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Towards a Critical Digital Humanities

In this final chapter, we move towards a more speculative and theoretical discussion of possible future directions for the digital humanities, particularly the notion of a digital humanities that links to the social, cultural, economic and political questions of a recontextualization and social reembedding of digital technologies within a social field. This chapter seeks to connect the themes developed throughout the book in theorizing computational approaches within the arts and humanities and social sciences. As research continues to be framed in terms of computational categories and modes of thought, the digital becomes a potential research programme and the condition of possibility for research, something digital humanities should directly address as part of the research questions it investigates.

Throughout the book, we have attempted to provide a map of the digital humanities understood in some sense as a set of interlocking and interdependent parts that, whilst distinct and standing alone to some degree, nonetheless add up to make the whole greater than the sum of its parts. This is, in other words, to offer a notion of the digital humanities as a coherent, if nonetheless still contested, discipline. One of the key themes that we have reiterated is the need for a critical reflexivity in the digital humanities, and in this chapter we want to expand a little on this notion in relation to what we are calling a *critical* digital humanities.[1] In essence, the aim is to provide pointers towards a set of practices and ways of thinking rather than a comprehensive blueprint. Indeed, it is this gesture that we want to offer as a way of augmenting, and in some cases

offering a pushback to, the sometimes instrumental tendencies within the digital humanities. Part of this has to be a focus on the socio-technical aspects of the technologies used, how they are assembled and made, and the possibility of making them otherwise.

Indeed, what we propose is to move beyond what might be called a 'technological sublime', and, through our theoretical and empirical projects, to develop 'cognitive maps' for thinking critically about digital culture (Jameson 1990). Part of the challenge in this approach is to bring the digital (software and computation) back into visibility for research and critique as both a material and an ideology. We argue that critical digital humanities starts with these premises in order to avoid the dangers of treating the computer as a 'truth machine' or allowing the technical issues of the research infrastructures and projects drive the kinds of questions that digital humanities is allowed to ask (see Berry 2011, 2014).

This would focus on the need to think critically about the implications of computational imaginaries, and raise some questions in this regard. This is also to foreground the importance of the politics and norms that are embedded in digital technology, algorithms and software. We need to explore how to negotiate between close and distant readings of texts and how micro-analysis and macro-analysis can be usefully reconciled in humanist work. As Liu (2011) argues, 'digital humanists will need to find ways to show that thinking critically about metadata, for instance, scales into thinking critically about the power, finance, and other governance protocols of the world', since, even though humanities engaged in cultural critique and even computing had its moments of social-justice activism and cyberlibertarianism, 'the digital humanities (initially known even more soberly as "humanities computing") never once inhaled' (Liu 2012: 419). Some key

questions include: how do we make the invisible become visible in the study of software? How is knowledge transformed when mediated through code and software? What are the critical approaches to Big Data, visualization, digital methods, etc.? How does computation create new disciplinary boundaries and gate-keeping functions? What are the new hegemonic representations of the digital – 'geons', 'pixels', 'waves', visualization, visual rhetorics, etc.? How do media changes create epistemic changes, and how can we look behind the 'screen essentialism' of computational interfaces? Here we might also reflect on the way in which the practice of making-visible also entails the making-invisible – computation involves making choices about what is to be captured. Zach Blas's work, for example, is helpful in showing the various forms of race-, gender- and class-based exclusion in computational and biometric systems through his art practice, but we can imagine ways in which digital humanities can also work to make these kinds of exclusions and absences visible (Magdaleno 2014).[2]

From asking questions about the normative and political delegations into software/code to seeing how computational categories transform the historical constellation of concepts we associate with scholarly work, this would encourage us not just to 'build things' but to take them apart and critique them – making critical software to test our ideas and challenge our assumptions. And also to turn our hermeneutic skills on the very software and algorithms that make up these systems. Indeed, we would agree here with Grusin that 'digital media can help to transform our understanding of the canon and history of the humanities by foregrounding and investigating the complex entanglements of humans and nonhumans, of humanities and technology, which have too

often been minimized or ignored in conventional narratives of the Western humanistic tradition' (Grusin 2014: 89).

