

Of Capta, vectoralists, reading and the Googlization of the university

John Cayley

John Cayley is a pioneering practitioner and theorist of digital language arts, a poet and a translator specializing in Chinese poetics. He won the Electronic Literature Organization's 2001 Award for Poetry while still in the UK, and is now a Professor of Literary Arts at Brown University, directing its MFA program in Digital Language Arts. His work has explored ambient poetics, writing in immersive audiovisuality, and aestheticized vectors of reading (thereadersproject.org), with theoretical essays on code and temporality in textual practice, and 'writing to be found' with/against proprietary statistical models of language. *The Listeners* (2015) is a critical aesthetic engagement with transactive synthetic language, representing a shift in his work toward language art for an aural as much as a visual readership. For John Cayley's writing in networked and programmable media see programmatology.shadoof.net.

John Cayley positions ‘capta’ against ‘data’, reveals vectoralization as algorithmic determination within a new socioeconomic architecture, bemoans the blackmail of ‘terms of service’ as well as the infantile misunderstanding of what it is to be a social human by Mark Zuckerberg and the serfdom of narcissistic selves to the data-greedy service providers. He underlines the dumbness and deception of statistics and algorithmic agency, wonders when the vectoralist class of big software will, eventually, be ‘too big to fail,’ speculates about unrealized artworks with Google Translate, rejects “social reading” and fears Digital Humanities.

Prelude

Roberto Simanowski: What is your favored neologism of digital media culture and why?

John Cayley: I don’t seem to have a favorite that comes to mind although ‘codework’ and ‘codebending’ surfaced as I mused. These are terms for new and hybrid practices that require lexical focus as we strive to understand or reimagine them. Years ago I suggested that ‘programmaton’ should replace ‘computer’ in English. This did not catch on. New words must become good words, otherwise they will not survive.

RS: If you could go back in history of new media and digital culture in order to prevent something from happening or somebody from doing something, what or who would it be?

JC: I would certainly have done what I could to prevent the rise of proprietary, (so-called) social media. I would try to isolate and prevent certain mechanisms that log and accumulate and process the transactions of human beings such that their social and transactional identities are constrained by capta-driven computational processes in the service, primarily, of commerce.

RS: Capta-Driven? You refer to Johanna Drucker’s differentiation between given and taken data?

JC: My use of *capta* does come, in the first instance, from Drucker's reintroduction of the term. I've commented on my use of it in an essay.¹ 'Data' has become a very common term. It's been prevalent for decades, especially since the advent of the database, as indicating, I suppose, the raw material of research. I think that there should be more of a debate about what is and is not data. Etymologically, data means 'that which is *given*' as evidence of the world. However, the tools we use to take what the world gives may overdetermine the material evidence that we are able to gather. Arguably, the computational regime is overdetermined in a number of respects. It can only accept and process—as putative data—those things that can be represented in terms of discrete symbolic elements. It will tend to favor the quantitative accumulation and analysis of these things, this so-called 'data.' Drucker makes the same sort of argument and following her, I prefer to use *capta*, for what has been 'taken,' when referring to the raw material collected and processed by networked services or indeed by the regime of computation in general. In her article, Drucker suggests that the conventional and uncritical use of 'data' implies a "fundamental prejudice" subjecting humanistic interpretation to relatively naive statistical applications, and skewing the game "in favor of a belief that data is intrinsically quantitative—self-evident, value neutral, and observer-independent."² If we call what we collect and analyze 'capta' rather than 'data' then at least we signal our awareness of the likely prejudice and open a door that allows critical interpretation to reinvigorate our debates and concerns. The distinction is fundamentally important and it is remarkable to consider that this seems to be the first time that it has been clarified for the era of Digital Humanities.

RS: So the term '*capta*' indicates that digital data or rather all data is not just given, raw, unprocessed material, but material taken from somewhere within a specific method and framework. Surprising and alarming if the Humanities should not be aware of this issue after all the debates in their disciplines about whether or not there are facts before interpretation. We will

return to Digital Humanities. First let me ask this: If you were a minister of education, what would you do about media literacy?

JC: I would ensure that the media infrastructure of educational institutions was commensurate with the most advanced, proven media infrastructures deployed by major corporations in the technology sector. I would seek to introduce legislation that required corporations to supply digital media infrastructure to educational institutions as a condition of their continued operation.

Politics and Government

RS: While in the 1990s Internet pioneers such as John Perry Barlow declared the independence of Cyberspace from the governments of the old world, now it seems people hope for governments to intervene in the taking-over and commercialization of the Internet by huge corporations such as Google and Facebook. Thus, web activists calling for the government to pass laws to protect privacy online, and politicians suggesting expiration dates for data on social networks appear to be activist in a battle for the rights of the individual. Have tables turned to that extent? Are we, once rejecting old government, now appealing to it for help?

