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THE KEY DEBATES

Mutations and Appropriations in **European film Studies**

10

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16. Six Memos for the New Millennium: A Dialogue with Andreas Fickers on Epistemic Virtues in the Digital Humanities

Annie van den Oever

Abstract

Taking Italo Calvino's *Six Memos for the Next Millennium* as a starting point for a conversation about the epistemic virtues in the Digital Humanities, Andreas Fickers and Annie van den Oever discuss a rejection of the normative tradition of honing an ideal-typical definition of what makes "good science" in favor of an exploration in the phenomenological descriptive tradition of epistemic norms (values) as internalized by scientists. They reflect on the six epistemic virtues that could be instrumental in prompting a new "style of reasoning" that combines the epistemological, political, and ethical dimensions of Digital Humanities practices in the global knowledge ecosystem. The Tokyo 2023 workshop on the "Integrative Potential of Epistemic Virtues in Digital Humanities" is a source of inspiration.

Keywords: epistemic virtues, digital knowledge economy, decolonization (of data/knowledge), distributed cognition, epistemic injustices, calculated inequality & data FAIRness

Inspired by the emerging digital media "in the so-called postindustrial era of technology," Italo Calvino wrote *Six Memos for the Next Millennium* (1988, 3). His work on the Memos took off in 1984, an ominous year in its own right due to George Orwell's utterly dystopian science-fiction novel *1984*. Contrary to Orwell, however, Calvino is expressing the *values* he so deeply cares for and wants to keep and think through within the realm of the new millennium. If anything, his lectures are optimistic. They explore virtues, not fears. His Memos are devoted to the six virtues he held dear.

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In succession they were Lightness, Quickness, Exactitude, Visibility, and Multiplicity; had Calvino not passed away in September 1985, a sixth chapter would have been devoted to Consistency (E. Calvino 1988).

Lightness

Annie van den Oever (AvdO): It seems to me that in the rapidly evolving field of Digital Humanities (DH), a rethinking of research values, methodologies, and practices at the intersection of digital technologies and the disciplines of the humanities has become even more urgent today than at the start of the millennium. May I invite you, in line with Calvino's Memos, to speculate – in the French sense of the word – about the epistemic virtues and values you think are key to the field of Digital Humanities today? I am asking you as the director of the DH Lab in Luxembourg who has just returned from the workshop on the "Integrative Potential of Epistemic Virtues in the Digital Humanities" in Tokyo.

In the opening chapter on Lightness, Calvino sets the tone with a note on the second industrial revolution taking place so silently compared to the nineteenth-century industrial revolution that was brought about with heavy machinery:

> Then we have computer science. It is true that software cannot exercise its powers of lightness except through the weight of hardware. But it is the software that gives the orders, acting on the outside world and on machines that exist only as functions of software and evolve so that they can work out ever more complex programs. The second industrial revolution, unlike the first, does not present us with such crushing images as rolling mills and molten steel, but with "bits" in a flow of information traveling along circuits in the form of electronic impulses. The iron machines still exist, but they obey the orders of weightless bits. (1988, 8)

This is not Calvino's overture for a dismissive reflection on a revolution that has been pervasive and invasive far beyond his imagination. He stays clear of somber speculations about the future, of which there were already so many, to argue that lightness is a good thing and not only for literature: it helps the flow of information. But Calvino's broader claim is that if literature is to have any weight, it must have the virtue of lightness. Needless to say, at the end of the chapter *lightness* points at so many more things than at weightlessness and "bits" and computer transmission. Which epistemic virtues are closest to your heart?

Andreas Fickers (AF): Thank you for this invitation and for bringing Calvino to my attention. His lectures read as a journey into an unknown territory, which is inspiring. I think many of us scholars in Digital Humanities (DH) can relate to this, among them the group of colleagues assembled at the DH workshop in Tokyo.[1]

Let me start by clarifying what I understand by epistemic virtues. In their introduction to the history of the concept, Andreas Gelhard, Ruben Hackler, and Sandro Zanetti define them as "the skills and attitudes that certain discourse communities consider exemplary, if not obligatory, for the production, transmission, or acquisition of knowledge" (2019, 3). In the normative tradition of philosophy of science, epistemic values and virtues refer to ideal-typical definitions of what makes "good science" and how scientific evidence and arguments can be legitimated. Well-known epistemic values such as "objectivity," "truthfulness," "impartiality," "reproducibility," or "accuracy" have been central to the invention of modern science, as Isabelle Stengers argues (1993).