Through exploring the digital humanities through a number of lenses, it has been extremely interesting to see how different disciplinary specialisms are transformed not just by their interaction, but also by the common denominator and limitations of computation – that is, how the constellation of concepts that is used within a disciplinary context are challenged and transformed within a computational frame. Hence, digital humanities needs to be critical of the 'digital' in digital humanities as much as of the 'humanities'. Indeed, there has already been some valuable work undertaken in this area, such as Alan Liu's work, but more needs to be done to deepen the digital humanities' theoretical and empirical approaches.

The aim of outlining a critical digital humanities here is not to offer a prescription for a final approach, rather it is to begin to enumerate the plurality of approaches within such a field, and more specifically a constellation of concepts related to a notion of 'digital humanities' and the softwarization of the humanities more generally. Indeed, critical digital humanities could help to reposition our traditional humanistic practices of history, critique and interpretation, so these humanistic traditions can help to refine and shape the direction and critical focus of digital humanities and its place in the academy. Thus, Liu asks, 'how [can] the digital humanities advance, channel, or resist today's great postindustrial, neoliberal, corporate, and global flows of information-cum-capital?', and how can we make sure that it is no longer 'a question rarely heard in the digital humanities associations, conferences, journals, and projects' (Liu 2012; see also Global Outlook 2015). Indeed, as Bianco argues, as digital humanists we must 'seriously question, maybe even interrogate . . . our roles in the legitimization and institutionalization of

computational and digital media in the humanistic nodes of the academy . . . and not simply defend the legitimacy (or advocate for the "obvious" supremacy) of computational practices' (Bianco 2012: 100). This is echoed by Johnson, who argues, 'I think the 21st-century university has a lot of struggles and tensions that aren't about the digital being the new fancy tool, but are actually about the extent to which the university is or is not accountable to increasingly diverse *and* stratified communities' (Johnson 2016, original emphasis).

A critical digital humanities continues to map and critique the use of the digital but is attentive to questions of power, domination, myth and exploitation. This is what has been previously discussed as the dark side of the digital humanities (see particularly Chun 2013; Grusin 2013; Jagoda 2013; Raley 2013). As such, critical digital humanities can develop into an interdisciplinary approach which includes: critical theory; theoretical work on race, ethnicity, gender, sexuality, disability and class (see, for example, Earhart 2012; TransformDH 2013; Accessible Future 2015; Kim and Stommel 2015; Risam 2015); together with the historical, social, political and cultural contexts around digital transformations (Berry 2014) – that is, work that is both research- and practice-led, reflexive to its own historical context and theoretical limitations, and with a commitment to political praxis. Its theoretical work can be combined with 'building things' and other kinds of technologically engaged work, including drawing on approaches such as software studies, critical code studies, cultural/critical political economy and media and cultural studies, etc.

As such, critical digital humanities can seek to address the concerns expressed by Liu (2012) and others that digital humanities lacks a cultural critique (see Golumbia 2012). As Liu argues, 'while digital humanists develop tools, data,

and metadata critically, rarely do they extend their critique to the full register of society, economics, politics, or culture' (2012). At this point, it is important to note that we are calling for a disciplinary constellation around these issues, rather than mandating that all scholars should produce the same kind of work. The aim is to open digital humanities to different forms of scholarly work and critical approaches that would widen the field and enrich its intellectual capacities.

Developing a critical approach to computation calls for the digital itself to be historicized. Focus on materiality of the digital draws our attention to the microanalysis required at the level of digital conditions of possibility combined with macroanalysis of scaling of digital systems – for example, real-time monitoring of streams of data, particularly communicative streams in the nascent public formation of knowledge, allows intervention from governments, security services and corporations. This idea of controlling not only the very possibility of engaging with culture, but also how it is understood, used, shared, discussed and reflected upon, is something that might have resemblances to a kind of Orwellian machinery but is in actuality of a terrifyingly greater intensity and higher resolution. Here culture is seen as data, both for corporations and for governments – something which is a complete anathema to the humanities. This results in a collapse of the public/private locus of opinion-formation and comprehension and, to follow Stiegler, creates 'short-chains' – fragmented knowledge that short-circuits the possibility of rational thought. It is also precisely this technical mediation, geared towards immediacy and reaction, that creates problematic conditions of apathy, disconnect and fatalism as well (but along with new potentials for authoritarianism).

