Open Knowledge in Wikipedia and Beyond: Possibilities and Responsibilities

Nastasia Herold
Welcome to DHSI 2023!

Thank you for joining the DHSI community!

In this coursepack, you will find essential workshop materials prefaced by some useful general information about DHSI 2023.

Given our community’s focus on things computational, it will be a surprise to no one that we might expect additional information and materials online for some of the workshops—which will be made available to you where applicable—or that the most current version of all DHSI-related information may be found on our website at dhsi.org. Do check in there first if you need any information that's not in this coursepack.

Please also note that materials in DHSI’s online workshop folders could be updated at any point. We recommend checking back on any DHSI online workshop folder(s) that have been shared with you in case additional materials are added as DHSI approaches and takes place.

And please don't hesitate to be in touch with us at institut@uvic.ca or via Twitter at @AlyssaA_DHSI or @DHInstitute if we can be of any help.

We hope you enjoy your time with us!
Statement of Ethics & Inclusion

Please review the DHSI Statement of Ethics & Inclusion available here: https://dhsi.org/statement-of-ethics-inclusion/

DHSI is dedicated to offering a safe, respectful, friendly, and collegial environment for the benefit of everyone who attends and for the advancement of the interests that bring us together. There is no place at DHSI for harassment or intimidation of any kind.

By registering for DHSI, you have agreed to comply with these commitments.

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Your registration in DHSI 2023 also includes access to the virtual institute lecture sessions. Access details for these talks will be shared as DHSI approaches.

Due to the high volume of attendees, please ensure your DHSI registration name or DHSI preferred name and your Zoom name match so that we know to let you into the virtual sessions.

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If you registered to audit any workshops, note that auditor involvement is intended to be fully self-directed without active participation in the workshop. The auditor option offers more flexibility regarding pace and time with the workshop content. Your registration as an auditor will include access to some asynchronous workshop materials only and does not include access to live workshop sessions and/or individual/group instruction or consultation. Please direct any questions about DHSI workshop auditing to institut@uvic.ca.

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If you are unsure whether you registered as an auditor or participant, please check your registration confirmation email. Further questions can be directed to institut@uvic.ca.

Schedule

The at-a-glance schedule of DHSI 2023 courses, workshops, institute lectures and aligned conferences & events can be found here: https://dhsi.org/timetable/

All times are listed in North American Pacific Time Zone.

For those who registered as participants in any workshops, live sessions for online workshops are not currently listed on the above-referenced schedule. Instructors will be in touch with registered participants directly about the exact date(s) and time(s) of their live workshop session(s).
Acknowledgements

We would like to thank our partners and sponsors (including the Social Sciences and Humanities Research Council), workshop instructors, aligned conference & event organizers, institute lecturers, local facilitators, and beyond for making this possible.

Further information

General DHSI 2023 information: https://dhsi.org/program/

Full workshop listings (online): https://dhsi.org/online-workshops/


Aligned conferences & events (online): https://dhsi.org/online-aligned-conferences-events/

Institute lectures: https://dhsi.org/institute-lectures/

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Any questions not addressed in the above pages? Please email us at institut@uvic.ca!
Open Knowledge in Wikipedia and Beyond: Possibilities and Responsibilities

Digital Humanities Summer Institute 2023
Instructor: Nastasia Herold (U Leipzig)

Welcome!

In this course, we will work on the definition of Open Knowledge and its commonalities, differences and relationship to Open Access and Open Data. We look through non-profit projects of Wikimedia and through other academic and non-academic projects, by focusing on technological, collaborative, legal and ethical questions.

Whereas legal and technological restrictions, and collaborative methods are mostly well defined by laws, user guidelines and the current state of the art, social restrictions often seem to be open to interpretation. We will find and discuss guidelines to let ethical questions find access into the guidelines of Open Access projects. There will also be room to discuss your own Open Knowledge projects, based on what we learnt, if you want to share them with the class. This course is aimed at students, academic stuff, non-academic and academic archivists and librarians, community members and anyone else with an interest in ethical, legal, collaborative and technological questions about Open Knowledge.

For any concerns or questions, don’t hesitate to contact me: nastasia.herold@uni-leipzig.de
Course Outline

Open Knowledge in Wikipedia and Beyond: Possibilities and Responsibilities

Basic text (see attachment):

Session 1:
Tuesday, 13th of June 2023, 10.00 am – 11:00 am PDT

1) Round of introduction (depending of number of participants)
2) What is “Open Knowledge”, and what is the difference to “Open Data” and “Open Access”?
3) Interrelationship between Open Knowledge, Open Data and Open Access

Introductory literature:

https://www.cambridge.org/do/titles/open-access-and-humanities-contexts-controversies-and-future/


Open Knowledge Foundation (2022): Open Knowledge Foundation. A fair, free and open future <https://okfn.org/> [09/05/2023].

⇒ “What is open?” https://okfn.org/opendata/
⇒ “Open Definition 2.1” http://opendefinition.org/od/2.1/en/
⇒ “Training” https://okfn.org/what-we-do/training/


Session 2:
Wednesday, 14th of June 2023, 10.00 am – 11:00 am PDT

1) Examples of academic and non-academic projects of Open Knowledge
2) Possibilities and responsibilities in Open Knowledge: ethical, legal, collaborative and technological aspects

Introductory literature:

https://www.cambridge.org/core/books/culturalhistorical-perspectives-on-collective-intelligence/open-onlineknowledge-sharing/FC11CD33F76D5F08FA68459B7418EE46


Session 3:
Thursday, 15th of June 2023, 10.00 am – 11:00 am PDT

1) Examples of academic and non-academic projects of Open Knowledge: ethical, legal, collaborative and technological aspects

2) Exercise: Drafting an own Open Knowledge project (real or fictive) respecting ethical, legal, collaborative and technological aspects
CHAPTER 3

Open Online Knowledge Sharing

3.1 Background

This chapter addresses open online knowledge sharing, which some label as the “memory component” in CI. Several different examples will be presented to illustrate how this new culture of sharing is emerging. Before the time of the Internet, only a very small part of the population made their opinions and knowledge publicly available to others. The communication model was built around enabling experts to disseminate their knowledge to the rest of the population. Today, the situation has changed entirely, with a majority of the population publishing and sharing all kinds of information with each other through social media. The costs of producing and publishing both unimodal and multimodal content have almost disappeared, permitting anyone to publish almost anything. Individuals do not need to be passive recipients of the “wisdom” of certified experts, but they can now publish their own opinion, information or product. Consequently, there has been an enormous increase in people participating in the cultural production and public conversation through the online setting.

A decade ago, this development was regarded as an amazing new step towards a better society through a democratization of knowledge production processes (O’Reilly, 2005). Benkler (2006) claimed these new online networks strengthened individual autonomy and human freedom and represented a fundamental improvement in human life. Everyone with Internet access can now take a more active role than what was previously possible in the industrial information economy. In the online setting, individuals can produce their own cultural environment. They can do more by themselves and create their own expressions. If a person wants to publish something, one does not need help from others or a permit from a licensing body. Individuals are also free to continue to develop and build upon much of others’ creative work. The invention of new license systems such as Creative Commons has also made it much easier for anyone to
share their work in a flexible way. In a range of different sectors like science, education and business, both amateurs and experts are now sharing more knowledge than ever before.

In this chapter, examples of open online knowledge sharing will cover both the domain of expert-produced scientific knowledge and the massive amounts of citizen-produced practical knowledge. Not surprisingly, the sharing of scientific knowledge has become much more effective with the Internet. When the costs of publishing are reduced, open access has become the new dominant trend that makes research accessible to everyone. Increased production of open textbooks gives a more readable access to scientific knowledge and reaches a much wider audience. In addition, scientific knowledge construction processes are becoming transparent. This includes the establishment of many more open digital databases that allow anyone both to make their own contributions and get free access to all the data (e.g. citizen science project like eBird). More of the knowledge construction processes are becoming open, including both advanced scientific discussions (e.g. Polymath Project) and the development of encyclopedic knowledge (e.g. Wikipedia). Furthermore, the recent decade has resulted in an enormous increase in amateur-produced practical knowledge, involving both the sharing of texts and videos. Enthusiasts share their skills and passions concerning any activity that might be of interest to other like-minded persons. It includes a wide range of content, including more sharing of political opinion through video publishing and argument mapping. Inspired by open innovation, even business has begun to share more of their knowledge openly instead of concealing it.

3.2 Open Sharing of Scientific Knowledge

3.2.1 OpenAccess Publishing

In the history of science, the sharing of scientific knowledge has been an essential part of how humans have advanced their collective knowledge about the world. However, in the world of pen and paper, it was expensive to produce and publish research papers. A published paper required extensive typesetting, layout design, printing, and hardcopies of journals had to be sent all over the world if scientists were to have access to each other’s research. With the Internet, there is no need for printed versions, and it is easy and cheap to distribute scientific papers. As a result, there has been a gradual shift in the last 15 years from a pay-for-access model in scientific publishing towards more open access (OA) publishing. There is no consensus on the definition of OA, but the most influential definition, the
Budapest Open Access Initiative (BOAI), highlights that content must be free to read and free to reuse. The long-term goal is to make all research results openly available because this is how science can work optimally. Access is important because new research should build on all previously established results that are relevant. This knowledge will also be freely available to others who can potentially benefit, such as companies, journalists and student (Piwowar et al., 2018; Schiltz, 2018).

However, this transition is not happening without resistance. Publication paywalls are still withholding a substantial amount of research results from a significant part of the scientific community and from the rest of society. Because the cost of subscriptions from the large publishing houses has increased, more universities and libraries cancel their subscriptions (Piwowar et al., 2018; Schiltz, 2018). Consequently, policy guidelines have been and still are pivotal in supporting this transformation towards more open sharing of knowledge products within science. A recent political milestone happened in 2016 when the EU Ministers of science and innovation decided that all European scientific publications should be immediately accessible by 2020.

Moreover, Plan S is a new policy that aims for full and immediate access of all scholarly publications from 2021, which are to be published with a Creative Commons Attribution license (CC BY). Major stakeholders (researchers, universities, libraries) and public funders of research in Europe are supporting the plan. Several American research-funding institutions have now also made OA publishing mandatory, including US National Institutes of Health, US National Science Foundation, and the Bill and Melinda Gates Foundation (Schiltz, 2018).

Interestingly, some studies also find an “open access citation advantage” (OACA), indicating that OA scientific papers maximize visibility and receive more citations than other papers (Piwowar et al., 2018). In addition, the Plan S guidelines strongly encourage the early sharing of research results and data through preprints. A “preprint” is the final draft of a scientific paper, which is ready to be reviewed by a scientific journal for publication. The publication of these preprints have increased the speed of knowledge sharing, and it is now common that scientists publish a preprint at a local institutional website, or through academic social networks like ResearchGate and Academia (Nielsen, 2011: 161).

### 3.2.2 Open Database Projects

Furthermore, digital databases are becoming increasingly important. One example is the National Cancer Registration and Analysis Service, which
links hundreds of thousands of cases of each year. It collects diagnoses, scans, images and past treatments. These data are then combined into tools that can help patients choose different treatment options and doctors in their daily work (Mulgan, 2018: 28). It has also become easier to let volunteers provide data to such online databases. There are examples from many different areas and contexts, like in environmental research (e.g. Luftdaten.info) and disaster management (Bhuvana & Aram, 2019).

One prominent example is the eBird project, a citizen science project initiated in 2002 by Cornell University’s Laboratory of Ornithology. On this website, amateur birdwatchers share their observations: what species of bird they saw, when they saw it and where they saw it. Most contributors submit checklists that give a complete account of both the birds that were present and absent in the area. Still, doing this work primarily requires available time as a resource, rather than a very high level of expertise about birds. In addition, some organizations and federal agencies upload and share their data on eBird. In 2016, over 270,000 volunteers had provided over 280 million bird observations. At an aggregated level, all the submitted observations provide a unique overview of the world’s bird populations.

The website offers intuitive graphics and maps that show the density of particular birds in different locations. These maps are useful in tracking how climate change influences bird populations. They can also be used to inform the public. In total, 120 scientific publications have used data from the site, showing that the database has produced a significant amount of scientific knowledge (Cooper, 2016: 44–49).

The volunteer birders will typically be motivated by a desire to help bird conservation. In one incident, the Nature Conservancy in the United States used eBird data to decide which “pop-up” wetlands to fund during bird migration through Central Valley in California. The Pacific Flyway is a migration route for shorebirds traveling the Artic to South America, and the Central Valley is the natural stopover site for migrating water birds. It supports 30 percent of shorebirds and 60 percent of waterfowl, thereby hosting the highest density of migrating waterfowl in the world. The problem is that more than 95 percent of the original wetlands have been lost, and because of extreme drought in the region, the migrating birds have even fewer stopover sites. In this situation, the Nature Conservancy decided to help these birds by renting land from farmers and creating artificial “pop-up” wetlands. The key to the project’s success was about identifying the right acres to be flooded at exactly the right time. Here, the citizen science data in California are invaluable, with over 30,000
checklists of the area. With the help of these data and high-performance computing, the eBird team was able to forecast where birds were likely to be present. Farmers in specific locations temporarily filled their fields with a few inches of water during spring and fall migration, in periods of six and eight weeks. All 57 species of shorebirds and a total of 220,000 birds were recorded in these pop-up wetlands during migrations (Cooper, 2016: 44–49).

Members in eBird also become part of a global network of birdwatchers, with both amateurs and researchers sharing checklists. Many use the site to locate where birds are in a specific area when they are planning birding trips. While millions visit the site, only a very small percentage of these users submit the vast majority of bird sightings (Cooper, 2016: 44–49).

### 3.2.3 Open Textbooks

Open textbooks is a third emerging area, which shares scientific knowledge in a format more accessible to a wider audience. The digital version is made freely available with a license that usually also allows modification of the content. The print version will typically resemble a traditional textbook, but at a significantly lower price. In tertiary education, one challenge today is that the cost of textbooks prevents many students from buying them. In one recent study from a large private university in the US, more than half of the students said that they had not purchased a textbook because of cost (Martin et al., 2017). Likewise, in another study, Feldstein et al. (2012) found that only 47 percent of the students purchased the paper textbooks, but when they switched to an open textbook, 93 percent of students reported reading the free online textbook. The cost of textbooks is a barrier especially for students from lower socioeconomic backgrounds (Feldstein et al., 2012). Other studies also show that the use of open textbooks is as good as other alternatives concerning content quality and student performance (Delgado, Delgado, & Hilton III, 2019; Hilton III et al., 2019; Jhangiani et al., 2018; Pitt et al., 2019).

