

'Posthumanities: The Dark Side of "The Dark Side of the Digital"'

Hall, G. and Adema, J.

Post-print deposited in [Curve](#) October 2016

Original citation:

Hall, G. and Adema, J. (2016) 'Posthumanities: The Dark Side of "The Dark Side of the Digital"'. *Journal of Electronic Publishing*, volume In press

<http://www.journalofelectronicpublishing.org/>

Michigan Publishing

Creative Commons License

Copyright © and Moral Rights are retained by the author(s) and/ or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This item cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.

CURVE is the Institutional Repository for Coventry University

<http://curve.coventry.ac.uk/open>

Disrupting the *Humanities*: Towards Posthumanities

Posthumanities: The Dark Side of “The Dark Side of the Digital”

Janneke Adema and Gary Hall

Disruptive Humanities

In *What is Posthumanism?* Cary Wolfe insists “the nature of thought itself must change if it is to be posthumanist.”¹ Our argument, made manifest by this special issue of the *Journal of Electronic Publishing*, is that it is not only our ways of thinking about the world that must change if they are to be posthumanist, or at least *not simply humanist*; our ways of being and doing in the world must change too. In particular, we view the challenge to humanism and the human brought about by the emergence of artificial intelligence, augmented reality, robotics, bioscience, pre-emptive, cognitive, and contextual computing, as providing us with an opportunity to reinvent, radically, the ways in which we work, act, *and think* as theorists. In this respect, if “posthumanism names a historical moment in which the decentering of the human by its imbrication in technical, medical, informatics, and economic networks is increasingly impossible to ignore,”² then it generates an opportunity to raise the kind of questions for the humanities we really should have raised long before now, but haven’t because our humanist ideas, not just of historical change and progression (i.e. from human to posthuman, to what comes *after* the human),³ but of the rational, liberal, human subject, and the associated concepts of the author, the journal, and copyright that we have inherited with it, continue to have so much power and authority.

Our use of *disruption* in this context thus goes beyond the usual definitions of the term. This includes those characterizations of technological disruption associated with Clayton Christensen and his colleagues at the Harvard Business School, and with the rhetoric of Silicon Valley. It is *not* our intention to try to sustain and develop the current system for creating, performing and circulating humanities research and scholarship, its methodologies, aesthetics, and institutions, by emphasizing the potential of disruptive technologies to generate innovations that are capable of facilitating the production of a *new* “digital” humanities, or even “posthuman Humanities studies.”⁴ As the title of this special issue indicates, rather than helping the humanities refresh themselves with what Joseph Schumpeter

describes as waves of “creative destruction” (say, by developing new *computational* methods for discovering, reading, analyzing, comparing, annotating, and publishing humanities texts), our interest is in *affirmatively disrupting* the humanities by seeing the threat to humanism and the human associated with the emergence of these new “posthuman” technologies as offering us a chance to experiment with the invention of *posthumanities* systems for the creation, performance and circulation of knowledge and research. It is for this reason that we have adopted the term “affirmative disruption” in some of our work: to emphasize this difference. The word *affirmative* is being used here in the sense in which Roberto Esposito writes of an “affirmative biopolitics” in relation to the thought of Michel Foucault--an affirmative biopolitics being “one that is not defined negatively with respect to the dispositifs of modern power/knowledge but is rather situated along the line of tension that traverses and displaces them.”⁵

Digital Humanities

Of course, some would say these are just the kind of questions concerning the creative transformation the humanities are undergoing as a result of innovations in technology that are being addressed by another DH: not *Disruptive Humanities* but *Digital Humanities*. Here, the process of transitioning from the Gutenberg galaxy of reading and writing print texts that are published intermittently in codex book and journal form, to the Zuckerberg galaxy of fast-paced, high-volume, networked flows of digital writing, photography, film, video, sound, data, and hybrid combinations thereof, is held as having made the need to update our ways of working as scholars and researchers hard to ignore for many in the humanities. From this point of view there is no going back to the so-called “traditional humanities.” Regardless of whether or not “digital humanities” is “a term of tactical convenience,”⁶ *digital humanities just are the humanities* as they are practiced in the 21st century, and as they will be practiced more and more in the future.

The requirement to come to terms with the implications of this perceived transition in media paradigm, from print to electronic, Gutenberg to Zuckerberg, is one of the reasons many of those associated with digital humanities insist humanists must take advantage of the opportunities that are provided by new technologies to be much more engaged, *practically and theoretically*, with the media that is used to store, analyze, and present the human record. Hence the emphasis placed on the importance of being able to actually *make* things rather than just *critique* them: on being able to write software code; generate interactive electronic literature, databases, and historical maps; and build online journals, libraries, archives and 3D simulations. Hence, too, the link some have drawn between digital humanities and the

“material turn” that has occurred in the humanities of the 21st century. As Alan Liu writes: “In the digital humanities, the ‘epistemology of building’--realized through the building of digital projects, hardware DIY projects, media archaeology labs, etc., and theorized with the aid of such broader intellectual movements as the ‘new materialism’--is, as they say, a thing.”⁷

For us, however, digital humanities--at least as they are commonly understood--are apt to stay too much within the boundaries and limits of the humanities.⁸ This is especially the case with regard to their adherence to preconceived ideas of both the “humanistic” and the “human” (not to mention theory and practice, the textual and material, *negative* critique and *positive* making). Witness--to provide just one of many possible examples--the way for Burdick, Drucker, Lunenfeld, Presner, and Schnapp, in their book *Digital Humanities*, explicating “what it means to be human in the networked information age”, and “demonstrating the value of ... fundamental humanistic values... is an essential part of advocacy” for digital humanities as a field, and precisely what digital humanities are about.⁹ As a result, digital humanities all too often do indeed involve bringing computing science technologies and methodologies to bear on a humanism and humanities corpora which are relatively unchanged.

Admittedly there are claims that, in their assertion that “technical and managerial expertise” of the kind needed to *build* digital projects simply *is* “humanist knowledge,” and “general disdain for scholarship as it had hitherto been defined” in the humanities (i.e., in terms of the importance of painstaking reading, writing, interpretation, analysis, and, above all, *critique*), digital humanities position themselves as a challenge to “the very definition of the humanities” (especially when interpretation and critique are understood as *political* activities), and as “an entirely new conception of the humanities.”¹⁰ We’ll come back shortly to say more about this political critique of digital humanities as symptomatic of the neoliberal university’s emphasis on producing more marketable, instrumental, and utilitarian scholarship that is designed to meet the needs of business and industry. Suffice it to say for now that, as far as we are concerned, digital humanities tend not to be *nearly challenging or new enough* when it comes to the humanities and humanism. Granted, they may involve extending the humanities to incorporate techniques and approaches from other fields: computing science, information studies, business, design, computational linguistics; but also the social sciences, and especially their emphasis on quantitative and empirical methods. Without doubt, the promotion by certain areas of digital humanities of collaborative, openly shared, “project-based learning and lab-based research” over the kind of critical reading and writing that is carried out by lone scholars in private studies and offices can be included in this expansion.¹¹ Yet, ultimately, such developments do not *fundamentally transform* either the humanities or

humanism. Far too often digital humanities are taken up with using *digital* tools and methodologies adapted from these other fields to answer *humanistic* research questions--whether they are those of history, philosophy, the classics, languages or linguistics--more efficiently and effectively. Doing so may provide insights into such questions it would not be possible to arrive at, or even on occasion conceive of, without the use of computers. However, it means insufficient appreciation is shown for how digital technologies do not provide just a new way of storing, analyzing or presenting the human record but are involved--as we want to emphasize with this issue--in the decentering of the human, and with it the very idea of the *human* record.

Even those humanists associated with digital humanities who *do* criticize the latter for adopting too many of the ideas, approaches and methodologies of the computing sciences, of business, and of industry, tend to do so very much from a humanities perspective. While they may make a case for the continuing importance of a theoretically-informed humanities to digital humanities, they almost invariably make this case on the basis of a humanities understood within a fairly conventional framework, emphasizing the latter's main methodological strong points: a concern with meaning, ambiguity, complexity, and historical context, as well as with the close, careful reading, interpretation, analysis, and critique of texts, for example. It is this version of the humanities that is then used to push back against the dominant models of the quantitative and empirical approach of the so-called "computational turn" to data-driven and industry-centered research in the humanities.

The result, as the very term suggests, is that all too frequently a difference is maintained in digital humanities between computing and the digital on the one hand, and the humanistic and human on the other. Even as the two sides of this relationship are brought together, their respective identities remain, at bottom, untroubled. Moreover, this applies almost as much to the *digital* side of the equation as it does to the *humanities*. Yet the very idea of *digital* humanities can be considered somewhat odd given the degree to which digital and non-digital are intertwined nowadays. Witness the way some have characterised our current era as being not so much digital as "post-digital."¹² From this viewpoint, *digital* is almost an irrelevant attribute when nearly all media--and this includes printed paper texts, which are rarely written, read, or published today without the use of software such as Microsoft Word and Adobe InDesign--result from complex processes of "becoming with" digital information processing;¹³ as indeed do things as diverse as our entertainment, transport, banking, fuel, food, and fresh water-supply systems. Likewise "digital humanities" is something of a misnomer, given the traditional humanities has long been concerned with technologies of mediation in general, and the digital in particular. (The latter has been the case with regard to

critical theory since at least the publication of Jean-Francois Lyotard's *The Postmodern Condition: A Report on Knowledge* in 1979, as we have shown elsewhere when arguing that, strictly speaking, "there are no digital humanities").¹⁴

For us, then, digital humanities are more concerned with trying to make an already understood humanities and humanism fit for purpose in the "networked information age," as Burdick et al put it, than with perceiving the rise to prominence of new *digital* technologies as presenting us with an opportunity to reexamine and reinvent our ideas of the humanities and the human--and of the digital too. So digital humanities may experiment with notions of the author and the book--as Kathleen Fitzpatrick did with her monograph *Planned Obsolescence*, which she initially published on a WordPress blog that used the CommentPress plugin to allow others to add comments alongside the main body of her text.¹⁵ But they do not challenge them to any radical extent. Thus Fitzpatrick very much retained authorial control of *Planned Obsolescence*, continuing to be the clearly identifiable, *original* human author of this book, which it was then possible for her to publish as a conventional, linearly organized, bound and printed paper, codex, academic monograph on a copyrighted, "all rights reserved" basis.¹⁶ Consequently, what we are interested in is using the disruption of the humanities associated with the development of new technologies as an opportunity to affirmatively rethink the humanities, the digital, *and* the human. What we want to show is that, when it comes to *the very idea of the human that underpins the humanities*--together with some of the core humanities concepts that have been inherited with it, such as the unified, sovereign subject, the proprietorial author, writing, the codex book, the journal, the fixed and finished object, originality, and copyright--both digital humanities, *and* many critiques of digital humanities, are not without their blind spots, any more than are the traditional humanities. Accordingly, this issue explores, not so much the extent to which it is possible for digital humanities to push back against the computational turn in the humanities by creatively transforming methodological approaches, tools, and practices drawn from computing science and some of the fields affiliated with it (business, management, design, industry). Rather it explores the extent to which it is possible for digital humanities--or at least certain tendencies within them--to be pushed more in the other direction: towards creatively transforming the humanities and the human to produce something we are calling "posthumanities."