JC: When exactly did we, collectively, reject old government? I do not think it is a matter of turning back. Governments have continued to exist as complex conglomerations of institutions to which we consent—more or less, and *pace* all manner of negotiation and struggle—in the matter of the administration and regulation of our sociopolitical lives. The world of the network has seen the rise of new and alternative institutions. These emerged and are now powerful in, as you say, an environment that was surprisingly unregulated. New institutions now affect and corral and enclose (vectoralize, in Mackenzie Wark's terms) significant aspects of our lives as humans, for huge marginal profit. They have done this unwittingly and irresponsibly with our unwitting and irresponsible consent—*default* consent to their 'terms of service.' Our past institutions of value-preservation and governance

were equally unwitting and irresponsible in this process. What happens now is that we pause, take stock, and try to see more clearly how the institutions of the past and those of the future might interrelate more responsibly and help to redefine, as individuals and societies, what we believe that we want to be and do and own. Otherwise, we will simply become, by unregulated, data-driven, statistical *force majeure*, what the algorithms of the new institutions determine that we want.

RS: You refer to Mackenzie Wark's notion of vectoralists in his *A Hacker Manifesto*. Can you say more concerning your perspective on the relationship between vectoralization, algorithm and capta?

JC: Mackenzie Wark proposes that, historically, there is a new productive and at least potentially progressive class of hackers, and a new corresponding exploitative class: the vectoralists. I find his proposals useful. Briefly, and with apologies to Wark, the hackers compose/produce algorithms that reveal vectors: vectoral potentials in the swelling currents of informational, data=capta transactions. Hackers may maintain an agnostic position concerning the significance or value of the data=capta that their algorithms bring into new relations with human order or, for that matter, human disorder. However the vectoralists of 'big software' discover where and how to exploit certain, profitable vectors of attention and transaction, and then acquire control over both these vectors themselves and the productive labor of those hackers that create them. They build these algorithms into a new socioeconomic architecture, which I now call big software. They own this architecture and profit from the use of the services it provides. They seek to enclose the commons of digital transactions within their architectures and systems, the vectors of which they carefully control.

As I say, the hackers are, in principle, agnostic about data=capta. If data=capta better represented what is given by the world, they would continue to hack with this better material. Vectoralists care even less about whether they are dealing with data or capta because their motivation is simply to seek profit

from whatever transactions have been vectoralized. As a function of recent historical and technological developments, there is simply so much capta now and for the time being, that we are likely to be held within its artificial, computational biases for many years, perhaps until it is too late for us either to reject the representation of our transactional lives by capta, or to insist that computation comes to grip with some of the true data that we should be able to give, or to withhold.

RS: It is interesting that vectorialists such as Google side with web activists opposing the government's attempts to constrain the free use of data online on behalf of intellectual property rights as seen from SOPA, PIPA, and ACTA. It appears to be the case that never before has a new medium generated such ambivalent responses to central issues of law and rights—their enforcement and preservation, the potential for freedom and radical change.

JC: It is not necessarily ambivalence or contradiction that characterizes the responses of activists and critics. For example, since it is raised here, existing custom and law associated with intellectual property is irremediably flawed and quite unable to comprehend or regulate a significant proportion of digitally mediated transactional and cultural practices. More and more of these practices—the writing and reading that is conventionally regulated by copyright law—are so much altered by digital mediation and digital affordances that our fundamental expectations and potentialities are changed beyond easy recognition and beyond assimilation by existing custom and law. Moreover, our creative and discursive practices are now inextricably intertwined with their network mediation—the internet and its services—and so the questions and conflicts—those of adversarial law—surrounding institutions of copyright and intellectual property have shifted from who creates and owns what, to who controls the most privileged and profitable tools for creation and who controls the most privileged and profitable means of dissemination.

RS: This shift is, I think, very well illustrated by Google when it advocates the liberty of information against newspapers that demand some payment for using their lead paragraph in news. google. The newspapers have a point—since here the profit goes to whoever disseminates the content that others provide—but they have no chance if they want to be listed by Google. Which brings me to the next question. In his book *The Googlization of Everything (And Why We Should Worry)*, Siva Vaidhyanathan speaks of Google’s ‘infrastructural imperialism’ and calls for the public initiative of a ‘Human Knowledge Project’ as ‘global information ecosystem.’ Aware of the utopian nature of his vision, Vaidhyanathan adds that Google has been crowding out imagination of alternatives, not the least of which by its reputation for building systems that are open and customizable – so far. Should we mistrust the positive record and worry? Would the U.S. government or the European Union ever have been able to carry out something like Google’s book project? Should –and could– they run a search engine free of advertisement and with an algorithm visible to all who care?

