text praxis

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Title

»They have completely changed my understanding of literary history.« Ted Underwood on the impact of computational methods on literary studies. Interview held on July 14th 2016 at the University of Illinois, Urbana-Champaign. With an introduction by Cosima Mattner

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What Is Digital Humanities and What's It Doing in English Departments? This is the question and title of an article by Matthew G. Kirschenbaum, published and presented in 2010.[1] Seven years later – seven years of a rising number of summer schools, conferences and workshops – an ample infrastructure of organizations, societies, institutes and journals has been established, fundings have been provided, companion volumes have been written and »What is digital humanities« essays have supposedly become »already genre pieces«.[2] Still, a similar question is preoccupying me, a literature student from Germany: What are digital humanities and what is their relation to the discipline of literary studies?

Apparently, this question is also not resolved within dh[3] itself: As the editors of the Blackwell companion point out in their introduction, dh are characterized by a vague self-definition and a broad »reach«.[4] They ascribe this to the fact that due to technological progress dh have been embracing all kinds of media apart from text which was accessible first.[5]

According to the Blackwell companion, dh aim at »using information technology to illuminate the human record, and bringing an understanding of the human record to bear on the development and use of information technology«.[6] Coming from this

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1 | Matthew G. Kirschenbaum: »What Is Digital Humanities and What's It Doing in English Departments?«. In: *ADE Bulletin* 150 (2010), p. 55–61.

2 | See Kirschenbaum: »What Is Digital Humanities« (ref. 1), p. 55; for organizations see for instance ADHO or IGEL; for institutes see for instance University institutes at Leipzig, Göttingen or Würzburg; for journals see for instance DHQ, DSH, LLC, SSOL, Cognitive Poetics, Cultural Poetics; for companions see for instance: Susan Schreibman / Ray Simons and John Unsworth (eds.): *A New Companion To Digital Humanities*. 2nd edition. Chichester 2016 [2004]; Fotis Jannidis / Hubertus Kohle and Malte Rehbein (eds.): *Digital Humanities*. Eine Einführung. Stuttgart 2017.

3 | Digital humanities are herinafter referred to as ›dh‹ without the common capitalization in order to avoid unintendedly adopting particular understandings of the term.

4 | As a »cursory glance at this *Companion*'s table of contents reveals.« Schreibman et al.: *companion* (ref. 2), p. xxiii.

5 | Ibid.

6 | Ibid.

understanding, the companion volume sets out to »consider digital humanities as a discipline in its own right, as well as to reflect on how it relates to areas of traditional humanities scholarship«.[7]

This in-between status of dh – their »interdisciplinary core«[8] – is also reflected in the Wikipedia definition describing dh as »an area of scholarly activity at the intersection of computing and the disciplines of the humanities«[9].

A concurrent understanding of the term can further be encountered in the editorials of several periodicals. The *Zeitschrift für digitale Geisteswissenschaften*, for instance, claims to be an »innovatives Forschungsperiodikum, das sich Themen an der Schnittstelle von geisteswissenschaftlicher und digitaler Forschung widmet«.[10] *Digital Humanities Quarterly* defines dh as »a diverse and still emerging field that encompasses the practice of humanities research in and through information technology«.[11] The journal intends to explore »how the humanities may evolve through their engagement with technology, media, and computational methods«.[12] *Digital Scholarship in the Humanities* »publishes original contributions on all aspects of digital scholarship in the Humanities including, but not limited to, the field of what is currently called the Digital Humanities«.[13]

A ›field‹, an ›area of scholarly activity‹ at an intersection – not yet a new independent academic discipline but still a lively scientific community grouped under one umbrella term – this seems to be the state of the art of dh.[14]

However, if dh dwell at the intersection of different fields of study: What is their contribution to the research questions of those fields? What impact do they have on them? Do they change the kind of questions being asked? If so, how? And where and when does a genuinely new kind of scientific questioning evolve that exceeds disciplinary borders?

Representing a popular view, Kirschenbaum emphasizes that English departments were well, if not best, suited for the application of computer based methods with regard to areas like reading and reader research and digitalizing, archiving, and editing text.[15] He proposes that dh will »earn a place in histories of the profession alongside other major critical movements like the Burmingham school or Yale deconstruction.«[16]

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7 | Ibid.: Reflecting a similar understanding, Kirschenbaum considers dh as a collective noun, capitalizing it (as in the title of his article).