The phenomenological dimension of *doing science* has been discussed by sociologists and anthropologists of knowledge, for whom epistemic norms or values are internalized by scientists through the learning and perfecting of scientific practices (cf. Baehr 2011; Harman and Galison 2008). Knowledge production in their sense is always situational, embedding its own historicity and spatial rootedness. These practices make and define the "scientific self" of the different epistemic communities. The situatedness of Digital Humanities knowledge practices that we discussed during the workshop in Tokyo were inspired by this praxeological thinking of *doing science*, in part to highlight the "mangle of practice" in Digital Humanities knowledge production (Pickering 1995).

AvdO: Seen from this perspective, Digital Humanities is first and foremost the name for a new research practice?

AF: Yes. An intercultural contact zone for knowledge production in the digital age. And where different experimental cultures meet, knowledge

1 Among them were the initiator and co-organizer of the workshop, Harald Kümmerle (German Institute for Japanese Studies); Kenji Ito (Kyoto University); Monica Berger (New York City College of Technology, CUNY); Anita Lucchesi (C²DH Luxembourg Centre for Contemporary and Digital History); Anat Ben-David (Open University of Israel); Alan Liu (University of California, Santa Barbara); Antonia von Schöning (Humboldt University Berlin); Emmanuel Ngué Um (University of Yaoundé I); and Asanobu Kitamoto (ROIS-DS Center for Open Data in the Humanities / National Institute of Informatics, Japan). For a brief description and the program of the workshop, see https://www.dijtokyo.org/event/the-integrative-potential-of-epistemic-virtues-for-the-digital-humanities/.

production depends on go-betweens and partially diverging interests and, often, unchecked power differentials. We hold that it is especially in these situations of creative uncertainty that epistemic virtues can provide orientation. They mold the scientific self. They are labeled "epistemic" because of their perceived relevance to the pursuit of a hermeneutics that helps to connect historical and present knowledge practices.

AvdO: You value uncertainty – what you call *creative uncertainty* – as a quality that enhances research. Can you give an example?

AF: Indeed. And typical for these practices, I argue, is a tension between epistemic values from the sciences and from the humanities and social sciences. These tensions – for example between the epistemic value of machine-based exactitude in the sciences and the epistemic virtue of critical subjectivity in the humanities – can be grasped through the concept of a "hermeneutics of in-betweenness," as put forward by Stephen Ramsey in his study *Reading Machines: Towards an Algorithmic Criticism* (2011). He suggests locating "a hermeneutics at the boundary between mechanism and theory" and he proposes to "channel the heightened objectivity made possible by the machine into the cultivation of those heightened subjectivities necessary for critical work" (Ramsey 2011, x).

AvdO: As you know, Tom Eyers (2013) discusses Ramsey and DH approaches to hermeneutics elaborately, and brings up some interesting points, but his take is rather polemical and broad. What is the element of *creativity* in creative uncertainty to you?

AF: Creativity is the "thinkering mode" of Digital Humanities work that informs a new hermeneutics of practice. "Thinkering" is the combination of critical thinking and practical, creative tinkering with new digital tools and infrastructures to explore digital corpora, to model and visualize complex knowledge graphs, and to reflect on the biases of datasets, limitations of tools, and political/economic power relations inscribed into large knowledge infrastructures (Lucchesi 2020). These practices are typically hybrid, moving between analog epistemic traditions and new digital interferences, mingling qualitative and quantitative approaches, close and distant reading of sources as data. This type of research is characterized by a workflow that seems more experimental and collaborative than in the past, and more driven by creative uncertainty.

AvdO: Could you name and describe the values and virtues that you deem new or specific for "doing" Digital Humanities?

AF: I would argue that current knowledge practices share a number of new epistemic values and virtues that are specific to the production, dissemination, and access to knowledge in the digital era. Concretely, I think about values and virtues such as sharing, collaboration, participation, transparency, openness, sustainability, traceability, and what is referred to by the acronym FAIRness.

During the discussions at the Tokyo workshop, a number of additional values and virtues were brought to the table: probability, approximation, infrastructural justice, digital sovereignty, partial understanding, distributed accountability, shared responsibility, decolonization (of data/knowledge), bibliodiversity, distributed cognition, epistemic and hermeneutic justice, and calculated equality.

These values demonstrate that we do not only speak about epistemological values and virtues in the strict philosophical sense, but also more broadly about the political dimension of scientific virtues. And we need to face the vices of the digital era too, such as infrastructural injustice, calculated inequality, and epistemic and hermeneutic injustice.

AvdO: Yes, we must discuss these vices in more detail. But before we do, may I ask you to return to the collaborative work being done by what I imagine are interdisciplinary, international, and diverse groups of researchers: are they?