JC: Given the variety and scope and general applicability of network services such as Google’s, Amazon’s, Facebook’s, it is, frankly shocking that existing national and international institutions—those traditionally engaged with all the activities that we consider most valuable and essential to human life, such as research, knowledge production, education, governance, social interaction, the planning and organization of everyday life, reading and writing, retail logistics—have not been able to effectively resist or, perhaps, co-opt or even, effectively, tax in kind (for a more equitable redistribution of cultural benefits) the activities of the new vectoralist institutions. Why shouldn’t governments get themselves involved on our behalf? Probably for the same reason that governments can no longer control their banks and can no longer make their banks work for their citizens. Perhaps the vectoralist corporations are now also—culturally—‘too big to fail?’

What is clear is that inequalities in the distribution of power over the vectors of transaction and attention—commercial but especially cultural—are simply too great. This power was acquired far too quickly by naive and untried corporate entities that still appear sometimes to be naive and untried, although they are perhaps now simply brazen and unregulated. This power is consolidated by agreements—literal, habitual, and all-but-unconsidered by the network ‘users,’ ourselves, who enter into them—to ‘terms of service’ that are not mutual and which will only reinforce and increase the disparities between ‘server’ and ‘client.’ And this power is consolidated by the inadequacies of existing custom and law since huge marginal profit has allowed the new corporations to acquire, on a grand scale, conventionally licensed intellectual property along, inevitably, with the interest and means to conserve this property through existing—and in my opinion, inappropriate—legal mechanisms, mechanisms that are incommensurate with the culture and commerce of networks, clouds, big data, big software.

RS: As for another vectoralist corporation: What comes to mind when you hear the name Mark Zuckerberg?

JC: A shy, but arrogant and infantile misunderstanding of what it is to be a social human. A consent to mechanistic services that are dedicated to simplistic conceptions of humanity while arrogantly extending these conceptions to every possible human engagement with privacy, self-expression, desire, and so forth. Complete denial of the fact that proprietary social media is fundamentally the theft and enclosure of transactional personal information. Complete denial of lived experience, even in terms of empirical data, and instead the substitution of an implicit claim that what social media collects as so-called ‘data’ reveals the world as it is or should be; whereas social media conceals, more effectively than ever and from more people than ever, how the world—as power and profit and violence—actually is. Shock, that such a sad individual has been recast as a commercial and sometime (im)moral exemplar.

Algorithm and Censorship

RS: To move from the person to the platform: The focus on numbers of views, likes, comments in social media and many other websites indicates the quantitative turn that our society takes. The desired effect of counting is comparison and ranking, i.e. the end of postmodern ambiguity and relativism. Does the trust in numbers in digital media bring about the technological solution to a philosophical problem? A Hollywood-like shift from the melancholia of the end of grand narratives and truth to the excitement of who or what wins the competition?

JC: Remember those postwar decades—a period taking us up into at least the mid 1990s—when there was a widely prevalent popular suspicion of statistics? Especially of both government-gathered and marketing statistics? How could (dumb) statistics ever reflect the richness and nuance of human life? But now we have big data, and analytics, and these will allow self-professed ‘IBM’ers’ (apparently personable, active individuals of a certain vision) to ‘build a smarter planet.’ In fact, all we really have is more statistics: several orders of magnitude more statistics. ‘Data’ is a misnomer. Philosophically and also in terms of empirical science per se, ‘data’ should be understood as what is given to us by our (full, phenomenological or empirical) experience of the world. However the records of big data are simply records of (see above) *capta*, the captured and abducted records of transactions with—merely—that portion of human life that is capable of being assimilated by the current regime of computation: no more, no less, and certainly not enough to express the fullness of what we are.

In what follows, I’m sort of adapting and paraphrasing from the essay I’ve cited above. The ability to store, digitally, and analyze, algorithmically, overwhelming quantities of data has rendered it ‘big’ in combination with the near ubiquity of portable and mobile devices, fully networked and capable of collecting, transmitting, and so allowing the aggregation of both data and meta-data gathered from an ever-increasing proportion of human movements and actions: from transactional, communicative

exchanges of all kinds. These may be representations of anything—from the highly significant and valuable (finance, trade, marketing, politics, ...) to the everyday and commonplace (socializing, shopping, fooling around ...). Personal analysis of all but a minuscule part of this data would be humanly impossible and so, at the cost of commensurate, individual human attention, algorithmic agencies promise to predict trends and visualize patterns from what has been collected with unprecedented statistical accuracy and previously inconceivable power. The question of what this data represents—what exactly it gives us of the world—remains little-examined. Because the cost of collection is so low and because the methods of collection are now incidental and habitual, the tangentially-related profits—derived chiefly from the reconfiguration of advertising—are massive, and far from exhausted.

It is not only that we seem to have given ourselves and our (self-)evaluation over to ‘counting’ but we are refusing, any longer (as we once, arguably, did) to acknowledge that the motivation for this is not our common or collective benefit, whatever the service providers may claim.