In this book, we have already gestured to some of these issues, particularly in relation to thinking about digitality

and computation in relation to the postdigital, but more remains to be done. Computation is a historical phenomenon and can be traced and periodized through historicization, but more work is needed here. Ignoring the hegemony of computational concepts and methods leads to a dangerous assumption, as it is a short step towards new forms of control, myth and limited forms of computational rationality. Digital humanities could be one of a number of cognate disciplines that should remain attentive to moments in culture where critical thinking and the ability to distinguish between concept and object become weakened (see Berry 2014). Digital humanities should not only map these challenges but also propose new ways of reconfiguring research and teaching to safeguard critical and rational thought in a digital age.

How then are we to embed the capacity for reflection and thought into a critically-oriented digital humanities and thus to move to a new mode of experience, a 'two dimensional experience responsive to the potentialities of people and things' (Feenberg 2013: 610). This requires a new orientation towards potentiality, or what Berry calls 'possibility' (Berry 2014), which would enable this new spirit of criticality – critical reason as such.[3] In other words, we need a reconfiguring of quantification practices and instrumental processes away from domination (Adorno, Horkheimer, Marcuse) and control (Habermas), towards reflexivity, critique and democratic practices. As Galloway argues, 'as humanist scholars in the liberal arts, are we outgunned and outclassed by capital? Indeed we are – now more than ever. Yet as humanists we have access to something more important . . . [to] continue to pursue the very questions that technoscience has always bungled, beholden as it is to specific ideological and industrial mandates' (Galloway 2014: 128). If we play in a digital sandbox, do we have to follow the rules of computation, or

are there alternative models and theories of computation that we can move towards (cf. Drucker 2012: 88)? Indeed, as McPherson argues, ‘politically committed academics with humanities skill sets must engage technology and its production not simply as an object of our scorn, critique, or fascination but as a productive and generative space that is always emergent and never fully determined’ (McPherson 2012: 155; see also Berry 2014). Indeed, for Marcuse, ‘critical analysis must dissociate itself from that which it strives to comprehend; the philosophic terms must be other than the ordinary ones in order to elucidate the full meaning of the latter. For the established universe of discourse bears throughout the marks of the specific modes of domination, organisation, and manipulation to which the members of a society are subjects’ (Marcuse 1999: 193). The question then becomes the extent to which this totalizing system overwhelms the capacity for agency, and, as such, a critical consciousness. Indeed, related to this is the important question of the relationship between humanities and technology itself, in as much as one of the questions to be addressed is, are the humanities prior to technology and therefore a condition of possibility for it, or has the humanities become technologized to the extent that humanities is now itself subjected to a technological a priori? In other words, is humanities ‘complicit with the system of domination that prevails under capitalism’ (Feenberg 2013: 609)?

For Feenberg, this requires ‘counter-acting the tendencies towards domination in the technological a priori’ through the ‘materialization of values’ (2013: 613). This he argues can be found at specific intervention points within the materialization of this a priori, such as in design processes. Feenberg argues that ‘design is the mediation through which the potential for domination contained in scientific-technical rationality enters the social world as a

civilisational project' (2013: 613). Here digital humanities has the technical skills and cultural capital to make a real difference in how these projects are developed, the ways in which instrumental logics are embedded and interventions made possible. For example, digital humanities, through its already strong advocacy of open access, could push for and defend open source and copyleft licences for technical components and software.[4] Feenberg argues that the 'socialist a priori' should inform the processes of technical implementation and technical practice. That is, he explicitly asks us to contest particular forms of neoliberal and market-oriented logics that can be easily and unthinkingly incorporated into projects and their technical implementation. However, it seems to us that this underestimates the instrumentality implicit in design, and design practices more generally, which often tend to maximize instrumental values in their application of concepts of efficiency and organization and therefore are very difficult to resist. In contrast, we argue that it additionally requires a duty of care towards design, or a new form of critical design which is different from, and more rigorous than, the form outlined by Dunne and Raby (2013). Here we might start making connections to new forms of rationality that offer possibilities for augmenting or perhaps replacing instrumental rationalities, for example in the potentialities of critical computational rationalities, iteracies and other computational competences whose performance and practice are not necessarily tied to instrumental notions of efficiency and order, nor to capitalist forms of reification (Berry 2014).

