**The Open Science Interviews by Kaja Scheliga**

**Interview with David M. Berry, Berlin, May 2013**

**KS**: So to start off, could you please introduce yourself?

**DB**: I am Dr. David Berry and I am an associate professor of digital media at Swansea University in the UK.

**KS:** And what is your field, what do you do?

**DB:** My field is kind of broadly conceived as digital humanities or software studies. I focus in particular on critical approaches to understanding technology, through theoretical and philosophical work, so, for example, I have written a book called 'Philosophy of Software' and I have a new book called 'Critical Theory and The Digital' but I am also interested in the kind of practices of the digital as well and the way the digital, how it plays out in a political, economic context.

**KS:** Today, here at the re:publica you talked about digital humanities. What do you associate with the term open science?

**DB:** Well, open science has very large resonances with Isaiah Berlin's notion of the open society, and I think the notion of open itself is interesting in that kind of construction, because it implies a 'good'. To talk about open science implies firstly that closed science is 'bad', that science should be somehow widely available, that everything is published and there is a way of, essentially a public involvement in science. It has a lot of resonances, not necessarily clear. It is a cloudy concept. Yes.

**KS:** So where do you see the boundary between open science and digital humanities? Do they overlap or are they two separate fields? Is one part of the other?

**DB:** Yes, I think, as I was talking in the previous talk about how digital humanities should be understood within a constellation, I think open science should also be understood in that way. There is no broad definition, and we can bring up a lot of different definitions, and practitioners would use it in multiple ways depending on their fields. But I think, the kind of commitment towards open access, the notion of some kind of responsibility to a public, the idea that you can have access to data and to methodologies, and that it is published in a format that other people have access to, and also there is a certain democratic value that is implicit in all of these constructions of the open, open society, open science. And that is really linked to a notion of a kind of liberalism that the public has a right, and indeed has a need to understand. And to understand in order to be the kind of citizen that can make decisions about science themselves. So in many ways it is a legitimately discourse, it is a linked and legitimately discourse about science itself and it is a way of presenting science as having a value to society.

**KS:** But is that justified, do you agree with this concept? Or do you rather look at it critically?

**DB:** Well, I am a critical theorist. So, for me these kinds of concepts are never finished. They always have within them embedded certain kinds of values and certain kinds of positions. And so for me it is an interesting concept and I think it is interesting that it emerges at a certain historical juncture, and of course with the whole digital age thing and all the things that have been talked about here at the re:publica, everyone is so happy and so progressive and the future looks so bright, really.

**KS:** Does it?

**DB:** Yes, well, from the conference perspective, because it is a technology conference, there is this whole discourse of, and it is kind of an American techno-utopian vision that is really odd in a European context, for me anyway, here. So, being a critical theorist, it does not necessarily mean that I want to crush the concept, but I think it is interesting to unpick the concept and see how it plays out in various ways. In some ways it can be very good, it can be very productive, it can be very democratic, in other ways it can be used for example as a certain legitimately tool to get funding into certain kinds of projects, which means other projects, which are labelled 'closed', are no longer able to get funded. So, it is a complex concept, I do not think / it is not necessarily good or a bad.

**KS:** So, not saying 'good' or 'bad', but looking at the dark side of say openness, where do you see the limits? Or where do you see problem zones?

**DB:** Well, again, to talk about the dark side, it is kind of like Star Wars or something, we have to be very, very careful with that, because the moment you start talking about the dark side of the digital, which is the current / big discussion is going on for example in the digital humanities, I think it is a bit problematic. That is why I think, thinking in terms of critique is a much better way to move forward. So for me, what I would think would be more interesting would be to look at the actual practices of how open science is used. Which practitioners are using it? Which groups align themselves with it? Which policy documents? And which government policies are justified by rolling back to open science itself? And then, you know hugely importantly, to perform a kind of genealogy of the concept of open science. Where does it come from? What is it borrowing from? Where is the discussion over that term? Why did we come to this term being utilised in this way? And I think really that then shows us, the force of a particular term, and places it within a historical context which is hugely important. Because open science ten years ago may have meant one thing, but open science today may mean something different. So, it is very important we keep these thoughts in our minds.

**KS:** All right. And are there any open science projects that come to mind, spontaneously, right now?

**DB:** I suppose, I mean I do not know if they were branded as open science but I think CERN would be for me a massive open science project, and likes to promote itself in these kinds of ways. So, the idea of a public good, publishing their data, having a lot of cool things on their website the public can look at, but ultimately, that justification for open science is disconnected because, well, what is the point of finding the Higgs boson, what is the actual point, where will it go, what will it do? And that question never gets asked because it is open science, so the good of open science makes it hard for us to ask these other kinds of questions really. So, those are the kinds of issues that I think are really important. And it is also interesting in terms of, for example, there was an American version of CERN, and that was cancelled. So why was CERN built, how did open science enable that? I mean, we are talking huge amounts of money, huge amounts of effort, would this money have been better transferred to solving the problem of unemployment, you know, we are in a fiscal crisis at the moment, a financial crisis and these kinds of questions get lost because open science itself gets divorced from its political context.