RS: Your answer clearly indicates your skepticism and even anger at the role statistics and big data play in current society. Such is the appeal of numbers that the expression “data love” has been coined to describe society’s immature infatuation with digitization and datafication. In the end, this love is narcissistic. Given the fact that Internet companies use data and algorithms to customize the website they show us, the ads they send us, and the information they give us, one metaphor to describe the digital media age may be narcissism. In digital media studies such customization is translated to “daily me” (in Cass Sunstein’s book *Republic.com*) or “you-loop” (in Eli Pariser’s *Filter Bubble*). The fate of Narcissus is well known. The personal and cultural cost of personalization in digital media is the loss of chance encounters, the preclusion of the unfamiliar, the removal of diversity and of what we are not (yet). The algorithm is, you just pointed it out, the censor people more or less approve of and even desire.

This becomes problematic once people are addressed not as consumers but as citizens expected to be open to others instead of cocooning in their bubble. Hence, personalization, driven by economic force, is political. Are, hence, the actual policy makers in the digital media age those who program ego-loops, inadvertently undermining the foundation of a democratic society? Or is the alert regarding personalization hyperbolic and rather the clandestine update and comeback of the claim of critical theory that cultural industry impedes citizens' release from their self-incurred tutelage?

JC: The apparatus into which we stare is something far worse - in terms of psycho(social)analytic structures shall we say - than the pools or mirrors of Narcissus. We are in the grips of what Talan Memmott calls the narcissystem, a syndrome he creatively delineated long before a billion of us began to do so much more than simply gaze longingly at our reflections. The pool and the mirror have the benefit of a certain objectivity: they reflect only what they see. The waves of reflective feedback into which we gaze now are waves of images that we construct ourselves.

In the early history of the internet the fashion was to project ourselves as the kind of hopeful, fictive, 'transitional' monsters that theorists such as Sherry Turkle once tried to convince us were psychosocially or even politically progressive. Cyberutopianism reckoned without the unconscious, and more specifically without the blind and venal desire that drive majorities, as many as a billion willing persons. In our current situation, questionably progressive experimentation - for which read monstrous, hopeful self-delusion - has given way to a mass acquiescence: a cyber(pseudo)activism that 'logs in' - agreeing to terms - as its no longer over-hopeful, transactionally authenticated self and then strains to construct a plausible, attractive, *like*able image which it can gaze upon and consider together with all its other equally - if marginally distinctive - *like*able (friendly) selves. The newness of this situation is merely the *accessibility* of the (big) 'data' of self-(re)presentation. This appears to be accessible to all, and so it is - so long as 'access' means the

reflective feedback of narcissistically lovable, *like*able self-image(s), as naively shared imaginaries.

However the fact that *effective* access to the data - its aggregation for the manipulation and delivery of attention (to advertisement) and (instant commercial) transaction - is in the hands of a small number of private corporations, demonstrates that a familiar systemic mass neurosis - the narcissism here and now stimulating this response - is in thrall, in service, in serfdom to the service providers: the vectoralist class of big software. If the 'culture industry' was a set of negotiable institutions, sometimes subject to the critique of critical theory, then the more pressing threat - for us currently - is the media-driven, default predominance of network systems, pandering to mass psychology in a post-natural, unholy alliance.

RS: From this speech and from your more academic writings such as "Terms of Reference & Vectoralist Transgressions" I take it that you consider search engines, for example, to be an aspect of social media.

JC: Any reply hinges on an understanding of 'social media.' This term is currently applied to network services that allow digitized (and thus prejudicially grammatized) transactions that are, without question, nonetheless within the purview of social human interactions. But to claim that these media are in any way definitive or constitutive of (all) human social experience is, clearly, a profound misdirection, one that the popularity of the term tends to encourage. Networked media are used for social transactions but they co-opt social activity and engagement selectively, according to the development of technological affordances and, now also according to the (specific moral and explicitly commercial) motivations of the service providers (their leaders and executives).

If our understanding of 'social media' includes network services that seek to capture the data of social interaction and reflect it back to human users, then, yes: Google has always been 'social media.' From the moment Google collected the data implicit in search terms that had been entered over time

and adjusted its services accordingly, it was 'social media.' If we reserve 'social media' for those services that seek to identify and normalize human social agents and then capture the data from those transactions that they subsequently choose to mediate via the services in question, then Google still qualifies, but does so from the moment that it required or suggested or presupposed (note that it does now often presuppose coherent human identity without any need for explicit login) its services as subsequent to the login or identification of a human agent engaged with its services. This I date, loosely, from the introduction of Gmail in 2004 and, at least since the advent of Google+, a constrained, digitized and computationally implicated enclosure of the 'social' – as in the generally understood sense of 'social media' – is quite clearly inalienable to Google and all of its networked services, including and perhaps especially search, since search is such a vitally important aspect of network interaction.

