthened *Leonardo's* citation relations with journals in these disciplines.

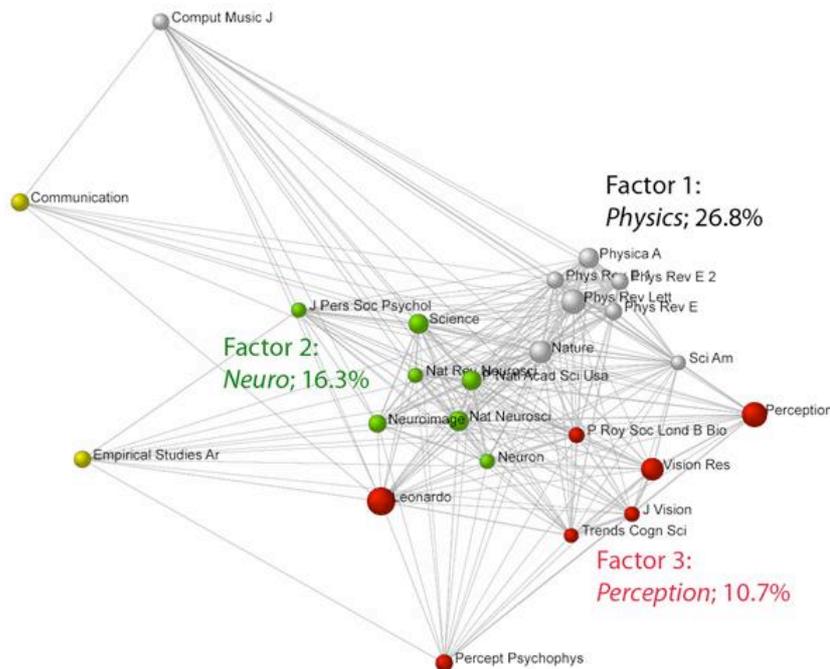


Figure 1: Cosine relations among 3,259 references in 107 articles citing *Leonardo* during 2008;

The Digital Problem

If we take a step back to look at the impetus behind the research on *Leonardo*, we will encounter a very different picture than Figure 1. The need to apply bibliometric analysis to *Leonardo's* corpus arose when research on Computer Art highlighted the important position *Leonardo* played in the history of this art movement. My initial goal was to map-out the journal's involvement in shaping the Computer Art movement. With that goal in mind, I designed a project outline that was a mixture of humanities and computational methods.

The project plan consisted of four major parts: data collection, creating a sample corpus, extraction of reference information, and bibliometric analysis. The humanities methodology was used while generating a sample corpus, on which a close reading is also applied. The results of this close reading shaped some core arguments that I hoped to confirm with bibliometric analysis. My core arguments were as follows:

- *Leonardo* did not become a bridge between arts and sciences. Instead it created a new culture.
- *Leonardo* did not manage to obtain the high scientific standards that it demanded on its editorials.

The selected corpus consisted of papers published on the topic of the relation between arts and sciences, a crucial topic if the investigation is about Computer Art, and a journal, whose main goal is to fill the gap between these two cultures. The emergence of *Leonardo* as the flagship of the third culture would not have been an unexpected result. After all, Snow himself predicted the coming of such a third culture that would take up the task of providing communication between the two. Snow's hopeful assessment was taken up by Victoria Vesna in a paper published in *Leonardo*, where she draws attention to an intermediate group, which by education and by necessity already communicates with both cultures. This group consists primarily of computer artists, and they fit the description of Snow perfectly, as they are educated in both cultures. Computer Art as a movement is heavily influenced by sciences, and situated closer to sciences than arts. Vesna supports the position of Computer Art and denounces critical theory as unscientific, or even nonsensical, for which the famous case of Sokal's hoax serves as supporting evidence (Vesna 2001).

As a scholar with a humanities background, my conclusion differed from Vesna's. I argued that while the inclination of computer artists towards sciences may shield them from being unscientific or 'nonsensical', it also constitutes the main reason why the movement has been heavily criticized by art critics and historians on being too shallow and devoid of critical insight. As long as they disregarded the critical tools of humanities, they would fall short of building a bridge between these cultures. The same conclusion applied to *Leonardo*, and was visible in the contributors' failure to uphold rigorous scientific standards.

At the end of my project, I have applied bibliometrics to map-out *Leonardo*'s 'knowledge base', and I was left with new, quite unexpected results, which neither proved or disproved my arguments or conclusions. I realized that bibliometrics, when applied to the whole corpus of *Leonardo*, gave me a map of 40 years of activity, but only in very general terms.