Posthuman Humanities

At the same time, we don't want to be too hard on digital humanities. Even the most apparently radical of posthumanist and antihumanist theorists, including new materialists, media archaeologists, and object-oriented philosophers, encounter many of the same

problems. They may endeavour to decenter humanism and the human from their traditional place at the heart of Western thought by privileging the non-human, the object, and the planetary-wide crisis of life itself articulated by the concept of the Anthropocene. But the main way such theorists do so is by writing big, *mansplaining* books, containing *original* ideas and ontologies attributed to *them* as individual *named* human authors, very much to the exclusion of all other human and nonhuman actors and elements, on a copyright, all rights reserved basis.



To put this briefly, and in the most obvious of terms: animals *cannot own copyright*, as we know from the case of Naruto, the six year old crested macaque monkey that took a famous “selfie” photograph of itself.¹⁷ So these theorists may be writing about the posthuman, and even on occasion the posthumanities;¹⁸ about the importance of extending our understanding of media to take in nonhuman communication processes such as those associated with dolphins, drones, fossils, clouds, sunlight;¹⁹ about how the task of critical theory in the Anthropocene era is to advance beyond the idea of “humans as subjects and world as object”-an idea on which “both our exploitation and our sentimental and nostalgic view on the world” is based--in order to offer a trenchant critique of ideas of *human exceptionalism*.²⁰ But if they are claiming copyright, even to the extent of publishing under a Creative Commons license, then they are not actually transgressing the boundary that separates the human from the nonhuman at all, to borrow the language of Donna Haraway from “A Cyborg Manifesto.”²¹ They are precisely foreclosing an understanding of the “entangled,” “relational,” “processual” nature of identity: of the human’s co-constitutive psychological, social and biological relation to a multitude of nonhumans, objects and non-anthropomorphic

elements and energies. Instead, these theorists are presenting their writing as very much the original creation of an exceptional and individualised, proprietorial human subject. (And it is worth emphasizing that Cary Wolfe is no exception in this respect, certainly in terms of his book *What Is Posthumanism?* with which we opened, and the Posthumanities book series he edits for University of Minnesota Press.) It is a set of circumstances that provides one explanation as to why the fields of posthumanism, new materialism, media archaeology, object-oriented philosophy, and the Anthropocene have all developed “star systems” (even if they do still have some distance to travel before they rival that of critical theory in the 1970s and 1980s).²²

For theorists of the posthuman and the nonhuman, then--for all some may argue that language and semiotics is not enough, that we now need to pay much more attention to objects and to the material--we can see that the *theoretical* ideas contained in the texts they write are distinct from the *practical* forms these texts take, their material qualities and properties. Thus their ways of being and doing as theorists, far from displacing humanism and the human, remain resolutely humanist--and not all that interested in the actual material nature and agency of their texts, ironically enough. As a result, not only is much (although we want to stress *not all*) of the “material turn” that has taken place in the humanities of the 21st century a reactionary “material foundationalism,” as Dennis Bruining puts it, something he connects to a longing for an “underlying foundation” or “truth;”²³ it is also a form of what Wendy Brown calls anti-political moralism.²⁴ Too often what it is to be political here is understood *in advance* of intellectual questioning. It is a moralism that prevents such *zombie materialists* from engaging rigorously and critically: either with the manner in which their own arguments are almost invariably performed using the very language and writing they are supposed to be moving us on from; or with the materiality of their own ways of working, acting, *and thinking* as theorists. We have in mind here the *materials*--or, better, the very *matter*--of the ink, paper, pens, word processors, desktop computers, laptops, tablets, smartphones, cables, wires, and electrical charges with which they communicate; of the books and journals they publish; as well as that of the institutions of critical theory in which they work: the library, the publishing house, and the university (the latter of course including the seminar, lecture, conference, and symposium). But we are also thinking of the financial investments these materials require, the energy and resources they use, the labor and infrastructure they involve, and their impact on the environment.

Consequently, what we want to explore in our work is how we can operate *differently* with regard to our ways of being and doing in the world as theorists. We want to push both the humanities and ourselves to the point where we begin to assume responsibility for some of

the implications theories of the posthuman and the nonhuman have for the humanist model of the unified subject, and the associated conceptions of the author, the journal, and copyright, that are all too often adopted unquestioningly by default. In other words, we want to experiment with how we can change, not just the way we think about the world--“the nature of thought itself,” as Wolfe has it--but how we can change the ways in which we create, perform and circulate knowledge and ideas too.

Critical/Political Humanities

Yet if our approach to the future of the humanities is heterodox to that of the majority of digital humanists and posthumanists, it is also different from that of those critics who have drawn attention to this obscure, “dark side” of research and scholarship when it comes to the digital. For these “so-called dark side critiques” are far from immune to difficulties of this kind.²⁵ On the contrary, they have something of an anti-political, moralistic side of their own.

From what we have said already, this is perhaps most obviously the case with regard to those critics who present placing an emphasis on the hidden *material* reality that makes the digital possible as an “indisputable good.”²⁶ In the words of the 2013 Dark Side of the Digital conference at the University of Wisconsin-Milwaukee (UWM), this material reality includes the “environmental destruction from disposing the hazardous waste of still functioning but outmoded media devices, or mining for the precious metals that the continued production of these new devices require.”²⁷ But our point about the “dark side of the ‘dark side critiques’” also applies to the related aspect of this critique that insists the digital must be understood in terms of questions of power, exploitation, and social inequality that likewise “often remain obscure to global media users.”²⁸

In keeping with this view, Richard Grusin, Director of C21, UWM’s Center for 21st Century Studies, where the Dark Side of the Digital conference took place, draws a connection between the “emergence of digital humanities” and the “intensification of the economic crisis in the humanities in higher education.”²⁹ It is no coincidence, to his mind, “that the digital humanities has emerged as ‘the next big thing’ at the very same moment in the first decades of the twenty-first century that the neoliberalization and corporatization of higher education has intensified.”³⁰ In particular, their institutional success is due to a “comparatively prosperous information technology funding climate,” and to the perceived ability of digital humanities to “provide liberal arts majors with digital skills that can be turned into productive

jobs,” thus helping (unlike the *interpretative* humanities) to train students for careers that currently exist or that will exist in the future.³¹

For Grusin, then, digital humanities are very much a “manifestation of cutbacks in public funding for higher education.”³² In these hard times they are held by those “foundations, corporations, and university administrations” responsible for providing resources to be far more relevant to society, industry and the workplace than the traditional humanities with their emphasis on “analyzing literature or developing critiques of culture.”³³ He thus goes along with claims that the contemporary turn to the digital in the humanities, at least since the financial crisis of 2008, “constitutes a turn away from issues of race, class, gender, and sexuality, an escape from the messiness of the traditional humanities to the safety of scripting, code, or interface design.”³⁴ Instead of feminist, queer and other forms of theory, the emphasis within digital humanities is on more productive and marketable skills--not least in the search for the external government and commercial funding that is deemed so important by university managers and administrators in an era of “radical funding cuts in public support for education in Europe, Australia, and the United States,” and “diminished and diminishing funding streams devoted to the humanities.”³⁵

Perceived in this light digital humanities appear as part of a neoliberal assault on the humanities and humanities departments in general, and on literary, critical and cultural theory in particular, precisely because of their shift away from politics and critique. This is certainly the view of three other critics of the digital, Daniel Allington, Sarah Brouillette, and David Columbia. For them, digital humanities are involved in “the displacement of politically progressive humanities scholarship and activism in favor of the manufacture of digital tools and archives;” and this is so even if digital humanists design these tools and archives with a view to furthering access and criticism.³⁶ Much like Grusin, they see this situation coming about because, “as the burden of paying for university is increasingly shifted to students, and university staffing is increasingly temporary, the acquisition of marketable skills, and the ability to justify those skills as integral to the market-oriented evolution of knowledge and education, becomes all but essential.”³⁷ As far as for Allington et al are concerned, the success of digital humanities in the neoliberal university is therefore explained to a significant degree “by its designed-in potential to drive social, cultural, and political critique from the humanities as a whole.” As such, they present digital humanities as playing a “leading role in the corporatist restructuring of the humanities.”³⁸

Yet, as we say, the problem with such critiques of the otherwise obscure or dark side of the digital and of digital humanities is that they themselves have a dark side that remains

unexplored and unaccounted for. This is apparent from the way such critiques do not pay sufficient attention to:

a) Politics

Their insistence that the digital must be understood in terms of questions of power, exploitation, and social inequality, and/or the hidden *material* phenomena that make the digital possible, means that what politics is, what it is to be political here, is decided *in advance* of intellectual questioning, in fairly obvious (some might even say clichéd) terms. Witness the emphasis in such critiques: on power, exploitation, ideology, identity, difference, class, gender, sexuality, feminism, and race; on economics (the market logic of neoliberalism, declines in family income, increases in tuition fees, student debt); on labor conditions (bureaucratic control, exploitation, precarity, temporary, fixed-term, part-time, hourly paid, and zero-hour contracts); on activism; on environmental destruction.