Meanwhile, with the exploding quantity of information in society and the moves towards a digital economy, information is increasingly seen as a source of profit for capitalism if captured in an appropriate way. Indeed, data and information were said to be the new 'oil' of the digital

age by Alan Greenspan in 1971 (see Berry 2008: 41, 56). This highlights both the political and economic desire for data. Meanwhile, the digital enables exploding quantities of data that are increasingly hard to contain within organization boundaries. The increase in data affects not just massive corporations but also every one of us in our everyday life. Our activities generate a data exhaust that far exceeds our capacity to control it, let alone comprehend it. But this generates political possibilities as well as problems: from the growing contestation and awareness by individuals of the profound and shocking amounts of surveillance capacity held by corporations and governments, to the desire of populations to have some sense of ownership of their data lives at a national level. There is much potential for digital humanists, both pedagogically and in terms of research practice, to explore and communicate to a public these matters of concern. But to reiterate the argument of this book, we should no longer talk just about digital vs analogue (or online versus offline) but instead about modulations of the digital or different intensities of the computational. We must critically analyse the way in which cadences of the computational are made and materialized, and draw attention to a computational world and culture whilst transcending the distinction between digital and non-digital. Ironically, digital humanities is ideally located and has the intellectual and empirical capacity to do this.

For example, mega-leaks place raw data into the public sphere – usually as files and spreadsheets of data – and there is a growing problem with being able to read and comprehend them, hence the increasing need for journalists to become *data journalists.* Ironically then, 'opening the databanks' (Lyotard 1984: 67; Berry 2014: 178) creates a new form of opaqueness. Computational strategies are needed to read these new materials (e.g.

algorithmic distant readings). Additionally, the politics of Wikileaks is connected to creating an informational overload within organizations, in terms of both their inability to cope with the release of their data, and the requirement to close communicational channels within the organization. So, information overload can become a political tactic for both control and resistance. Again, we can see how digital humanities could connect their methods and practices to examining these ways of working with data, both as cultural phenomena and to equip students with critical data skills and reflexive habits in their digital lives.

New methods for reading and writing will be required for the humanities to work with these new kinds of digital materials – what Berry (2011, 2014) has called *iteracy.* So we will need to attend to the ways in which culture (e.g. public/private) is materialized and fixed in forms specific to material digital culture – that is, to how culture is inscribed not just in moments of culture created by human actors but also in the technical devices, recording systems, trackers, web bugs and beacons of a digital age. One approach has been to reconstruct the idea of the methodological commons into a 'methodological infrastructure in which culturally aware technology complements technologically aware cultural criticism' (Liu 2012). Indeed, digital humanists will need to develop their powers of critique regarding sites of power, which include the instantiation of digital technologies, platforms and infrastructures.

The humanities need more than ever to communicate their vision of humanity (and so their own value) to the public, but also to reconstruct what the competences of a subject of computation can and should be. Liu argues that 'beyond acting in an instrumental role, the digital humanities can most profoundly advocate for the humanities by helping to broaden the very idea of instrumentalism, technological,

and otherwise. This could be its unique contribution to cultural criticism' (2012). We agree, and this offers not a replacement for existing digital humanities work, but rather a widened and extended set of research questions. The field will be bigger, stronger and have more impact if it is able to engage with and accept a wider range of research approaches within its field.

At this point it is useful to note that introducing critical approaches into digital humanities projects often slows them down. This can be frustrating for other members of a research project, especially those from technical fields. Critical thinking can act as 'grit in the machine' and consequently can be difficult to justify under current calls for bids, rapid prototyping or what seem like fairly neutral digitization projects. However, we think that critical work offers a *productive* slowdown, forcing a project to reflect on its approach, method and goals, in the sense that Reuben Brower has in a different context called for 'reading in slow motion' (Brower, quoted in Hancher 2016)[5] – that is, to bring the slow, careful, critical thinking of the humanities not just to the 'content' of a software project, but also bring it to bear on the very technologies, methods and infrastructures that support the project.

In the limited space that remains, we would like to explore three possible sites for intervention that a newly radicalized and broadened notion of digital humanities might choose as areas of inquiry for critical approaches. First, we want to turn our attention to research infrastructure and how critical approaches can contribute to and offer methods for contesting the developments in and direction of this area. As we have discussed previously, research infrastructures provide the technical a priori for the support of and conditions of possibility for digital humanities projects. In thinking about this use, Liu (2016) has suggested the development of critical infrastructure

studies, which would engage with both the theory and the practice of the critical making of infrastructure. In the context of the digital humanities, and the university more generally, the move to digital infrastructure within the university places a difficult series of technical decisions on the faculty and management of the university – not only technically complex, with the attendant implications for legacy systems, lock-in, future technical directions and so forth, but also having significant implications in terms of cost and ongoing maintenance fees. Additionally, the ways in which these aspects interrelate in terms of the 'space of work' is hugely important – that is, the functional capacity of the system is crucial – in as much as the range of humanities work may be adversely affected or inhibited by certain forms of technical system. For Liu, it is at this point that digital humanists can contribute, through committee work in the selection and promotion of particular technical solutions and standards that are conducive to the work of the wider humanities.