RS: To go even further in evaluating Google's net-service, Google—and other search engines, although Google is the predominant exemplar—is accused of manipulating the way that the Internet is presented to us by way of its PageRank. The objection is twofold: on the one hand, one may question the ranking's statistical and algorithmic foundations, i.e the popularity and accessibility of a searched phrase is likely to be ranked above its complexity or intellectual challenge. This objection, one may say, does not so much address any pitfalls of Google's process as those of democracy itself where everybody has an equal say regardless of her intellectual or political resources. On the other hand, one wonders to what extent Google really does follow a questionable paradigm of "datocracy". Although, the actual criteria of Google's ranking are unknown, we do know from Google Instant Search results that a pure law of numbers is being submitted to some degree of censorship. To give an example: While it is certainly believable that 'amazon' pops up if we type an 'a,' we might be surprised to be offered 'porsche' and 'portugal' for 'por.' Does Google modify the way the Internet looks to give us a more moral view of how it represents us to ourselves?

JC: The simple answer to this question is: yes. You state the position quite clearly and the evidence is available to all of us. Our problem is the characterization of the new institutions - and of Google as exemplary of vectoralist big software. These institutions do what others preceding them have always done. They respond to human needs and desires and propose how best (and most profitably) these might be accommodated in terms of persistent sociopolitical and socioeconomic practices - precisely: institutions. The problem is the unprecedented accumulation of cultural as well as economic power in institutions that are: young, and proprietary, and, as a function of the latter condition, *enclosed* - black boxes to the vast majority of their 'users.' Our problem is the relatively unexamined properties and methods of these institutions. They are new and they are doing much that is new and much that is, apparently: beneficial, interesting, exciting. But this is no excuse, no reason for us not to give these new policy makers serious (re)consideration, before, that is ... they are 'too big to fail.'

RS: More on Google: What about its "shared endorsement" proposal to deploy user ratings and photos in ads to make advertisement more social.

JC: Again, in my 'Terms of Reference', I discuss, as highly problematic, what I see as the appropriation of material *that is proper to human users* and its automatic, algorithmic incorporation into advertisement. Habitual and unthinking agreement as to 'terms of use' or 'terms of service' are what make this possible. However, I do not believe that human users, yet, have any real understanding of what they are handing over and giving up. "Shared endorsement" is simply a euphemistic gloss for what is going on, for what has been going on ever since search results and webmail pages began to show us advertisements that are composed, in real time, from the actual words - material that belongs to us, in a real sense - that we have used to form a search or to write an email. The way that language is inscribed in computation - such that is it is immediately assimilable in terms of discrete lexical symbols and thus immediately subject

to algorithm - also makes this easily possible for big software. But I see this, literally, as the theft of something that is proper to myself, and its appropriation, by regular processes (not even by other humans, directly) into advertising of which I am very likely to disapprove and which may actually offend me. "... This is material / Appropriation of cultural interiority to venal desire, / Wrongly subjecting and reforming you-and-I / Within a false enclosure of precisely that which / Should never be enclosed: the openness of all / That we inscribe."³ As Google and the other social network services move on to *algorithmically* appropriate our images and our opinions for their revenue-generating advertisers, I hope that there may be a greater outcry and a better awareness of what is happening. Oddly, ordinary humans seem to be far more sensitive to the robot-theft of their "image" as compared to any robot-theft of their words.

RS: To come back to the other vectoralist corporation that portrays itself as a neo-moralist institution, Facebook declares the sharing of as much personal information as possible as the precondition for a better world. In October 2013 Facebook made headlines by allowing teenagers to share content not only with friends and friends of their friends but everybody on Facebook. While Facebook Inc. explains this move as giving teenagers - and especially the socially active among them such as musicians and humanitarian activists- the same access to the broader audience that they have on blogs and Twitter, we all know that it first and foremost allows the aggregators and advertisers access to impressionable young consumers. The economic interests behind this data worship are undoubted and certainly need to be addressed - as you do, pointing to the collection of commercial transactions and data aggregation. However, the question remains as to why younger generations don't seem to care about privacy but establish, using Facebook millionfold day-to-day, radical transparency as the new foundation of our culture. Siva Vaidhyanathans, in a talk at Stanford University (on May 16, 2011) about his book *The Googlization of Everything (And Why We Should Worry)*, calls for a "dignity movement" that needs to

address that having a certain level of anonymity and “breathing room” is part of both being human and being social. Would such movement be more than the helpless response of digital immigrants to their kids and grandchildren whose data-exhibitionism only carries their own public display of affection since the sexual revolution of the 1960s in a paradoxical way to the extreme?