**KS:** Yes. But interesting that you say that within open science certain questions are maybe not that welcome, so actually, it seems to be at certain places still pretty closed, right?

**DB:** Well, that is right, open itself is a way of closing down other kinds of debates. So, for example, in the programming world open source was promoted in order not to have a discussion about free software, because free software was just too politicised for many people. So using the term open, it was a nice woolly term that meant everything to a lot of different people, did not feel political and

therefore could be promoted to certain actors, many governments, but also corporations. And people sign up to open source because it just sounds / open source, yes, who is not for open source? I think if you were to ask everyone here you would struggle to find anybody. But if you ask them if they are for free software a lot of people would not know what it is. That concept has been pushed away. I think the same thing happens in science by these kinds of legitimately discourse. Certain kinds of perhaps critical approaches get closed down. I think you would not be welcomed if at the CERN press conference for the Higgs boson you would put up your hand and go: well actually, would it not have been better spending this money on solving poverty? That would immediately not be a welcomed question.

**KS:** Yes, right. Okay, so do you think science is already open, or do we need my openness? And if so, where?

**DB:** Well, again, that is a strange question that assumes that I know what openness is. I mean openness is a concept that changes over time. I think that the project of science clearly benefits from its ability to be critiqued and checked, and, I do not necessarily just want to have a Popperian notion of science here, it is not just about falsification, but I think verification and the ability to check numbers is hugely important to progress of science. So that dimension is a traditional value of science, very important that that does not get lost. Whether rebranding it as open science helps us, I am not so sure. I am not sure that really does much for us, really. Surely it is just science? And stuff that does not do it is perhaps another disciplinary concern.

**KS:** What has the internet changed about science and working in research?

**DB:** Well, I am not a scientist, so –

**KS:** - as in science, as in academia. Or, what has the internet changed in research?

**DB:** Well, this is an interesting question. Without being too philosophical about it, I mean Heidegger was talking about the fact that science was not science anymore, and actually technology had massively altered what science was, because science now is about using mechanisms, tools, digital devices, computers, in order to perform the kinds of science that is performed. So it becomes this entire technologically driven activity. Also, today science has become much more firmly located within an economic discourse, so science needs to be justified in terms of economic output. So it is not just the internet and the digital that have done that (?), there is these larger kind of structural moves I think that are part of that. So, you know what has science done? Well, one thing science has done / what has the web done? One thing the internet has done, the web, is actually allow certain kinds of scientism to be performed in public. And so you see these playing out in certain ways, certain movements, really strange movements have emerged that are pro-science and they just seek to attack people they see as anti-science. So, the very strong atheist movement that Richard Dawkins is an example of, now he argues that he is pro-science and anyone who is against him is literally against him, they are anti-science. This is a very strange way of conceptualising science. And some scientists I think are very uncomfortable with the way Dawkins is using rhetoric, not science, rhetoric to actually enforce and make a point. And we see the other example in for example the sceptics movement (…), it is a very pro-science movement that has very fixed ideas about what science is. So science becomes a very strong, almost political philosophy, a scientism. I do worry that because of the medium, the technologies, it creates a certain kinds of technocratic way of thinking, a certain kind of instrumental rationality as it were.

**KS:** How open is your research, how open is your work? Do you share your work in progress with your colleagues?

**DB:** Well, as an academic, you know that is a natural way of working, we are very collaborative, I go to conferences, I present new work all the time, I publish in a variety of different venues, so, I mean, your ability to be promoted as an academic, to become a professor, you have to essentially publish, which means putting work out there in the public sphere which is then assessed by your colleagues. So the very principles of academia are about publishing, peer review, and so on and so forth. So, we just have to be a bit careful about how open is your work, because I am not sure I recognise that question, it is too embedded within certain kinds of rhetorics that I am a little bit uncomfortable with. So the academic pursuit is very much that anyway, I think.

**KS:** Okay. I was referring to, of course, when you do work and when you have completed your research you want to share it with others because that is the point of doing the research in the first place, to find something out and then to tell the world look this is what I found out, right?