So Grusin presents digital humanities as being quite clearly connected to the larger economic “crisis in the humanities,” which most academics on the left in turn blame on the “corporatization of the academy and the neoliberal insistence that the value of higher education must be measured chiefly if not solely in economic terms.”³⁹ He emphasizes “the way in which the institutional structure of digital humanities threatens to intensify (both within DH itself and among the humanities more broadly) the proliferation of temporary, insecure labor that is rampant not only in the academy but throughout twenty-first-century capitalism.” For him, the “neoliberal instrumentalism” and emphasis on managerial and technical expertise he associates with digital humanities--especially the “distinction between making things and doing more traditional scholarly work” of the kind associated with theory and critique--thus “reproduces within the academy ... the precaritization of labor that marks the dark side of information capitalism in the twenty-first century.”⁴⁰

It is a similar anti-intellectual political moralism that enables Allington, Brouillette, and Columbia to position digital humanities as standing in opposition, not to the close reading of the traditional humanities, but rather to “*the insistence that academic work should be critical*, and that there is, after all, no work and no way to be in the world that is not political.”⁴¹ From this perspective, they align the anti-interpretative tendency of digital humanities with what they depict as “a variety of other postcritical methodologies, such as versions of Speculative Realism and Object-Oriented Ontology, and the explicitly ‘postcritical’ literary theory advocated by scholars such as University of Virginia English Professor Rita Felski, which tend to challenge, avoid, or disavow scholarly endeavor that is overtly critical of existing

social relations.”⁴² Yet are all these “postcritical” methodologies—including those of digital humanities—really endeavoring *not* to be *political*? Always and everywhere, in every situation and circumstance? Or is it possible that at least some of them are political in a manner that may indeed be involved in *challenging* preconceived ideas of what it is to be political, which means they are not so easy to recognize as such when viewed through an anti-political, moralistic lens? Even if, after careful intellectual examination, the conclusion reached in particular cases is that these methodologies are not to be considered either overtly or covertly political (at least not in any interesting or progressive way), the fact remains, what politics is, what it is to be political here, is not being opened up to rigorous inquiry, by Allington et al or by Grusin, but is rather excluded from their critiques of the digital and digital humanities as a result of having been decided in advance.⁴³

b) Theory

Such critiques position digital humanities as part of a neoliberal assault on the humanities in general, and literary, critical, and cultural theory in particular, because of their perceived shift away from social, cultural, and political critique. Yet for all the importance that is attached to supporting “socially engaged literary study,” “French literary theory,” and “queer and feminist theory,” critiques of this nature can themselves be said to represent a turn away from literary, critical, and cultural theory.⁴⁴ For theory, not least in the shape of the writings of Jacques Derrida, Jean-François Lyotard, Philippe Lacoue-Labarthe, Jean-Luc Nancy, Judith Butler, and Chantal Mouffe, is one of the main places where our premises and assumptions regarding what politics is and what it is to be political *are* subject to rigorous intellectual questioning and critique.

Let us take as an example perhaps the most obviously *political* of these (mostly French) theorists. According to Mouffe’s philosophy of hegemony and antagonism—which has been an acknowledged influence on both Syriza in Greece and Podemos in Spain—the political is a decision that is always “taken in an undecidable terrain,”⁴⁵ because social relations are not fixed or natural, the result of objective and immutable economic or historical processes and practices. They are the product of continual, precarious, hegemonic, politico-economic articulations: that is, of contingent, pragmatic yet temporary decisions involving power, conflict and violence. Indeed, Mouffe distinguishes between:

“the political”—referring to the dimension of antagonism, inherent to human societies—and “politics”—or the ensemble of practices and institutions that attempt to establish an order, to organise human coexistence in the context of the conflicts

generated by “the political.” What the distinction highlights is, firstly, that the political cannot be reduced to a given place in society, and is not limited to specific institutions, but is, rather, itself a constitutive dimension of social order. And, secondly, that such order is the result of power relations and always contingent, given that it is riddled with antagonism.⁴⁶

This means that a perfectly reconciled and harmonious society without power relations can never be achieved. So--interestingly for a neo-Marxist political theorist--the “emancipatory ideal cannot be formulated in terms of a realization of any form of ‘communism,’” according to Mouffe.⁴⁷ However, this state of affairs does bring with it the advantage that there is the potential for these articulations to be disarticulated, transformed, and rearticulated as a result of struggle between the agonistic adversaries and a new form of hegemony established.

What is so important about Mouffe’s theory of politics and the political for the argument we are making here? Quite simply, it’s the way it shows that criticising the digital and digital humanities, and defending social, cultural, and political critique, on the basis of a politics that is decided *in advance* is clearly *not* to take a decision in an undecidable terrain. This is why such critiques of the hidden, dark side of the digital and of digital humanities can themselves be regarded as constituting an avoidance or disavowal of literary, critical and cultural theory: because they do not subject to rigorous intellectual critique the very question of politics and the political that theory helps to keep open-ended.

Hopefully, this explains why we are convinced that what is needed is to invent ways of being and doing as theorists that *are* capable of taking contingent, pragmatic yet temporary decisions with regard to the digital and digital humanities *in an undecidable terrain*. Just as important, however, is the need to do so with regard to the humanities and the human too (making sure not to remain blind to the *materials* that make socially, culturally, and politically engaged theory and criticism possible, as this is an aspect of research that is all too often left in the dark by critiques of the digital.) This is why we have described what we are doing with the research projects with which we, together with a range of colleagues (e.g., Sigi Jötkandt, David Ottina, Joanna Zylinska, Clare Birchall, Adnan Hadzi) are involved, as affirmatively disrupting the humanities in order to create a space for the invention of radically different--but not dialectically opposed--*posthumanities* systems for the creation, performance, circulation and ownership of theory. (We are referring to projects such as Open Humanities Press, Media Gifts, the Liquid Books series, Centre for Disruptive Media, Open Reflections, Photomediations: An Open Book and after.video.)⁴⁸ So it is *posthumanities* as in the posthuman and posthumanism with which we began, but also as posthuman

posthumanities.

If we wanted to stay with theory, and with Mouffe, one way of situating these projects as political in this context would be to borrow from her conceptual language. We could then argue that they constitute a plurality of forms of intervention that, as in her account of the artistic strategy of Alfredo Jaar, respond to “specific issues in specific places” across a “multiplicity of sites:” not only the (neo)liberal university, but the worlds of art, business, publishing, and the media. From this point of view, these projects do so in order to disarticulate the existing playing field and its manufactured “common sense” (including its ideas of “disruption”), and to foster instead a variety of agonistic spaces that “contribute to the development of counter-hegemonic moves.”⁴⁹ This is why a range of different projects are needed: because the “counter-hegemonic struggle is a process involving a multiplicity of ruptures.”⁵⁰

The above is not the *only* way these projects can be understood as political, of course. But it is one way. We should also emphasize that we are not endeavouring to radically reconfigure everything at the same time and to the same extent with our work--as if we have invented a new *posthumanities* manner of doing things that is somehow able to deal with *all* of the issues we have touched on here at once. Instead, we are working in line with Derrida’s theory of the quasi-transcendental, whereby the process of questioning some concepts and practices requires by necessity that each time others are left unquestioned. Having said that, as Derrida points out, we cannot “tamper” with one thing, such as the form of the book, “without disturbing everything else.”⁵¹ So if we want to perform the book differently, in a way that does indeed take on board the lessons of posthumanist theory--to the effect it constitutes a heterogeneous assemblage of humans, plants, technologies and other inorganic elements--then we need to reconsider all those ideas we have inherited *with the book*, such as those of the proprietorial author, the fixed and finished object, originality, copyright, and their accompanying practices of reading, writing, interpretation, analysis, and critique, and the extent to which we still need them, at least in their current forms.

If some of our other research projects have focused on the book,⁵² fixity,⁵³ gestures of reading/writing,⁵⁴ critique and copyright,⁵⁵ as well as the archive,⁵⁶ the university,⁵⁷ open education,⁵⁸ and academic social networks,⁵⁹ *Disrupting the Humanities: Towards Posthumanities* addresses the seminar and seminar series, the talk, “paper,” or presentation, and the journal issue, as well as the individualistic nature of most humanities research and the idea of it being oriented toward the production of a finished, bound, static object. This special issue of JEP does so by showcasing a number of experiments designed to affirmatively

disrupt our established humanities systems for the creation, performance and circulation of knowledge and research. These include how we do research in the humanities (our methodologies), how we represent and mediate research (our aesthetics), and how we communicate, distribute, disseminate and circulate it (our publishing and educational institutions). At the same time, *Disrupting the Humanities: Towards Posthumanities* endeavours to itself act as a critical and creative intervention that disarticulates the existing “common sense”—e.g., regarding what a journal publication is and can be—and in this way contributes to the development of a transformative, posthumanities, “counter-hegemony.” It does so not least through the experimental form of electronic publishing its contents exemplify, consisting as they do of specially edited and annotated hybrid video pieces, based on recorded talks from a series of events held at Coventry University’s *Centre for Disruptive Media*.