The Digital Solution

Bibliometrics is a well-established, and widely used research venue in following scientific trends and in judging scholarly output. It is somewhat unorthodox to harness bibliometric tools as a preparatory step for analyzing a research topic. However, in

Digital Humanities, this might be a practical solution that will be helpful in testing if one's research questions are relevant in the big picture.

My case study started with a more faceted and detailed question in comparison to more traditional bibliometric research questions, and that is why in the end bibliometrics on its own did not provide me with answers. I should have made use of bibliometrics at the beginning of my project so that I could get an overview of my data. The next step in my project plan should have been to fine-tune the data by selecting papers from the overall corpus of *Leonardo*. This selection should have been based not only in humanities methods (arguing that the topic of arts & sciences is crucial for my case study) but it should have taken into account what the maps of *Leonardo* indicated in general. The new and detailed project plan addresses exactly these questions, as well as my starting hypotheses and arguments:

The animations of the knowledge base of *Leonardo* (both citing and cited) show that the journal has less and less citations from the art & humanities journals. This observation, while supporting my argument that *Leonardo* has an inclination to sciences rather than to arts, does not explain the reasons why this is the case. In order to have an educated interpretation, I need to do a 'detailed' analysis of citations:

- Individual citation analysis of authors from both cultures, who were regularly publishing in *Leonardo*. It would be interesting to know if scholars from sciences cite their articles published in *Leonardo*. If they do, that would indicate that they deem *Leonardo* a scientific publication venue, closer to their own field of study, instead of positioning *Leonardo* as an art journal.
- A citation analysis of *Leonardo's* references: It is a known fact that humanities citation tradition differs widely from sciences. Humanities scholars tend to cite old sources, books, monographs etc. more than they cite journal papers. A close look at *Leonardo's* references might give a general idea if *Leonardo* is following the humanities tradition or the sciences.

Only after these detailed analyses can I go on to the next step, which will be a text analysis of the selected corpus. This step requires the help of a scientist or a programmer, who should be somehow interested in the outcome (or at least in the procedure) of the application of analysis tools to this corpus. This may prove to be harder than it sounds.

DEVIANTART

The second case study is DeviantArt, which is a major art platform largely neglected by the art historical cannon. It has an immensely rich content, and it takes shape in the here and now, so that all its dynamics can potentially be examined. Yet the people who have the tools for such an analysis do not ask the relevant questions, and vice versa.

DeviantArt is an online community dedicated to sharing user-generated artworks. Launched in 2000, today this initiative has about 11 million members coming from over 190 countries. The website offers various web-based services to its members enabling

and enforcing a strong social interaction. With its collection of around 100 millions works, DeviantArt (DA) is the biggest art market of the world, presenting a new mode of displaying, evaluating and consuming arts. In that sense, DA generated a platform free of institutional and governmental politics, democratizing the way arts are generated, shared and enjoyed.

When in 1863 the famous exhibition space of French Academy *Salon* refused about 4000 out of 5000 submissions, the artists voiced their concerns about the relevance of academic criteria; whereupon Napoleon started *Salon des Refuses* to let the public judge the quality of the rejected artworks [Harrison 1988:506]. Today, DeviantArt plays the role of the *Salon des Refuses* by displaying its members' artworks for everyone to see, evaluate and buy. The voice of the public, in this case, consists of at least 12 million members of DeviantArt (DA) from over 190 countries. Moreover, in 2008, DA is visited by 32 millions, and listed among the top ten visited websites in the category of arts.

To understand the depth of dissemination, compare the 32 million unique visitors of DA to the numbers associated with leading museums, such as Museum of Modern Arts (MOMA) in New York, for which the yearly number of visitors is around 2.5 million. What is more, DA receives around 80.000 new artworks every day, which in total cumulated to a number of 100 million works. In short, DA has both the world's biggest artist community and the largest active art audience. This is one of the main reasons why digital humanities tools need to be harnessed for the assessment and analysis of DA; it is almost impossible to approach this complexity via traditional tools within a feasible time window.

DeviantArt and Social Network Sites:

Social network analysis, the mapping of relationships as networks, has truly provided new insights in the social and life sciences with increasing participation from mathematicians and computer scientists. These insights have led to publications by specialists such as *Six Degrees* [Watts 2003] that are aimed at a more general audience. The idea that there are laws that govern networks -such as the notion that everyone is about six steps away from any other person on Earth in terms of acquaintances- and that networks evolve in predictable ways, has led to remarkable discoveries in different fields from sociology to biology, practically in every field where relations between some entities can be conceptualized via graphs and where complex dynamics apply. Analysis of web structures (webometrics) and social networking sites also abound. A large number of visualization tools are developed to facilitate this kind of research, and these tools have a huge potential in digital humanities research.