**DB:** Possibly. No.

**KS:** No?

**DB:** This is what I am saying. I mean –

**KS:** I mean, of course in a simplified way.

**DB:** Yes, well, disciplines are not there to tell the world. Disciplines are there to do research and to create research cultures. What is the point of telling the world? The world is not necessarily very interested. And so you have multiple publics, is one way of thinking about it. So one of my publics, if you like, is my discipline, cognate disciplines, and then broader publics like re:publica and then maybe the general public. And there are different ways of engaging with those different audiences. If I was a theoretical physicist for example, and I publish in Algebra, I can put that on the web but you are not really going to get an engagement from a public as such. That will need to be translated. And therefore maybe you might write a newspaper article which translates that to a different public. So, I think it is not about just throwing stuff on the web or what have you. I think that would be overly simplistic. It is about translation. So do I translate my research? Well I am doing it now. I do it all the time. So, I talk to Ph.D. students and graduates, that is part of the dissemination of information, which is, I think really what you are getting at. How do you disseminate knowledge?

**KS:** Exactly. And knowledge referring not only to knowledge that is kind of settled and finished, you know, I have come to this conclusion, this is what I am sharing, but also knowledge that is in the making, in the process, that was what I was referring to.

**DB:** Sure, yes. I mean, good academics do this all the time. And I am talking particularly about academia here. I think good academics do research and then they are teaching and of course these two things overlap in very interesting ways. So if you are very lucky to have a good scholar as a professor you are going to benefit from seeing knowledge in the making (…). So that is a more general question about academic knowledge and education. But the question of knowledges for publics, I think that is a different question and it is very, very complex and you need to pin down what it is you want to happen there. In Britain we have this notion of the public engagement of science and that is about translation. That is about, let's say you do a big research project, that is very archaic or esoteric or difficult to understand and then you write a popular version of it, and then people can go: oh yes. Stephen Hawkins is a good example of this. He writes books that people can read and this has major effects and I think that is hugely important.

**KS:** So, what online tools do use for your research?

**DB:** What online tools? I do not use many online tools as such. I mean I am in many ways quite a traditional scholar, I rely on books, I will just show you my notes. I take notes in a paper book and I write with a fountain pen and I have a very traditional ways of like working. (…) Well the point is that you know this is non-digital, I never digitise it and I think it is interesting to go through the medium of paper to think about the digital, because digital tools seem to offer us all these solutions and we are very caught up in the digital as providing answers. And I think we have to pause a little bit, and paper forces you to pause, that is why I like it, it slows you down and it is that slowing down I think is really, really important in doing research. Obviously, when it comes to collection of data and following debates I use all of the standard kinds of tools. Google of course is one of the most important, Google scholar is a really interesting tool, Gephi is very interesting social network analysis tool. I use Word and Excel as does everybody else, so it is choosing the digital for particular tools I think, really. One thing I do much less of is, for example, the kind of programming stuff were people write APIs and scrapers and all this kind of stuff, I have been involved in some projects doing that but I just do not have time to construct those tools, so I use other people's tools for example.

**KS:** Okay, and how about organising ideas, do you do that on paper? Or for example do you use a tool for task managing?

**DB:** Always. No, no. I mean if you have a look in here you see, I can choose any page and there is an organisation of ideas going on here. I think it is a rich way to work through ideas. Eventually, you have to move, you know I do not type my books on typewriters, I use Word for example, so eventually you do go into a word processor, but by that point I think the structure is pretty much in my head. I dwell on it for paper and then move over into a digital realm. You know, I do not use any of these concept mapping softwares, I just find them too clumsy and too annoying actually.

**KS:** Okay, so what puts you off not using / not being tempted by using all those tools that offer you help and offer to make you more productive?

**DB:** Well, because firstly, I do not want to be more productive, and secondly I do not think they help. So the first thing I say to my students when I get new Ph.D. students, I say: buy a book and a pen and start taking notes. Do not think that the computer is your tool, or your servant. The computer will be your hindrance, particularly in the early stages of Ph.D. It is much more important to carefully review and think through stuff. And that is actually the hardest thing to do, especially in this world of tweets and messages and emails, you know the distractions are everywhere. There are no tweets in my book, thankfully, and it is the slowness and leisureliness that enables you to create a space for thinking. It is a good way of training your mind to pause and think before responding.

**KS:** So, you are saying that online tools kind of distract us from thinking and actually we think that we are doing a lot of stuff but actually we are not doing that much, right?

**DB:** Well, the classic thing is, you get students that for example think they are doing an entirely new research project and they map it all out in this tool that allows you to do fancy graphs, but they are not asking any kind of interesting research questions because they have not actually looked at the literature and they do not know the history of their subject and waste their time. So it is very important that we are / some people have made the argument that we are forgetting our own histories. And I think this is very true. The temptation to be in the future, to catch the latest wave or the latest trend affects Ph.D. students and academics as much as everybody else. And there are great dangers from chasing those kinds of solutions. Academia used to be about taking your time and being slow and considering things. And I think in the digital age academia's value is that it can continue to do that, I hope.

**KS:** Okay, but is there not a danger that if you say: okay, I am taking my time, I am taking my paper and my pen while others are hacking away, being busy using all those online tools, and in a way you could say okay that speeds up some part of research, at least when you draw out the cumulative essence of it, can you afford to invest the time?