JC: As already indicated above, when we debate these issues—privacy, personal secrecy, the contrary socialized ‘openness’ that networked media provide for activities that we previously considered to be difficult or dangerous or undesirable to communicate—we are not doing so in the abstract, or in a true public, or in a genuine agora, where access to the events and effects (the *capta* or data) is equally distributed or is distributed according to locality and local custom as defined by the affordances of the human body, prosthetically enhanced or otherwise. The events and effects of the so-called sexual revolution were accessible to its participants and to those reporting on behalf of broadcast, one-to-many media. Behaviors altered; times changed; opinions changed; markets, politics, and culture evolved in response. The behaviors and opinions, events and effects, as generated by authenticated individuals within Facebook’s network make all of these events and effects—in their digitally inscribed form as big data—immediately accessible to a system of aggregation and analysis that is now explicitly geared to the service of a commercially implicated mission. If I am open about a behavior, or desire, or opinion, that is one problem for me; if this data is immediately and automatically appropriated, that is another problem, but it is more of a problem for society than it is for me. I have already made the moral effort to be open. Perhaps I feel I have done something good or at least true. Why should I go on to worry that what I have done might be bad for others. It is surely bad for all of us that only Facebook and one or two other huge corporations ‘know’ statistically and immediately what appears—commercially? politically? psychosexually?—to be ‘best’ for all of us.

Art and Aesthetics

RS: Nobody today speaks of digital art. Does this mean that digital art has ceased to exist or does it mean all art is digital?

JC: Except in the special case of what might be called computational art or computational aesthetics, the digital is not media specific. In other words, digitization and digitally enhanced—programmable, networked—media can be and are applied to any traditional or new medium; and broadly across all artistic practices. The tendency, over time, has been to discover that a huge proportion of contemporary practices rely on digital media. So yes: it's effectively all digital. Then let's just call it art. I recently redesignated the rubric under which I work within a university Department of Literary Arts (Creative Writing). I now work in Digital Language Arts. 'Digital' conveys a strategic emphasis: the academy still needs to promote an engagement with digital media. However the arts that we practice are arts of language, *basta*. Some of us, but not all, do also practice electronic literature proper which, following the analogy of electronic music, entangles literature with computation and with a large measure of technicity.

RS: People have said that art in or of digital media must be political even if its intentions are to be utterly formalistic. If art is based on technology the focus on form draws attention to how technology works and this is already an act of reflection or education. From this perspective, one would assume that digital or electronic literature is literature that addresses the politics of digital technology. In your work, you are making use of digital technology in various ways. How political is your aesthetic use of technology?

JC: At an earlier point in my life and career as a digital language artist I often characterized myself, unapologetically, as a poetic formalist. In poetic practice, at this time (before the turn of the millennium), there did not seem to me to be sufficient formalist engagement and so I was content to pursue this variety of aesthetic practice because I preferred it and, in a sense—somewhat

pretentiously—as a corrective. Is this political? I am still concerned that artists engaged with language as their medium should have a better understanding of this medium as such, and I do not think that this is an easy study when language is at issue. Does this incline me to formalism?

The rise of digital media is historical, unprecedented. But it is difficult to say exactly what about the digital is specific and unalloyed with other historical developments. Recently, I have begun to think that, in the era since the war, following on the development and proliferation of stored-program Turing machines, humanity has been, historically, presented with a whole new domain of symbolic practice, precisely that of programmable and networked media (my own long-standing phrase for what others have called ‘new’ or ‘digital media’). Events and effects in this new domain are changing, fundamentally, what we are and how we act. Those of us who began, early on, historically, to work in this domain did have the opportunity to produce work that may already have had important sociopolitical and socioeconomic consequences. To have been a digital practitioner is, at the least, to have been politically active, but we do not yet understand the consequences of, especially, our earlier actions, or, for that matter, our present engagements. I would hope that my other answers, above, to your earlier questions demonstrate that I have—quite recently—discovered a number of ways in which my present work is highly political.

RS: They certainly do; and your work together with Daniel Howe *How It Is in Common Tongues*⁴ is an exciting example of a formalistic and political approach: It assembles Beckett’s *How It Is* by searching online for the longest possible phrases from the Beckett text in contexts that are *not* associated with Beckett. Using the mechanisms of search engines in order to find the words of an authorized text where they are still, if only momentarily, associating freely the work addresses questions of ownership and copyright. An example also of how Google changes writing and turns, as a means of art, into a subject of political consideration. *How It Is in Common Tongues* is a work that

obviously addresses some of the issues you raised above such as vectorialization and *capta*. Apart from the work you have done, what art project would you like to have initiated, if you could go back in time?

JC: I would have chosen or composed, carefully, a short literary text in English and a somehow corresponding short literary text in French. I would then have offered these texts, every week or fortnight or month to Google Translate, from its inception, and faithfully recorded and time-stamped the results. I am undertaking a similar exercise with Apple's Siri. When I remember, I dictate, alternately, one of two idiomatic English text messages to Siri every week. The results are interesting and I may publish them one day. Are either of these aesthetic projects? I believe that my lost opportunity (as opposed to the texts for Siri) would be far more amenable to aestheticization.