Whilst we think that Liu is right to connect the role of particular aspects of service to the range of contributions that can be made by digital humanists, we also think that the danger here is to offer only a prophylactic contribution by the digital humanities. We would like to suggest a more interventionist and activist role for the digital humanities, in terms not only of connecting research infrastructures to digital humanities work, but also more generally of how computation is the key mediator to and condition of possibility for management, accountancy and standardization in the academy. This critique is important as it posits a more general question about the university, what it is, where it is heading, and how computation aids or hinders the task of research and teaching in the university. Whilst this is beyond the scope of this book, we feel that the role of the university and digital humanities are deeply

intertwined in terms of digital humanists in some sense acting as critical subjects for thinking about the future of the university.

In terms of infrastructures, we might consider the ways in which particular practices from Silicon Valley have become prevalent and tend to shape thinking across the fields affected by computation. For example, there has been a recent turn towards what has come to be called ‘platformization’ – that is, the construction of a single digital system that acts as a technical monopoly within a particular sector. The obvious example here is Facebook in social media. Equally, in discussions about digital research infrastructures, there is an understandable tendency towards centralization and the development of unitary and standardized platforms for the digitization, archiving, researching and transformation of such data. Whilst most of these attempts have so far ended in failure, it remains the case that the desire and temptation to develop such a system, whether in a single university or across a consortium of institutions, is very strong. Indeed, we would like to see the digital humanities working against such a move and instead developing either federated or network-based solutions and, as such, contributing to the re-decentralization of technical systems.[6]

Second, in relation to data, we might consider the more general societal implications of digital technology. Indeed, the notion that we leave behind ‘digital breadcrumbs’, not just on the internet, but across the whole of society, the economy, culture and even everyday life, is an issue that societies are just coming to terms with. Notwithstanding the recent Snowden revelations (see Berry 2014), new computational techniques demonstrate the disconnect between people’s everyday understanding of technology and its penetration of life and the reality of total surveillance. Not just the lives of others are at stake here,

but the very shape of public culture and the ability for individuals to make a ‘public use of reason’ without being subject to the chilling effects of state and corporate monitoring of our public activities. Indeed, computational technologies such as these described have little respect for the public/private distinction that our political systems have naturalized as part of a condition of possibility for political life at all. This makes it ever more imperative that we provide citizens with the ability to undertake critical technical practices, both in order to choose how to manage the digital breadcrumbs they leave as trails in public spaces, and to pull down the blinds on the postdigital gaze of state and corporate interests through the private use of cryptography and critical encryption practices.

Computation makes the collection of data relatively easy. This increases visibility through what Rey Chow (2012) calls ‘capture’. Software enables more effective systems of surveillance and hence new capture systems. In thinking about the conditions of possibility that facilitate the mediated landscape of the *postdigital* (Berry and Dieter 2015), it is useful to explore concepts around capture and captivation. Chow argues that being ‘captivated’ is ‘the sense of being lured and held by an unusual person, event, or spectacle. To be captivated is to be captured by means other than the purely physical, with an effect that is, nonetheless, lived and felt *as* embodied captivity’ (Chow 2012: 48).[7]

To think about capture then is to think about the mediatized image in relation to reflexivity. For Chow, Walter Benjamin inaugurated a major change in the conventional logic of capture, from a notion of reality being caught or contained in the copy-image, such as in a repository, the copy-image becomes mobile, and this mobility adds to its versatility. The copy-image then supersedes or replaces the original as the main focus; as such, this logic of the

mechanical reproduction of images undermines hierarchy and introduces a notion of the image as infinitely replicable and extendable. Thus, the ‘machinic act or event of capture’ creates the possibility for further dividing and partitioning – that is, for the generation of copies, data and images – and sets in motion the conditions of possibility for a reality that is structured around the copy.