Experimental Publishing

When we took the decision to record the *Disrupting the Humanities* seminar series (including audience responses, questions, and social media engagement), and to publish the annotated video recordings of the presentations—or, perhaps better, performances—that make up this special issue, one of our aims was to make these multi-media texts freely available to those who were not able to attend the actual event. But we also sought to draw attention to the way in which, in our current system of scholarly communication, it is generally only the final publication that is made publicly available (frequently behind paywalls), and not the research process itself. This situation is indicative of a vision of academic research as having as one of its main goals the creation, by a single human individual or group of human individuals, of a finished and bound static object. The reason for this particular goal has to do, in large part, with the established modes of applying intellectual property laws and asserting copyright. Put simply, it is not possible to own a distinctive process of making something. It is only possible to own the finished thing. As a result, legal policy and precedent is inclined to focus on objects rather than on processes. Value is located in the discrete, finished, static object (e.g., the published edition of a journal or book), not on the processes by which it is made. As far as we are concerned, however, these *Disrupting the Humanities* events—which took the form of three half-day seminars—were themselves very much “experimental publishing projects,” showcasing a variety of research-in-progress. Our intention in making the “papers” from the seminars available online in a connected and networked fashion, then, was to place much more emphasis on the *processes* of knowledge production—and, in this particular case, on the

presentations as an important part of creating, sharing, engaging, and building on research and ideas in a collaborative setting.

Making the papers available in this way also contained an implicit challenge to the way academic events have traditionally been set up to mirror the final publication phase of the research process, with single (human) authors reading out texts accompanied by PowerPoint/Keynote slides. Another of our aims with this series of seminars was therefore to experiment with rethinking the “common sense” manner in which conferences, symposia and seminars are conducted--within the Centre for Disruptive Media at Coventry University, but also within the humanities more broadly. The idea was to challenge the time- and location-bound format of the seminar, as well as the self-contained and individualistic nature of the seminar paper, its creation and performance.

At the same time, we wanted to erode some of the barriers between a “conference” and “seminar”, and a “publication.” This is why we devised the annotated-video format for the video-recordings--as a means of turning these events into rich collections of resources that can be continually re-used and re-assembled. Our thinking in this respect has been influenced by the experiments Sybille Peters has conducted into breaking down what she calls “the research/presentation divide.” This divide is often not clear-cut in art research and practice. An example would be a situation in which the performance of artistic research is part of that same research. Peters acknowledges, however, that “from the viewpoint of scientific tradition, research itself and the public presentation of its outcomes are two different things--research first, presentation second.” The conference or seminar paper is thus not part of the process of knowledge production; it is merely a form of knowledge presentation. Things are different in the performing arts, though: “here, research is deeply intertwined with presentation: artistic research is part of the process of preparing a public presentation. And vice versa the presentation itself is a main part of the research process, a test-scenario.”⁶⁰

One of our main concerns in creating this special issue of *JEP* was therefore with the material and performative aspects of a seminar paper, including the setting in which it takes place. We wanted to try to take on and assume, as theorists, some of the implications of the idea that a presentation is not simply a representation of the text-on-paper (or text-on-laptop) argument presented by the author. It is rather a complex, *relational and processual* meshwork of humans, nonhumans, objects and non-anthropomorphic elements--presenter, event organizers, facilitators, audience, technologies, media, cultural practices, institutions, materials, matter--all of which contribute to the presentation or seminar paper as it comes into being. The questions we were seeking to raise in this respect were as follows: is it possible to envision

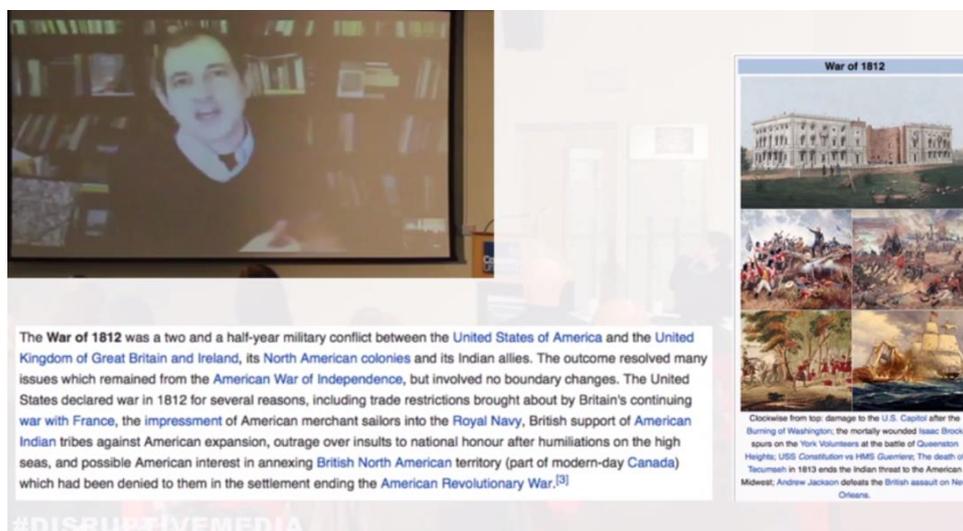
the seminar as both part of the research process (instead of merely a re-presentation of the research), and as a form of publication where its collective, collaborative aspect as networked processual event involving a heterogeneous assemblage of actants can be highlighted (in contrast to the kind of single-authored product or series of products that is more usually supposed to emerge out of such settings)? Would doing so require radically reinventing how we design and run conferences and seminars, both online and off? Can research seminars become what Peters characterizes as “an interactive setting of collective knowledge production”? For instance, to put this in what are still quite limited and basic terms, do scholars always need to present newly written (and unpublished) material? As with jazz musicians, might it not be possible to revisit and perform differently older material, or to juxtapose already published and disseminated work with new research? Could we even arrive at a situation where a researcher can spend their whole career giving the “same,” endlessly up-dated, and so never fixed and finalised, paper? To pursue this line of thought still further, should more emphasis be placed on the critical engagement that occurs *around* and as part of a presentation (e.g., the analysis, feedback, comments, and other co-constitutive and collaborative aspects of knowledge production and transmission)?



Hybrid Video Reader

If Sybille Peters was one inspiration behind the creation of this special issue, another was the team behind the *9th Video Vortex conference*. They made a “hybrid video reader” to document their conference as it took place. To achieve this they used *InterLace*, an open source software program developed by Robert Ochshorn. As Oliver Lerone Schultz of the Video Vortex team describes it, the hybrid video reader is “an annotated timeline of the

conference,” where “the interface attempts to supply the user with as much cultural context and [as many] scholarly resources as possible, using embedded footnotes as well as online and offline references, thus creating an amalgam of both digital and analog ‘reading’ cultures.” The team’s aim was to go beyond representation--to the point where, through their involvement in the editing process, they could create a new, networked knowledge environment. In this sense they were experimenting with the possibilities generated by digital technology to *document* and not so much *represent* as *extend* conferences, adding a further layer of connections to both the research presentations and research process. And, to be sure, part of what we have tried to achieve with the Disrupting the *Humanities* videos and journal issue is a networked knowledge environment of this nature.



Realisation

Along with showing the research *processes* by breaking down some of the barriers between the *presentation* of a paper in the *Disrupting the Humanities* seminar series and its “final” *publication*, we also sought to highlight the collaborative nature of the research process. Doing so involved, not only curating this special issue and writing this opening essay together, but also making connections with previously published research, the themes and topics of which intra-act with *Disrupting the Humanities* and its papers. To make these connections we provided space for resources on a specially designed wiki that accompanied the seminars. The speakers uploaded textual and multimodal resources to this wiki. But we also created separate pages where anyone could upload and embed links and references to materials relating to the seminars. In editing the videos we tried to further emphasise these connections. In this way we experimented with ways of breaking down some of the barriers between the presentations and the (extended) “real-time” and online or “virtual” audience.

With this process in mind, we also assigned space in the final edit for audience responses and for links to other works.

Another decision we took with a view to disarticulating the common sense of view of scholarship and research in the humanities as being primarily individualistic, and to rearticulate it instead as being much more co-constitutive and collaborative, involving a heterogeneous assemblage of actants, was to heavily annotate the videos.⁶¹ We did this by integrating audience reactions that were collected via the twitter hashtag that was in use during the seminars.⁶² Inserting screenshots, images, references, links, video and audio materials relating to the various projects, concepts, persons and ideas mentioned during the presentations provided a further layer of annotation. In doing so we were in a sense mimicking the actions of participants looking up ideas, concepts, persons and projects on the web during a presentation. The idea was partly to demonstrate what audience members might potentially do when using a laptop computer or smart phone to interact with a paper. But we were also looking to establish clearer connections between the presentations and the various online and offline resources and environments they refer to.

We were very keen to work with students on the editing process, both as a means of further interrogating academic hierarchies, and because students make up a large part of the audience at our events. Having their perspective on those aspects of the talks that could benefit from further explanation or embellishment was extremely helpful. We are therefore grateful to Coventry University Media Production students Konrad Maselko, Johnathan Aldrich, and Sharifah Mian, who were heavily involved in the conceptualising, planning, recording, and editing of these videos from the start. As a result they can be considered active collaborators on the papers and, indeed, on this issue of JEP. We are also grateful to George Otelea who helped us to create a remix video of the various papers to accompany this introduction, and to showcase both the content and the particular way of editing we have implemented here.

Johanna Drucker

BIO



Johanna Drucker is the inaugural Breslauer Professor of Bibliographical Studies in the Department of Information Studies at UCLA. She is internationally known for her work in the history of graphic design, typography, experimental poetry, fine art, and digital humanities. In addition, she has a reputation as a book artist, and her limited edition works are in special collections and libraries worldwide. Her most recent titles include *SpecLab: Digital Aesthetics and Speculative Computing* (Chicago, 2009), and *Graphic Design History: A Critical Guide* (Pearson, 2008, 2nd edition late 2012). She is currently working on a database memoir, *ALL*, the online Museum of Writing in collaboration with University College London and King's College, and a letterpress project titled *Stochastic Poetics*. A collaboratively written work, *Digital Humanities*, with Jeffrey Schnapp, Todd Presner, Peter Lunenfeld, and Anne Burdick is forthcoming from MIT Press.