**DB:** Well, it is not either or. It is both. The trouble is, I find anyway, with Ph.D. students, their rush to use the digital tools is to prevent them from having to use the paper. And, a classic example of this is Endnote. Everybody rushes to use Endnote because they do not like doing bibliographies. But actually, doing the bibliography by hand is one of the best things you can do because you learn your field's knowledge, and you immediately recognise names because you are the one typing them in. When you leave that to a computer program to do it for you, laziness emerges – and you just pick and choose names to scatter over your paper for example. So, I am not saying you should not do that, I am saying that you should maybe do both. I mean, I never use these tools to construct bibliographies, I do them by hand because it encourages me to think through, what about this person are they really adding, what do they add? And I think it is really important.

**KS:** Although, it probably should be more about, okay what do I remember this persons writing, and what have they contributed and not so much about whose name sounds fancy and which names do I need to drop here.

**DB:** Totally. Well, there has been some interesting work, someone did some bibliometric analysis and they showed how citations were used in certain disciplines and certain names just crop up because previous papers just mentioned that name, so it is like an name checking exercise, and no one really went back and read that original paper, so forcing yourself to read and consider is very, very important.

**KS:** A last question, I want to ask you about collaborative writing, do you write with other people and if so, how does that work? Where do you see advantages and where do you see possible trouble?

**DB:** I do. I have been through the whole gamut of collaborative writing, so I have both seen the failures and the successes. Collaborative writing is never easy, first and foremost. Particularly I think for humanities academics, because we are taught and we are promoted on the basis of our name being on the front of a paper or on the page of a book, so that obviously adds its own complications, plus you know academics tend to be you know very self-centred, and there is always questions about -

**KS:** …in spite of all the collaboration, right?

**DB:** Indeed, yes of course, I mean that is just the academic way, but I mean you need that, I think, in a way because to write a book requires you to sit in a room for months and months and months and the sun is shining, everyone else having fun and you are sitting there in a gloomy room typing away, so you need that kind of self-drive and belief, and that, of course, causes frictions between people. So I have tried various different methods of working with people, but one method I found particularly interesting is a method called booksprinting. It is essentially a time boxed process where you come together with, let us say, four or five other scholars, you are locked in a room for the week, except to sleep and you literally eat together, write together, concept map and develop a book, collaboratively. And then the book that is produced is a joint authorship book, there is no arguments over that, if you do not agree you can leave, but the point is that the collaborative output is understood and bought into by all the participants. Now, to many academics this sounds like absolute horror, and indeed when I was first asked if I would like to be involved in one I was like, I will go along but I am sure this is going to be a failure. It was one of the most interesting collaborative writing processes I have been involved in. I have been involved with two now. And, you know, you are welcome to have a look at

the book, it is called 'New Aesthetic New Anxieties' for example. And it is amazing how productive those kinds of collaborative writing processes can be. But it has to be managed process. So, do check out booksprinting, it is very interesting.

**KS:** Okay, but then for that to work what do you actually / from your experience, can you draw out factors that make it work?

**DB:** Sure. The most important factor is having a facilitator, so somebody who does not write. And his role is to make sure that everybody else writes. And that is a very amazing task, an important person that can do that, because you have to manage – it is herding cats. Academics do not like to be pushed. And the person I have worked with, he is brilliant at this kind of facilitation, so yes I mean that is crucially important. The second thing is the kinds of writing that you do, how you do it. The booksprinting process I have been involved in has been very paper-based, so again there is a lot of paper everywhere, there are post-it notes, there is a lot of sharing of knowledge, and this is probably the bit you are going to find interesting, there is a digital tool which enables you to collaboratively write. It is a cleverly written tool, it has got none of the bells and whistles, it is very utilitarian and it really focuses the writing process which is really what you need. And, having seen this played out on two different booksprints, I can affirm that it does indeed work. So I recommend you have a look.

**KS:** So, what is the tool?

**DB:** It is called Booktype. And Adam Hyde is the guy who is one of the developers and the facilitator.

**KS:** Okay, interesting. Any questions? Or any question I did not ask you, anything you want to add that we have missed out, any final thoughts? Any questions for me?

**DB:** Yeah, I mean, my real point would be that I do think that a genealogy of open science is hugely important and / you know your assumptions about it are really interesting because they are informed by / there is a certain position you are taking which you do not articulate, which I find interesting. So that is just interesting for reflection.

**KS:** Okay, great, thank you very much.

**DB:** My pleasure.

**KS:** Thanks.

**DB:** Thank you.

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* This interview was conducted as part of my research at the Humboldt Institute for Internet and Society. The interview was recorded and transcribed. The transcription was carried out with the best intentions of accuracy but can nevertheless contain unintended mistakes. This version of the interview has been slightly edited for better readability without any substantial changes to the content.

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