Some of the most successful projects have received both financial and political support. For example, in 2012, the Ministry of Advanced Education announced its economic support for the creation of open textbooks for the 40 highest enrolled subject areas in the post-secondary system. The University of British Columbia (BC) in Canada was responsible for running the project, and it resulted in 180 open textbooks during the five first years. In June 2019, the site estimates that over 100,000 students have saved a total of approximately ten million dollars, involving
more than 500 Faculty at over 40 institutions (open.bccampus.ca). Another example is OpenStax, an open textbook publisher based at Rice University in Houston, which since 2012 have published 29 free, peer-reviewed, openly licensed textbooks for the highest enrolled high school and college courses. More than six million students have used these books. In 2018, 2.2 million students in 5160 institutions saved a total of $177 million by using free textbooks from OpenStax. This includes approximately half of all US colleges. In addition, many schools outside the US, as in the UK or Poland, use the textbooks (Ruth, 2018). In contrast to the BC textbooks, OpenStax is reliant on philanthropic funding. Authors are usually paid to produce curriculum-aligned textbooks, which are both peer reviewed and regularly updated (Pitt et al., 2019).

Until now, the usage of open textbooks has largely been confined to North America (Allen, 2018). Although the cost of textbooks is a more significant barrier among US students, there is, for example, a rising concern around student costs in UK higher education (Pitt et al., 2019). Therefore, an increasing number of institutions have now begun to fund the production of open textbooks. These books are used much more often than other forms of Open Educational Resources (OER). One likely reason is that it is easier to use these books in the same way as traditional textbooks, not having to change any part of the pedagogical practice. If the quality of the book is sufficiently good, the cost savings will motivate a change (Pitt et al., 2019). Another advantage with open textbooks is their availability in different formats, making the book readable on digital devices.

However, there are still significant barriers. First, it is a challenge to find the relevant high-quality open textbooks that meet users’ needs. Although a large amount of content has been produced, it is archived in local repositories that are not necessarily connected with each other. Neither are all repositories well organized, making it difficult and time consuming to find the best open textbook (Al Abri & Dabbagh, 2018).

Second, quality assurance of open textbooks is important because people are still skeptical about the quality of free and open resources. Consumers often use price as a measure of quality if they do not have access to other measures of quality. A free textbook is assumed to be of inferior quality compared with a costly textbook (Abramovich & McBride, 2018). Therefore, textbooks and other OER materials will have to be peer reviewed because this is the most legitimate quality control processes in academia (Al Abri & Dabbagh, 2018). For instance, when The Open Textbook Network runs workshops at member universities, it encourages
participants to review open textbooks. Open reviews also make the quality of the textbook transparent, adding an extra advantage to traditional textbooks (Pitt et al., 2019).

Third, the open license makes it possible to adapt or change the educational content, but people still lack an understanding of how this can be done. Nevertheless, this is important to ensure that the quality is maintained over time (Al Abri & Dabbagh, 2018).

3.2.4 Wikipedia

The online encyclopedia Wikipedia represents one of the largest knowledge-producing communities in the world. It has greatly extended our ability to provide “vast and complete” encyclopedic knowledge. It was established in 2001, and by 2020, the English edition of Wikipedia had more than six million articles (“Wikipedia:Size comparisons,” 2020). Every article will usually also have a large number of internal links to other articles and external links to more relevant information on the web, and the complexity of the encyclopedia is also displayed through the enormous number of articles that are linked together. The sheer size, the open invitation to participate and the quality of the content have made many researchers claim that Wikipedia is the ultimate example of what CI can achieve in its attempt to support a more informed global society (Benkler, Shaw, & Hill, 2015; Bonabeau, 2009; Castells, 2010; Malone et al., 2009).

Common sense suggests that if amateurs without payment or ownership make millions of contributions, the quality of the work will be poor. However, studies have shown that the quality is comparable to traditional encyclopedias (Giles, 2005), and that vandalism and inaccuracies are often quickly reverted (Kittur & Kraut, 2008). Today, Wikipedia is one of the most important sources when looking for reliable and valid information on the Internet. It is the world’s most frequently used source of medical information, not only used by patients, but also health professionals. For example, in 2017, the English language medical pages registered more than 2.4 billion visits, far more than websites like those of the World Health Organization (WHO). An article on pneumonia has 8,000 views a day. The popularity makes it even more important keep the articles updated with reliable information sources, so all stakeholders can access the same background information (Murray, 2019).

The production of articles introduces new types of collective writing. Articles are constantly modified and updated, and are in this sense never completely finished. With this as a premise, contributors only need to
publish a draft version on an article and expect unknown others to continue the work on the article at a later point in time. Work on the articles also includes a range of different microtasks, such as keeping an article updated with new information, removing “nonworking” links, and adjusting the article to an encyclopedic format. Often, it will not be too difficult to find relevant secondary sources to use in a Wikipedia article, and a lot of the writing translates content between encyclopedias in different languages.

The writing process is special in that most articles can be changed by anyone at any time. Revisions continue until there is an informal consensus that the article has reached a sufficient level of quality. There is no hierarchical editorial process. If two people disagree on the content in an article, they are strongly encouraged to find a solution on the specific article’s talk page. Here, anyone can discuss issues regarding a specific article, like shortcomings, improvements and even a proposed deletion of the article. Because everything written on Wikipedia needs to have a source, this is an essential component to all articles, and often a popular topic of discussion. Most of the editors have never met each other in real life (Carleton et al., 2017; Malone, 2018: 117).

For example, Wikipedia’s medical pages require that all content refers to a high-quality secondary source which is regarded as being more reliable, with less content bias. One avoids primary sources because this information can be refuted. The articles aim to represent the current state of knowledge, presented in an impartial manner. Organizations with a mission of disseminating information, like Cochrane and Cancer Research UK, are therefore now collaborating with Wikipedia. Since the encyclopedia is widely used, increased engagement from health professions can provide better information to everyone about health issues (Murray, 2019).

Although the Wikipedia user community is without a centralized structure, it still depends on a range of different norms and policies that guide actions. Guidelines help contributors to write appropriate articles within the genre of an encyclopedia and resolve conflicts between contributors. Although anyone can participate and contribute to Wikipedia, many norms regulate online behavior. Instead of letting a central body monitor all behavior, the Wikipedians monitor each other (Carleton et al., 2017). The norms build on a general hacker ethos, and include sentiments such as “Be bold” and “Leave things better than you found them.” The Wikipedia community resembles a participatory culture in its emphasis on behavioral guidelines like “civility,” which refers to a social policy that encourages
respectful and civil participation. Contributors should both try to understand others’ positions and “strive to become the editor who can’t be baited” (“Wikipedia:Civility,” 2020). The guideline “Assume Good Faith” refers to the treatment of others as if they have good intentions and one should avoid accusing others of harmful motives without clear evidence (“Wikipedia:Assume good faith,” 2020). If a disagreement is not solved, the debate can involve a third party (Algan et al., 2013; Carleton et al., 2017). These social norms are an important reason why the community manages to produce articles of high quality.

A major concern in open editing is that, when anyone can change an article, how can we trust that the information is correct? Wikipedia tackles this through the participation of a dedicated community of Wikipedians, volunteers who continuously monitor articles and receive automatic alerts when articles are changed. This makes it possible to quickly remove vandalism and restore the original article. Other controversial edits are discussed on the articles talk page until consensus is reached. The norms emphasize a civil, open debate in an attempt to produce unbiased objective content (Murray, 2019). An important technical feature in the wiki software is that it stores all edits permanently, making it possible to trace and restore previous versions of both articles and discussions. This makes the production environment very transparent because the complete decision-making process can be scrutinized by anyone at any later point of time. The success of the online community is reliant both on this transparent quality control mechanism and on specific social norms.

3.2.5 The Polymath Project

The Polymath Project, initiated by Fields Medalist Timothy Gowers in 2009, is another interesting example of open scientific knowledge construction processes. Inspired by web 2.0, Gowers wanted to explore if massively collaborative mathematics could be possible. In his personal blog, he invited anyone to join him in solving a mathematical problem through a virtual math team effort. The goal was to find a new proof for a theorem, which had previously only been proven in a very indirect and obscure way. The invitation was accepted by Terence Tao, another fields medalist working at UCLA, in addition to a number of other less famous colleagues, including both schoolteachers and graduate students. Although the project required a high level of mathematical skill, the participants were a mix of both researchers and hobby mathematicians (Michelucci & Dickinson, 2016; Tao, 2014).
The first Polymath project was solved successfully after approximately one month (37 days), involving contributions from 27 persons. The number of contributors in the projects are usually relatively small, typically not more than a few dozen persons. Although the outreach is large, and anyone can join, participation still requires a high level of background knowledge.

Newcomers also have to build on previous work in a sequential fashion by leaving comments on blog posts. In the early phase of the project, it was quite easy to keep an overview of the ongoing discussion. However, because of the popularity of the project, the number of comments grew quickly, eventually reaching 800 comments and 170,000 words. Although a wiki site was set up to extract the most important insights from the discussions, it was difficult for newcomers to join the project in a late phase because they had to read an increasingly large portion of previous contributions that had been made (Franzoni & Sauermann, 2014; Gowers & Nielsen, 2009; Nielsen, 2011: 51). Until 2016, there have been nine Polymath projects taking place over the course of several months to a year; three of them also resulting in published papers (Kloumann et al., 2016).

In the Polymath projects, the problems are usually at first presented as a unified whole, and any decomposition needs to arise from the collaboration itself (Kloumann et al., 2016). The disadvantage with this lack of initial modularization is that it becomes more difficult to let a very large group of mathematicians contribute (Nielsen, 2011: 51). For instance, the successful Polymath8 project had a much stronger modular structure with a problem that could be decomposed into separate pieces. This made it easier for people to contribute on one subtopic without necessarily being expert in all other areas. It was easier to measure progress in the project and there was a guaranteed end to the project (Tao, 2014). Another issue is if the modules or subtasks are relatively large, and require a significant amount of time and effort, the number of potential contributors will usually decrease (Franzoni & Sauermann, 2014).

Although most Polymath projects require some level of mathematical background knowledge, they do not require a lot of very specialized and technical mathematical expertise. This is important if one wants to recruit a large group of people to join the project. However, a consequence is that these projects have only made progress on problems where there has already been a number of promising ways to make progress. For the truly difficult mathematical problems, where some genuinely new insight is needed, it has not been proved that these projects have achieved more than what an individual mathematician could (Michelucci & Dickinson,
The Polymath projects have been very good at solving minor technical or mathematical issues, like tracking down a little-known piece of mathematical folklore, or performing a tricky computation (Tao, 2014). In addition, the online setting has recruited people with relevant expertise who would never have heard about the project if it had been done in a traditional way.

Furthermore, Gowers not only describes the problem and the background materials, but he has also made a list of collaborative rules. These rules are important in creating a polite and respectful atmosphere during the informal discussions. One of these guidelines encourages participants to publish ideas even if they are not fully developed. It underlines the importance of sharing unfinished ideas, rather than thinking offline and waiting to contribute with a larger idea in a single comment.

At all stages of the research process, the comments are fully open to anybody who are interested. All the participants can follow the rapidly evolving conversation and jump in whenever they had a special insight. In the online setting, this is much easier to do. The project illustrates how a relatively large group can effectively harness each participant’s special competence, “just-in-time,” as the need for that expertise arises. In conventional offline organizations, such flexible responses are usually only possible in small groups. In larger groups, this will normally not be possible and participants will instead focus on a preassigned area of responsibility (Nielsen, 2011: 34–35).

The blog is also interesting because it gives an insight into the minds of some of the world’s leading scientists. When all posts are archived, they are left open for others to read afterwards, and leave traces of the knowledge construction process. The discussions follow a timeline, and provide a glimpse into the minute-by-minute communication between scientific partners. It is possible to observe how the best in the world struggle to extend our understanding of some of the deepest ideas of mathematics. It also shows how individual ideas are refined and further developed through open collaboration. A wide range of ideas is displayed, but not all are followed up. It is possible to read a record of the entire collective process that leads to the proof, giving a complete account of how a serious mathematical result is discovered. In this way, the Polymath Project makes both the scientific culture and the exploration of scientific problems more transparent (Kloumann et al., 2016; Nielsen, 2011: 167–168). The archived comments show how proposed ideas grow, change, improve and are discarded. It reveals that even the best mathematicians make mistakes and pursue failed ideas. False starts are an integral part of the
process, but through the mistakes and wrong choices, the insight gradually emerges. The transparency surrounding the ongoing problem-solving process stands in contrast to how research results are usually proved in private and presented in a finished form. The Polymath Project illustrates how knowledge construction processes that have traditionally remained tacit in scientific research can be openly shared with others (Tao, 2014).

The discussions of mathematics in the blog are different from a face-to-face conversation in other ways, too. In the online setting, most comments in the Polymath Project focuses on only one point in a relatively sharp way. This is usually not possible in offline academic conversations because someone will become confused, it will be necessary to backtrack, while others will leave the discussion. However, asynchronous communication let everyone read the comments at a suitable time, and they can even do so several times before they write their own comment. In complicated mathematical problem solving, this can be a significant advantage. It is not necessary to take an immediate stance to a problem, which will usually be the case in a conversation in an offline setting (Nielsen, 2011).

Furthermore, in the online environment, it is easy to have a quick look and ignore irrelevant comments. In the project, there were a small number of contributions of low quality, but it was relatively easy for well-informed participants to ignore them. This is often a major concern in other open online environments because of trolls, spammers or even people who are just plain unpleasant. In the Polymath Project, the strategy was simply not to give these participants the same amount of attention. In comparison, when this situation occurs in an offline setting, you may have to stay and listen to a person speaking about something irrelevant for a longer period before you can move on. In the blog, you can more freely choose between what ideas you want to continue to work with. In addition, one can easily return to previous comments at a later point in time because they are archived and can be retrieved through search engines (Nielsen, 2011). The Polymath Project illustrates the potential of scaling up the number of participants in academic discussions, but it is more uncertain if such projects are sustainable without coordinators who have the main responsibility.

3.2.6 Galaxy Zoo Quench

The Galaxy Zoo Quench project is interesting because it aimed to be more ambitious than most other citizen science projects. Citizen scientists were invited to be involved in the complete research process, not only classify
images, but also analyze data, discuss the findings and write a research paper (Franzoni & Sauermann, 2014). In the first phase, the participants classified galaxies independently from each other, following a common coding system in the Zooniverse platform. This task was quite simple and was completed successfully. However, the difficulties began already in the next phase, when the volunteers were assigned to create a dataset suitable for analysis. This was the first collaborative task. A suitable sample of galaxies needed to be included in an unbiased way, but because the volunteers refined the data differently, they did not manage to reach a decision together. The lack of academic background knowledge made it difficult to know what selection criteria were appropriate in making the dataset ready for analysis (Crowston et al., 2018).