8 | Ibid., p. xxiv.

9 | Art. »Digital humanities«. In: *Wikipedia.* https://en.wikipedia.org/w/index.php?title=Digital_humanities&oldid=735733198.

10 | *Zeitschrift für digitale Geisteswissenschaften.* http://www.zfdg.de/e-wie-editorial (last visited 29.05.2017).

11 | *Digital Humanities Quarterly.* http://www.digitalhumanities.org/dhq/about/about.html (last visited 29.05.2017).

12 | Ibid.

13 | *Digital Scholarship in the Humanities.* https://academic.oup.com/dsh/pages/About (last visited 29.05.2017).

14 | See Kirschenbaum: »What Is Digital Humanities« (ref. 1), p. 58.

15 | See ibid., p. 60; see also http://www.zfdg.de/e-wie-editorial (last visited 29.05.2017).

16 | See Kirschenbaum: »What Is Digital Humanities« (ref. 1), p. 58.

Now, the Blackwell companion claims,

> Widely spread through the digital humanities community is the notion that there is a clear and direct relationship between the interpretative strategies that humanists employ and the tools that facilitate exploration of original artifacts based on those interpretative strategies; […] that application is as important as theory.[17]

So – an *advocatus diaboli* might question – what are the interpretative strategies of digital humanists? How do digital methods contribute to the interpretative discourse about objects of the humanities which are music, art, religion, history and text? Do they reduce the room for interpretation by the power of inferential statistics? Do they replace intersubjectivity by objectivity? If so, do I – the *advocatus diaboli* – want this?

Being the opposing critic, he would probably doubt that digital methods contribute to investigating what literature et cetera in his opinion *really* is about – and would thereby mean context dependent meaning, ambiguity or irony. With regard to quantitative methods, for instance, he could criticize that probability predictions would not add anything significant to the individual and unique (reading) process of meaning construction, let alone supplant it.

Does the *advocatus* have a point? And what about innumerable enthusiastic statements by digital humanists like the following: »[C]orpus stylistics has produced analyses of otherwise imperceptible features of literary style«?[18]

In the following interview, Ted Underwood, a specialist in the field of digital literary studies, discusses his experiences with digital methods. In addition to teaching 18th and 19th century British literature at the University of Illinois, Urbana-Champaign, Underwood studies large digital text collections by applying machine learning algorithms. Hence, he combines information science and literary criticism. On his blog *The Stone and the Shell,* a title alluding to W. Wordsworth and representing math and poetry, he documents findings and insights from his work.[19] He also tweets and with me, he speaks: about how digital methods might open up new perspectives on old objects, bring about unknown modes of knowledge, produce fruitful results and how they capture ambiguity.

The interview was held in person on July 14th 2016 at the University of Illinois, Urbana-Champaign, USA. It is corrected for comprehensibility and only marginally shortened.

Mattner: *Ted, you were trained as a romanticist and teach 18th and 19th century English literature. Wherefore do you combine machine learning and literary criticism? What made you apply machine learning algorithms to literature in the first place?*

Underwood: I didn't start out thinking that this was going to involve machine learning at all. Back in the 1990s, when I first started trying to do this, my goal was simply to understand literary history across long time spans and do a kind of a ›history of ideas‹ approach. I wouldn't have known then what machine learning was or how it was important for this. It was only around 2009 when we had larger digital libraries and Google books, I came back to projects I'd tried in the 1990s and discovered it was possible to actually do

17 | Schreibman et al.: *companion* (ref. 2), p. xxiv.

18 | Jesse Egbert: »Style in nineteenth century fiction. A Multi-Dimensional analysis«. In: *Scientific Study of Literature* 2.2 (2012), p. 167–198, here p. 168.

19 | Ted Underwood: *The Stone and the Shell.* https://tedunderwood.com (last visited 24.07.2017).

things that had failed. It was not simply about counting the frequency of a single word any more but looking for *patterns*. Looking for loose family resemblances and tracking those across time. That was my machine learning beginning because it was allowing me to do things that were less simple minded and more flexible and subtle than I had originally set out to do.