Resume (download PDF)



Kate Green

@KateGreen28

Sarah Kember speaking at #disruptivemedia

2:06 PM - 7 Mar 2014

Follow



As our title suggests, *Disrupting the Humanities: Towards Posthumanities* explores how we can affirmatively disrupt the humanist legacy of the humanities in order to push them towards becoming posthumanities. It does so by showcasing a number of experiments with alternatives to our established humanist scholarly norms, values, practices and institutions. As we say, the papers in this special issue thus provide examples relating to: the ways we do research (our methodologies); the ways we represent, mediate, and perform research (our aesthetics): and the ways we communicate, distribute, disseminate and circulate research (our publishing and educational institutions). We have structured this issue accordingly, into three distinct, corresponding parts (although we consider the actual relation between the creation, the performance, and the circulation of research to be very much entangled and non-linear).

PART ONE: CREATING POSTHUMANITIES: Disrupting Humanities Methodologies

The texts in *Creating Posthumanities*, part one of this issue of the *Journal of Electronic Publishing*, focus on some of the new methodologies that are currently involved in questioning the common sense disciplinary forms, methods and practices of the humanities. They examine how these emergent methodologies are exploring ways of moving the humanities *beyond* the humanist emphasis on the individualised human author, writing, the book, originality, intellectual property, and the fixed and finished object. In doing so the contributions gathered together in this section provide a space for thinking further about the distributed and heterogeneous assemblage of humans, nonhumans, objects and non-anthropomorphic elements that, from a posthumanist point of view, are involved in the

creation, circulation and performance of *humanities* research and scholarship. In particular, *Creating Posthumanities* asks who, or what, produces knowledge and can *know*?

In order to address this question part one examines the use of networked digital media by scholars, and what they mean for how we carry out research. How do laptops, mobile phones, tablets, Instagram, Twitter and other devices and platforms constitute and mediate our means of production and communication? And if knowledge and research are the result of complex processes involving both human and non-human objects and actants, what does this mean for politics and ethics—and for theory? In short, how can we perform knowledge-making practices *differently*, to the point where we actually begin to take on board (rather than take for granted, repress or ignore) some of the lessons of theories of the posthuman for how we work, act, *and think*?

In “Reading Diffractive Reading: Where and When Does Diffraction Happen?,” Iris van der Tuin investigates diffraction—which involves reading texts through one another, rather than trying to represent or reflect them—as an inherently *posthumanities* methodology. She asks, how can we adopt different methodologies when we are so saturated with humanist assumptions? What will the methodological implications of a diffractive methodology be for what we do as scholars, and for our own scholarship? Van der Tuin points out how diffractive reading has always been part of the humanities—it has just not been theorised. By looking at the work of the philosopher Suzanne K. Langer—which is itself diffractive, reworking as it does the ideas of Whitehead, Cassirer and Bergson—she provides a case for how diffraction constitutes a radical methodology for any possible posthumanities. Through a reading of Langer’s scholarship, Van der Tuin shows how it is in the nature of what—building on the work of Rosi Braidotti—she calls the cartographical method to affirm that one’s relations to, and the objective relations between, philosophers are fundamentally open, and even embrace the traces of unread texts.

In “Deep Time Environments: Art And The Materiality Of Life Beyond The Human,” Monika Bakke analyses selected works by the artists Katie Paterson, Oliver Kellhammer, and Adam Brown. Situated between and across art and science, these works explore the temporal dimensions of life beyond the human. Bakke describes how the specific method of research employed by each of these artists resonates with posthumanist inquiries into deep-time perspectives of life. As Bakke argues, these artists are not representing life and new beginnings, they are re-enacting them, questioning the present. They are therefore performative: these works intervene in life, and in doing so with the nonhuman past. They thus enable us to experience the world beyond our own species. As Bakke makes clear,

performative posthumanist methods of this kind can help us to reconsider our understanding of subjectivity as well as our ways of belonging to both inhuman forces and tentative materialities.

Lesley Gourlay meanwhile draws on the posthumanism of N. Katherine Hayles and the actor-network theory of Bruno Latour to examine the agentive role of nonhuman objects in higher education textual practices. Gourlay's analysis of the embodied reading practices of postgraduate students and their interactions with technology in "Posthuman Texts: Nonhuman Actors, Mediators and Technologies of Inscription," complicates the simplistic binaries between tool and user on which many humanist responses to technology are based. Instead, she argues for the need to focus on the emergent materiality and situated nature of our textualities. In a complex interplay between print and digital, Gourlay insists that textual objects are not neutral intermediaries but agentic, meaning-making mediators that are an important part of textual production. In this respect a posthuman reconceptualization of authorship--where authorship is radically distributed between an assemblage of humans, objects and their environments--serves to destabilise those humanist ideologies such as that concerning the individual human author that continue to underpin research and scholarship, and with that the humanities and the university at large.

Niamh Moore's "'Humanist' Methods in a 'More-than-Human' World?" explores how oral history can be reconceptualised as a radical methodology in a posthumanist setting. Moore provides examples from the ethnographic oral history research she conducted with female environmental activists taking part in a peace camp against deforestation in Clayoquot Sound, British Columbia, Canada. Building on Sarah Whatmore's work while also drawing inspiration from critical posthumanism, Moore explains that it is not always useful to separate so-called "humanist," text-based and oral methods, from more sensory and experimental practices. Indeed, humanist methods might themselves already be experimental. Accordingly, she argues for a post-anthropocentric move away from human-centrism in humanism, and from humanist notions of agency. Moore describes how her research has instead brought to the fore non-linear, continuous experiences of self in which nature becomes an internal, collective social experience, illustrating a more than human self; a becoming worldly.⁶³

PART TWO: PERFORMING POSTHUMANITIES: Disrupting Humanities Aesthetics

Part two of this special issue takes as its focus questions of form as they relate to practices of knowledge production in the humanities. The increasing use of digital tools and interfaces to

represent scholarly materials has once again drawn our attention to the importance of aesthetics in the humanities, and especially to questions of design and poetics. Digital media technologies have brought with them new possibilities for both extracting and presenting data, for example. They are also enabling researchers and theorists to publish their work in many different forms and formats: from blogs, through social media, to multimodal platforms such as Scalar and Inflexions.⁶⁴ What does this mean for the ways in which research, and theory, is experienced? Are there forms of expression that are better suited to our current systems of communication than writing and printing on paper, or even on screens? What is the relation here between aesthetic expression and knowledge? In this respect, imagining how creativity, reasoning, interpretation, and aesthetics are intrinsically entwined form the starting point for a critique of what is still one of the major oppositions structuring research and scholarship in the humanities: that between more rationalistic, conceptual, and objectifying tendencies in knowledge production and representation on the one hand; and, on the other, the role played by subjectivity, artfulness, feeling, and experience in both the practice of research and in its communication and dissemination.

New data visualisation tools have been important in triggering this critique. Digital humanists are increasingly adopting these tools in their work, from simple data visualisations and infographics such as Wordle, to sophisticated GIS maps. They are now creating interactive visualizations and dynamic maps of large cultural data sets to find new patterns--and, potentially, to generate new theoretical questions. Many of the traditional boundaries that frame the humanities are therefore disappearing, as visualizations assume the appearance of aesthetic statements about the world, and even forms of art. In offering scholars alternative methods for representing information, these tools are pushing us to think seriously about the aesthetics of information or “infosthetics.” But what are the consequences of all this for our traditional ways of reading, analysing, interpreting, and critiquing information and data in the humanities? How are we to understand the role of design and aesthetics in the formation of knowledge? And what is gained or lost at the hands of these new ways of producing, extracting, and representing data?

Many digital humanists are studying how such developments relate to the humanities in particular, as a field with a long history of resistance to more visual forms of knowledge production and representation. As Johanna Drucker shows, when it comes to visualization what comes to the fore is an underlying fear for the subjective, the intuitive, and the speculative. As far as the representation of knowledge is concerned, it is the logical and systematic that are favoured. For Drucker, this might be useful for the sciences, but it is less so for more intuitive and interpretative fields such as the humanities.⁶⁵ This conservatism on

the part of the humanities is intrinsically bound-up with its textual condition--what Jessica Pressman calls its "aesthetics of bookishness."⁶⁶ Here the book is understood not only as a technology, a medium, or an interface; it also as an influential aesthetic form, evident from the ongoing focus on textuality and the book-bound reading object. Yet locating the materiality of the book at the centre of intellectual inquiry by means of post-digital or hybrid forms of publishing does not necessarily imply nostalgia for print. Explorations of bookishness can also be a form of cultural critique. Placing more emphasis on the active agency and performativity of the printed book provides a way of exploring our changing digital world and of thinking beyond the dichotomies of print versus digital. As Alessandro Ludovico argues, in our post-digital print culture, ink-on-paper publishing is being used as a new form of avant-garde social networking; one that, thanks to its analog nature, is not so easily controlled by the digital data-gathering that is such a feature of life in the Zuckerberg galaxy.⁶⁷

At the same time the multimodality of the digital medium has generated an increasing awareness among humanists that scholarly content is not separate from its material instantiation or presentation. As a consequence, there is a felt need to emphasise how a medium's materiality or particular form influences its meaning and use. From this point of view, if we pay more attention to the performative aspects of materiality, of media, and of design, we might be better able to understand how interfaces are not merely representing our information and data, but are creating and interpreting it too. Likewise, design is not only about turning cognitive materials into attractive and useful visual displays. As N. Katherine Hayles insists, interpretation is always at work in acts of medial translation--i.e., from print to digital.⁶⁸ The important point to consider in this respect is how such interpretation is being represented and performed. And how the meaning of information is altered through its conditions of use, reading, and interpretation. In what ways can we work to ensure that, throughout the research process, we focus on the medial forms, formats, and graphic spaces through which we communicate and perform scholarship, and not just on the discourses, agencies, and institutions that help shape our scholarly practices? This "contextual" discussion, focusing as it does on the materiality of humanities scholarship and its modes of production, is not separate from a discussion of the content of our work. Nor should it be. One response proposed is to extend our visual epistemologies by stimulating training in visual representation, interface critique, design tools, and methodologies. To this end Tara McPherson insists that as scholars we should be much more interested in the actual design, visualisation, and performance of our materials.⁶⁹ The issue here, for us, concerns how can we become more involved in designing writing and other forms of communication so that they are better able to accommodate visual materials, and thus allow new relationships between

visual materials and analysis, and data and interpretation, with a view to creating a new poetics of scholarship? For example, is it possible to develop less text-based and more image-based--and yet just as intellectually rigorous--forms of research and publication that take into account a plurality of different actors and actants?