AF: Indeed, the community of practice of Digital Humanities scholars is very international and diverse and their collaboration typically shows what Julie Thompson Klein calls *deep interdisciplinarity*: there is a transfer and exchange of methods, tools, concepts, and techniques across different disciplinary traditions (2015). Yet these epistemic differences necessitate constant negotiation in the trading zone (Collins, Evans, and Gorman 2007). Ideally, this leads to interactional expertise, to the creation of a common language, and to shared authority. In reality, though, there is not a full but a partial understanding. In at least some interdisciplinary settings, it seems possible "to share a local understanding of an entity without sharing the full apparatus of meanings, symbols, and values in which each of us might embed it" (Galison 2010, 44). All this seems typical for the more experimental, explorative nature of Digital Humanities work, where computer scientists, data analysts, library and information scientists, human-computer-interaction specialists, and a great variety of disciplines from the social sciences and humanities meet.

AvdO: And these encounters between different disciplines and skill sets foster uncertainty?

AF: They certainly do. Yet uncertainty as a state of mind also fosters epistemological reflections about the nature and evidence of scientific work – and about the values and virtues that underpin our self-conception as academics and scholars. However, not everybody experiences the unsettledness of truly interdisciplinary work as intellectual excitement. While some embrace the multiperspectivity and multivocality of collaborative work in the trading zone, others feel rather uncomfortable and prefer to stay within their disciplinary or epistemic comfort zones. Without intrinsic motivation to engage in inter- or cross-disciplinary work, no new learning is possible – not even in a laboratory space as an environment designed for such a purpose (Fickers and Van der Heijden 2020).

AvdO: I would like to return for a moment to "thinkering" as a method known from the field of media archaeology (Huhtamo 2010). There, it was initially modeled after or at least associated with the skillful and artful experiments by artists who combine exquisite knowledge of their tools – *technē* in the classical sense – with a certain lightness and playfulness in their approach, allowing an amount of uncertainty about the outcomes so untypical of the sciences (at least until recently). To me, "thinkering" is associated with the virtue of lightness, so let me return to Calvino for a moment. Probing lightness from every possible angle, he himself is certainly playful, capricious, quirky, idiosyncratic, and unafraid to create leaps into unknown territory, with an open eye for sudden moments of wonder and beauty. What interests me most here is how his approach is affirmative, and how artists' practices more generally tend to favor something playful and energizing. Would you say that the thinkering practices you were talking about form a useful model for what is perhaps a typical early phase of affirmative reinvention in the Digital Humanities? I am hesitant to talk about an affirmative turn, more broadly, though some thinkers seem to point to such a turn, among them Bruno Latour (2004), Sarah Ahmed (2012), and Rebecca Solnit (2023).

AF: I sympathize a lot with Calvino's affirmative take on lightness as it emphasizes the importance of curiosity and wonder, which are essential for philosophical thinking. The creative and explorative element in the cognition process is close to artistic or cultural practices that have also been described as epistemic practices of bricolage. But whereas the concept of bricolage as introduced by Claude Lévi-Strauss ([1962] 2009) emphasized the similarity

of technical and mythical thinking in terms of their experimental and unpredictable nature, the term "thinkering" points at an ethos that is indeed playful and hands-on, and energizes the exploration-based interaction between the researcher and the multiple digital research infrastructures and tools that form today's knowledge ecosystem.

The fact is that most DH research is the result of collaborative thinking, often occurring in a laboratory setting in which multiple stakeholders participate: archives, cultural heritage institutions, coders and developers, data stewards, web or interface designers, and computer/data scientists, as well as humanities scholars. Following Hans-Jörg Rheinberger, one could argue that the "experimental system" of DH is tech-driven and characterized by its data-driven nature (2021). In addition, many DH projects deal with research objects that, due to their sheer scale, transform "how we think" (Hayles 2012; Armaselu and Fickers 2024). Scale has an impact on the project design and architecture, and on the methodological and analytical frameworks applied; and it fosters debates about epistemological questions such as "evidence," "objectivity," "traceability," and "transparency."

AvdO: Could you perhaps give an example that helps us understand how DH deals with questions of scale?

AF: A good example would the Impresso-project that the Luxembourg Centre for Contemporary and Digital History (C²DH) is doing with data scientists from the Swiss Federal Institute of Technology (EPFL) in Lausanne and computer linguists from the University of Zurich.[2] This project, based on a large dataset consisting of digitized Swiss and Luxembourgish newspapers,[3] draws attention to the ways in which historical research on "big data of the past" challenges classical forms of media history by facilitating the "scalable reading" of historical sources.