Thus the moment of capture or ‘arrest’ is an event of enclosure, locating and making possible the sharing and distribution of a moment through infinite reproduction and dissemination. So capture represents a techno-social moment but is also discursive in that it is a type of discourse that is derived from the imposition of power on bodies and the attachment of bodies to power. This Chow calls a heteronomy or heteropoiesis, as in a system or artifact designed by humans, with some purpose, not able to self-reproduce but which is yet able to exert agency in the form of prescription often back onto its designers. This essentially produces an externality in relation to the application of certain ‘laws’ or regulations usually drawn from patternanalysis of Big Data.

Nonetheless, capture and captivation also constitute a critical response through the possibility of a disconnecting logic and the dynamics of mimesis. This possibility reflected through the notion of entanglements refers to what we might call ‘derangements’ in the ‘organisation of knowledge caused by unprecedented adjacency and comparability or parity’ (Chow 2012: 49). This is, of course, definitional in relation to the notion of computation which itself works through a logic of formatting, configuration, structuring and the application of computational ontologies (Berry 2011, 2014). Here we see the potential for digital humanities to think through and contest capture as a basic function of modern society: what is captured matters, and what matters is captured. However, this logic is limited

within a historical context that calls for analysis beyond the limiting compressing and subtractive processes of computation.

This links to our final question about how visibility is made problematic when mediated through computational systems. The question is also linked to *who* is made visible in these kinds of systems, especially where, as feminist theorists have shown, visibility itself can be a gendered concept and practice, as demonstrated in the historical invisibility of women in the public sphere, for example (see Benhabib 1992). Thus, in what might be thought of as the postdigital – a term that Chow doesn't use but which we continue to think is helpful in thinking about this contrast – what is at stake is no longer this link between visibility and surveillance, nor indeed the link between becoming-mobile and the technology of images, but rather the collapse of the 'time lag' between the world and its capture. As Foucault argues, 'full lighting and the eyes of a supervisor capture better than darkness, which ultimately protected. Visibility is a trap' (Foucault 1991: 200).

This is when time loses its potential to 'become fugitive' or 'fossilized' and hence to be anachronistic. The key point is that the very possibility of memory is disrupted when images and text become instantaneous and therefore synonymous with an actual happening. This is a condition of the postdigital, whereby digital technologies make possible not only the instant capture and replication of an event, but also the very definition of the experience through its mediation both at the moment of capture – such as with the waving smartphones at a music concert or event – and in the subsequent recollection and reflection on that experience.

Here the visibility of certain sectors of a population may be intensified under the computational gaze: subjected to

digital special measures, and interventions. Control of visibility is then a political moment in terms both of individual autonomy and collective representation and self-presentation. Who gets to control the very act of being visible, but also its resolution and the way in which it might be selectively applied across a population through digital technologies, are crucial issues. Here, by using ‘visibility’, we are talking not just about ocular ways of being visible, but also the making visible of computational techniques such as pattern-matching, machine learning, data visualization and so forth. Of course, related to this are the powers to make invisible, to hide or ignore people, problems or populations that the algorithmic gaze can be instructed to disregard.

The question then becomes how to ‘darken’ this visibility to prevent the totalizing nature of the full top-view that is possible in computational society? Using the metaphor of ‘black boxes’, how can we think about spaces that paradoxically enable democracy and the political, whilst limiting the reading of the internal processes of political experimentation and formation? Thus, how are we to create the conditions of possibility for ‘opaque presence’ to work on the edges or at the limits of legibility? We might call these spaces ‘opaque temporary autonomous zones’, which seek to enable democratic deliberation and debate. These should be fully political spaces, open and inclusive, but nonetheless opaque to the kinds of transparency that computation makes possible. As Rossiter and Zehle (2014) argue, we need to move towards a ‘politics of anonymity’, part of which is an acknowledgement of the way in which the mediation of algorithms could operate as a plane of opacity for various actors, opening critical zones for intervention.