Erin Manning's "Ten Propositions for Research-Creation" provides a useful bridge between the concern with methodology in the first part of this issue of *Journal of Electronic Publishing*, and the focus on aesthetics in this second part. An element of a larger project titled "Against Method," Manning argues that in order to create new forms of knowledge we need to embrace the non-linguistic. With this in mind, she explores art-based research, or research-creation, by looking at how theory is itself a practice and at how making is a thinking in its own right. Research-creation here is not about objects but about processes; it is about activating relational fields of thinking and doing. Where methods for curating life close down research-creation, what we need are techniques for living. As far as Manning is concerned we therefore do not need new methods at all. Instead, we need to explore means of valuing the process of how research creation makes a difference with a view to creating alter-economies. The important question for her in this respect is how do we evaluate and value non-linguistic practices?

In "Ink After Print: Literary Interface Criticism," Soren Pold uses interface criticism to emphasise the materiality of how we perform our media. Where cultural and technological structures want interfaces to be invisible, transparent and interface-less, Pold shows how they are always ideological constructs. As an aesthetic experience an interface is therefore not a surface. Rather it is embedded in the experience: it constructs how we can interact with media. Pold looks at writing interfaces in particular and how they have affected what is written and published. He offers examples from, among other places, his *Ink after Print* project. This is a platform-based intervention in which readers "play" the textual machine through an affective interface. By means of this project, exploring as it does concepts relating to interface criticism, post-digital literature, and affective interaction, Pold shows how we can begin to create an alternative critical interface, one that is generative and performative.

Johanna Drucker's contribution to this issue is "Diagrammatic Form and Performative Materiality." In it, Drucker examines how critical constructs such as the ideogram have shaped and structured both aesthetic artefacts and instruments of knowledge production. She thus uses the concept of the diagrammatic to rethink aspects of aesthetics, humanities, and modernity, and to explore the principle of performative materiality, which she sees as offering an alternative poetics. For her, a diagram has dynamic and generative qualities in contrast to

the pictorial representations of information visualisations. By focusing on the diagrammatic organisation of the codex book, and by zooming in on modernist and contemporary examples in particular, Drucker explores how the history of modernism might be reconfigured according to a diagrammatic paradigm. The semantic value of the graphical organisation here is an important element of the way meaning is produced in a performative engagement with that form. Accordingly, she argues that the diagrammatic aspects of composition can expand our understanding of the possibilities of poetic form as well as the changing conditions of the identity of documents and texts.

In “The Post-Digital Publishing Archive: An Inventory of Speculative Strategies,” Silvio Lorusso presents P—DPA-net, an online platform that collects projects and artworks at the intersection of publishing and digital technology. Lorusso focuses specifically on post-digital hybrid works. As he argues, such contemporary printed matter both derives from, and is dependent on, digital ecosystems. P—DPA adopts the “post-digital” label as a homage to the book, while at the same time taking advantage of the fluidity of the term. In a context where the aesthetic of bookishness resembles print and websites of the early 2000s, Lorusso applies a “post-digital perspective” to publishing in order to bypass commercial innovation and to focus instead on the potential of underground electronic publishing. In this respect he favours a paradigm shift, from an object-oriented focus to a system-oriented one. From this point of view, materiality as the physical outcome or the final representation of a work is not enough: the “post-digital attitude” extends from the examined works to the archive itself, as the material acknowledgment of the influence of digital networks.

PART THREE: CIRCULATING THE POSTHUMANITIES: Disrupting Humanities Institutions

The ways in which knowledge and research is disseminated and communicated in the humanities have changed significantly with the rise of digital technologies. What, then, does this entail for their delivery both to peers and to students? When it comes to experimenting with new ways of producing and sharing our ongoing scholarship, what are some of the options that digital media provide? And how do they enable us to challenge, and even transform, the existing publishing practices and pedagogical institutions?

At the moment there is a marked lack of interest from established (commercial) presses in experimentation, in specialised work, and in publishing books in particular on an open access basis. At the same time most experiments with open online education--the proliferation of open educational resources, MOOCs, TED talks, and commercial platforms for massive

online learning included--have not altered university education to any dramatic extent; nor have they offered pedagogies that reach much beyond hierarchical forms of online broadcasting aimed at individual learners.⁷⁰

Circulating the Humanities, part three of this issue, investigates how digital technologies offer researchers and theorists a way to engage critically and creatively with some of the humanist aspects of publishing (e.g., the author, originality, copyright) and teaching (the lecturer, the university, the structured text-based curriculum). It showcases experiments with how they can be more actively involved in rethinking the relationships that currently exist between authors, publishers, distributors, universities, libraries and readers. In doing so the texts in part three provide a number of examples of how the dominant humanities institutions can be disrupted in an affirmative way by exploring the creation of new institutions and organisations. This includes trying out more multimodal, speculative, and open forms of research and publishing. Can we redesign our systems of teaching, learning, and communication in a way consistent with posthuman theory, so that they do not presuppose a rational, language-based, individualistic, humanist subject as its author or reader, for example?

The experiments showcased in part three also include a number of scholarly initiatives that are endeavouring to transform publishing by setting up academic-led organisations that are involved in the disarticulation and rearticulation of established print-based practices and institutions. In an educational setting such examples include initiatives that are endeavouring to breach the boundaries between art practice and scholarly research by focusing on developments in practice-based research in an academic context and on trials with open art education. In other words, the question the texts in this part of the issue address is how can we establish new structures and new institutions that problematize the divisions that still exist in the humanities between artistic practices and scholarly research, between lecturer and student, and between the delimited learning space of the classroom and the “outside” world of knowledge and expertise?

Sarah Kember tackles the problem of such binaries directly in “At Risk? The Humanities and the Future of Academic Publishing.” Through a critical reading of Johanna Drucker’s “Pixel Dust,” Kember warns of the dangers of crisis models as they relate to fixed notions of scholarship, publishing, and TED-type thinking, seeing them as generating conservative reactions based on simplified temporalities.⁷¹ For her, such notions preserve a traditional idea of scholarship embedded in print, the elite university, and the normative figure of the scholar. By means of her experiments in creative writing Kember explores a number of exciting alternatives. These include: the CREATE project, which is focused on rethinking copyright;

Fembot, a collective interrogating gender differences in scholarly practice; and the new Goldsmiths Press.⁷² All of these initiatives are “opening out” from writing and scholarship in the context of digital publishing. In this way Kember endeavors to look again at the ethics, practices, and relations underpinning publishing, breaking down binaries such as open and closed, (fixed, static) object and process. As she states, there are no quick tech-only solutions in publishing; therefore, we need to stay with the trouble.⁷³

In “Samizdat Lessons: Three Dimensions of the Politics of Self-Publishing,” Endre Dányi also addresses the ethics of publishing. For Dányi, such an ethics involves the way scientific knowledge is produced and distributed in particular. To this end he argues that we can better understand current developments in academic publishing by actively participating in them: by setting up a scholar-led open access press such as Mattering Press, for example, which Dányi initiated with a group of other academics. Dányi relates the politics of (academic) self-publishing to illegal or samizdat publishing in 1970s and 1980s communist Hungary, based on what he calls the three dimensions of self-publishing: materiality, experimentation, and openness--which together can be captured under the term *mattering*. Mattering, both for him and for Mattering Press, involves making visible how texts come about, and includes making visible as much of the work that goes into the making of texts as possible. This is both an ethical and a political intervention. Mattering as an ethical component, he argues, requiring care. It is a process with no clear boundaries; rather, mattering is open-ended. Care is a matter of time.

In “Disrupting Scholarship” Craig Saper explores both alternative forms of publishing and alternative models of academic infrastructure. To his mind, there has been a conservative move in digital humanities, evident in its focus on visualizing, mapping, and charting, all of which work to preserve a fixed notion of the humanities. The question is this: what could the humanities be if it were not engaged in the fixing of meanings? Multimodal scholarship has been an important development in this respect, Saper argues. He is particularly interested in how reading will change to adapt to new forms of multimodal publication and, vice versa, how publishing will respond to such new reading practices. Saper provides examples in the form of his own experiments with publishing books that are precisely about the reading process, and his attempt to set up a university press for multimodal works and community-based scholarship at the University of Maryland Baltimore County. In these experiments, Saper stresses, the publication process itself is to be seen as part of the process of writing. It is thus important to think about knowledge in relationship to the objects of study, where these objects are models for the form of the publication, based on their own sensibility: infrastructure here becomes poetry.

Karen Newman's contribution addresses her work as a curator who researches creative business models in the arts. In "The West Midlands As An 'Electronic Super Highway': BOM And The Emergence Of New Art Infrastructures," Newman focuses specifically on the emergence of new creative economic spaces that align themselves with progressive business models. She uses the case study of the new art and technology fablab, Birmingham Open Media (BOM), and its position in the UK within the West Midlands, the former "workshop of the world," having played a leading role in the invention of new technologies in manufacturing and industry. Newman discusses the potential of the maker movement (e.g., hacker spaces, fablabs) to generate alternative creative economies, as well as BOM's own model for applied art and technology research, providing as it does a space for artists, technologists, and researchers to collaborate.