One of the newest trends in social sciences is to make use of social network analysis for studying online *Social Network Sites* (SNS) such as Facebook or MySpace, which are the latest phenomena in online interaction and Internet usage [boyd 2007a, Lewis et. al. 2008, Mayer et. al. 2008]. In a recent study, SNS are defined as web-based services for users to construct a public or private profile and to connect with other users in a bounded system [boyd 2007b]. In this sense, DA is an SNS, as it offers basic services to

its users, and since it creates a community structure. However, DA works like a blog-sphere as well (see [Adar et al. 2004] on blogging), as each DA member is given a personal website. At first glance, DA gives the impression of being a mixture of blogs and SNS. Properly understanding its structure calls for a network analysis, as well as information visualization. The case study we propose for DA proposes both, on specific user data collected from DA pages. Figure 1 shows the structure of these data schematically.

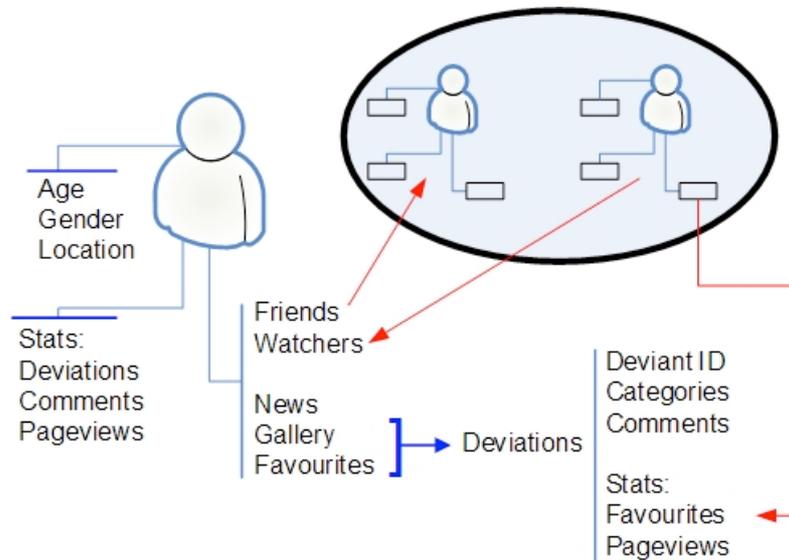


Figure 1: A schematic analysis of member profile of DA, and the available data for building a network structure.

Each homepage has basic demographic information (i.e. age, sex, country), as well as some page statistics (how many visitors and artworks the member had). These statistics are indicative of popularity. Furthermore, each member has a follower list as well as a friends lists. Followers are called ‘watchers’ in DA terminology: watching a member means to receive notifications about the actions of that user. Each time a member uploads a new artwork, all his/her watchers are notified. Through directed maps, one can use this information in building a power structure, where the information 'who is followed' translates into who has more pageviews, i.e. who is more popular.

This structure obviously gives a dynamic picture of how an artist rises to recognition, how art works are evaluated and promoted, as well as about possible types of users and roles within this prototypical art community.

The “Digital” Problem:

DeviantArt itself is born in a digital environment, and its investigation requires strictly digital tools. However, beside the obvious steps like data collection and analysis, the question of what we expect to find by such an investigation remains open. My previous research experience in using computational tools taught me that one needs to move with caution at the beginning of the research. Unlike humanities research where questions and methodology might change (mature?) while the study continues,

computational methods allow much less elbow room for structural changes. Where it is relatively easy to define the questions from a humanities point of view, the problem of ‘translating’ the questions onto the digital domain remains a big challenge. The key objectives on the side of art historical theory of this research were formulated as follows:

THE IDENTITY OF THE ARTIST:

What makes an artist an ‘artist’? The identity of an artist is bestowed by the education system, or in rare cases, by certain institutions of the art world. DA deviates in this regard from the norm, as in the context of DA, the line that separates the amateur and the professional is irrelevant; in order to become a DA member one does not need to have a background or education in arts. Moreover, the users can take on more than one identity; it is easy to move from one role to the other (i.e. one can both act as an artist and a curator), and/or combine them all in one member profile. Some members choose to have more than one profile, and display their works belonging to different genres through designated usernames. This freedom gives members a plethora of options to choose from, and I would like to explore how much of this freedom is actually put to use, i.e. how many members have double (even triple) profiles, and how many members act through various channels at the same time, i.e. are active as artists, writers, critics or curators.