In the data analysis phase, the volunteers struggled even more in coordinating the collective work. They were uncertain of the most relevant set of results to include in a research paper. The lead scientist encouraged the volunteers to “play” with the data and try to find some interesting trends, but they did not receive any specific advice. They found it difficult to do these explorations on their own because they had not written scientific papers before. As a result, the volunteers did different analyses independently of each other. Because they had limited scientific domain knowledge, they did not know what data would be interesting for publication. Therefore, the project never reached the writing phase. In the evaluation, the volunteers suggested that the lead scientist should have coordinated more of the work and provided more feedback. At the same time, collaborative writing of a paper requires much more complex interdependent work and it is not certain whether volunteers can be trained in developing these skills over a short period (Crowston et al., 2018). This project shows the importance of also examining limitations in volunteer contributions to scientific knowledge.

### 3.3 Open Sharing of Practical Knowledge

#### 3.3.1 Open Sharing of Videos

If we look at the scale of online knowledge sharing in recent decades, videos arguably represent the most important contribution to human collective memory in its production of amateur content. YouTube is the dominant media platform in the world, and in 2017 it had over 800 million unique visitors each month (Lee et al., 2017). The company website claims that their billion users are watching a billion hours of content each
day (Burgess & Green, 2018). Unlike social media platforms like Facebook, the user engagement on YouTube is centered around the sharing of content, and the video in itself is regarded as the primary vehicle of social communication (Klobas et al., 2019). Established back in 2005, more than a decade ago, YouTube became an instant success, making it easy for anyone to share and stream videos with standard web browsers and modest Internet speeds. Videos could be rated or commented, and the website also became popular because of new social features like the automatic receiving of other video recommendations, the possibility of embedding video and the sharing of comments through email links (Burgess & Green, 2018). Already from the beginning, the content contributors were a diverse group with multiple interests, including large media producers, major advertisers, small-to-medium enterprises, cultural institutions, artists, activists and amateur media producers. All had their own separate aims, looking for a cheap distribution alternative. With the exception of violent and sexually explicit content, users could upload whatever content they wanted. This turned YouTube into a dynamic cultural system (Burgess & Green, 2018: vi–vii, 3).

YouTube’s popular culture is still characterized by its own two “native” genres, the clip or quote, and the vlog. Early YouTube contained a wealth of short video quotes, snippets of material that captured the most significant part of a program, shared by ordinary users. The quotes are edited selections of TV shows, news, sketch comedy, music videos or movies uploaded informally by ordinary users, highlighting a particular moment from a favorite television show or sporting match. This quoting is very different from sharing a complete TV program. It is similar to how GIFs on Facebook and Twitter are used as visual annotations or reactions. The quotes give information about what engages the audience, but some also express particular identities, like footage from soccer matches, edited to include pictures of fans and a certain theme highlighted throughout the season. Although these clips may attract many viewers, they do not necessarily trigger a lot of discussions (Burgess & Green, 2018: 50, 75, 81, 129).

Furthermore, the “vlog” (short for videoblog) genre is one of YouTube’s most central cultural forms, dominating the “amateur” videos and vernacular creativity from the early years of the platform. The vlog only requires a webcam and is technically easy to make. The emphasis is on good storytelling and a direct, personal address, typically presented as a monologue delivered directly to a webcam, including home movies and personal photography. The topic can be anything from comedy, celebrity gossip,
political debate to the mundane details of everyday life. It is a mode of individual self-expression and everyday aesthetic experimentation that not only wants a large audience, but invites feedback in a direct face-to-face address to the viewer. It is a genre of communication that invites critique, debate and discussion, with direct response, through comments or video response, being at the core of this type of engagement. Early vlogs were frequently responses to other vlogs, directly addressing comments left on previous vlog entries (Burgess & Green, 2018: 39–40, 81, 127). The vlog builds on live performance traditions and resembles the vaudeville tradition of the late nineteenth and early twentieth centuries, with a wide range of short memorable acts, usually under 20 minutes. Without directors, actors in this tradition chose their own emotional material and adjusted their performance based on direct audience feedback. Like in the vlog, the emphasis is both on immediacy and conversation (Burgess & Green, 2018: 80–82, 87).

From the perspective of knowledge sharing of societal value, the vlog is relevant in how it transforms everyday life into more “public” debates around social identities, ethics and cultural politics. Existing assumptions are questioned through the presentation of intimate and vulnerable moments, making it possible to promote a public discourse about uncomfortable, or difficult topics that other media avoid. For instance, the sharing of “coming out” videos have become important “social media rituals” for LGBTQ YouTubers, displaying stories about difficulties and how one overcomes them (including homophobic bullying). It illustrates how popular culture becomes a part of political participation and citizenship, especially for woman, LGTBQ people, and religious or ethnic minorities (Burgess & Green, 2018: 124, 127–128).

A major difference today is that the scale and complexity of its commercial practices has increased, providing content watching for a large number of users. However, the informational content still includes user-created newscasts, interviews, documentaries that resemble the vlog genre, in that they frequently critique popular media through commentary or visual juxtaposition and commentary. Many music artists also preface their work through a discussion of their motivation, attempting to establish a more intimate relationship with the audience by responding directly to suggestions and feedback (Burgess & Green, 2018: vi–vii, 3, 22, 81, 87, 94, 126; Klobas et al., 2019). The highly invested content creator is not only a media company, but also professional “amateurs.” On the one hand, online video businesses are working to professionalize previously amateur YouTubers. But on the other hand, the vlog and the vernacular
aesthetics is often held up as the gold standard of the YouTube brand. There still remains a cultural logic of community, openness and authenticity that highlights ordinary people’s active participation (Burgess & Green, 2018: vi–vii, 22, 87, 94, 126; Klobas et al., 2019).

Furthermore, educational videos are the third most commonly viewed type of content, after music and entertainment videos, including videos made by both professionals and amateurs (Klobas et al., 2019). Auto-captions and translation of YouTube videos have also increased the potential audience that can watch a video (Lee et al., 2017). All this video content can support students’ learning. For example, in one study in medical education, the vast majority of students report using internet sources, with 78 percent using YouTube as their primary source of anatomy-related video clips (Barry et al., 2016). Many universities publish video lectures, also in combination with Massive Open Online Courses (MOOCs) that offer more affordable education to a global community that would otherwise not have access to this kind of content (Lee et al., 2017).

Furthermore, a rich mix of knowledge providers outside of the traditional higher education institutions also produce and publish short clips that attempt to explain complex in a simple way (e.g. health issues). For example, science channels are made by media companies (e.g. National Geographic), science journalists (e.g. Periodic Videos) and science educators (e.g. SciShow), while other videos are made by hobby amateurs who have a passion for science. Many videos aim to be both educational and entertaining at the same time, targeting both children and adults. A typical video will explain a particular issue in just a few minutes, with music and sound animations; some will also include funny scenes from everyday life (Rosenthal, 2018; Schneider et al., 2016). One example is a video demonstrating the Magnus effect with a back-spinning basketball dropped from a very high point, which has been viewed more than 40 million times (Rosenthal, 2018; Veritasium, 2015).

In this genre, there are millions of amateur-produced clips that intend to help users with everyday tasks just about any subject, craft or skill – guitar-playing, cooking, dancing, maths, repair work or computer games. These instructional videos are especially effective in supporting procedural learning, and in principle, anyone can teach others a skill by creating a video. For examples, gamers will often show in-game achievements by showing and talking about what they are doing in the game. This is both a way of sharing knowledge as well as “showing off” one’s own competencies. These clips are often made by private persons in their leisure time and illustrate
how people want to share their passion and knowledge for hobbies with
others who have the same interest. This peer learning is both about making
your own knowledge explicit, and letting others learn from what you know
(Burgess & Green, 2018: 125–126; Lee et al., 2017). Studies show that
videos on YouTube are used to support both formal learning and self-
directed learning, offering individuals a large degree of autonomy and
control regarding what and how to learn (Lee et al., 2017).

Note that YouTube is not only a massive repository of video content
but also a constantly growing record of the popular culture of the Internet.
Users from all over the world have created a diverse and disordered public
archive of contemporary cultures. Major music labels have contributed
videos from their catalogues and TV channels such as HBO and BBC.
Today, a majority of viewers go to YouTube to listen to music they are
already familiar with. Adults can listen to old music videos or watch old
clips from TV series, as a way of recapturing memories from their child-
hood or young adulthood (Burgess & Green, 2018: 135–136).

3.3.2 Open Sharing of Geographical Resources

Another interesting open database project is OpenStreetMap (OSM),
founded in 2004 by Steve Coast. He wanted to make a local map but
became frustrated with all the restrictions on traditional maps because of
copyright and excessive royalty payments. Therefore, he bought a GPS and
started collecting tracks around his local area of central London. The data
were then displayed openly, and when he presented his work at a confer-
ence, many people wanted to join the project. Within 16 months, there
were 1,000 registered users, and after five years, the number had grown to
100,000. Although the coverage varies, OSM has continued to grow. The
data sources are free of charge and allow anyone to reuse the data as they
like (Chilton, 2009). Local maps have been created to serve different
purposes, such as skiing, hiking or public transportation. The Wheelmap
project is one example of how maps can be tailored to wheelchair users or
visually impaired pedestrians, utilizing haptic feedback. Another example is
how the maps have been successfully used to produce and distribute free
mapping resources in disaster management (“Humanitarian OSM Team,”

In 2020, the OSM project had more than six million registered mem-
bers. Most of the information about the project information is shared in
the official OSM wiki. This includes information about usable software
and tutorials for beginners on how to map an area. In the past, volunteers
could only report an error in the map data in the form of a note, but now they can make direct modifications or corrections in the map. This “wiki-solution” has strengthened the collective effort of the project. Like in the eBird project, only a small percentage (1.6 percent in 2013) of volunteers contribute on a regular basis. A few individuals will usually collect most of the data from one specific area. Although contributors can communicate with each other on internet relay chats (IRCs) or mailing lists, most of the collaboration is purely incidental, as most work is done by individuals separately (Neis & Zielstra, 2014).

### 3.3 Open Sharing of Corporate Knowledge

Moreover, open sharing of knowledge has increased in sectors that traditionally have kept their knowledge secret to others. In the business sector, some companies are changing their strategy and emphasizing open sharing of knowledge to a larger degree. According to Bogers et al. (2018), there are two important kinds of open innovation: outside-in and inside-out. As mentioned in Chapter 2, crowdsourcing, or the outside-in part of open innovation, is about integrating external inputs. In addition, the inside-out innovation requires organizations to allow underutilized ideas to go outside the organization for others to use. The basic assumption is that openness can be useful for process innovation (Bogers et al., 2018). According to Chesbrough (2017), this type of innovation is inspired by open source methods from software communities. Usually, innovation activities are concealed because they are a source of competitive advantage that should not be shared with anyone.

As counterintuitive as it may seem, Von Krogh et al. (2018) find that most companies can build greater advantage by following a policy of open process innovation. One strategy is to open up the organization internally as much as possible. By sharing innovative practices and success stories, this increases the likelihood that the best ideas become part of the overall corporate program, thus improving the operational performance. It is often easier to implement new ideas within the same organization because the different factories will usually be comparable. In one example, a Volvo Group remanufacturing factory were forced to think harder about their current practices when they learned about the best practices from other units. Companies can also improve if they use ICT to share practices more systematically (Von Krogh et al., 2018). In another example from Xerox, the technicians were usually alone while they repaired a copier, but the time they spent together at breaks was a critical resource for open sharing.
of their work. There, they discussed how to fix important work-related problems not written in the official manuals. Partly because of this work, Xerox later created an online tool called Eureka that technicians could use to share tips with one another across the company (Malone, 2018: 118–119). Likewise, the Volvo group collects best practices from factories and shares them in a global online database. In addition, global online knowledge-sharing conferences are held ten times a year, with a couple of hundred persons attending. The conference slogan illustrates the core idea behind this intracompany open process innovation strategy: “Everyone has something to teach; everyone has something to learn.” The best-in-class factories also develop their own expertise by teaching others about what they do. The better you are, the more you can gain by opening up. For instance, in a Volvo Group truck assembly, the customer fairs moved to the factory site. In this way, customers could question blue-collar operators working directly on the line, and received passionate answers. In addition, the operators learned firsthand what customers really wanted from Volvo trucks (Von Krogh et al., 2018).

The key issue here is to put more emphasis on the pace of the process innovation. Protecting innovation processes will give a competitive advantage for a limited time only. In the end, it will be a losing strategy because competitors usually catch up. Instead, it is important to compare your own practices with someone else’s practices. This exposure motivates both managers and employees to speed up problem solving and idea generation. The key is not to be better, but faster than competitors at process innovation (Von Krogh et al., 2018).

3.3.4 Open Sharing of Political Arguments

Regarding CI in the political domain, there is today an increasing disappointment with lack of informed political debate in the online setting. Currently, popular social media produce little deliberation, large volumes of highly disorganized and low-quality content, toxic interactions, and in some cases, clique formation amplifies extreme political points of view (Fujita, Ito, & Klein, 2017). From a technological perspective, part of the problem can be due to limitations in the communication technology. For example, in time-centric tools like blogs or discussion forums, the contributions are organized according to when a post is submitted. When the number of contributions increase, posts about the same topic will often be widely scattered, and it will be increasingly time consuming to identify all relevant issues, ideas, and arguments in a debate. As this becomes more
difficult, so the likelihood of redundancy increases. There will be a lot of repetitions, digressions and people talking past each other (Klein, 2012, 2017).

Collective argument mapping represents an interesting technological alternative that attempts to avoid these problems by letting a large group co-construct the bigger picture of an issue from multiple perspectives. This is done through the collective production of a coherent argument map (e.g. Deliberatorium, Kialo). User contributions are organized through the construction of a tree structure consisting of specific issues, potential solutions, and pro and con arguments. This structure provides a better overview through easy navigation, rating and collaborative editing of the map. The goal is to produce a well-organized map with nonredundant, high-quality content for complex controversial problems. The map intends to support deliberation, long and careful discussions where groups of people identify possible solutions for a problem, evaluate these alternatives, and select the solution or solutions that best meet their needs (Fujita et al., 2017; Klein, 2017).

In the map, the arguments are captured as topically organized tree structures where arguments comprise questions, possible answers, arguments or statements in favor of an answer or argument. All relevant arguments and subarguments within the same topic are organized hierarchically in the same branch of the tree. The map can grow collaboratively from a simple seed question into a large range of ideas that represent a single, coherent, meaningful structure. With the visual support of a multidimensional map structure, all participants in a community can bring forward any question or issue on a topic, and the community can evaluate the content together (Bullen & Price, 2015; Klein, 2017).