By combining tools for the "close reading" of single newspaper pages or articles with the "distant reading" of the corpus using tools such as text-mining, topic-modeling, and visual pattern recognition, the Impresso

2 For a general description of the project, see the project website; https://impresso-project.ch/, watch the video; https://impresso-project.ch/overview/intro, or explore the app; https://impresso-project.ch/theapp/about/.

3 Currently the dataset consists of 76 newspapers (Lux and CH), 600,919 issues, 5,429,656 pages scanned, 3.4 million images/12.5 billion words. The follow-up project (Impresso II) has just started and will enrich the collection with further newspapers from Western European countries and add audio sources (from public broadcasting stations) to the corpus in order to enable multi-media historical research (text, audio, images).

interface enables historians to apply their method of source criticism to a digital corpus by combining methods of historical data criticism with an analysis of the representational integrity of the facsimile version (Düring et al. 2021).

The interface is also an example of the "inscription" – in the Latourian sense – of theoretical reflections on digital hermeneutics into the "materiality" of a research interface, thus promoting the epistemic virtues of transparency and traceability in DH research (Fickers and Tatarinov 2019). Lastly, it is an example of what Katherine Hayles has called "multimodal scholarship": a collaborative effort that requires intellectual curiosity, methodological flexibility, and a constant negotiation of boundary objects (2012). I guess this is close to what Calvino described as lightness – a willingness to experiment, to learn by doing, to embrace the virtue of curiosity for the benefit of accuracy or exactitude.

Quickness

AvdO: In his chapter on quickness, Calvino explains he has always been fascinated by fairytales and folktales, because of what he calls the rhythm in which they unfold, and their hard logic, laconic but with the greatest possible narrative force. Does the virtue of quickness speak to you?

AF: Calvino's virtue of quickness resonates strongly with one of the most central topoi of modernity at large: the phenomenon of "acceleration." The "cult of speed" runs like a red thread through the discourse of modern life – indeed, acceleration could be interpreted as the "temporal condition of modernity" (Rosa [2005] 2013). Digital technologies are just the latest newcomer in a long history of communication technologies and media that symbolize modernity and globalization.

AvdO: Do technologies add the experience of acceleration to so-called modern life, the train, car, and plane no less than the digital technologies of these last decades?

AF: Sociologists and historians alike have emphasized the intrinsic relationship between social structures and the perception of life's tempo at specific moments. The impact of changing transport and communication technologies cannot be overstated here and has basically three dimensions: first, in terms of people's routines, rhythms, and habits; second, regarding the horizon

of expectation for their private lives as a whole; and finally, concerning the imagination and discourses of their generation. All three are interwoven and, in a complex process of individual and collective synchronization, define the "being in time" of historical actors. These three dimensions can – in times of rapid technological, social, cultural, scientific, or political change – get "out of sync" and thereby produce feelings of insecurity, alienation, and conservatism, or alternatively moods of enthusiasm, visionary excitement, and revolutionary hope (Fickers and Griset 2019, 332-367).

AvdO: Have digital media fundamentally restructured our relationship to time?

AF: I do indeed think we are dealing with a new "temporal regime" in the age of digitality and I have argued so on different occasions (Fickers 2022). Historians and cultural scientists such as François Hartog and Aleida Assmann argue that we live in an age of extended, even voracious simultaneity; a new "chronotopos," according to Assmann (2013, 277). Hartog speaks in a less neutral way of "[u]n présent monstre," an extended presence "that pulls everything into its maw [...] and destroys not only the difference of times, but also historical consciousness" (Hartog 2012, 270).

AvdO: I am also thinking of Hans Ulrich Gumbrecht's notion of a "broad present" (2014). But by speaking about the "maw" of the "monster," Hartog invites a psychoanalytical reading of our digital devices along the lines of Little Red Riding Hood and the Big Bad Wolf. But it seems that Digital Humanities scholars have not really made Freudian analyses of the impact on our imagination. One of the few exceptions is Kriss Ravetto-Biagioli's *Digital Uncanny* (2019; see also Sconce 2019); she argues that they disrupt our concept of "self" and transform the meaning of the uncanny that Freud tied to a return of repressed memories.

AF: I think that digital media technologies shape our imagination of the past as much as they affect our current memory practices. While scholars like Andrew Hoskins (2018) or José van Dijck (2007) recognize in hyperconnectivity a new culture of mediated memory in real time, Victor Mayer-Schönberger interprets the digital age as a temporal regime characterized by mass forgetting: "Committing information to digital memory has become the default, and forgetting the exception" (2009, 196). It is indeed a tempting and thought-provoking idea to consider "forgetting" as a specific virtue of our digital temporal condition.