Finally, Mark Amerika performs "Glitch Ontology," which is an excerpt from his "Museum of Glitch Aesthetics." As part of this performance, the glitch-ontology manifesto is sampled into the hybrid conference. Amerika looks at Greg Ulmer's concept of heuristics, and how theory is assimilated in the humanities in two different ways: as critical interpretation, and as artistic experimentation. This makes any potential posthumanities inherently practice-based, Amerika states. He therefore argues for humanities scholars and researchers to adopt the figure of applied remixologist in order to creatively hack the institutional context in which they find themselves. In this respect, digital humanities has always been *disrupted humanities*, for Amerika; *digital* is just the latest iteration of this approach. We need to reposition ourselves as hybridized, activist, practice-based researchers who model different versions of how to *do the humanities*. In this sense, creative practice provides a valuable alternative to more engrained scholarly practices and their all-too predictable outcomes, such as the scholarly monograph, Amerika proclaims. Witness the growing interest on the part of many universities in creative research and pedagogy, evidenced by the new practice-based program in Intermedia at the University of Boulder – Colorado, which Amerika has helped to set up.

¹ Cary Wolfe, *What Is Posthumanism?* (Minneapolis: University of Minnesota Press, 2010), xvi.

² Ibid., xv.

³ This is the basis of Wolfe's critique of the theoretical model of historical progression he associates with N. Katherine's Hayles's account of the posthuman in *How We Became Posthuman* (Wolfe, *What Is Posthumanism?*, xvii).

⁴ Rosi Braidotti, *The Posthuman* (London: Polity, 2013), 157. For an engagement with the humanism of Braidotti's account of the posthuman, see Gary Hall, "What are the Digital Posthumanities?," *Pirate Philosophy: For a Digital Posthumanities* (Cambridge, MA: MIT Press, 2016).

⁵ Roberto Esposito, *The Third Person: Politics of Life and Philosophy of the Impersonal* (London: Polity, 2012), 18. For more, see Gary Hall, *The Uberfication of the University* (Minneapolis: University of Minnesota Press, 2016), from where this account of affirmative disruption is largely taken; and Pauline Van Mourik Broekman, Gary Hall, Ted Byfield, Shaun Hides and Simon Worthington, *Open Education: A Study in Disruption* (London: Rowman and Littlefield International, 2014).

We notice that Bernard Stiegler has only just recently advocated a similar approach be adopted with regard to disruption in his use of the term "good disruption" (Bernard Stiegler: "L'accélération de l'innovation court-circuite tout ce qui contribue à l'élaboration de la civilisation", interview by Amaelle Guiton, *Libération*, July 1, 2016, http://www.liberation.fr/debats/2016/07/01/bernard-stiegler-l-acceleration-de-l-innovation-court-circuite-tout-ce-qui-contribue-a-l-elaboration_1463430, posted on the nettime mailing by Felix Stalder, September 16, 2016).

⁶ Matthew Kirschenbaum, "What Is 'Digital Humanities,' and Why Are They Saying Such Terrible Things About It?," *differences: A Journal of Feminist Cultural Studies*, Volume 25, Number 1 (2014): 49.

⁷ Alan Liu, "Theses on the Epistemology of the Digital: Advice For the Cambridge Centre for Digital Knowledge", *Alan Liu* (blog), 2014, <http://liu.english.ucsb.edu/theses-on-the-epistemology-of-the-digital-page/>

⁸ Moreover, this can be shown to be so whether digital humanities are analysed in terms of their "material conduct," as "actually existing projects," or as a "discursive construction" (Kirschenbaum, "What Is 'Digital Humanities,'" 48).

⁹ Anne Burdick, Johanna Drucker, Peter Lunenfeld, Todd Presner, and Jeffrey Schnapp, *Digital Humanities* (Cambridge, MA: MIT Press, 2012), 82, 135.

This is just one of many possible examples, as we say. Since then, Wendy Hui Kyong Chun has proclaimed that "DH projects have extended and renewed the humanities and revealed that the kinds of critical thinking (close textual analysis) that the humanities have always been engaged in is and has always been central to crafting technology and society" (Wendy Hui Kyong Chun, "The Dark Side of Digital Humanities—Part 1," *Center for 21st Century Studies*, January 9, 2013, <http://www.c21uwm.com/2013/01/09/the-dark-side-of-the-digital-humanities-part-1/>). More recently, one of the commentators on Daniel Allington, Sarah Brouillette, and David Golumbia's "Neoliberal Tools," has put it like this: digital humanities "provide new insights into humanistic research questions, often at scales never before approachable" (Sj60640, comment on Daniel Allington, Sarah Brouillette, and David Golumbia, "Neoliberal Tools (and Archives): A Political History of Digital Humanities", *LA Review of Books*, May 1, 2016, <https://lareviewofbooks.org/article/neoliberal-tools-archives-political-history-digital-humanities/>). To provide one last example--what is merely the most

recent of those we have come across--William Pascoe of the Centre for 21st Century Humanities at the University of Newcastle in Australia has argued that the justification for digital humanities is not “whether it is useful to industry. Its justification should be that it is useful to humanities. Humanities are valuable not just because they are useful but because we are human” (William Pascoe, “The Politics Of Digital Humanities,” discussion paper posted on Academia.edu, July 20, 2016, https://www.academia.edu/27128339/The_Politics_Of_Digital_Humanities).

¹⁰ Allington, Brouillette, and Golumbia, “Neoliberal Tools (and Archives),” <https://lareviewofbooks.org/article/neoliberal-tools-archives-political-history-digital-humanities/>.

¹¹ Ibid.

¹² Florian Cramer, “Post-Digital Writing,” *Electronic Book Review*, December 12, 2012, <http://electronicbookreview.com/thread/electropoetics/postal>; republished in Florian Cramer, *Anti-Media: Ephemera on Speculative Arts* (Amsterdam: Institute of Network Cultures, 2013). For more, see Silvio Lorusso, “The Post-Digital Publishing Archive: An Inventory of Speculative Strategies” in this issue.

¹³ Donna Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2007), 19.

¹⁴ Jean-François Lyotard (1979), *The Postmodern Condition: A Report on Knowledge* (Manchester: Manchester University Press, 1986).

For more, see Hall, “There Are No Digital Humanities,” *Pirate Philosophy*. This book analyses a number of specific, “actually existing,” digital humanities projects: most closely and extensively, the Cultural Analytics of Lev Manovich and the Software Studies Initiative.

¹⁵ <http://mediacommons.futureofthebook.org/mcpress/plannedobsolescence>.

¹⁶ Kathleen Fitzpatrick, *Planned Obsolescence: Publishing, Technology, and the Future of the Academy* (New York: New York University Press, 2011).

¹⁷ Victoria Richards, “Monkey Selfie: Judge Rules Macaque Who Took Grinning Photograph Of Himself 'Cannot Own Copyright,’” *Independent*, January 7, 2016, <http://www.independent.co.uk/news/weird-news/monkey-selfie-judge-rules-macaque-who-took-grinning-photograph-of-himself-cannot-own-copyright-a6800471.html>.

Although she does not focus on its implications for theorists of the posthuman, Anna Munster nevertheless provides an interesting reading this case in a paper given at Goldsmiths College, University of London, June 16, 2016, under the title of “Techno-Animalities – The Case of the Monkey Selfie.” We are also aware an orangutan in Argentina called Sandra has been declared by the courts there to have legal rights (Bill Chapel, “Orangutan Declared To Have Legal Rights In Argentina,” *The Two-Way: Breaking News From NPR*, December 23, 2014, <http://www.npr.org/sections/thetwo-way/2014/12/23/372641268/orangutan-declared-to-have-legal-rights-in-argentina>).

¹⁸ See, for example, Rosi Braidotti, “The Contested Posthumanities,” in *Conflicting Humanities*, eds Rosi Braidotti and Paul Gilroy (London: Bloomsbury Academic, 2016), which in this respect can be seen as another instance of Braidotti’s posthuman humanities

approach. *Conflicting Humanities*, like this issue of the *Journal of Electronic Publishing*, is based on a series of presentations.

¹⁹ John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (Chicago and London: University of Chicago Press, 2015).

²⁰ Sean Cubitt, "How To Connect Everyone With Everything," *Sean's Blog*, August 13, 2014, <http://seancubitt.blogspot.co.uk/2014/08/how-to-connect-everyone-with-everything.html>.

²² For the operation of a celebrity star system in digital humanities, see Matthew Kirschenbaum, "The (DH) Stars Come Out In LA," *Matthew G. Kirschenbaum* (blog), January 13, 2011, <http://mkirschenbaum.wordpress.com/2011/01/13/the-dh-stars-come-out-in-la-2/>.

It is perhaps worth emphasizing at this point none of this is to suggest that, while books in the Gutenberg galaxy *were* produced by individualised named human authors, they are now produced by complex meshworks of humans, animals, plants, technologies and other inorganic elements. Books, we can say, have always been produced relationally and processually. It is just that modernity and industrialization did not recognise this, privileging seemingly individualistic, fixed, and private modes of production and reception instead. (This is why, for us, Bruno Latour *has always been modern*.) With the perceived transition out of modernity and the industrialisation of the Gutenberg galaxy, however, and the ensuing disruption of the human and the humanities associated with the development of new computational, biomedical, and robotics technologies, we have an opportunity to recognise this state of affairs, and so perform books differently. And not just books, but all those ideas and values we have inherited *with the book*, such as privacy, fixity and the finished object, as well as the rational, liberal, individual human subject. This is what we mean by posthumanities (and why we are so interested in the posthuman and posthumanism). It is also why we argue posthumanities cannot be simply opposed to the humanities--or digital humanities, for that matter.