In political discussions in large groups in an offline setting, many perspectives will easily be ignored. Typically, small groups of people will outline a policy, and then attempt to engage wider support for their preferred options. The large majority will not be involved in formulating alternative solutions. If the problem is complex, many important ideas may be ignored. Therefore, the map aims to offer a group a comprehensive overview of a problem that supports more informed deliberations that can lead to better collective decisions (Bullen & Price, 2015; Klein, 2017).

Today, several different collective argument-mapping tools support large-scale discussions. One example is the Deliberatorium, a software developed by Mark Klein and associates, which mediates complex collective discussions with a large number of persons involved. The objective is to facilitate deliberation that is more effective (Fujita et al., 2017). In one
experiment, 220 masters students discussed biofuels in Italy over a period of three weeks. During that period, the students posted over three thousand ideas and arguments and 1,900 comments into one single argument map (Klein, 2012). About 1,800 posts were eventually certified, 70 percent without any changes. It demonstrated that most authors were able to create properly structured posts. This community of nonexperts were able to create a comprehensive map of the current debate on biofuels, with references to technology and policy issues to environmental, economic and sociopolitical impacts. Klein (2012) compares the collective work with gathering 200 persons to write a book together on a complex subject over a period of a couple weeks where no one is in charge.

Another argument map is DebateGraph. This tool also supports complex policy topics in different fields like education, health, conflict resolution and policy dialogue (Bullen & Price, 2015). Participants explore problems together by first breaking down the subject under discussion into discrete ideas. These ideas are displayed as thought boxes, and can be enriched with videos, images, charts, tables, documents, as well as being cross-connected to other relevant maps. Arrows and colors signal different types of relationships between the ideas in the map. In addition, both the ideas and the relationships between them are visualized in the map structure. This makes it easier to explore and get an overview of clusters of interrelated ideas. When the understanding of a topic evolves, the participants revise both the map and the interrelationship between the ideas. All members can add new ideas and information, or edit and rate existing ideas (Bullen & Price, 2015).

In a deliberative process, there are at least five advantages with using argument maps. First, the map can provide a very good overview of all the arguments in a discussion. If it is well organized, the argument will appear at only one place in a coherent map system (Klein, 2017). If we assume that ideas have a Gaussian distribution, widely known points will be submitted frequently from multiple sources, and the valuable “out-of-the-box” arguments will be far less common. Consequently, the number of ideas will grow much more slowly when the number of participants increase. The goal is to avoid some of the redundancy problems that large groups face in online discussion fora (Klein, 2012).

Second, when all the content is co-located in a hierarchical tree structure, it will be easier to identify what has and has not already been said. It becomes easier to work towards a more complete coverage when everyone has a better overview of the discussion. Argument mapping increases users’ chances of “finding their tribe” or other person who have the same
Third, every argument becomes more valuable when being part of a wider argumentative context. Participants can freely choose to engage with one particular aspect of the map or the totality of it. Before making a new contribution, it is also necessary to read existing views and opinions in the map. The process of placing an argument in the map will automatically enhance the participant’s understanding of the topic. Instead of just adding to free-flowing online discussions, individuals will ideally be exposed to all parts of the logical structure of the argument: What decisions must be made? What are the arguments for and against each option? Critical thinking is stimulated in the process of making the map (Bullen & Price, 2015; Klein, 2017).

Fourth, idea sharing and equal participation is important in order to avoid extreme opinions. The map offers a greater diversity of ideas by letting every voice be heard. Compared with discussion in an offline setting, a much larger number of participants can be involved. The tree structure might also reduce balkanization by visualizing all competing arguments right next to each other. It offers a more intuitive access to the complexity of an issue, and aims to challenge both readers and contributors to overcome the constraints of groupthink and homophily (the tendency for people to associate with others who share the same beliefs) (Bullen & Price, 2015; Klein, 2017). In many other online discussions, it is also a problem that some people intentionally ignore others and try to “win” a discussion by repeating the same arguments many times. Consequently, potentially promising ideas from smaller groups or less vocal individuals will easily get lost. These individuals may feel overlooked and reject the final decision. In contrast, the argument map can more easily integrating all positions in a debate (Klein, 2017).

Fifth, the quality of the arguments may improve. If many persons can provide multiple independent verifications, this will, according to the many wrongs principle, reduce the number of errors or cancel out the
bias (Klein, 2012). The large group size will also increase the diversity of perspectives. Some participants may be better at proposing ideas; others will be good at finding practical solutions. Some may be more critical and better at finding counterarguments. The sharing of all these ideas in the same map environment can also potentially stimulate synergistic solutions that build on combinations of existing ideas (Klein, 2012, 2017).

Traditional online discussions seldom elicit such win–win solutions that maximize the collective outcome for all participants. They often only elicit solo ideas or “dream choices” of individual participants, and seldom provide support or incentive for members to work together to collaboratively develop new ideas. Participants tend to push their own ideas rather than collaboratively try to find new ideas that might give both parties most of what they want. Collective decision-making typically follows a zero-sum frame where competing cliques will stick to their original solutions. A collective solution will be decided either by voting or through a bargaining process where both parties make concessions. While negotiations where parties meet in the middle can produce optimal agreements for simple decisions (i.e. with a few independent issues), this is not the case for complex decisions which often involve many interdependent issues (Fujita et al., 2017; Klein, 2017). Although argument maps are not mainstream, they represent a promising new way of enhancing political deliberation in large groups.

### 3.4 Summary

The examples in this chapter illustrate the growth in open online knowledge sharing. A major trend is the enormous increase in complete knowledge products of various size and formats. Both open access research and open textbooks show how scientific knowledge products are more available today. In addition, practical knowledge products are shared at an unprecedented scale, particularly “know-how” videos on open platforms (e.g. YouTube). These amateur-produced instructional videos obviously vary a lot in quality, but represent a new type of knowledge product that centers on passionate contributions from enthusiasts. Videos represent an important knowledge format that can inform and educate viewers in new ways because of the level of detail in the content. On the one hand, some of these products like online videos and open access research papers will typically be reused but remain unchanged. On the other hand, content modification has become much easier with Creative Commons licenses. One example is open textbooks that make it possible to produce new versions adapted to local context.
Another major trend is that *knowledge construction processes* have become more available and transparent in the online setting. Within the scientific knowledge domain, this includes open scientific discussion (e.g. Polymath – scientific knowledge production) and encyclopedic knowledge production processes (Wikipedia). Both in Wikipedia and the Polymath Project, people do not need to be formal experts, demonstrating that scientific knowledge production today is not only restricted to professional researchers. In addition, a range of new, open digital databases allow anyone to both make their own contributions and get free access to all the data. Volunteers or informal experts are invited to make important contributions in different citizen science projects. Argument maps also make it easier for a large group to participate in political discussions.

Although the knowledge construction processes are different, they show how individual contributions are part of a larger collective work, whether it is a database, a Wikipedia article or a comment in an argument map. For example, in the eBird project, volunteers collect and upload data from many different areas, which provides a much larger value on an aggregated level. In a collective argument map, new contributions will add to existing contributions, and the complete argument map will provide an overview of the collective knowledge. However, with the exception of Wikipedia, most advanced collective writing projects have failed. One example is the Galaxy Zoo Quench project, which challenged a large group of amateurs to write a scientific paper. These failures are important in understanding the limitations of amateur contributions.

Both knowledge products and knowledge construction process can be regarded as important parts of the memory dimension in collective intelligence. Most knowledge products provide long-term sharing in an online setting (e.g. research databases or YouTube). Therefore, the target group of the knowledge sharing can both be universal and directed towards a specific local context at the same time. For example, a published video can target one specific local community or area, but the information may also be relevant for others in another context at a later point in time. When knowledge is shared more rapidly, whether as corporate or scientific knowledge, this amplifies collective knowledge advancement in the society as a whole.

Furthermore, this new openness illustrates the value of transparency. In large-scale deliberation, this transparency gives the group the opportunity to make choices that are more informed. Knowledge is not only reused but can easily be improved by new contributors. For example, in Wikipedia, it is common to translate and adjust articles to many different language versions on the same topic.
Many of these new knowledge products, including both unimodal and multimodal formats, build on what some label as a peer production model (Benkler, 2006; Benkler et al., 2015). This production model, building on CI, involves open creation and knowledge sharing in an online setting. Groups will work in a decentralized manner, set goals together and typically have nonmonetary motivations. Knowledge products are typically common property and build around participatory, meritocratic and charismatic organizational models of governance. It is arguably the most significant organizational innovation that has emerged from the Internet, being an alternative to competition models in more traditional, market- and firm-based approaches. The peer production model is also different from crowdsourcing, which to a larger degree is built around centralized control and external predefined formulation of problems (Benkler et al., 2015). These issues will be further analyzed in the forthcoming chapters (see particularly Chapter 4).
Meta-Issues 2: Copyright and Other Rights, Digital Rights Management, Open Access

COPYRIGHT AND OTHER RIGHTS

The practice of a writer or artist laying claim to his or her own work is an ancient one in the West and goes beyond the limitations of literacy into textual communities that included both oral and written transmission. By 500 BCE, for example, chefs in the Greek city of Sybaris in Calabria were granted year-long monopolies on their culinary creations. The authorship of the Iliad and the Odyssey was long attributed to Homer even before they were transcribed into writing. In ancient Rome writers like Cicero would have their own literate slaves, or would rely on those of friends, to produce multiple copies of their works to be distributed among their textual community. The accuracy and authenticity of their texts would be guaranteed by their authors' direct supervision of this process. Writers like Virgil and Horace became celebrated writers in their own lifetimes, and the Roman poet Martial complained of piracy of his works when they were recited without attribution. By the late eleventh century in the medieval West, the oral traditions of the chansons de geste were slowly taking on ascribed authorship as various versions became recognized. Under the late medieval patronage system, the dedication of an author's book to a wealthy patron not only guaranteed some form of income or social promotion but also acted as a means of informal princely protection for authorship.

During the Renaissance the first Florentine law that can be characterized as patent or copyright was granted to the architect Filippo Brunelleschi in June 1421. It is probably no coincidence that the first satire of this concept was Antonio Manetti's fictional tale, The Fat Woodworker (c. 1450). Manetti relates how – in revenge for a social slight – the craftsman in question is duped in a practical joke by Brunelleschi and
his friends into believing that he longer existed, but that he was actually someone else, a copy of himself. While not the first context to emphasize the notion of the original and the copy, the social situation of Florentine artists and writers most certainly combined with the humanist glorification of the individual author and artist to lend social currency to the idea. It was also during this period that sculptors such as Donatello and Ghiberti began signing their works, a practice that reached its apogee with Michelangelo.1

By 1474, a Venetian statute had protected a patent right, and in 1486 Venice issued the first known copyright protection to a printer/publisher. The system of French royal privileges to protect printers dates from 1498. In 1501 Pope Alexander VI issued a bull prohibiting unlicensed printing of books, and the system of copyright and privileges spread through Europe in the first half of the sixteenth century. With the progress of classical learning and new critical editions there also arose the humanists’ need to protect their work as sole authors – a status jealously guarded in humanist culture.

In England, copyright was tied to several things: the manifold replication of texts, government and church interest in censoring or controlling content, early capitalist industrial culture and guild systems. In 1518 the first copyright privilege was issued to Richard Pynson, the successor to William Caxton as royal printer. In 1557 Queen Mary Tudor established the Stationers’ Company with the sole right to register legal entitlements to publish. This was followed by the Printing (Licensing) Act of 1662 and the Statute of Queen Anne (An Act for the Encouragement of Learning or Copyright Act) in 1709/10. The act contained two ideas of paramount importance: the protection of the rights of authors and publishers to solely control the dissemination of their work and the “encouragement of learned men to compose and write useful books.”

The U.S. Constitution carries over this twofold intent, with an even greater emphasis on the need “to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries” (Art. 1.8.8). This represented a change in the thinking behind the first licensing restrictions of the Renaissance, but this also enshrined the humanists’ desire to disseminate their revived learning as broadly as possible. This twofold purpose has therefore often been the cause of great conflict, which arises ultimately from the inherent conflict within humanist culture since Petrarch to both spread knowledge and yet to be the individual credited with these advances.
We need not survey the history of U.S. or international copyright law here. With the Berne Convention of 1988 and the Digital Millennium Copyright Act of 1998, the landscape for authors and publishers had taken dramatic new turns, tightening and lengthening copyright restrictions in response to the prevalence of the mass media, the power of entertainment corporations and the rise of the digital. In other places throughout this book, we have noted some of the many issues involved in copyright. Recent challenges to notions of copyright, especially in the digital era, have involved several principles. These include the “nonrivalrous” nature of intellectual and cultural work: that is, such work can be distributed without limit without diminishing the original content; second, the arguments around free speech and freedom of thought and expression; and finally the theoretical models of textual community or social argument for the creation of texts: that is, not only authors and publishers but also audiences and commentators and their predecessors create “texts.” Thus, the theory goes, authorship itself is a contested notion, and individual rights often take second place to larger textual communities: essentially a return to traditional modes of medievals creation before the humanist creation of the individual author. This strain of thinking was reinforced by postwar political theory – of Jürgen Habermas, for example – of the literate classes and communities and the role of “publication” in creating the public sphere and the “commons” as an alternative to royal and other overweening power. One recent response has been the founding of Creative Commons in 2001 by Lawrence Lessig, Hal Abelson and Eric Eldred. It is devoted to expanding creativity and knowledge by providing legal tools and sharing digital resources. By 2011, more than one hundred Creative Commons affiliates were pressing some combination of these principles.

Many recent trends have come together and been most clearly highlighted in the litigation surrounding the Google Books project. In the fall of 2004, Google introduced both its Google Books and Google Library (Google Book Search) initiatives. Originally working with a consortium of several major research libraries in the United States and United Kingdom, including the University of Michigan, Harvard, Stanford, Oxford’s Bodleian Library and the New York Public Library, the project called for the digitization of up to fifteen million volumes in the holdings of these libraries and the display of short selections as search results. The idea was to open access to millions of volumes of the world’s humanistic works in ways that took full advantage of digital search and access. Many of the titles were either out of copyright
(largely nineteenth-century titles and series) or orphan works – books whose copyright holder could not be either identified or located. The model was an “opt-out,” where books would be incorporated into the collection unless authors or publishers took advantage of a window of opportunity to opt out of the program. Plans met with immediate legal challenges from both the Authors’ Guild and the Association of American Publishers, both representing large-scale commercial interests and authors. But little unified resistance – or support – emerged from the academic community, despite drawn out debate and consideration. By the end of 2008, more library systems worldwide were joining the consortium, and the legal challenges were being negotiated. By the end of 2010, Google had transformed the project into a commercial e-book venture, with more than twelve million books scanned and an apparatus established to determine hits and pay royalties to copyright holders. By the end of 2013, more than thirty million books had been scanned, a tentative agreement with commercial publishers rejected by the Federal court and the entire scheme judged in Google’s favor under fair-use doctrine.