It is important to note that this is not to create conditional and temporary moments – glitches in the regime of

computational visibility. The idea is not to recreate notions of individual privacy as such, but rather to propose the creation of collective spaces of critical reflection for practices of creating a political response – that is, to draw on theory and 'un-theory' as a way of proceeding theoretically as 'an open source theory [and practice] in constant reformulation from multiple re-visions and remixings' (Goldberg 2014), what the Critical Theory Institute (CTI 2008) calls 'poor theory'. Indeed, we might argue that crypto practices can create spaces and shadows, thus tipping the balance away from systems of surveillance and control.[8]

By crypto practices, or crypto-activism, we mean the notion of 'hiding in plain sight', a kind of stenography of political practice. This is not merely a technical practice but a political and social one too. Here we are thinking of the counter-surveillance art of Adam Harvey, such as 'CV Dazzle', which seeks to design make-up that prevents facial recognition software from identifying faces, or the 'Stealth Wear' which creates the 'potential for fashion to challenge authoritarian surveillance' (Harvey 2014). Some examples in political practice can also be seen at the AntiSurveillance Feminist Poet Hair and Makeup Party. Additionally, Julian Oliver's work has also been exemplary in exploring the ideas of visibility and opacity. Here we are thinking in particular of Oliver's works that embed code executables, paradoxically, in images of the software objects themselves, such as 'Number was the substance of all things' (2012), but also 'PRISM: The Beacon Frame' (2013), which makes visible the phone radio networks, and hence the possibility of surveillance in real-time of networks and data channels (Oliver 2014).

These artworks develop the notion of opaque presence explored by Broeckmann (2010), who argues that in 'the society of late capitalism – whether we understand it as a

society of consumption, of control, or as a cybernetic society – visibility and transparency are no longer signs of democratic openness, but rather of administrative availability'. The notion is also suggestively explored by the poet Edouard Glissant, who believes that we should 'agree not merely to the right to difference but, carrying this further, agree also to the right to opacity that is not enclosure within an irreducible singularity. Opacities can coexist and converge, weaving fabrics' (Glissant 1997: 190). Indeed, crypto practices have to be rethought as operating on the terrains of the political and technical simultaneously. Political activity, for example, is needed to legitimate these cryptographically enabled 'dark places' – both with the system (to avoid paranoia and attack), with the public (to educate and inform about them), and with activists and others.

We could think about these crypto-practices as (re)creating the possibility of being a crowd, in terms both of creating a sense of solidarity around the ends of a political/technical endeavour and of the means which act as a condition of possibility for it. Thus, we could say in a real sense that computer code can act to create 'crowd source', as it were, both in the technical sense of the computer source code, and in the practices of coming together to empower actors within a crowd, to connect to notions of the public and the common. But digital humanities could also help individuals to 'look to comprehend how things fit together, how structural conditions and cultural conceptions are mutually generative, reinforcing, and sustaining, or delimiting, contradictory, and constraining. [It] would strive to say difficult things overlooked or purposely ignored by conventional thinking, to speak critically about challenging matters, to identify critical and counterinterests' (Goldberg 2014). Again, by engaging with these practices both pedagogically and in terms of research projects, digital

humanists can act as specific intellectuals who are able to bridge the world of words and new forms of datafication.

The question then becomes: what social force is able to realize the critique of computational society but also to block the real-time nature of computational monitoring? What practices become relevant when monitoring and capture become not only prevalent but actively engaged in? Tentatively, we would like to suggest embedding critical cryptographic practices made possible in what Lovink and Rossiter (2013) call OrgNets (organized networks) and linked to the wider research questions and approaches developed by the digital humanities.

Here, capture offers the possibility of a form of practice in relation to alienation, by making the inquirer adopt a position of criticism, the art of making strange. Chow has made links to Brecht and Shklovsky, and in particular their respective predilection for estrangement in artistic practice – such as in Brecht's notion of *Verfremdung* – and thus to show how things work, whilst they are being shown (Chow 2012: 26–8). In this moment of alienation, the possibility is thus raised of things being otherwise. This is the art of making strange as a means to disrupt everyday conventionalism and refresh the perception of the world – art as device. The connections between techniques of capture and critical practice, as advocated by Chow, and reading or writing the digital are suggestive in relation to computation more generally, not only in artistic practice but also in terms of critical theory. Indeed, capture could be a useful hinge around which to subject the softwarization practices, infrastructures and experiences of computation to critical thought, in terms of both their technical and social operations and the extent to which they generate a coercive imperative for humans to live and stay alive under the conditions of a biocomputational regime.

But so could what we might call crypto-activism, the creation of systems of inscription that enable the writing of opaque codes and the creation of ‘opaque places’. This is not just making possible spaces of collectivity (‘crowd source’) but also the hacking and jamming of the real-time mediation of politics, dissent and everyday life (Deleuze 1992). As Glissant argues, ‘we clamour for the right to opacity for everyone’ (1997: 194). This, we think, calls for both a cartography of the hybridity of digital media (its postdigital materiality) and, importantly, the possible translation of crypto, as a concept and as a technical practice, into digital-activism tactics.