Mattner: *Now, knowing* what *you do, it would be interesting to learn* how *you work. How do you find and specify your research questions?*

Underwood: Oh – that's like when they ask writers: where do you get your ideas from… It's an interesting question but it makes you realize you really don't know! I think that for me right now it's a process of two things. It's a question of what would be interesting from a literary historical standpoint, first of all. And that's based on my sense of what other people are doing, what we've done so far, what we haven't done so far, importantly. The reason I do things on a big scale looking at large numbers of books is mostly that we haven't been able to do that yet. And a secondary question is: What would be possible and perhaps easy to do using the methods that we have. I am looking for an overlap of those two things. For instance, the work I did on character was an overlap of the sense that gender is important and interesting and that it would be possible to get at the representation of gender using natural language processing. When those two things overlap – that's what I go for.

Mattner: *And what methods do you use currently – what is your toolkit?*

Underwood: That's very flexible. I think we don't necessarily need to emphasize the tools that much. For instance, I am working with two graduate students right now in a project about pacing in fiction. The central part of our method in that would be reading short passages from a bunch of books and characterizing the representation of time in those passages. Nothing really computational involved, just: *describe* what you see. Now, we'll be doing that in lots of books and in lots of short passages and then we'll look for a pattern across time. So there will be a data analysis stage but there's no particular algorithm that we're going to use there. What I do often use though, lately, are supervised learning algorithms that can recognize a pattern or a family resemblance in texts. And there is a whole group of learning algorithms. I don't think it matters greatly which one you use but regularized logistic regression and support vector machines are two that I use. The important thing is that they look at labeled examples of several – one, two, many – categories and then look for patterns that distinguish these categories. This doesn't necessarily mean we have to assume that those categories are fixed or stable or clearly distinct. The differences that separate them can be blurry.

Mattner: *How do you inform yourself about methodology, algorithms and new tools?*

Underwood: To be honest, I lean heavily on Twitter because it involves a lot of different disciplines that I am not in: computer science but also statistics and linguistics. I can't keep up with all those journals. What I can do is just kind of overhear what people are talking about on Twitter. I've learned a lot that way. Just listening to other disciplines and what they are arguing about. Also, I then read the articles to understand what they're doing but usually, I find the articles on Twitter!

Mattner: *It's a nice medium for making others curious about your research in a very condensed way.*

Underwood: Which is good because it prevents people from having boring arguments and you can only be sort of interesting on Twitter, you can't prove anything.

Mattner: *Apart from including Twitter as a medium in research processes, what other changes in the discipline of literary study are brought about by digital methods? How far did the academic discipline change in general in the last few decades?*

Underwood: Oh my, I think it has changed in so many different ways – I could talk about shifting emphasis on history, philosophy, popular criticism lately. I think there *could* be big changes but in an odd way I would say; actually, our discipline has been quite stable compared to other disciplines like biology or bioinformatics. We have not changed as dramatically as them, literary studies has on the whole been relatively stable. Even though we talk about digital humanities now – still there's a small number of people doing that.

Mattner: *Do you see any effect of computational methods on the self-conception and identity of the discipline?*

Underwood: Yet? I'll answer that in two parts. One is: I absolutely think that computational methods are changing our understanding of literary history. They have completely changed my understanding of literary history. Because when I came out of grad school, I really thought that terms like ›Romanticism, Modernism, Victorian‹ describe the story. And now I really don't! When we try to slice large digital libraries, we see much bigger patterns over much longer time spans than I was expecting to see. So – computational methods are changing, I think, what we know about literary history. Do I think most people know that yet? Has it changed the self-conception of the discipline? I would deny it yet. I think there is a lot of interest, people are sort of listening now to see whether anything will come of this but I don't think that they have tuned in very much yet beyond superficial controversies about close reading – distant reading.[20]

Mattner: *Do you see any key achievements of digital humanities so far?*

Underwood: One would be what I just mentioned: expanding the length of the timelines we talk about. This is enormous actually. There are other broader things you could say. Introducing a collaborative ethos to humanities is a thing people often mention and I do think that's important. It's tricky, I don't think that's simple. Collaboration is hard in our field. But I think that'd be another achievement. I also think that there are things going on in other parts of digital humanities unrelated to literary studies, for instance in media studies.