RS: The marriage of literature and digital media goes back to offline hyperfiction written in Storyspace and sold on floppy disc allowing the reader to navigate on her own behalf within the links offered. Some academics considered this trace of interaction as the replacement of the passive by the "active reader" thus implicitly praising mechanical activity over cerebral. Today electronic books and appropriate apps allow for "social reading": bookmarks and notes can be shared with other readers of the same text and conversation can start immediately. The words used to distinguish the new reading habits from the old claim a positive connotation. What could be wrong with being interactive and social? Why, our grandchildren may wonder once, would anybody want to withdraw with a book from the others instead of sharing the reading experience, as it was common until the 18th Century? There are different ways of looking at the end of the cultural technique of immersive reading. What is your perspective?

JC: I now read a great many ebooks (traditional texts transcribed for tablets). As soon as I can, I turn off their few and feeble 'media-progressive' affordances. I do not want to know how many of you underlined what. I do not want you to know

what I underline. I do not want to ‘interact’ (i.e. transact) with any of you. I would not, in any case, be interacting with you. We would all, chiefly, collectively, if we agreed to do so, be offering some data=capta concerning our thoughts and opinions to the aggregators and vectoralists. Something inside me knows this. I turn off all the ‘interactive’ and ‘social’ functionalities. I read and drink my wine and muse. When I am courageous enough, I interact with people whom I know, and I imagine making things, even things in programmable media, that are beautiful, including in terms of the new ways that they interrelate—symbolically, linguistically.

Media Literacy

RS: Many observers of digital culture announce and bemoan the shift from deep attention to hyper attention. Is the concern justified? Or does it just reiterate a well-known lamentation for the terrifying ramifications of all new media?

JC: There is no longer any doubt in my mind that the rise and proliferation of networked and programmable media has driven unprecedented and historical changes in the properties and methods of knowledge, knowledge production, and the archive. Access to books and works of reference will never be the same. The Library is becoming a collection of Data- or Knowledge Bases. Libraries and Archives are increasingly interlinked and open—even if the new institutions that provide this linking and openness are untried, unregulated and, themselves, closed. If reading can be understood as the set of widely various cultural practices that allow human beings to process symbolic—especially natural-language—inscriptions and performances, then reading must now be a very different set of such culture practices. Reading has changed. If reading has changed then the human subject has changed.

RS: Changed for the better or for the worse?

JC: It is a more difficult proposition to ascribe a value judgment to these changes. However, in so far as they are driven,

predominantly, by forces whose motivation is not directly and intimately associated with the human experience of and engagement with knowledge production—with art and learning—then there is the possibility that the momentum of human culture as a whole is in the process of shifting, significantly if not radically, away from an inclination that more was aligned with, for example, “deep and critical attention to the world.” My answers above contribute to this commentary, honing its dystopian melancholy. I do *not* believe, by the way, that a mission “to organize the world’s information and make it universally accessible and useful” is in any way necessarily allied with a project of knowledge production and learning or artistic practice and endeavor.

RS: Part of this dystopian melancholy is probably the lack of the right decisions at the right time during the career of digital media. Before the Internet became available for private and commercial use it was administered by the university. Today one has the impression the university is no longer on top of development in this domain. How should academic institutions have responded to the upheaval of new media? How should they become more involved today?

JC: Universities must integrate digital infrastructure—including all the latest affordances of networked and programmable media—with academic infrastructure. They must build this infrastructure into their own institutions and ensure that it is governed by their academic mission and also that their academic missions are responsive to the integral digital infrastructure that they will have created. In concrete terms: universities should cease to have staff-only ‘computing’ or ‘information technology’ departments that are in any way considered to be (ancillary) ‘services.’ Instead they should recast these services as academic infrastructure and fold their governance into the same organizational structures that manage their faculties’ teaching and research. Otherwise—and we already see this happening everywhere, not only in the terrible rise of the MOOC—differently motivated services outside the institutions of higher education will first offer themselves to universities and then, quite

simply, fold their academic missions and identities into vectoralist network services.

Digital mediation is historically unprecedented in this respect at least: it presents itself as service or facility but it quickly goes on to establish itself as essential infrastructure. Because of this, it becomes remarkably determinative of practice and ideology while continuing to be managed and developed *as if* it was still a service. As a matter of fact, digital services are provided as free or low-cost commercial services. As such, they appear to be optional or elective although by now, surely, they have the same status as utilities in the developed world. Cutting off internet provision is like cutting off electricity or gas. The same syndrome plays out in the relationship between a university's management of its 'computing services' on the one hand and its academic and intellectual mission on the other. Before an institution like a university fully realizes and internalizes the fact that practices demanding of digital infrastructure will be constitutive of its academic mission, its computing services are willingly swallowed up by more 'cost-effective' and more innovative services provided from *outside* the institution. These, as infrastructure, may then go on to reconstitute the institution itself. 'Google' swallows computing services at precisely the historical moment when digital practices swallow knowledge creation and dissemination. Hence 'Google' swallows the university, the library, the publisher.