Notwithstanding the many twists and turns of the legal process, the initial poor quality of many of the scans – especially of nineteenth-century texts – the theoretical arguments against the representational nature of the collection and the threats to authors’ control of their own work, Google Books marked a turning point in the acceptance of the digital as a robust resource for humanistic research. Not only was the great and minor literature of the nineteenth century now available freely to consult title-by-title or to data mine – changing approaches to literary studies dramatically – but the great achievements of eighteenth- and nineteenth-century scholarly editing – archival and narrative sources, diaries, letters and the like – were also becoming freely available to scholars who could access the great collections in the world’s best libraries from their desktops. Google Books, in both its aggressive stance toward copyright and orphan works and in the attempt to be all comprehensive, both raised the bar for the digital aggregations of printed books and gave impetus to national and private libraries and museums to make freely available digitally their vast collections of manuscript books, images, objects and other visual resources. Google succeeded in one of its largest strategic goals: to change the *habitus* of both scholarly and popular reading and to make the digital fully capable of becoming a true representation of the historic past, itself one of the major goals of all humanities research and writing. Of equally great import, however, is the
fact that throughout the process of creation and litigation of the Google projects, the academic community had little effective input, preferring instead to reflect upon developments (in true humanistic mode) or to “ride the tiger” of corporate developments, a less than positive commentary both on the humanities’ public outreach and on the resources of the academic community as a whole.

Perhaps the aggressive stance of Google and the resulting commercial push-back set the stage for a more conscious and creative approach to copyright in the digital era. One of the results is that now companies like Amazon.com, its print-on-demand program, CreateSpace, and its e-book arm, Kindle, are careful monitors of the copyright status of works put into their programs, with publishers often having to provide documentation, such as contracts, to support copyright claims. At the same time, not-for-profit aggregations like the Hathi Trust (the result of Google’s original content agreements with the University of Michigan), JSTOR and ACLS Humanities E-Book (HEB) have been careful to clear copyrights for their online repositories, and other projects are careful to digitize only out-of-copyright materials. What this means for most humanist scholars is that the situation for print materials is now far more clear than it was a decade ago, and much of scholars’ initial resistance, based on a recitation of copyright restrictions and problems, has now been overcome, at least in print.

With the new theoretical turns of materiality and visual culture, however, the image has taken on a primacy and importance both in traditional print work but most especially in the digital. The availability of digital copies of almost every known work of art, from the greatest fresco cycles to the smallest pieces of jewelry and other examples of material culture, has coincided with these theoretical turns to push forward the use of visual materials as never before. At the same time publishing models – which previously had limited the inclusion of only about two dozen images in the standard monograph as mere “illustrations” to any text that was not specifically art historical – now saw the digital altering the old equations to permit any number of images, in color or black and white. Digital photocopying, digitizing equipment and high-quality digital photography have now also made it possible for researchers, authors and their associates to create and publish images of everything from architecture and sculpture to coinage and textiles to plans and graphs at the highest resolution for any number of media and platforms.

Simultaneously, however, many conservative forces continued to work against the possibilities that the digital offered. The early days of digital
scholarly publishing saw the continuation of many traditional practices. Authors – most especially art historians and other visual scholars – continued to insist that they must not only clear permissions to use images of historic architecture, sculpture, manuscript pages and the like, but also continue to pay hefty permission fees to libraries and museums. Libraries and museums for their part saw both a threat to the integrity of their collections and the possibility of vast new financial revenues from the licensing of these very same materials. Publishers, unsure of the new rights terrain that the digital opened, often erred on the side of caution. In one famous case, a major university press, publishing a work on U.S. history, agreed to a library’s request to both sublicense and pay a prohibitive reproduction fee for a digital image of the Declaration of Independence. Many long-serving editors at university presses, sideswiped by and suspicious of the digital, reinforced this caution by erecting ever new barricades against the use of digital reproduction, requesting copies of all permissions, even though authors had already agreed in contracts to warrant all permissions obligations, and in some cases going so far as to eliminate images from new monographs or to block them out in digital versions of existing print monographs.

Numerous scholars, long familiar with image rights and fees, related horror stories of the ever-escalating prices for reproductions of well-known pieces of art, long in the public domain and long part of the world’s cultural inheritance. This was matched by the rising role of corporations in restoration projects, such as the Japanese Nippon Television Network Corporation in the restoration of Vatican’s Sistine Chapel and its subsequent control over reproductions of the world heritage frescoes the chapel contained. As many art historians scoffed at and protested these developments, many others – powerful and experienced figures – still refrained from exercising fair-use rights out of hesitancy to offend hosting museums or libraries and thus upset long-established, personal relationships with curators and collection heads. As requests for ever-larger payments for digital rights increased, moreover, art historians and other humanists began to call upon foundations, such as ACLS and Mellon, to foot the bill for such rights, in effect moving large sums of money from one not-for-profit to another, with the humanist scholar effectively the courier for the transaction. Self-appointed digital experts began to spring up at many museum and art-historical conferences, confidentially spreading the gospel that money – and more and more of it – was the solution to what they deemed the impossible task of publishing the visual in the digital era.
Slowly several large not-for-profits began to push back against this new wisdom. JSTOR developed a fair-use regime for the materials in its collections that preempted the need to ascertain new rights permissions. ACLS Humanities E-Book adopted this model from the start, and ArtStor aggressively aggregated visual content from creators. Their actions prompted many university and departmental libraries to do the same. Tens of thousands of slides from private collections were aggregated, and software was developed to deliver them efficiently for classroom and scholarly presentation. In February 2015 the College Art Association summarized this experience in their “Code of Best Practices in Fair Use for the Visual Arts.”

As pressure mounted from the robust application of fair use by such aggregators, by publishers and by other collections, libraries and museums began to reconsider their original policies. Rather than seeing the digital as either a threat to their collections or a lucrative new revenue stream – and as the cost of administering these complex permissions schemes was often not covered by the revenues they generated – libraries and museums also began to realize that the digital versions actually acted first as markers for the originals and second as pedagogical and research resources that widened the breadth of their impact. They discovered that both uses actually drew existing and new audiences into their brick and mortar buildings to view the artworks and artifacts in their original. The representative nature of the digital was fully realized on both professional and popular levels, and the main beneficiaries – after the public – of digital dissemination became the museums and libraries themselves. By the early years of the twenty-first century, museums and libraries were making available online free of charge hundreds of thousands of images from their collections – everything from paintings and sculpture to maps, papyri, manuscripts and coins – all accompanied by the highest-quality metadata.

As we will discuss in greater detail below, rights in the digital realm do remain an issue when authors and their institutions claim rights for items in open-access repositories after the same authors have already transferred their rights to a publisher. Rights to dissertations, which are being appropriated for institutional repositories, and rights to works supported by government funding remain unresolved issues in the digital environment. The Authors’ Alliance is one attempt to help resolve this issue. Its mission is to further the public interest in facilitating widespread access to works by helping authors navigate the opportunities and challenges of the digital age. It seeks to provide information and tools
designing to help authors better understand and manage key legal, technological and institutional issues essential to what has become a knowledge economy of abundance.

The quality of illustrations themselves has long been key to humanistic research and publication. When Giorgio Vasari singled out the painter Giotto for his ability to “counterfeit and imitate nature,” he summed up Renaissance humanism’s approach to the world. Its accurate representation became a key to the value of the new textual studies as well as to the visual arts of painting and sculpture. The best architecture was the one that reflected the practices and values of antiquity. From the fifteenth century on, various forms of printing technologies gradually improved the ability of the machine to reproduce the original image; and the issue of the original and its copies took on more and more importance in the twentieth century as technology made imitation ever more accurate and the autonomy of the image ever more important. Walter Benjamin’s 1936 essay succinctly summarized these cultural anxieties over representation and a mass consumer culture of manifold copies.

In the earliest days of the digital, the gross effects of low-resolution pixilated images, reproduced on low-resolution screens and low-output dot-matrix and laser printers, caused a considerable backlash over the digital among visual scholars. Publishers who began to rely upon digital technologies for textual works were often met with derision for the limited resolutions and design capabilities of first-generation computer typesetting. Gradually technology and resolutions improved to the point where in the publishing world all processes and production steps were being handled by computers, even if most scholars and even some editors were not aware of it. By the late 1990s and the early twenty-first century, all such issues had been resolved for scholarly publishing, and even the highest quality printing houses were almost universally using digital technologies to reproduce works of art in a variety of media. High-resolution scanners and cameras were also capturing the majority of scholars’ own visual documentation. These were easily transferred into production quality.

One of the few remaining areas of contention remained the presentation quality of visual materials in the digital: art historians, archaeologists, historians of design and architecture continued to press for higher and higher resolution images and more and more true reproduction of color balance, tone and other formal qualities. Yet digital technology was quickly outpacing perceptions. A demonstration of NASA-funded imaging at a conference sponsored by the Getty Research Institute in
June 2006, for example, startled an audience of art historians, curators and digerati for its visual accuracy and the possibilities inherent in mega-pixel imaging. As museums and libraries began to perfect digitization and online publication methods, the content delivered up over the web also improved dramatically until today the researcher can find online digital representations of hundreds of thousands of visual objects at the highest resolution, available both for study online and for download at a variety of resolutions.13 Throughout the process the very excellence of the reproduction technologies has brought into even more stark relief the very materiality of the original, and scholars of the visual have accordingly begun to include in their methodological tool kits an ever-present awareness of the sharp distinction between the material original and the digital copy. This has become possible only because the digital now offers a fully viable alternative beyond derision and dismissal.

The same developments have affected the aural and oral sources of humanist research. Since the pioneering work of Walter Ong and others, our theory of textual communities has developed around the interplay of oral and written textualities, and the validity of both oral traditions and aural sources has become well established in both theory and practice. This trend, however, speaks more to ancient and medieval studies than to the philological, textual methodologies inherited from Renaissance humanism and borrows much of its strength from the demonstrated contributions of anthropology, sociology and other social sciences. Yet humanities disciplines have now fully accepted the study of performance, ritual, sound, song, as well as dance and other performative arts as core to humanist disciplines. As analog sound recording and playback equipment have given way to the digital, a vast expansion of source material has become available online in everything from sound archives to YouTube videos documenting every conceivable social and cultural practice.

Simultaneously battles over sound recording and its distribution have slowed the growth of new aurality studies and threatened to frustrate much of the new form of digital publication around such aural and oral disciplinary approaches. Early attempts to share music online, using Napster (1999) for example, were met with rapid legal challenges and severe penalties. Restrictive limitations upon scholars’ ability to use such materials under fair-use doctrine clashed increasingly with large corporate forces intent upon maintaining close control over recordings of all types. Online projects, including e-books that contained sound files, became increasingly difficult to publish both as authors self-censored
their use of materials and as publishers once again erred on the side of overcaution. Lawyers rather than scholars began to determine what the content of digital publication might be. In response several groups, most especially the Creative Commons, sought to reclaim both fair use of existing copyrighted work and clear definitions of work that was in the public domain. As important, the Commons offers legal guidelines and best practice, as well as links to active aggregators of music and other aural sources. Meanwhile digital oral-history platforms and archives, including collections of folklore, are becoming available freely from sources as diverse as the Oral History in the Digital Age (OHDA) Project,¹⁴ Digital Omnium,¹⁵ the Dédalo Platform for Intangible Heritage Management,¹⁶ the National Archives of Singapore Oral History Centre¹⁷ and many others across the globe.

DIGITAL RIGHTS MANAGEMENT

Digital rights management (DRM) is generally considered a combination of software, technology and legal measures that parallel the first licensing models in the print world: it is intended to limit the copying of digital materials, including software, the number of machines that might use these materials or the replication of content in either digital or print formats. First-generation DRM generally controlled copying of media, while second-generation DRM limited dissemination, copying or altering of content. While there is often considerable overlap in intent and practice, DRM must be clearly distinguished from copyright: the first is intended to protect distribution, the second to protect ownership. One can give away one’s books or music without further issue but would strongly object if someone else presented that work as their own. DRM restricts the former, while copyright protects the latter. DRM regimes can be applied to most of the digital products of humanistic research: books, images and video, TV and film, music and other aural presentations and the accompanying metadata for all of the above. After some initial experimentation with controls and consumer and advocacy-group push-back, the Digital Millennium Copyright Act of 1998 made it illegal to employ software or other means to work around DRM schemes. This was followed by the 2001 European Copyright Directive, thus engaging the issue on a higher legal level. The Foundation for a Free Information Infrastructure¹⁸ and the Creative Commons¹⁹ have been among the major organizations fighting DRM schemes as anticompetitive, restrictive of individual and consumer rights and destructive of fair use.
DRM was once considered an enormous problem for digital publication. How could publishers protect their products in the digital environment when pirates or consumers could seemingly break into anything to either copy software or to make unwarranted copies using electronic or print methods? This problem has for the most part been less vexing than the problem of unwarranted replication of printed books using photocopy machines and course packs. Generally the pricing of digital materials, the ease of finding and accessing them and the convenience of the formats has made it less attractive for pirates to spend much energy breaking into books. Companies like Adobe and Amazon.com have also created DRM schemes within their distribution mechanism that protect against unlawful sharing and distribution of digital materials. Many scholars will choose to make their work freely available on websites such as Academia.edu, and others have a variety of protected solutions that they can choose from, even password-protecting PDFs. Clearly with the vulnerability of everything from financial institutions to the National Security Agency, it will be impossible to securely protect digital content, but is unwarranted copying worth the time, money and possible prosecution?

Reliable studies have started to demonstrate that the digital versions in themselves are not cannibalizing the sales of hard-copy books and recordings, and that in many cases such digital distribution was boosting sales of hard copy. Other studies have pointed out that with the large majority of digital versus print sales, profit margins remain firmly with print. This is primarily a function of average pricing formulas that publishers use when calculating profit and loss factors on titles. Unauthorized distribution of music through Napster and other file-sharing methods was, however, found to have a substantial impact on music sales, but this was an entirely different issue from the disruptive effect of legal digital downloads on analog sales. By the late 2010s, important members of the digital community, including Bill Gates and Steve Jobs, were questioning the value and validity of DRM, and Apple had removed DRM controls from its iTunes store. Private copying proved to be far less prevalent than feared, and unauthorized distribution was kept low as long as the purchase or rental price threshold was kept down. Although not all publishers have embraced the iTunes model, it is clear that sensible pricing for e-books makes it more likely that people will actually buy them instead of spending time trying to copy and distribute them privately.