In contrast, to think for a moment about the other side of the antinomy, liberal societies have a notion of a common good of access to information to inform democratic citizens, whilst also seeking to valorize it. That is, the principle of visibility is connected to not only the notion of seeing one’s representatives and the mechanisms of politics themselves, but also the knowledge that makes the condition of acting as a citizen possible. This is something that we believe digital humanities is well placed to explore and develop within the context of the historical traditions of the humanities as contributing to both reflexivity and a philosophy of life.

This book has documented how digital humanities has grown and developed and its potentialities and future possibilities. Although differences have emerged within the digital humanities between ‘those who use new digital tools to aid relatively traditional scholarly projects and those who believe that digital humanities is most powerful as a disruptive political force that has the potential to reshape fundamental aspects of academic practice’ (Gold 2012: x), it is still the case that as a growing and developing disciplinary area, it has much opportunity for growth and for these disparate elements to work together. As with

differences between empirical and critical sociology, in a previous iteration of a contestation over knowledge, epistemology, disciplinary identity and research, digital humanities as a discipline will be richer and more vibrant with alternative voices contributing to projects, publications and practices. Indeed, the debates within digital humanities 'bear the mark of a field in the midst of growing pains as its adherents expand from a small circle of like-minded scholars to a more heterogeneous set of practitioners who sometimes ask more disruptive questions' (Gold 2012: xi). As Fitzpatrick argues, there is a 'creative tension between those who've been in the field for a long time and those who are coming to it today, between disciplinarity and interdisciplinarity, between making and interpreting, between the field's history and its future' (Fitzpatrick 2012: 14). This is a crucial part of the development of the digital humanities as a critical and humanistic area of inquiry and is the sign that it is indeed maturing from its earlier technical orientations towards a field of knowledge that deploys its own research questions, distinctive methodologies, practice-oriented research projects and theoretical contributions towards the humanities, but also to critical questions about humanity, citizenship, governance, knowledge and power.

Notes

1. The notion of a critical digital humanities has been previously explored in Berry (2013, 2014).

2. We could start with some detailed surveys of the digitization and archive projects already undertaken and reflect on the likelihood that they privilege particular race, gender and class actors not only in their content,

but also in the decisions over which archives are selected and which are funded.

3. Drucker notes that her colleagues were fond of remarking that ‘humanists came into those conversations [about digital projects] as relativists and left as positivists out of pragmatic recognition that certain tenets of critical theory could not be sustained in that environment’ (Drucker 2012: 88). It is this digital hollowing-out of the humanities that needs to be resisted and highlighted.

4. Here we see links with a broadly ethical framework that can be drawn from and strengthened through, for example, deontological approaches. We also see the possibility for more politically oriented contestation through certain kinds of advocacy, in terms both of engagement with or support for, say, the Free Software Foundation, and policy interventions, open-sourcing projects, refusing to work with ‘closed’ providers and educating fellow scholars, etc.

5. Reuben Brower further calls for ‘slowing down the process of reading to observe what is happening, in order to attend very closely to the words, their uses, and their meanings’ (Brower, quoted in Hancher 2016). Of course, similarly we would argue that attending to the way in which digital humanities projects are funded, designed, assembled, implemented and disseminated, by slowing down the process and creating what we might call ‘humanities interventions’ at points in each stage, would enable us to reflect on the process and the decisions being made – for example, regarding an assumption about a presumed gendered user, the use of certain case studies, or an underlying computationalism in the epistemology of the project.

6. It is here that we are supportive of attempts to use technologies promoted by the Indyweb, for example, but also open standards through linked data and licence-free formats.

7. Chow further notes: ‘The French word *captation*, referring to a process of deception and inveiglement [or persuading (someone) to do something by means of deception or flattery] by artful means, is suggestive insofar as it pinpoints the elusive yet vital connection between art and the state of being captivated. But the English word “captivation” seems more felicitous, not least because it is semantically suspended between an aggressive move and an affective state, and carries within it the force of the trap in both active and reactive senses, without their being organised necessarily in a hierarchical fashion and collapsed into a single discursive plane’ (Chow 2012: 48).

8. Of course, paradoxically, these opaque spaces themselves may draw attention from state authorities and the intelligence community who monitor the use of encryption and cryptography – demonstrating again the paradox of opacity and visibility.