²³ Dennis Bruining, "A Somatechnics of Moralism: New Materialism or Material Foundationalism," *Somatechnics*, 3.1 (2013).

²⁴ Wendy Brown, *Politics Out of History* (London and Princeton NJ: Princeton University Press, 2001).

²⁵ Kirschenbaum, "What Is 'Digital Humanities,'" 59.

²⁶ Bruining, "A Somatechnics of Moralism".

²⁷ Call for papers, The Dark Side of the Digital, Center for 21st Century Studies conference, University of Wisconsin-Milwaukee, May 24, 2013, <http://www.c21uwm.com/digitaldarkside/>.

Matthew Kirschenbaum identifies as a major influence on dark side critiques and their "rhetoric of contempt" Evgeny Morozov, "the caustic technology critic whose first book was titled *The Net Delusion: The Dark Side of Internet Freedom* (2011). Morozov, as much as the dark sides of Star Wars or Pink Floyd, furnishes the referential framing for the current debate" (Kirschenbaum, "What Is 'Digital Humanities,'" 52). Yet when it comes to the humanities' "material turn," the dark side argument can be seen to have other precursors. Among them is Jussi Parikka and Tony Sampson, eds *The Spam Book: On Viruses, Porn and*

Other Anomalies from the Dark Side of Digital Culture (Hampton Press, 2009), which appeared in 2009, two years earlier than the Morozov's *The Net Delusion*.

²⁸ Ibid.

²⁹ Richard Grusin, "The Dark Side of Digital Humanities: Dispatches from Two Recent MLA Conventions," *differences: A Journal of Feminist Cultural Studies*, Volume 25, Number 1 (2014): 79. Both this essay, and this issue of *differences* in which Kirschenbaum's "What Is 'Digital Humanities'" was also published, emerged out of the roundtable Grusin organized at the 2013 Modern Language Association Convention under the same title, "The Dark Side of the Digital Humanities" (<http://dhdebates.gc.cuny.edu/debates/text/89>).

³⁰ Grusin, "The Dark Side of Digital Humanities," 87.

³¹ Ibid., 82, 83.

³² Ibid., 80.

³³ Ibid., 83, 85.

³⁴ Ibid, 81; referring to Adeline Koh and Risam Roopika, "Open Thread: The Digital Humanities as a Historical 'Refuge' from Race/Class/Gender/Sexuality/Disability?," *Postcolonial Digital Humanities* (blog), May 10, 2013, <http://dhpoco.org/blog/2013/05/10/open-thread-the-digital-humanities-as-a-historical-refuge-from-raceclassgendersexualitydisability/>.

³⁵ Grusin, "The Dark Side of Digital Humanities," 81, 80.

³⁶ Allington, Brouillette, and Golumbia, "Neoliberal Tools (and Archives)," <https://lareviewofbooks.org/article/neoliberal-tools-archives-political-history-digital-humanities/>.

³⁷ Ibid.

³⁸ Ibid.

³⁹ Grusin, "The Dark Side of Digital Humanities," 82.

⁴⁰ Ibid., 87.

And lest it is assumed that we are not interested in working conditions and the precarity of labor, see Hall, *The Uberfication of the University*.

⁴¹ Allington, Brouillette, and Golumbia, "Neoliberal Tools (and Archives)," <https://lareviewofbooks.org/article/neoliberal-tools-archives-political-history-digital-humanities/>.

⁴² Ibid.

⁴³ Interestingly, a similar argument could be developed with regard to Kirschenbaum's defense of those who "do" digital humanities as having "been educated in the same critical traditions (indeed, sometimes in the same graduate programs) as their opponents" and as also being "politically committed and politically engaged" (Kirschenbaum, "What Is 'Digital

Humanities,” 53).

⁴⁴ Ibid.; Grusin, “The Dark Side of Digital Humanities,” 81.

⁴⁵ Chantal Mouffe, *The Democratic Paradox* (London: Verso, 2000), 130.

⁴⁶ Chantal Mouffe, in Íñigo Errejón and Chantal Mouffe, *Podemos: In the Name of the People* (London: Lawrence & Wishart, 2016), 38.

⁴⁷ Chantal Mouffe, *Agonistics: Thinking The World Politically* (London: Verso, 2013), xi.

⁴⁸ <http://openhumanitiespress.org>
<http://garyhall.squarespace.com/about/>
<http://www.openhumanitiespress.org/books/series/liquid-books/>
<http://www.livingbooksaboutlife.org>
<http://www.photomediationsopenbook.net>
<http://after.video/assemblages>

⁴⁹ Mouffe, *Agonistics*, 94-95.

⁵⁰ Mouffe, in Errejón and Mouffe, *Podemos*, 40.

⁵¹ Jacques Derrida, “Outwork, Prefacing,” *Dissemination* (London: Athlone Press, 1981), 3.

⁵² Janneke Adema and Gary Hall, “The Political Nature of the Book: On Artists’ Books and Radical Open Access,” *New Formations*, number 78 (Summer 2013), special issue on Materialities of the Text.

⁵³ The Liquid Books series, eds Clare Birchall and Gary Hall (<http://liquidbooks.pbwiki.com>); the Living Books About Life series, eds Clare Birchall, Gary Hall, and Joanna Zylinska (<http://www.livingbooksaboutlife.org>).

⁵⁴ Janneke Adema and Kamila Kuc, “Unruly Gestures: A Creative Meditation on Reading/Writing Practices in our Post-Digital Condition,” in *Shifting Layers: New Perspectives in Media Archaeology Across Digital Media and Audiovisual Arts*, eds Miriam De Rosa and Ludovica Fales (Mimesis International, forthcoming 2016).

⁵⁵ Hall, *Pirate Philosophy*; Gary Hall, “Pirate Philosophy Version 2.0,” available at the time of this writing at aaaarg.org (<http://aaaarg.fail/thing/51c584176c3a0ed90bac0700>).

⁵⁶ Gary Hall, *Digitize This Book!: The Politics of New Media, or Why We Need Open Access Now* (Minneapolis and London: University of Minnesota Press, 2008).

⁵⁷ Hall, *The Uberfication of the University*.

⁵⁸ Van Mourik Broekman et al, *Open Education*.

⁵⁹ Janneke Adema and Gary Hall, *Really, We're Helping To Build This . . . Business: The Academia.edu Files* (London: Open Humanities Press, 2016). <https://vimeo.com/156294138>.

⁶⁰ Sybille Peters, “Between Presentation and Research: The Lecture as Performance”, *Die Performance der Lecture im Netz. Ein Blog über Online-Vorträge von Sibylle Peters*, February 28th, 2010. Available at: <http://petersblog.wissenschaftskommunikation.info>,

<http://web.archive.org/web/20130928090457/http://petersblog.wissenschaftskommunikation.info/2010/02/28/between-presentation-and-research-the-lecture-as-performance/>.

⁶¹ We are aware that Grusin, for one, is highly critical of collaboration:

I would similarly encourage digital humanists not automatically to valorize collaborative over individual projects, or openly shared work over work done in private. It is crucial for the humanities to preserve the opportunity for students and scholars to work slowly, privately, and independently of the pressures of socially networked media to constantly update others on what one has just written or thought—if for no other reason than that the unquestioned emphasis on collaboration, openness, and sharing is aggressively marketed and sold by tech media companies to sell more devices and services and by corporate social media companies to generate massive data sets to be mined for purposes of commerce and security.

(Grusin, “The Dark Side of Digital Humanities,” 89)

However, for a different take on collaboration, much closer to our own, see Florian Schneider, “Collaboration: The Dark Side of the Multitude,” *Sarai Reader 06: Turbulence*, eds Monica Narula, Shuddhabrata Sengupta, Ravi Sundaram, Jeebesh Bagchi, and Geert Lovink (Delhi: The Sarai Programme, Centre for the Study of Developing Societies, 2006), <http://fls.kein.org/view/174>.

⁶² See the Storify collections of the conference tweets:

<https://storify.com/Openreflections/disruptivemedia>

<https://storify.com/Openreflections/aesthetics-of-the-humanities>

⁶³ Haraway, *When Species Meet*.

⁶⁴ <http://scalar.usc.edu/>

<http://www.senselab.ca/inflexions/>

⁶⁵ Johanna Drucker, “Humanities Approaches to Graphical Display,” *Digital Humanities Quarterly* 5, no. 1 (2011), <http://www.digitalhumanities.org/dhq/vol/5/1/000091/000091.html>.

⁶⁶ Jessica Pressman, “The Aesthetic of Bookishness in Twenty-First-Century Literature,” *Michigan Quarterly Review* XLVIII, no. 4 (Fall 2009), <http://hdl.handle.net/2027/spo.act2080.0048.402>.

⁶⁷ Alessandro Ludovico, *Post-Digital Print: The Mutation of Publishing since 1894* (Eindhoven: Onomatopoe, 2012).

⁶⁸ N. Katherine Hayles, “Translating Media: Why We Should Rethink Textuality,” *The Yale Journal of Criticism* 16, no. 2 (2003): 263–90.

⁶⁹ Tara McPherson, “Designing for Difference,” *Differences: A Journal of Feminist Cultural Studies* 25, no. 1 (January 1, 2014): 177–188.

⁷⁰ See Van Mourik Broekman et al, *Open Education* for more.

⁷¹ Johanna Drucker, “Pixel Dust: Illusions of Innovation in Scholarly Publishing,” *LA Review of Books*, January 16, 2014, <https://lareviewofbooks.org/essay/pixel-dust-illusions-innovation-scholarly-publishing/>.

⁷² <http://www.create.ac.uk/>
<http://fembotcollective.org/>
<http://www.gold.ac.uk/goldsmiths-press/>

⁷³ Donna Haraway, “When Species Meet: Staying with the Trouble,” *Environment and Planning D: Society and Space* 28, no. 1 (February 1, 2010): 53–55.