Mattner: *And for the difficulties or problems of the application of digital methods – do you face any?*

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20 | ›Distant reading‹ is a term coined by the italian literary scholar Franco Moretti and describes the mainly quantitative and statistical investigation of large amounts of text. It contrasts ›close reading‹, referring to qualitative and detailed examination of particular passages and smaller text units.

Underwood: Yes, oh heavens. There are some simple obstacles, like just getting the texts in the first place: If you're trying to get a thousand or ten thousand texts, that's an enormous amount of work and a big problem. Training, helping students learn to do research is a big problem. We don't have the curriculum yet. So where do students learn from? It's not easy. Those are sort of concrete obstacles that I think we're working all together on solving. The maybe more interesting or abstract kind of obstacle we face is in figuring out how to write articles that use these methods that retain the kind of rhetorical and philosophical liveliness of the discipline. It's not impossible, it's just a rhetorical challenge. Partly simply because we have a limited number of pages to do that. How can you talk about a thousand books and also be philosophically interesting in 20 pages? That's hard.

Mattner: *Also – you mentioned this in your article* The Quiet Transformations of Literary Studies *– it can be difficult to infer something about a single text from statistical results. How do you deal with this?*[21]

Underwood: To be honest, I deal with that mostly by not centering my arguments very often on individual texts. I use them to illustrate a larger arch. It's possible to use these methods to learn something about an individual text. But right now I am working very hard to show people that we're learning things that we couldn't otherwise have learned. And it's easier to show that on a large collection of books than it is with a single text.

Mattner: *Is there any aspect of literary studies that digital methods systematically fail to address? Thinking of the claim that intersubjectivity gets lost.*

Underwood: No. I mean, I think there are things that are difficult. And that's why I was just talking about the importance of the sort of rhetorical liveliness and philosophical self-consciousness. Those are hard. But that's about how you write the article. I don't think it's true what people often say – that these sorts of objective data models won't capture the blurriness and ambiguity of literary concepts. I think these methods can be really good at blurriness and ambiguity. Let me give you an example with genre. 40 years ago, Darko Suvin defined science fiction as ›the literature of cognitive estrangement‹. Very straight forward objective single answer. He thought he could provide one! Nowadays, if I am modeling science fiction, I am likely to be much more subjective about it. It's not at all true that quantitative methods force you to try to be objective and simply factual. They can grapple with perspectival questions.

Mattner: *In formalizing, it is very important to make clear what indicators you use in your model and how you approach your subject, isn't it?*

Underwood: So you're saying in that sense, modeling could be a way of formalizing subjective propositions. I would agree.

Mattner: *Also in* Quiet Transformations, *you talk about critical movements of literary history. What is the relation between digital literary studies and other critical movements like*

21 | Andrew Goldstone and Ted Underwood: »The Quiet Transformations of Literary Studies: What Thirteen Thousand Scholars Could Tell Us«. In: *New Literary History* 45.3 (2014), p. 359–384 (hereinafter referred to as *Quiet Transformations* cited from: https://www.ideals.illinois.edu/bitstream/handle/2142/49323/QuietTransformations.pdf?sequence=2 (last visited 24.07.2017)).

Birmingham School or Yale Deconstruction? Is it just another critical movement, does it belong to the same paradigm?

Underwood: I would say no. Speaking for my own part – not for A. Goldstone, my coauthor in that article – I understand digital literary studies not as a movement or an -ism or a school of thought that is arguing with those schools of thought. It's more an interdisciplinary opening. It might be less analogous to the Birmingham School particularly and more to sociology of literature broadly. It's a whole realm of questions we can pose here.

Mattner: *In* Quiet Transformations *you also say that it's not an identity category but a* project.

Underwood: It's not quite a field or a discipline but an *interdisciplinary space* maybe.

Mattner: *But there are these identity categories. Do you grant them any* raison d'être? *Why are they there? What is their function?*

Underwood: Part of what makes literary studies interesting is that it's controversial and that it engages with temporary controversies. That back and forth is important, I don't want to lose that. And it's part of what people have meant by calling some critics public intellectuals, too. I don't necessarily think those sorts of literary schools or movements a bad thing. But I do think that what we're looking at now is something a bit broader than that. It's not as tightly bound to a single argument.