AvdO: Do you mean that forgetting (or deleting) is a virtue in an era of information overload?

AF: The abundance of mediated memories inevitably creates the need for forgetting as a precondition for an open future. I am thinking of Paul Ricoeur and his reflections on the intrinsic and complex relationship between remembering and forgetting, and it seems to me that his concept of "oubli de réserve," reserved to be forgotten, exactly covers the allure of the sociotechnical imagination of the cloud to keep track of all the traces of our digital condition (2000, 539ff.). Aleida Assmann understood archiving along similar lines as a form of "Verwahrensvergessen," save to forget, to free our minds for decision-making in the present (2016).

In archives, our memory objects exist in a status of latency, in between a "no longer" and a "not yet." They pause in the waiting room of history. Interestingly, most people producing large private digital archives as non-experts really have no clue how to manage, curate, or conserve their digital collections. Keeping them on an external hard disc is a form of "Verwahrensvergessen" par excellence. The storing is driven by the naive hope that somehow somebody will be able to unearth this treasure of private memories in the future – yet I would be very skeptical about such promises.

Exactitude

AvdO: Earlier you spoke about the tensions between the epistemic value of machine-based exactitude in the sciences and the epistemic virtue of critical subjectivity in the humanities. Could you say a bit more about the tensions between the two? What is the tolerance to what you called *creative uncertainty* in the (human) sciences, given the values of exactitude, evidence, transparency, and reliability of knowledge? As you know, Calvino turns negative and even pejorative notions into something we like and embrace. He does so too with one of the big horrors for scientists: not being precise or exact, not being clear, being vague. I am referring to his chapter on "Exactitude," where he quotes Giacomo Leopardi, who claims that language becomes more poetic the *vaguer* it is. Calvino adds in passing that "Italian is, I believe, the only language in which the word for 'vague' (*vago*) also means lovely, attractive" (1988, 57). Is there, in your view, something attractive and charming to this? Or is exactitude the only real friend of the sciences?

AF: This is an excellent question as it brings us to the core of a longstanding debate in the history of sciences and the sociology/philosophy of knowledge. Exactitude or similar terms such as precision, accuracy, fidelity, or meticulousness are indeed closely associated with the idea of modern science, especially the "hard" sciences, or "sciences exactes" in French. But, as Markus Krajewski has argued, these virtues of exactitude are a rather young phenomenon in the long history of epistemological reflections about what good scientific practice means (2016). They only emerged after the French Revolution and can be interpreted as signs of the nineteenth-century quest for universal standards and precision measurement. Pushed by emerging disciplines such as metrology and engineering, exactitude not only became an epistemic value of the modern, technoscientific condition, but also a "hard" criterion in disassociating "Naturwissenschaften" (sciences) from "Geisteswissenschaften" (humanities). It was Wilhelm Dilthey who helped to construct the epistemic modus of the so-called hard sciences as "explaining," whereas the humanities aim at "understanding" ([1910] 1981).

AvdO: Would you say that the Digital Humanities share the ethos of exactitude and perceive themselves as a "measuring" science?

AF: As Antonia von Schöning argued during the Tokyo workshop, the relation of the Digital Humanities to exactitude is more complex and nuanced. The recently published *Encyclopedia of Exactitude* is illuminating in this respect as it offers a multitude of concrete examples and case studies showing that the virtue of exactitude has not only affected scientific thinking in the hard sciences, but was appropriated and reflected in the humanities too, albeit in a different, less "mechanical" or "measurable" sense (Krajewski, von Schöning, and Wimmer 2021). Interestingly, the *Encyclopedia* reframes the virtue of "erudition," so typical for humanities scholars, as the result of a long process of socialization and incorporation of the habitus and standards of exactitude through academic reading, annotating, excerpting, reformulating, and writing, thereby following the "rules," "protocols," or "best practices" of the respective discipline (Martus and Spoerhase 2022). Several "big humanities" projects (e.g., the Corpus Inscriptionum Latinarum or the Thesaurus Linguae Latinae) were combined efforts in promoting the scientific virtues of accuracy and thoroughness that formed specific academic characters or personae not unlike the ones in big science today (Eskildsen 2016).