RS: This prospect is darker than dystopian melancholia. And it may not yet be the end of these processes of ingestion. Think of the Googlization - not only regarding who controls the data but also how they are accessed and processed - of the Humanities, i.e. think of Digital Humanities. Some of us fear the same quantitative turn in the Digital Humanities reinforcing what is taking place in contemporary society, and finally infecting even those disciplines that are supposed to reflect and interpret society's development, turning Humanities into a sub-branch of Science. Others hold that "algorithmic criticism" doesn't aim at verifying and stabilizing meaning through the replacement of

interpretation by counting. On the contrary, “algorithmic criticism” and “distant reading” may offer new insights in the way knowledge or data respectively is organized and open up new opportunities for close reading and interpretation. What do you fear or hope from Digital Humanities and how do you see their relationship to Digital Media Studies?

JC: See our discussion of art above. Drop the ‘digital’ from ‘Digital Humanities.’ But, by all means, do use every digital and networked instrument and affordance to further any kind of research that could be seen as a contribution to the project of the Humanities as such. If insights and statements can be made on the back of algorithmic criticism or distant reading, they are no less insights and statements for all that—provided the methodologies are sound.

When the cart drags the horse, when digital instruments are valued for ‘seeing’ only what and whatever they happen to ‘see,’ then we do have a problem, the problem of *capta*. I recall attending a fascinating conference presentation of ‘distant reading,’ in the course of which we were offered visualizations based on ‘data’ from Amazon’s recommendation engine as if this was untainted, empirical evidence for some aspect of the sociology of literature. Amazon’s engine is a complex system of software processes, transacting in a limited and continually changing manner with human readers of literature. Not only is it complex, the details of its operations are secret, proprietary, and, clearly, commercially directed. To suggest that we should consider data records generated by this complex system as unqualified evidence of the human culture of reading: this is fundamentally flawed scholarship. The strange circumstance is that we do not—yet—seem to perceive it as such: as flawed and requiring qualification. The conference paper was very well received. We seem to believe that systems like Amazon’s are already a part of the given, empirical world. On the contrary, software may have become ‘big’ but the whole point of software is surely that we can change it to an extent that we cannot change many other

material conditions of our world. None of us should treat it as given; most especially and emphatically not Digital Humanists.

RS: At the end of his 2011 book *Reading Machines. Toward an algorithmic criticism*, Stephen Ramsay states: ‘algorithmic criticism looks forward not to the widespread acknowledgement of its utility but to the day when „algorithmic criticism“ seems as odd term as „library based criticism.“ For by then we will have understood computer based criticism to be what it has always been: human-based criticism with computers’. It is telling and frightening that even a critic of the quantitative turn in the Humanities fails to see the difference between a library and an algorithm, the first being a location presenting books as such; the second being a method that presents a statistical reading of books. If even critical observers are blind to the medium and its message, how optimistic shall we be?

JC: I agree with you and I have the fear. The library is an institution that we have built and worked both within and against over time. Algorithms are also, at least initially, composed and created by human beings, but they proliferate and change very quickly in response to many kinds of human and, perhaps, their own, ‘needs’ and ‘desires,’ without anything like the same inculcated understanding of history—of the library, for example. Moreover, algorithms can be owned and controlled by, essentially, corporations that are privately, commercially motivated, driven by vectors and vectoralists who may not share our values, whoever we may be or may desire to become.

Notes

1. Cayley, John. ‘Terms of Reference & Vectoralist Transgressions: Situating Certain Literary Transactions over Networked Services.’ *Amodern 2* (2013): <<http://amodern.net>>
2. See Johanna Drucker, ‘Humanities Approaches to Graphical Display,’ *Digital Humanities Quarterly* 5.1 (2011), online: (?).
3. Cayley, John. ‘Pentameters toward the Dissolution of Certain Vectoralist Relations.’ *Amodern 2* (2013): <<http://amodern.net>>.
4. <http://elmcip.net/node/5194>

Digital Humanities and Digital Media

Conversations on Politics, Culture, Aesthetics and Literacy

Roberto Simanowski



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The cover image is a visualization of the book's text. Each interview was algorithmically assessed, paragraph by paragraph, for relevance to "politics", "culture", "aesthetics" and "literacy" and the result plotted as a streamgraph. All of the streamgraphs were overlayed to create a composite image of the book. Made with Gensim and Matplotlib.

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