Mattner: *Now, you also state that it seems wrong to look for one »invariant core« of the discipline of literary studies. But then, what defines academic disciplines? What defines literary studies as a discipline?*[22]

Underwood: Right. This is something I think a lot of people worry about right now, actually. About this interdisciplinary emphasis and that literary studies will be losing its representative distinct mode of knowledge. I think that literary studies has always been interestingly slippery in that respect. Is it history, is it critical evaluation? It's never been totally clear what the center was. I hope that's not a problem but if it is a problem I don't think that it's a new one.

Mattner: *Would you say disciplinary borders are defined by methodology?*

Underwood: I would say not! If anything defines literary studies, it's the object of study: literature.

Mattner: *But what is literature?*

Underwood: I would say as difficult as that is to define, it's probably still a better answer than a specific literary or humanistic methodology.

Mattner: *In* Quiet Transformations *you also maintain that contemporary applications of data mining like topic modelling »point toward a different hermeneutic, which humanists*

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22 | Ibid., p. 23.

may find shockingly congenial.«[23] *What kind of different hermeneutic do you mean and what reactions towards it have you encountered?*

Underwood: Compared to the kinds of simpler word counting methods I started with in the 90s, the approaches drawn from machine learning, including topic modelling, but also more supervised approaches, tend to be really self-conscious about the limits of knowledge, the assumptions we're making in trying to formalize a model and also very self-conscious about uncertainty. And these are things humanists have known for a long time. We can take account of them, we can be as subtle as we want to be rather than simply counting things. And I think that when humanists realize that that's possible, they will find it congenial.

Mattner: *You also state that a »nuanced, multifaceted account« of the disciplinary history might be achieved by topic modelling.*[24]

Underwood: A topic model brings up so many competing themes across a long space of time and so a simple story that we might tell about ›historians being replaced by critics‹ ends up being complicated by things you didn't expect.

Mattner: *In your recent article* The Life Cycles of Genres *you state that in your model »words just happen to be convenient predictive clues« for tracing »implicit similarities and dissimilarities between different practices of selection« and that »no causal power is ascribed to variables in a predictive model«.*[25] *What do you mean by that?*

Underwood: If you're building a simple statistical model, there are ways to use that kind of model to make causal arguments and that can be an interesting and worthwhile thing to do. But literary problems are rarely quite that simple. That's part of the reason why simple statistical methods didn't work in the 20th century. There is too much going on. The methods we're drawing from machine learning can model a phenomenon that is as complicated as say a literary genre. But in acknowledging the complexity of the problem you tend to lose your ability to draw simple causal conclusions. That's ok. I think there are still interesting things you can do by describing, for instance, how easy or how difficult it is to separate two genres in different points in time.

Mattner: *When you talk about statistical models of the 20th century, what do you mean?*

Underwood: Linear regression for example – it's great but we can't do it with genre.

Mattner: *In the same article you maintain: »Predictive models are rather like human beings: they can always find some ways that that two sets of works are similar, and other ways that they differ.«*[26] *What do you mean by that?*

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23 | Ibid., p. 14.

24 | Ibid., p. 16.

25 | Ted Underwood: *The Life Cycles of Genres*, 23. Mai 2016. http://culturalanalytics.org/2016/05/the-life-cycles-of-genres/ (last visited 29.05.2017).

26 | Ibid.

Underwood: I was surprised to find that I could recognize differences between groups of books that we wouldn't think to be distinct genres at all. In fact, you'll find that a predictive model can recognize almost anything. It's very good at telling the difference between things. So to use those models effectively to tell whether two groups of books are really similar or more similar than a randomly selected group of books, you have to construct a kind of three way comparison. Because the predictive model will always be able to find some difference.

Mattner: *You conclude the article by saying that quantitative methods give literary scholars resources that are flexible and responsive to the complexity of our material. Another quote of yours from a 2013 blog post points in the same direction saying: »The point is not that computers are going to give us perfect knowledge but that we'll discover how much we don't know.«*[27]

Underwood: Yeah, that's really important because it's not what people expect. They expect the reverse. We don't want simplicity – it can be good when you're trying to explain things but we don't want to make literature seem simpler than it is.