Despite such practices of exactitude in the humanities, they operate with a greater interpretative flexibility than the sciences. Krajewski even reminds us that the virtue of exactitude – when turned into an absolute canon – has

the tendency to revert into the epistemic vice of pedantry, a form of excessive precision killing any creative act of speculative thinking (2019). A certain vagueness or uncertainty is therefore to be understood as a productive element in the process of cognition and critical thinking. It is exactly in this space of blurred cognition that the scientist is able to co-construct a new epistemic object and to produce new insights and knowledge in a process of heuristic groping (Rheinberger 2015).

Multiplicity

AvdO: Calvino devotes his last big chapter to the virtue of multiplicity as embodied by "the Italian James Joyce," Carlo Emilio Gadda. Labeled by others as the creator of "deliberate disharmony," Gadda is described by Calvino as a writer who "developed a style to match his complicated epistemology," one in which details take center stage. "[O]ften the outline is lost while the details proliferate and fill up the whole picture" (Calvino 1988, 106). To Gadda, an engineer by training, the knowledge (of things) is "the convergence of infinite relationships, past and future, real or possible" (Calvino 1988, 107). Unlike authors with a different vision and intellectual training, and a different personality, Gadda put multiplicity at the heart of his epistemology and his style. In Calvino's words,

> He tried all his life to represent the world as a knot, a tangled skein of yarn; to represent it without in the least diminishing the inextricable complexity or, to put it better, the simultaneous presence of the most disparate elements that converge to determine every event. (1988, 106)

I am not sure if Calvino's metaphor of the knot speaks to you. He also calls the knot a "grotesque drollery" (Calvino 1988, 107). That metaphor also struck a chord with me as it suggests that Gadda is like a monk who draws drolleries, tiny decorative grotesque figures, in the margins of a manuscript. There is "too much," but it is wonderful and it is playful and it is fun. But Calvino is also making the point that such knots, like drolleries, create a tension between the center and margins. All this is directly connected to the merits of Gadda's epistemology-of-the-multiple. At the heart of it there is an acknowledgement that "observation intervened in some way to modify the phenomenon being observed" (Calvino 1988, 108). Or, in Gadda's own words: "to know is to insert something into what is real, and hence to distort reality" (quoted in Calvino 1988, 108).

AF: Calvino's reflections on Gadda's style, especially his speculations about the metaphor of the knot, evoke the image of network visualizations so prominent in DH research. Modeling the relationship between a great number of "actors" in a complex network aiming at identifying nodes, or visualizing the centrality or periphery of certain actors in the network creates a new "tension between center and margins" as you framed it. In manipulating data from multiple resources, modeling their relationships, and thus exposing facets hitherto unrealized, we become actively involved in the co-design of our epistemic objects; we "move from simulation to simulacra," says Jim Mussell (2013, 91).

Dynamic network visualizations, deep mapping technologies, or multilayered chronologies that characterize current transmedia narratives in digital history projects come with knots or nodes – and with a new aura of simultaneity that challenges our linear conception of history. Alan Liu describes interactive interfaces – based on relational databases filled with millions of sources – as symbols of a new model of (networked) knowledge, which he labels as "hypergraphical knowledge," "multiperspectival and multiscalar" by default, "distributed in its foci and relations, and (connecting all the disparate nodes and levels) ultimately networked" (2018, 73). In this way, the "epistemology-of-the-multiple" is being written into the code of CMS or Multi-Media-Asset-Management-Systems of large digital archives and online cultural heritage repositories and, as a result, such databases offer to their users a multitude of readings, narrative perspectives, and interpretations (Anderson 2011).

Fairness

AvdO: Let us move to Fairness now. It is a virtue not mentioned in the Six Memos but a quality that you have raised yourself at the beginning of our dialogue, where you spoke about the virtues subsumed under the acronym "FAIRness" by the DH community. What is meant by it? Is that not subsumed under Multiplicity – in this case the multiplicity of voices marginalized by digital practices?

AF: Literally, FAIRness refers to the virtues of findability, accessibility, interoperability, and reusability, and they of course resonate with the sociotechnical imaginaries of big data, hyperconnectivity, and artificial intelligence. However, the steep career of the "label" FAIR in Digital Humanities rather stands for a momentum of critical self-reflection in the field. The

so-called third wave of DH is characterized both by a stronger hermeneutical reflection on what the "D" does to the humanities more broadly (Fickers 2022), and by a more straightforward discussion about the political economy of digital knowledge infrastructures from a postcolonial perspective. While prominent pleas for open access (OA) and open science were generally spiced by the rhetoric of the democratization of knowledge, we know now that this fairytale of OA as the great equalizer remains largely a Western promise and project. In practice, the implementation of OA in academia in the Global North instead solidifies inequities in scholarly communication, as it largely makes the proprietary structures of established publishers even more manifest, and does not bring about the desired "change regarding epistemic injustices," as Marcel Knöchelmann has argued (2021).