This dynamic, however, feeds into another, larger concern among humanists: the commercial value of their scholarly work. As already
discussed, most scholars see their work’s value in hiring, tenure and promotion (HTP) terms, not in terms of the commercial marketplace, and they are quite willing to distribute their work as freely as possible, without any form of DRM. This, of course, runs head on into the realities of commercial and university press publishing, most especially the latter, where individual-copy pricing is a carefully honed result of formulae that take into account everything from office overhead to warehousing costs and royalties. Margins are slim, and the fear of lowering the average retail price and profit margin through Kindle and other pricing schemes is very real. While offering PDFs or Kindle versions of humanities monographs for $95 does not seem like a model for sensible pricing, the market and its analysts have not yet found an effective or convincing price point for digital versions. While experiments with DRM and non-DRM distribution are being planned, no consensus has been reached, and until then DRM schemes are likely to endure.

OPEN ACCESS

Free and open access (OA) to the books and ideas of the humanities has been part of our cultural inheritance since the ancient Greeks and Romans. Pisistratus of Athens (c. 600–527 BCE) was said to have founded a public library, and the library of Alexandria contained more than four hundred thousand books by the third century CE. Public libraries appeared in Rome in the first century CE, and by 350 CE there were twenty-nine public libraries in that city. The public library was an idea revived among the humanists and their supporters with the great manuscript collections of the Renaissance. The humanists made stark contrast between their own learning and that of the Scholastics—the philosophers and theologians of the medieval universities—and the learning of the monks, among whose supposedly crumbling, dusty collections of ancient manuscripts the humanists claimed to have rediscovered the learning of the ancients and brought them back into the public light. The Medici of Florence, the dukes of Urbino, King Matthias Corvinus of Hungary, the Aragonese kings of Naples, Cardinal Bessarion in Venice and most especially the popes at the Vatican followed the guidance of their humanist advisors and created repositories of ancient learning where anyone who could read these books (admittedly a small percentage of even the vernacular literate population) could freely consult them in situ. Almost all these great libraries—and those of individual humanists—were built and served a public outside the walls and conventions of academia.
Essential then to the role of the humanists and humanistic studies has always been the notion of public access that was free and open, in keeping with the essential role of the *studia humanitatis* to impart both knowledge and civic good. Central to this ideal was that of patronage: of the prince, either secular or religious, who funded their research and writing through both financial reward and position and who was recognized in the dedications of the humanists’ texts. We possess many illustrations from manuscripts and early printed books showing the author on bended knee, offering his work to his powerful patron in exchange for financial support or position. Perhaps the best known is the fresco by Melozzo da Forlì in the Vatican portraying the humanist Bartolomeo Platina kneeling before Pope Sixtus IV as the pope appoints him prefect of the Vatican Library. In one important regard, therefore, open access always carried a notion of elite patronage and limited audience. Access to patronage set off bitter disputes among humanists at court. The diatribes written by Poggio Bracciolini against George of Trebizond, Bartolomeo Facio and Antonio Beccadelli, for example, are some of the more unsavory aspects of the history of humanism and the humanist as courtier.

At the same time, the humanist and then Enlightenment ideal of the public library as a civic good became a central focus of the emerging nation-state. The great national libraries of France, Italy, Spain, Germany and the United States, among others, were formed around these humanist goals enshrined in the inscriptions and symbolic statues along their grand facades, themselves modeled after the great public buildings of antiquity. These libraries became both focal points for connection to a cultural inheritance and a national past (often newly in the process of invention) and institutions dedicated to the public good for the preservation and dissemination of knowledge. The transition from a world defined by print to one defined by the digital would therefore become a natural concern for the library, both public and university. Harnessing the potential of the Internet to pool resources and to disseminate information and knowledge was a natural stage in the evolution of the library.

Simultaneously, the rise of printing as a commercial, industrial enterprise had laid out an alternative future. Erasmus had already dubbed his publishing with Aldus a “library without walls” (*Adagia* 2.1.1). Access to knowledge based on a widening ability to pay for books moved quickly away from the prince or religious patron, who alone could subsidize the cost of deluxe manuscript production. It also soon overcame the medieval urban scriptoria that were sustained.
by the need of the universities for multiple manuscript copies of textbooks. From the late fifteenth century a reasonable amount of cash could purchase books produced by increasingly more rapid and ubiquitous technologies. By the nineteenth and early twentieth centuries, mass production was able to provide access to popular entertainment, literature and news at prices that almost anyone in the newly literate classes could afford.

The late twentieth century therefore inherited two vibrant models of access to information and knowledge: one the patronage model sustained by individual, institutional or governmental resources and the other the commercial model built on the ability to produce vast amounts of inexpensive print for the broadest market possible. By the mid-twentieth century these two models had come together briefly in the highly democratic movement of widespread higher education embraced by the Western democracies and the socialist world. "Access" to knowledge ceased to become an issue in a period when both J. D. Salinger's *Catcher in the Rye* or Paul Oskar Kristeller's *Renaissance Thought* were printed in thousands and tens of thousands of copies and sold in paperback for less than the cost of a Manhattan lunch.

The culture shocks of the later twentieth century, the rapidly diminishing place of the consensus "middlebrow" in Western life, the turning away from humanities disciplines in higher education after the 1960s, the consolidation of the book industry into the hands of a very few monolithic entertainment corporations and the beginning of the computer era and Internet began to change long-held notions of access to knowledge. In the 1960s a university press could expect to sell five thousand copies of a monograph. Between 1980 and 2000 average sales/title had plummeted in the key monograph market, the library, from about two thousand copies in 1980, to one thousand by the late 1980s, to five hundred by 1990, to two hundred in 2000—often not even enough to cover publishers' overhead costs and often fewer copies than popular medieval books in manuscript. Prices of monographs—now restricted to an academic market—rose at times to more than $200 a copy, well out of reach of students and most specialists. According to a recent Harvard Humanities Report, in 1966 humanities, including classics, languages, philosophy and history, had attracted 14 percent of BA degrees at the "average" university, by 2010 these numbers had dropped overall to 7 percent, and these very departments were being trimmed down, consolidated or eliminated. In this situation the arrival of the digital was greeted either as a source of salvation or as further evidence of the rapid
decline of humanistic culture. “Access” to knowledge in the digital era began to take on a highly contested nature as all stakeholders – scholars, libraries, publishers – began to set their own priorities and stake out their own positions.

One of the more important meta-issues that grew out of these developments was the question of how these various groups might establish and guarantee access in the digital era, especially in the face of commercially dominated publishing. Startled into action by the increasingly high subscription fees charged to university and public libraries by a small group of large commercial publishers for scholarly journals – most especially in the STM (science, technology and medical) fields – by the late 1990s the call was sounded and a movement began to coalesce around the idea of “open access.” Proponents rightly decried the ever-increasing percentages of library acquisitions budgets devoted to STM subscriptions to the detriment of humanities budgets for journals and monographs. After efforts to persuade the journal publishers to reduce fees or to scale services had essentially failed, librarians and other information specialists began to consider the possibilities that digital publication offered. If the digital eliminated printing, paper, storage and warehousing, transportation, receiving and inventory of journals and books, OA proponents began asking – often quite vociferously – why should digital publishers not drastically reduce subscription fees as well? In 1985 Stewart Brand, founder of the iconic countercultural Whole Earth Catalog, had already issued the call that “information wants to be free.” As the concept drifted into library and academic circles, it sometimes metamorphosed into the phrase, “knowledge wants to be free” and soon hardened into an ideology that often seemed to equate information with knowledge.

When applied to scholarly communication, one might argue that much of early OA ideology rested on a plethora of faulty assumptions about publishing: the cost of print, the value added by publishers, the collaborative nature of scholarship and the size of potential readership. OA ideology declared that printing costs were driving up the price of books, whereas in fact the cost of producing print is nowhere near as significant as the cost of editorial, peer review, copyediting, proofreading, formatting, sales, distribution and marketing – all of which have to be done whether the end product is a print or an electronic publication. These same ideologues declared that publishers did not create any value when they performed these functions, and in fact the community of scholars would be willing to work for “free” to add this value without the need for a publisher. Learned societies for their part were
also blocking progress, as one librarian put it, using publications to fund their “vacations,” that is, their annual meetings. Finaly, so the thinking went, there was a vast audience waiting to read the latest scholarly monograph, if only they did not have to pay for it. In truth, during this same period 60 percent of all monographs purchased by university libraries were being deaccessioned within three years, having never circulated. The average user at a university library checked out 80 percent fewer books in 2008 than in 1995.

Nonetheless, once critical analysis, public discussion and governmental pressure began to be focused on the OA movement, a maturing of approach, attitude and expectation began to take firm hold. According to Peter Suber’s recent, catholic definition, “Open-access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions.” OA is not for everyone and is not intended to replace traditional print publishing in most cases. But it certainly makes sense, according to Suber, for academic writers who, like the Renaissance humanists, are now subsidized through their teaching positions and their system of rewards: promotions, grants, prizes, travel funds, larger offices, book budgets, named chairs, graduate assistants, centers, institutes and similar soft money. Despite the fact that upward of 75 percent of humanities faculty are contingent and unlikely to gain tenure or even full-time academic work with all its perks, for the narrowly restricted class of academics who are tenured giving away one’s work – again like Renaissance humanists – makes great sense: it eases distribution and audience access. The rewards are not immediately financial, as in the transaction inherent in publishing itself or in society at large, but they certainly are in the academic reward system where promotion and other advancement carry such a wide array of benefits.

When OA regulation reaches governmental levels, the rules and the compulsion to comply at times appear intolerable and have spawned widespread indignation and protest, as has recently been the case among scholarly societies in the United Kingdom in the face of government OA regulation. In response to protest, positions have hardened rapidly. As one European Commission funder recently declared: “if learned societies are a casualty of the move to OA, then so be it.” In the United States, similar legislation and mandates are now forcing open access in everything from science research funded by the federal government to the open access of dissertations in medieval art history in cases where a school or an individual receives government funds. Historians of the book, such as Robert Darnton, have published widely on the effects of
early modern governments’ attempts to define what proper content is and on governmental interference with publishing. Can the humanities flourish in the face of ideological conviction and government compulsion? Desiderius Erasmus, the most famous of all humanists, was courted by both Catholics and Protestants in the widening ideological rifts of the Reformation. When he chose neither and sought a nonideological, open-ended path, relying on reason and humanist discourse, he ended his life reviled by many in both camps.

As the university becomes increasingly transformed under the corporate and research model, faculty research becomes not the intellectual property of the author but of the corporate institution, akin to laboratory research conducted for a pharmaceutical company. Under such regimes, OA mandates are viewed as further eroding the autonomy of humanities faculty and their rights to publish their work where and when they see fit. University and government mandates increasingly overlap with the OA movement’s contention that individual scholarly work has no financial value. Its aggregate value to the corporation, however, continues to increase, ironically returning scholarly publishing to the very situation decried by the original OA movement: scholars produce their work for free, yet aggregators then capitalize on it in their monetization of its aggregate value. If the aggregator happens to be the research university rather than the corporate publisher, is the end result any better for the individual humanist?

Various solutions, commercial, not-for-profit and governmental, have been attempted now with various degrees of success. Issues of embargoes on dissemination of dissertations and articles, the question of “who pays” and its ramifications on the continuing hierarchization of scholarly work and on the people who produce it and the ultimate sustainability of OA models are still being debated, if not as hotly or as ideologically as a decade ago. Proponents have now begun to clearly distinguish two types of OA: gold, for OA articles delivered by journals, regardless of their business model; and green, for content served up through institutional repositories, that is, the work of university faculty and/or deposited dissertations. Within these two broad categories (developed by OA proponents in an attempt to respond to critics), there remains a wide range of schemes and models, including “libre” and “gratis,” author-pays, institution pays, funding agency pays, reader’s institution pays (similar to closed access): the most important consideration being that the commercial market does not pay, thus adhering to the venerable Renaissance patronage model. New rules are continuously being issued, and old ones

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updated and reiterated to insure compliance. Like the Ptolemaic cosmologies of the later Middle Ages and Renaissance with their cycles and epicycles, the complexity of the schemes, the variations and the subdivisions within categories continues to grow.

Instead of reader pays – which is decried as an access barrier – most OA models assume that author pays, author’s institution pays, reader’s institution pays or some not-for-profit foundation pays. In this effort to open access to readers, however, there arises the danger of actually closing authors’ access to publication, when publication is left in the hands of corporatized institutions interested in promoting their own brands and their own star products. Institution-pay schemes have raised the criticism that just because someone teaches at a well-endowed institution it does not mean that person’s ideas should be published while those of others at less wealthy schools are left in bottom drawers. Thus OA can tend to reconfirm what has long been an unspoken prejudice within humanities academia: that the best scholars are those hired by the richest institutions. Another outcome is that publication comes to individuals with money to pay for it themselves. Again this favors certain classes of academics: the more senior and tenured, those at more elite schools, those with full-time positions, those whose resources do not depend upon their academic salaries (either through personal circumstances or through lucrative commercial publishing or entertainment contracts).

The OA movement has also managed to spawn a host of dubiously ethical publishers who are willing to take payment to publish almost anything under a variety of imprints – mostly journals – and payment is often available on a sliding scale. It has also spawned an equally vigilant order of Internet monitors who trawl cyberspace hunting for specious and fraudulent publishers and journals, calling them out in regularly published listings and spreading the word that scholars should avoid them: the digital equivalent of the Index Librorum Prohibitorum (Index of Prohibited Books) of the Catholic Inquisition or of the pre-Revolutionary French royal censors. As in late medieval manuscript culture, the gentlemanly ideal of freely granting away one’s work under the aegis of generous patrons has quickly dissolved into a situation that resembles the earliest days of print and its numerous unauthorized and pirated editions before copyright and other intellectual rights were firmly established and spread. Revisionist histories of the book34 have cast this as a necessary phase of experimentation, and perhaps this is how one should view OA publishing at this point.
Although the physical- and social-science models of publication lend themselves more easily to such OA models – given the currency of the research, its short shelf life and its more public sources of funding – experiments in humanities OA are also underway. These, however, must confront both the traditional culture and the intrinsic methodologies of the humanities: a publication and reception model that – whatever the elite academic rewards system – still values the individual author and her celebrity and compensation, provides far longer life to journal articles and relies more heavily on monographs. The sustainability of both humanities journals and books relies primarily on individual scholarly presses, whose professional editorial and other staffs are funded largely through sales; and on learned societies, which are funded largely by the dues of members, most of whom are now contingent, junior or untenured faculty.

Again, one of the original impulses of the humanist movement in its creation of public libraries was its belief that the wisdom of the ancients, properly edited, presented and taught could change individual morals and society at large. This impulse remained the fundamental core of humanities faculties, teaching and publication into the late twentieth century, and the democratic impulse behind universal higher education was to instill these humanist ideals into the citizenry at large. The shocks of the late twentieth century, the impact of new critical theory, which often attacked the humanist Enlightenment agenda, and the changing economics of both higher education and of the American population at large have all but eliminated much of this impetus. As Peter Suber, currently director of the Office for Scholarly Communication at Harvard University, says bluntly, “OA isn’t primarily about bringing access to lay readers. If anything, the OA movement focuses on bringing access to professional researchers whose careers depend on access.”