THE ROLE OF INSTITUTIONS:

An art evaluation mechanism, such as a museum, a biennial, a curator, a connoisseur, an art dealer, a gallery, establishes a value system, which determines the value of an art work, or more fundamentally, designating a work as a work of art. This happens by attributing a monetary value, by promotion of the work through legitimate channels (art magazines, shows, fairs, biennials, exhibitions, auctions, catalogues). DA has created its own evaluation mechanisms, almost spontaneously or autonomously, where the power of the networked society is employed to the fullest extent, and the user actions (like making a work a favorite, adding comments, etc.) play a role in establishing the value of the work. At a first glance, this effectively removes the need for expertise, and distributes the judgment over the community. However, a thorough analysis might reveal a power structure that has evolved to the current art world. Here the real question lies in the necessity of an authoritative structure to cultivate experts and a legitimization system to evaluate artworks, a ‘gate-keeper’ system that distinguishes between high and low art [Varnedoe 1990, Karp 1991].

ECONOMY OF THE ART MARKET:

The economical backbone of the art market is a topic scholars avoid at all costs [see Burn 1975], and there are only a handful studies on this ‘sacred’ and intangible arena. Robertson defines the rules of the market as follows: “A work of art is classified as either ‘junk’, ‘cutting edge’ or ‘alternative’. ‘Cutting edge’ art is a legacy of the end of nineteenth century Parisian dealer revolution and ‘alternative’ is a derivative of the Academy system” [2000:17]. An attempt to fit DeviantArt into this tripartite system gives us little choice but to classify DA’s collection as ‘junk’. Still, DA might change the current art practice,

and the question remains how these two independent systems will affect each other in near and far future.

The ‘Digital’ Solution?

If DeviantArt is the next *Salon des Refuses* one can only tell through dissecting its archive, which is not possible by methods available to traditional art historians. We are talking about several orders of magnitude difference in the number of artworks, from 4000 works that the first Salon accommodated in 1863 to 80.000 daily uploads. In order to locate the real deviants (i.e. the radicals) among such a crowd, one needs technological tools to first understand the working structure of this autonomous organization, and then to develop algorithms to find the dynamics of success. Only such a study can pave the way for art historians and art critics to examine the relevant artworks, and to further investigate whether the popularity (followers and pageviews) is sufficient for judging the artworks.

As in the case of *Leonardo*, digital tools are necessary at least to map the terrain of DA. However, the question is how to attune the digital tools in order to answer more abstract questions about DA. To that affect, I propose collecting different types of data, and creating different ‘maps’:

- The different activities of DA members can be investigated. It is possible to locate members who are more active in writing critiques, curating other members’ works, or just publishing their own work. Maps based on the data showing only ‘curators’ or ‘critiques’ or ‘artist’ can be drawn, and compared.
- In order to understand the effect of a lack of institutions, one needs to analyze the ‘evaluation’ system of DA. This can be achieved by examining the ‘hubs’ in the generic maps of the website. These hubs point to the most known or favored members of the community. The question of the public opinion’s power replacing the institutional (i.e. expertise) evaluation methods is a matter of art historical analysis, which will take place once these hubs are located.

CONCLUSION

Mark Weiser in his now famous Scientific American article noted that “the most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.” [Weiser, 1995]. My prediction is that Digital Humanities Centers (DHC) of today will become education centers for the next generation of 'digital humanities scholars', but they will not survive to see the third generation of their own graduates. As every successful technology, they will fade into the background of life (in this case academia). Maybe they will cease to exist once the need for extra expertise and help for humanities scholars subsides. That moment, which probably will happen without all the excitement digital humanities receives today, will mark the day when humanities will become totally digital humanities with the right infrastructure, a consensus on how to conduct research, and with a set of accepted discourse. That day will be the day when the 'digital' is left out from digital humanities

without raising any discussions. Until then, the individual researcher entering the domain of digital humanities is more or less alone in finding his way through this ever expanding and changing terrain.

To rely on DHCs for technological support, or to become part of collaborations with the hope of invoking the help of scientists is a path that is filled with hazards. Usually DHCs support and resources are allocated for approved projects only. With a limited budget and time allocation, even trivial errors affect the progress and outcome of such projects. A collaboration with a scientific organization or a scientist comes with different types of problems: A humanities project is not necessarily interesting for a scientist, unless it also evokes challenges that are not solved or addressed from a scientific perspective. And if that is the case, different aims on the mutual topic clogs the way of how research is done.

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