AvdO: Indeed. Aren't the changes pointing in quite the opposite direction: a lack of openness and growing injustices, and corporate models to finance universities affecting academic education, research, and publishing? For example, South African film and media scholar Keyan Tomaselli recently published a radically polemical book on the restructuring of South African universities as corporate universities or "cash cows" in the grip of "manic managerialism" and "academentia" (2021).

AF: As Monika Berger convincingly argued during the Tokyo workshop, the open access policies of big publishing houses are driven in similar ways by economic interests, not by philanthropic motives. We are indeed far from "bibliodiversity" – we rather see its neoliberal antithesis "predatory publishing" flourishing and thereby perpetuating the marginalization of Global South scholars (Berger 2021). While many assumed that OA would help make the South's scholarship more visible,

> there is growing evidence that open research practices or "openness" – when decontextualized from their historical, political, and socioeconomic roots – rather than narrowing gaps, can amplify the overrepresentation of knowledge produced by Northern actors and institutions and further the exclusion of knowledge produced by marginalized groups. In other words, open systems may potentially replicate the very values and power imbalances that the movement initially sought to challenge. (Albornoz, Okune, and Chan 2020, 65)

On a more fundamental level, questions of (in)visibility, (non)accessibility or (re)usability address political and ethical issues that have been discussed

by scholars like Miranda Fricker (2007), Boaventura de Sousa Santos (2015), Walter Mignolo (2006), Sayan Bhattacharyya (2018), Nathan Andrews and Eyene Okpanachi (2012), and David Mills (2022) – to name just a few prominent voices. All these authors have addressed the problem of epistemic inequalities in current-day digital research practices. They challenge us to think about the question of how to avoid the reproduction of imperial or colonial knowledge structures in an age of digital platform capitalism.

As Alan Liu emphasized during the workshop, infrastructural inequality is a key concern of global Digital Humanities and affects the practices of doing and thinking in multiple ways (Del Rio Riande 2022). These inequalities concern both the "software" and the "hardware"; data colonialism and infrastructural inequality go hand in hand. While the DH community would certainly agree that open, collaborative, and decentralized infrastructures seem to be the best tools for building community setups and knowledge without monopolies, the reality looks different.

AvdO: Are we looking at a deepening of the abyss of inequality?[4]

AF: Developments are sadly worrying. One concern is the lack of multilingualism. Michael Gordin argues in *Scientific Babel* (2015) that English-language dominance makes huge parts of scholarship around the globe, especially from the Global South, invisible. This effect is deepened by mass digitization efforts such as Google Books. Invisibilization is a byproduct of such scale and network effects generated by Western digital knowledge infrastructures and technologies driven by "cognitive capitalism." They hinder the inclusion of non-Western traditions into the global knowledge ecosystem. As Sayan Bhattacharyya has argued, "the greater the distance of the cultural object from the metropolitan center, the greater, as a rule, the extent of this nonconformity and greater, consequently, the chance of knowledge objects undergoing occlusion and invisibility" (2017, 31-41).

AvdO: Is this the case for all non-Western (knowledge) cultures? Is Japan perhaps an exception?

AF: As Harald Kümmerle has shown regarding the example of Japanese DH, the problem is more intricate (2022). While Europe as well as China have long seen themselves as the centers of civilization, this does not apply to Japan. For

4 Malte Hagener also addresses this issue in his chapter in this volume, "Streams, Portals, and Data Flows: Digital Infrastructures of Film Studies."

Japan, the center has always been on the "outside." Yet the tense relationship between "inside" (*uchi*) and "outside" (*soto*) has been at the very heart of Japanese culture and historical thinking (Schwentker 2022). This has led to a very peculiar situation when it comes to the role of Japanese science in the Global South: the "successful" appropriation of Western norms and values in Japan has given birth to a Japanese form of "orientalism" now reproducing epistemic injustices by projecting them onto China or Korea (Kümmerle 2022).

As this example shows, epistemic values and virtues are not only negotiated, appropriated, or contested in local "trading zones" such as DH Labs or Centers, but they are embedded into wider "contact zones" of cultural exchange and knowledge transfer. As emphasized by Kenji Ito and Emmanuel Gnué-Um during the Tokyo workshop, we need to question the self-declared universalist assumptions of the "epistemic virtues" that underpin human thought. Many "epistemic spaces" of knowledge production in Africa remain framed by colonial heritage, and the dominance of English as the lingua franca impoverishes education and linguistic/cultural diversity in both Europe and the Global South. To foster diversity from a global Digital Humanities perspective, Gnué-Um argued, we need to de-essentialize languages and understand them as a form of "doing," a situated knowledge practice, that can hardly be standardized or "translated" into large-scale language models (2019).