Can the OA movement therefore be seen as one more step in the retreat from the Western humanistic ideal of knowledge in the service of an informed citizenry and back to a patronage society?

Perhaps the most noteworthy experiments in OA publishing in the humanities were, appropriately, attempted by the American Historical Association (AHA), itself perhaps the most representative learned society in terms of its mission of outreach to the American people. The first experiment took place in 1999 when the American Historical Review offered open access through the History Cooperative. After one year that witnessed subscription income drop by 8.5 percent – the society’s largest annual drop ever – the AHA decided that, although the model afforded great access to recent scholarship, it was unsustainable. In 2005,
urged on by its then head of the research division, Roy Rosenzweig\textsuperscript{37} and his supporters, the AHA decided to provide free open access to all the articles published in the American Historical Review, while retaining its book reviews behind a subscription wall. The theory went that such content should not be valued monetarily but solely for its scholarly worth. Issues of sustainability for the society and its staff and operations were secondary to this higher calling. After a further decline in subscriptions of 18 percent over the next thirty months (during which the AHA moved American Historical Review’s production and distribution to the University of Chicago Press), the association reversed its decision and reverted to an all-pay model through subscription, with provision for a moving wall access on back issues, using digital resources to expand services to members and initiating other, less formal forms of scholarly communication.

The debate over open access continued after more and more journals went OA and after the British government issued stringent new rules mandating OA. On September 24, 2012, the AHA issued a public “Statement on Scholarly Journal Publishing”\textsuperscript{38} – unanimously approved by the AHA governing council – in which it severely criticized the rush toward OA, reminding readers that the humanities were far different from the STM fields, of the real value-added and costs of editing and peer review ($460,000/year) and of the dangers of a new, highly unfair structure that would favor scholars who could afford the hefty fees ($2,000/article) charged by OA journals.

A more recent survey of learned societies in the United Kingdom, United States, and European Union\textsuperscript{39} found that most were marginally (55 percent) in favor of OA, citing its ability to lower barriers to current literature, most especially in the Global South and among those least able to pay for subscriptions. The majority of societies surveyed, however, continue to express concern over lost revenues from these journal subscriptions. It is important to note, moreover, that only thirty-three societies participated, and of these 75 percent were STM focused. While experimentation and dissent continues, the consensus remains that time, testing and flexibility of approach will be needed before working models emerge for OA in the humanities. Meanwhile huge projects such as Google Book and the digitization of resources at the Library of Congress, the Metropolitan Museum, New York Public Library, Bibliothèque nationale de France, the British Library, the Swiss national consortium and many other great institutions move forward, offering up millions of visual and verbal texts open access.
The Crying Child
On Colonial Archives, Digitization, and Ethics of Care in the Cultural Commons

Temi Odumosu

This article sketches key concerns surrounding the digital reproduction of enslaved and colonized subjects held in cultural heritage collections. It centralizes one photograph of a crying Afro-Caribbean child from St. Croix, housed in the Royal Danish Library, to demonstrate the unresolved ethical matters present in retrospective attempts to visualize colonialism. Working with affect and haunting as research material, the inquiry questions how museums and other cultural heritage institutions are caretaking historical violations, identifying themselves as hosting agents, and navigating issues of trust and accountability as they make their colonial collections available online. Speculating about what an ethics of care in representation could look like, the article draws on reparatory artistic engagements with such imagery and proposes how metadata could be rethought as a cataloging space with the potential to alter historical imbalances of power.

Why risk the contamination involved in restating the maledictions, obscenities, columns of losses and gains, and measures of value by which captive lives were inscribed and extinguished? Why subject the dead to new dangers and to a second order of violence? Or are the merchant’s words the bridge to the dead or the scriptural tombs in which they await us? (“Venus in Two Acts,” Saidiya V. Hartman, 2008)

While researching I become part of your army of ghosts. Haunting. Haunting. (Unearthing. In Conversation, Belinda Kazeem-Kamiński)

This article is concerned with how we attend to the dead represented in the open digital commons, those ancestors glimpsed in code, through substitute JPEGs and TIFF files. It considers how we welcome people into mindful encounters with representations of enslavement and colonization and how we guide people overall in the use and circulation of sensitive visual material. By “we” I refer to those of us doing the work of historical and cultural narration and caretaking, but I am also addressing our students as well. To borrow the words of Susan A. Crane in the context of Holocaust atrocity, I “want to highlight the ethical torque of knowing the [slavery or colonial] past through images for anyone who is historically conscious, and from that consciousness propose alternative responses” (Crane 2008:310). What is presented here, then, is a series of expanded reflections that draw on my art historical background researching African people and imagined types in early modern European art and also my current work on colonial archives and the performance of memory in Scandinavia. This experience is the window through which I delineate a speculative ethics of care in collections that is concerned with “emotional justice,” as Marika Cifor describes it: “framing records as repositories of affect” and then appraising them (working with, describing, and sharing them) as such (Cifor 2016:14). Responding to the delicate questions posed by Saidiya Hartman in her seminal essay “Venus in Two Acts,” the whole discussion negotiates tensions surrounding access to representations and visibility of enslaved or colonized peoples, as they intersect with community needs for historical recognition, cultural ownership, and healing (Hartman 2008).

Critical thinking about the effects of digitization on cultural heritage politics, practices, and values is not new. In 1981 F. Gerald Ham called on the archive community to take seriously how technology was ushering in a new “postcustodial” era, which required the profession to reconsider its inherited roles and self-understanding as special gatekeepers of history (Ham 1981). Decentralization and mobility of information, datafication of culture, and negotiation of collaborative knowledge production are the ongoing concerns that have surrounded transformations in collections management systems. Ross Parry’s invocation of the term “rescripting” in Recoding the Museum adequately describes what has been required along the computational and conceptual road to handle fundamental issues of trust and ownership central to what it means to be an institution (Cameron and Kenderdine 2010 [2007]; Parry 2008:82).

1. A quotation from the artwork: Belinda Kazeem-Kamiński, Unearthing. In Conversation, 2017, video, duration 13:00 minutes.

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Now digitized artifacts and documents have come to represent their own forms of remembrance and are in general positively viewed as the means through which access to out-of-reach and/or decaying collections can be brokered. Digitization has also provided a range of innovative solutions (3-D scanning, 360-degree photography, OCR [optical character recognition] combined with AI [artificial intelligence]), with the front-end result of enabling users to zoom into and manipulate collections on their own terms.

Experience has taught, however, that digital solutions in heritage contexts come with challenges. And ethically contentious scenarios have specifically called into question the reproduction, recording, and sharing of sensitive material in this new data reality where there are clear gaps between what is legal to do and what is tolerable or just (Dalgleish 2011), for example, the vulnerabilities of caretaking LGBTQ+ archives, which concurrently reveal, empower, and riskily expose already marginalized people recorded there (Chenier 2015; Cowan and Rault 2018). Similarly, Suzannah Biernoff points to the “tangled history of symbolism and aversion” surrounding images of human disfigurement in World War II medical photography (Biernoff 2012:189). She narrates the morbid and troubling appropriation of these archival images in the context of a popular video game called BioShock. And the issue of archival censorship is a double-bind that was negotiated by librarians at the University of Nebraska–Lincoln who expressed their difficult “soul-searching” as they began digitizing back issues of the boisterous student-run satirical magazine Awgwan (1913–1946). They write in their sobering phenomenology of practice that manually scanning each page led us to see, at scale, the magazine’s prejudices, biases, and oppressive and destructive rhetoric—both textual and visual. As we digitized issues and discussed what we read and observed, we became increasingly uncomfortable with the idea of making widely publicly available digital content full of such messages, which could be easily and broadly circulated via the Internet either without context or with ahistorical context. (Brink, Ducey, and Lorang 2016:18)

Alongside others who share the discomfort of unmediated access to, and batch scanning of, cultural memory, I too turn my attention to further troubling images; revisiting those breaches (in trust) and colonial hauntings that follow photographed Afro-diasporic subjects from moment of capture, through archiving, into code. Activism and critical awareness-raising in data and internet studies provide an important (and urgent) context for these concerns, since they are grappling with wide-ranging manifestations of coloniality in technology, such as cyber racism, recording of black life and death in digital culture, white prototypicality in biometrics and identity management, and algorithmic bias (Browne 2010, 2015; Nakamura 2013; Sutherland 2017). However, this particular discussion really represents a specific request or demand of the cultural heritage sector to drop the illusion of techno-neutrality. As Haidy Geismar (2018) insists, “We need to explore how digital objects are used to constitute reality effects, creating object lessons by altering and participating in how we both see and understand the world” (19). Thus, I would like to explore what creativity might emerge and what shifts in institutional practices could take place if we asked questions such as these:

- What does it mean for an archive or collection to provide open digital access to materials representing violated subjects who did not necessarily consent to being documented?
- To what extent are institutions taking seriously non-European perspectives on looking at, or engaging with, ancestor remains?
- And how can we extend concepts of caretaking and custodianship beyond institutions toward reparative strategies proposed by artists, activists, and other agents of change?

Some of the answers to these questions will require much more than theoretical or artistic inquiry, for example, reception research with audiences and cultural practitioners. And there is still much complementary research required to augment work already done on the “mediatisation of memory” (Dijck 2007; Garde-Hansen 2011; Garde-Hansen, Hoskins, and Reading 2009; Hoskins 2017). Methodologically speaking, you will notice that I slip between disciplinary lingua—records, documents, artifacts, artworks, traces, sources, data—which at this stage makes it difficult to categorize the scholarly emphasis of this contribution. I have initially chosen to work this way because the rich interdisciplinary literature provides multiple points of access to the issue of what Achille Mbembe succinctly describes as the buried disorder of colonial “remains” and “debris” (2002:22). In short, this article is an invitation to dialogue. Adopting a montage methodology that also mixes words and images (sometimes speaking independently), I seek to actively pinpoint the ambiguity and quietness in the discourse, while inviting in other considerations. Since ethics and caretaking are the product of collective negotiation, this thought exercise should too be open for questioning and debate.

Punctum

One particular photograph is motivating this inquiry, a document in which issues of care, custodianship, affect, and oversight combine. This photograph suspends in time a Black body, a series of compositional choices, actions, and a sound. It represents a child standing alone in a nondescript setting, barefoot with overpronation, in a dusty linen top too short to be a dress, and crying. Clearly in visible distress, with a running nose and

2. Inspiring examples of people and projects developing direct actions in the field include Joy Buolamwini’s work in the Algorithmic Justice League (https://www.aijunctive.org/), Harlo Holmes’s work in Guardian Project (https://guardianproject.info/), and the work of Deb Raji as part of the Partnership on AI (https://www.partnershiponai.org/).
copious tears rolling down its face, the child’s crinkled forehead gives a sense of concentrated energy exerted by all the emotion (fig. 1). Emotions that object to the circumstances of iconographic production. Because all the natural and affecting sounds of a child’s cry are muted via the photographic lens onto paper, and further still in the digital image, the pregnant silence one experiences in encounters with this photograph across media is particularly arresting. The initial camera silenced the cry. Thus, it is what we cannot hear that marks the violations taking place in and around this image; and we need to perform a “bone deep listening, a sensing of the unbridgeable chasm” to fully access this “seen cry unheard” (Campt 2017; Moten 2003:83).

My first encounter with the photograph was face-to-face in an album, during archival research at the Royal Danish Library. It stood out as one of thousands of private and commercial images in their special collections, produced during the late nineteenth and early twentieth centuries, on St. Croix, St. Thomas, and St. John, when the islands were under Danish colonial rule (Gøbel 2017; Krabbe Meyer 2019). Images made by Danes of life in the tropics, dressed in white cotton, attended to and supported by Afro-Caribbean people. Images that migrated with returnee families back to Denmark and were then stored for safekeeping. The photograph was taken around 1910 by Axel Ovesen (ca. 1885–1972), a military officer who went to St. Croix as a young man in 1906 and soon opened a studio there while building a publishing business. These were days of uncertainty on the islands, where emancipation of slavery had been achieved as the result of a rebellion in 1848. Following this, working conditions for the formerly enslaved grew worse, and contracts bound laborers and their families to plantations for miniscule wages. The mounting tensions erupted in a significant labor dispute in 1878 known as the “fireburn,” which saw plantations destroyed in protest (Jensen 1998). By 1910 imported Caribbean sugar cane was being replaced by sugar beet produced locally in Denmark. The Danish government was also negotiating the sale of the islands, which during World War I were eventually transferred to the United States in 1917. They are now the US Virgin Islands. Axel Ovesen’s images were thus documents tracing a landscape and community in transition.

The child in the photograph is unnamed and, so far, unknown, but we get a sense of the popularity of the image as an aide-mémoire, by way of its multiple appearances in Danish collections. For example, the photograph appears randomly pasted in the private albums of the Helweg-Larsen family and those of Major Theodor C. von Zeilaus, donated to the Royal Danish Library. In these particular album contexts one cannot
fully decipher the intentions of private visual curatorship, which include a jarring mix of colonial views: crying child alongside street and harbor scenes with Caribbean people dressed in Sunday best, or crying child alongside a group portrait of Danish soldiers and a view from a horse race. In another album containing photographs and postcards, the image appears together with those of other Black children, who are categorized with handwritten notations. An older smiling girl standing with a confident pose and directly facing the camera is noted in English as “A nice girl.” Another smiling young girl who has been dressed up with a bow in her hair tilts her head and stands among palm leaves. She is described in English as “A glad girl,” although “glad” in Danish also means cheerful. Under the crying child’s photograph is a handwritten note in Danish stating “En gnaven,” meaning a grumpy or upset one (but also uncooperative). Such labeling practices categorized Afro-Caribbean subjects as obedient and familiar types who could also be “tamed” through the cutting, pasting, and inscription of album production (Barthes 1999:117–119). And this process of reordering experience and describing the people among whom they lived in limiting terms contributed to a narration of “atypical” (even dissonant) memories for Danes “that wanted, and wants still, to communicate” (Langford 2001:23; Van Dartel 2012).