Mattner: *This complexity of material and methods requires appropriate training for students, doesn't it? If you could design your dream study program what would it be like or what would it include?*

Underwood: That's actually oddly easy to answer because I have it very much in my mind. To begin with, I am interested in questions about literary history and students need to know that. But I also would have students study statistics and quantitative analysis. Then, I would suggest that students start to learn to program because it's useful in so many ways. Finally, I would say that there need to be some courses about pulling those things together. About how to actually apply quantitative methods to literary history.

Mattner: *If you could change academic life and practice, what would you change?*

Underwood: In terms of graduate education, one thing that's not working as well as it could in the humanities is the model where students go off and write work pretty much entirely by themselves. That works very well for some people but not for everyone. And I do like the idea of a model of graduate education which is a little bit more like what scientists call a lab. Where people work together on shared problems. I think that can be fruitful.

Mattner: *How many student assistants do you have and what tasks do they perform?*

Underwood: At different times over the past few years I've worked with different people. There are large collaborative projects with other universities but here at Illinois, there've been four to five people. Their tasks really depend on what discipline they come from and what experience they have, it can vary a lot. When I worked with Michael Black, he had a lot of programming experience. So he wrote a lot of the code I used for a genre

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27 | Ted Underwood: *We don't already understand the broad outlines of literary history,* 8. Februar 2013. https://tedunderwood.com/2013/02/08/we-dont-already-know-the-broad-outlines-of-literary-history/ (last visited 29.05.2017).

project a couple of years back. More commonly, when I am working with students from literature, their job is literary research. My hope in the long run is – inspired by what you're doing at Göttingen actually – to bring together students from several different disciplines in an interdisciplinary lab so they can collaborate with each other so that it's not just me gluing everything together.

Mattner: *Yes, I experience working in the Göttingen lab very enriching.[28] Now, you already mentioned Twitter and I know you are blogging. Are you on Facebook? What social media do you prefer?*

Underwood: They're weirdly different things, aren't they? I learn a lot from Twitter, as I mentioned. It's like an antenna out there in the ether. Facebook is more for conversations with people I know a little better. So sometimes I take more risks in the Facebook space than I would on Twitter, frankly.

Mattner: *How regularly do you blog?*

Underwood: Once a month approximately. I find that really useful as a way to say short things.

Mattner: *Do you prefer reading on paper or on screen?*

Underwood: I prefer paper. But when I'm reading articles and it's a PDF online, I just read it online, that's fine. But if I'm reading a novel, I really do like the physical book.

Mattner: *In terms of digital literacy and interest in literature in general, in how far have you recognized change in your students over the past few years?*

Underwood: In terms of the things I've been describing, there has not been that much change yet in students typically entering an English graduate program. We have to become a bigger part of the typical English undergraduate major before the kinds of things we've been discussing will really be a big part of what students expect to be doing in studying literature. I don't think it's there yet. So I have seen not that much change over the past 15 years, actually.

Mattner: *And for your current project: You work on a book on genre theory, don't you?*

Underwood: Yeah, I have probably been describing it in several different ways. Right now, I am calling it *The Horizon of Literary History.*[29] It's broadly about the way our understanding of literary history could be changed by longer time lines.

Mattner: *Is there any special project that you really would like to realize in your research career? Any question you really want to answer?*

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28 | Project Lab at Georg-August-Universität Göttingen: https://capsgoe.wordpress.com (last visited 24.07.2017); for further information see http://gerhardlauer.de (last visited 24.07.2017); https://www.uni-goettingen.de/de/208944.html (last visited 24.07.2017).

29 | Ted Underwood: *The Stone and the Shell.* https://tedunderwood.com (last visited 24.07.2017).

Underwood: I only have in mind the things I am working on now, really. At the moment, I am very interested in representation of time in fiction.

Mattner: *Is there one moment,* the *greatest moment in your life as a researcher?*

Underwood: There have been several. When you are working with data, some kind of opaque representation of literary history, you can't immediately see what it means and you hope it will make sense. And then eventually it does make sense. That's a very good moment and it's different from writing and reading critical articles which I've also always enjoyed. But that's a different kind of breakthrough experience that I really do enjoy. And there have been several moments like that, basically with every article that I have written now, there is some moment of almost an immense experience of relief because you suspect that it's not going to make any sense and then you can see a pattern and it does.