Another thought-provoking example of underrepresented "epistemic spaces" was presented by Anat Ben-David during the Tokyo workshop: due to the political turbulence in the aftermath of the collapse of Yugoslavia, Kosovo does not have a top-level domain name – and therefore it is "invisible" when looking at the Web to find out what is remembered from Kosovo in former Yugoslavia (Ben-David 2016). More broadly, the problem is that the Web as the "leading medium" of the present is only marginally archived; the Internet Archive – which is a private initiative that does produce regular copies of URLs – is again an example of overrepresentation of the Global North. In that sense, the Web can hardly be interpreted as a place of digital sovereignty. Today, platform owners such as Meta or Google are the bosses of the archives of the future, so the question is how to decolonize public archives from internet giants.

Visibility

AvdO: As you know, Calvino devoted a chapter to Visibility. It seems appropriate to value Visibility as a virtue in light of the vices of under- and

overrepresentation we are talking about. Do the problems we are looking at demand from us that we should cultivate disobedience as a virtue, not necessarily as an epistemic virtue – though you might also have specific thoughts on that – but as a political virtue, that is to say, as a collaborative refusal to obey the rules set by Big Tech?

AF: While most (Western) thinkers of postcolonialism plead for a critical revision of the intellectual foundations of modernist and universalist norms and values in view of a more diversified and inclusive agenda, Walter Mignolo proposes a more radical approach. Strongly influenced by the work of Aníbal Quijano and his concept of "coloniality," Mignolo calls for a "new rationality" breaking with the universalist underpinnings of modern philosophical thinking. To Quijano, modern epistemology and rationality are intrinsically intertwined with the project of colonialism (1992).

As the matrix of power of Western modernity is built on epistemic, hermeneutic, and perceptual values and virtues, Quijano argues, truly decolonial thinking has to "delink" itself radically from these modernist assumptions (2016). In other words, decoloniality has to be a project of epistemological delinking rather than transformation. Mignolo's call for "epistemic disobedience" strongly resonates with this radical position, and he proposes a new geopolitics of knowledge, strongly emphasizing the situatedness and locality of knowledge production practices (2012). To Mignolo, "truth" as a central value of scientific endeavor has to be locally rooted and contextualized: "pluriversality" and "multipolarity" are the key fundaments of decolonized thinking (2018).

As much as I sympathize with these values, I wonder how I – as a typical representative of white, male, and "Western" scholarship – could contribute to this radical program of decolonization. When translated to the geopolitical reality of current-day digital knowledge infrastructures and institutions, one possibly needs to reframe Mignolo's critique of Western hegemony in the light of the neoliberal ideology of global financial capitalism as outlined by Joseph Vogl. In his latest book, Vogl analyzes the close alliance between the economy of information and platform capitalism and how it affects democratic decision-making processes and the production of socioeconomic realities (2023). This new reality of data-driven platform capitalism frames our political economy and affects academic realities and scholarship all over the globe. Leslie Chan, who has been involved in numerous initiatives promoting global knowledge commons, draws a rather somber picture when comparing the current situation to the hopeful beginnings of the open-access movement some twenty years

ago.[5] The powerful commercial players controlling the indexing regimes, interoperability standards, and ranking mechanism do in fact amplify the gaps between "northern uploaders" and "southern downloaders"; they deepen the epistemic inequalities.

Despite this rather disillusioned outlook, I fully agree with Chan that we have to turn the "gaze" back onto academic institutions. We need to ask ourselves how our own academic institutions, as well as funding policies, contribute to inequalities in access and production. We have to question how we are complicit, how we are implicated, and hopefully, how we can find ways to redress the structural inequalities that we help to maintain – by reflecting on our own institutional responsibilities. We need a new culture of recognition for the great variety of situated practices of digital knowledge production in the field of the humanities at large, a new "style of reasoning" (Fleck 1980; Hacking 2002). And this culture should be characterized by the new epistemic, political, and ethical virtues we discussed.

AvdO: Virtues that Calvino so eloquently framed in his *Six Memos*. Thank you so much, Andreas, for your good company on a journey into unknown territory, that is to say, thank you for your discussion of the virtues we need to be reminded of at this transformative moment in time.

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5 See Leslie Chan's Budapest project at https://www.budapestopenaccessinitiative.org/read/, and the knowledge gap project at http://knowledgegap.org/. See also Chan 2018.

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