Mattner: *There are only two questions left now: What is literature? And why is it important? What role does it play for individuals and societies?*

Underwood: Good heavens, what is literature... I think the best way to answer that question is to acknowledge that the answer to it has changed a great deal. There was a time when literature really just meant everything including non-fiction that a cultivated person would be expected to read. In the 18th century the word really was used that way. Our notion that it's specifically imaginative fiction and poetry is a relatively recent creation. In some ways, the history of that change is a lot of what I've been trying to get at with distant reading over the last few years. And even though I think that the only thing holding together literary studies is this concept of literature, I would acknowledge that it's a mutable concept and it will probably continue to change. And the second question was why it matters? That's so hard because it's a changeable concept and can matter for so many reasons. It certainly helps us understand ourselves better. Identification is really important. When people read stories they come to understand themselves. It's helping us all work through some kind of collective fantasy or fear about the present moment, I don't know exactly what fantasy or fear it is, I guess we still have to figure that out. Another important aspect of it is that literature is something about which we argue… What am I leaving out? There's a million things I am leaving out.

Mattner: *I see the point of understanding oneself because I believe that we, or ›selves‹, may appropriately be modelled as narrative entities so it's about how you tell your story that defines who you are. I think practicing this through writing or reading helps to gain self-confidence.*

Underwood: I absolutely agree. There's probably more to be done with psychology than we've done yet, probably. That has at least for a century been an element of literary theory and it should probably continue to be one. Part of what I am wanting to do with the article I am currently working on is thinking about the limits of distant reading as an approach. Especially in terms of the importance of moments in fiction – individual moments of insight or clarity. I think it's very important how and why literary criticism helps us understand the relation between individual and social experience in a way that social science has rarely been able to. But I am trying to argue that we can combine that kind of insight, that connection with that very small experienced detail, with the larger

insights of distant reading and even learn something about those single moments with distant reading. I hope, we'll see. I agree with you – that's sort of where we need to push things forward a bit.

Mattner: *Thank you for taking your time.*

Underwood: Thank you, I enjoyed it.

Bibliography

Art. »Digital humanities«. In: *Wikipedia.* https://en.wikipedia.org/w/index.php?title=Digital_humanities&oldid=735733198.

Digital Humanities Quarterly. http://www.digitalhumanities.org/dhq/about/about.html (last visited 29.05.2017).

Digital Scholarship in the Humanities. https://academic.oup.com/dsh/pages/About (last visited 29.05.2017).

Egbert, Jesse: »Style in nineteenth century fiction. A Multi-Dimensional analysis«. In: *Scientific Study of Literature* 2.2 (2012), p. 167–198.

Goldstone, Andrew and Ted Underwood: »The Quiet Transformations of Literary Studies: What Thirteen Thousand Scholars Could Tell Us«. In: New Literary History 45.3 (2014), p. 359–84 (referred to as Quiet Transformations cited from: https://www.ideals.illinois.edu/bitstream/handle/2142/49323/QuietTransformations.pdf?sequence=2 (last visited 24.07.2017)).

Jannidis, Fotis / Hubertus Kohle and Malte Rehbein (eds.): *Digital Humanities. Eine Einführung.* Stuttgart 2017.

Kirschenbaum, Matthew G.: »What Is Digital Humanities and What's It Doing in English Departments?«. In: *ADE Bulletin* 150 (2010), p. 55–61.

Schreibman, Susan / Ray Simons and John Unsworth (eds.): *A New Companion To Digital Humanities.* 2nd edition. Chichester 2016 [2004].

Underwood, Ted: *The Stone and the Shell.* https://tedunderwood.com (last visited 24.07.2017).

Underwood, Ted: *The Life Cycles of Genres,* 23. Mai 2016. http://culturalanalytics.org/2016/05/the-life-cycles-of-genres/ (last visited 29.05.2017).

Underwood, Ted: *We don't already understand the broad outlines of literary history,* 08. Februar 2013. https://tedunderwood.com/2013/02/08/we-dont-already-know-the-broad-outlines-of-literary-history/ (last visited 29.05.2017).

Zeitschrift für digitale Geisteswissenschaften. http://www.zfdg.de/e-wie-editorial (last visited 29.05.2017).