The crying child’s image was used repeatedly in storytelling within private albums as an example of what Danish catalogers describe as “Folkeliv” (folk life) from the Virgin Islands—views of Afro-Caribbean people in daily situations like selling food at the market, carrying coal, or doing their laundry. The repetition is also likely because Ovesen transferred the image onto a postcard, which he too labeled at the bottom (close to the child’s feet) with the pejorative title “A St. Croix Pickney, D.W.I.” (fig. 2). This was an augmentation strategy similar to that of postcard makers across the Caribbean, which Krista Thompson explains sought to “control, stabilize, and contain the meaning of the cards and the images of the islands generally for potential travellers,” as well as for those who would never take the trip (2006:257). The word “pickney” also had transnational resonance as a local adaptation of an old word used to describe children but given violent associations by way of the “Pickaninny” racist caricature during Jim Crow. In American literature and visual culture, the character was a popular trope whose core attributes were “juvenile status, dark skin” and “the state of being comically impervious to pain” (Bernstein 2012:20; Bogle 2003). The real child captured by Ovesen in St. Croix felt pain. But they entered the archive (and come to us now) as a metaphor for displacement, a repeating data-body with no name, no caretakers, no clear gender markers, no explanatory context. Crying without an identifiable source of provocation. Orphaned via the technology of photography into a “zone of nonbeing,” and then slipped on paper into the storehouse of Danish colonial memories (Fanon 2008:2).

A sobbing, miserable photographic tronie leaning mimetically on that old form of Dutch character painting that sought to articulate, through artistic skill, intense physiognomic expressions and emotions (Percival 2016:57–63). This is the kind of candid “infinitely reproducible, duplicatable image” that Okwui Enwezor once described as “truly archival” (2008:12), an enduring photographic impression of asymmetrical contact between colonizer and colonized (fig. 3).

We know that this postcard traveled with private correspondences across the Atlantic, and perhaps, in this context, it was intended as a rouse for (racial) humor. For example, just before Christmas in 1912, a Danish father in St. Croix sent the postcard to his son in Copenhagen, writing: “Dearest son! Here you have a little boy from St. Croix; he sure doesn’t look happy, does he? But you must look happy all of the time; that’s what you promised.” This boy received Afro-Caribbean tears in the post, as a gift from his absent father and a comparative antidote to his own separation anxiety. What promises (of happiness) did the colonial postcard circumspect, or protract, or stand in for? (Ahmed 2010:29). Evidently the postcard was sent for remedial effect, but toward what outcome (fig. 4)? Colonial postcards did considerable identity work within and between nations (Geary and Webb 1998). Tanya Sheehan’s (2018:103–131) recent study of postcards in America provides a sobering assessment of national anti-Black communication in middle-class vernacular culture, arguing that use of photography to produce stereotypical and performative racial tropes legitimized the images on postcards as being “true” and “real.” Considering the relationship between postcard images and their correspondence on the backs, Sheehan writes that “everyday

3. Many thanks to Nina Cramer for providing nuanced translations of Danish terminology.

encounters with comic images of African Americans, framed by the guiding hand of a trusted adult, had the ability to fuel children’s fantasies of their own whiteness and rightness, encouraging the consolidation of a discrete and desired self (113).

British colonial postcards similarly used ethnographic photography of so-called everyday life to fortify imperial subjectivities (an “us” and a “them”), while authenticating the sender’s exotic location and thrilling proximity to difference (Wollaeger 2006:71–127).

If we read “against the grain” of Ovesen’s photograph, while at the same time registering its edges, marks, and textures, as Ann Stoler (2009) advises, then the emotional protest expressed by the child does offer a refusal with which to think and feel (50), a sonic disruption that resists the “terms of negation and dispossession” (Campt 2017:96). Certainly there were other Afro-Caribbean babies and children captured in photographs from the Islands, but this particular child haunts as a subject unwillingly forced into cultural labor, and this resonates across archival materialities, contexts, and time (fig. 5). What were the conditions of photographic production? How did Axel Ovesen meet and encounter this child? And, importantly, to whom did this child belong? There are no concrete answers beyond what the photograph tells, and it tells that something was—is—amiss. For what is this visualized cry if not an expression of separation (from the absent guardian) and a call for care and attachment, even a request for milk? Reading around the photo-

The Crying Child S293
Rough Notes on Custody, Hospitality, and Care

When Denmark transferred the people, land, and public property of its islands to the United States in 1917 for US$25 million in gold, a stipulation in the treaty of sale allowed for furniture, decorative items, and other artworks to follow the “West Indians’ back home.” There was much material luggage in addition to private photographs, and over the ensuing years Denmark negotiated the removal of a large amount of official documents from the islands on the grounds of their importance as national heritage. Most documents were written in Danish until the mid-nineteenth century. Although there is a relatively equal share of state colonial documents in the US archives, Denmark became the primary custodian and narrator of the history of enslavement up to transfer, (gate)keeping materials that articulated the ways in which the country was entangled with the lives and fates of Afro-Caribbean people and their enslaved ancestors (Bastian 2001, 2003). The whole process of document removal after transfer deprived the Afro-Caribbean community on the US Virgin Islands of direct access to their stake in this shared heritage and has thus engendered an uneasy and profoundly biased memory-brokerage that privileged the Danish perspective and has, over time, allowed for nostalgia in the telling (and retelling) of this history (Andersen 2013; Blaagaard 2011; Fog Olwig 2003).

Afro-Caribbean citizens of the US Virgin Islands are in a process of confronting the scale of the Danish colonial archive, which is one of the best preserved in the world. It is an archive that attests to their genealogical roots, labor, revolt, cultural expressions, image, and presence in space and time. The recent 2017 centenary commemoration of colonial transfer provided a critical (albeit challenging) moment of reflection and witnessed renewed interest and investigation into this history, and its consequences, on both sides of the Atlantic (Andersen 2020). Several 2017 exhibitions used the photographic archive as the starting point, or as a backdrop, for a discourse that Astrid Nonbo Andersen (2020) succinctly describes as marked by uncertainty and struggling with an inherited and dominant narrative of “innocent colonialism” (59; Krabbe Meyer 2019). During this process of historical redress, digital repatriation was centered by heritage institutions as a solution to immediate problems of access to documents, and the Danish National Archives in particular focused their efforts on this endeavor (Agostinho 2019). Between 2013 and 2017 they scanned 5 million pages of colonial administration documents and crowdsourced support for transcription since many were written in an old form of Danish. They also produced a special website called The Danish West Indies: Sources of History, enabling people to discreetly search the records but also explore context through curated themed sections. Similarly, the National Maritime Museum, National Museum of Denmark, and Royal Danish Library all provided digital access to colonial artworks, objects, photographs, and other documents, open-accessing as a reparative gesture of transparency.

Digitization has come with critiques of power, bias, and legitimacy, since the institutional drive to reproduce the excessive scale of the colonial project as big data enacts its own forms of erasure. As Daniela Agostinho (2019) writes, “this logic of quantification—already embedded in the archives—can stand in the way of centring the experiences of the communities who lived under colonialism and slavery” (157), as well as defer access to latent expressions of their humanity. The digital option also raised the practical issue of consistency, since access to these resources requires electricity, a strong internet link, and computers or mobile devices, all of which become quite precarious when (for example) a hurricane hits the islands, as they did with Irma and Maria in 2017 (fig. 6). Most critically for this discussion, since much of this material is understood and treated as Danish “property” (made by Danish hands, and/or from private family collections), there have been few attempts to negotiate approvals or community support for the ways images of Afro-Caribbean ancestors are actually used, digitally or otherwise. This also means that labeling and descriptive practices in collections management systems have prioritized Danish representation and perspectives.

5. See Article 3.2 of the sales treaty of August 4, 1916. The original handwritten version is both in English and Danish and is housed at the Danish National Archives (Rigsarkivet, Ministry of Foreign Affairs, E4 Traktater, VII 120 USA 1916 8 4).

6. The Danish National Archives have worked hard to transform their traditional image as a gatekeeper to this history. They recently produced a selection of films of people talking about their investment in the archives from different perspectives, in order to explain the positive aspects of digitization. See the full playlist of videos here: https://www.youtube.com/playlist?list=PLDOvgvDs1fOpAUZZWnb0f-JaXeD06vX0.

7. See https://www.virgin-islands-history.org/en/.
The legal versus moral discussion framing Danish and other colonial collections is a sore point. We know that artworks and images of enslaved and colonized peoples were predominantly envisioned by Europeans, who also controlled the means of production, rights of access, and dissemination. Jane Anderson (2013) critically centers this problem of authorship as an anxiety underpinning colonial archives and collections, especially for communities excluded from this peculiar logic of cultural preservation and meaning-making, a logic that keeps legal copyright (and thus the politics of custodianship) weighted toward the inheritors of colonial power. Communities with kin represented in archival material therefore have little or no legal stake in visual and other kinds of documents and must defend or claim the dead ambivalently, by arguing for “fair use,” in contested terrain, as a matter of ethics and justice: What is the best way to attend to violated bodies and biographies without replicating historical patterns of abuse? Under what conditions should this document/artifact/image be seen? Archival initiatives within indigenous contexts, such as Project Naming in Canada for community identification of Inuit people in photography, or the Aboriginal and Torres Strait Islander Data Archive (ATSIDA) as an intermediary for research data management, are demonstrative of thoughtful shifts in post-decolonial knowledge production and sharing where represented communities are gathered as witnesses and experts around sensitive collections.8 Their work recognizes that while the perspectives framing collections have been historically biased, ethics of care can be prioritized and reformulated to meet present-day access needs (fig. 7).

A browse through established international ethical guidelines for museums and archives reveals how ethics has been primarily focused on risk assessment: protecting cultural assets as a legacy and enabling public access in the most efficient and nonharmful way (for objects and documents). However, the residual effects of colonial theft and appropriation on collections and professional practices are considerations that are now being prioritized. In Europe, initiatives such as the SWICH Network for building inclusive ethnographic museums,9 and recent strategic reports responding to the politics of caretaking and restitution of contested African collections in particular, are clear signs that institutions are under pressure to change their self-understanding (Brown and Mairesse 2018; German Museums Association [GMA] 2019; Sarr and Savoy 2018). Within this context it has become clear that ethics of care requires more nuanced and holistic organizational mindsets to accommodate the vulnerabilities of postcolonial collections management. For example, Felwine Sarr and Bénédicte Savoy, in their 2018 report to President Emmanuel Macron on the return of looted African artifacts, insist that while object encounters in collections are haunted, so too is the void left elsewhere. Reframing objects as diaspora (with dense accumulated memories), they ask, “How are we able then to restitute to these objects the sense and functions that once belonged to them, without neglecting the fact that they had been captured and then reshaped by a plurality of semantic, symbolic, and epistemological dispositives for more than a century?” (Sarr and Savoy 2018:30).

However, ethics of care bridges the personal and political, the structural and the specific. In March 2019 in the United States, Tamara Lanier (a retired senior state worker in Connecticut) filed an open lawsuit against the Peabody Museum at Harvard University for “wrongful seizure, possession and expropriation of photographic images” of her family.10 Lanier has identified herself as the descendant of a man called Renty, who was the eldest of seven enslaved workers on a South Carolina cotton plantation, represented in early daguerreotypes from 1850. Renty, Delia, Jack, Drana, Jem, Alfred, and Fassena were all photographed naked by Joseph Zealey, who was commissioned by Swiss glaciologist Louis Agassiz, then a professor at Harvard (Rogers 2010; Wallis 1996). Agassiz was promoting racist science and segregation in America, and the photographs were research for his polygenism theory project, which he also conducted in Brazil (Isaac 1997; Rogers 2006). Harvard University now “owns” the daguerreotypes and charges a substantive fee for reproductive rights in books and other commercial merchandise. The photographs are not currently on public display, although it is possible to find them in high-definition online (including Wikipedia). As a living descendent of Renty and Delia (his daughter), Lanier is claiming her family’s property back and also asking Harvard to desist from continuing to profit on enslaved bodies. She argues that Harvard is


perpetuating the dynamics of slavery, which denied African Americans the right to own, claim, or inherit property. As we have already seen, this issue of ownership in slavery’s afterlife is the unresolved trouble that will challenge this open case. And it will be interesting to see the extent to which Lanier will be asked to legitimize her claim to kinship, where the evidence base is once more reliant on the “official” archive and not the oral family lore from which she initially heard about her ancestors. But Lanier’s personal intervention will prove an important action for rethinking reparative justice in the cultural domain, and it will certainly nourish the moral poetics of “fair use” in copyright law (Murray 2013).

Within this climate of redress, institutions are being asked to reconsider their terms of engagement in profound ways. We could describe the mindset required to revision institutional praxis and make room for complexity, as a hosting or hospitality approach, one that encourages questions about coexistence, such as What is in the atmosphere? Who looks after and who receives care? Who is the host and who is the guest? How do we accommodate needs? And what are the rules of engagement? Scholars are offering different suggestions for approaching the layered responsibilities of ethical hosting (Bismarck and Meyer-Krahmer 2016). For example, Joel Wurl (2005) called for archives to shift from the traditional idea of custodianship to “stewardship” as a way to deal more equitably with records representing diverse ethnicities in collections. While this shift in language may seem subtle, Wurl (2005) argues that the difference is most clearly distinguished precisely around the tricky issue of ownership, writing that “a stewardship ethos encompasses a very different set of relationships between stake-holders and materials. It is characterized by partnership and continuity of association between repository and originator. In a stewardship approach, archival material is viewed less as property and more as cultural asset, jointly held and invested in by the archive and the community of origin” (72). Wurl further notes that “material may be gifted to a repository not as a finite action but as part of an ongoing relationship, and that “the goals of stewardship are preservation and access to information, wherever it might be physically held, while intentions or claims of possessing the largest or most valuable yield of material for a given community are both irrelevant and hollow” (72). Similarly, Andreas Pantazatos also approaches the issue of ethical

Figure 7. Atlantic (Endless Row 1), 2009. Digital photograph by Jeannette Ehlers. © Jeannette Ehlers. Courtesy of the artist.
caretaking of objects as active and relational by reformulating the responsibilities of museum trusteeship as being shaped by gestures and procedures of “entrusting.” Taking the rather limited International Council of Museums (ICOM) ethical guidelines as a springboard, Pantazatos (2016) affirms the museum’s critical role and capacity to “account for the transit [conveying] of objects between past and future in such a way as to secure the transfer of their significance, broadly constructed” (180). The framework explored is a triangular duty of care within museums: building “trust” by sustaining the significance of collections through an evolving “biography of objects,” which must be developed through “negotiation” (187). Negotiation, Pantazatos writes, is the “ethical catalyst for the museums’ duty of care” because it is not simply about awareness of multiple “beneficiaries and stakeholders,” but also involves thinking about how these parties are involved in the entire life cycle of an object (187). Emphasizing that with trust and entrusting comes vulnerability (for we cannot be sure if our host will be competent), Pantazatos concludes that addressing core concepts of accountability, trusteeship, and care involves respectfully “allowing room for those stakeholders who can shape the transit of an object from past to future” (197).

In Denmark things are slowly beginning to change to accommodate and consider the ethical tensions of “custodianship” and to make room for the investments of multiple stakeholders. For example, following their exhibition Blinde Vinkler/ Blind Spots: Images of the Danish West Indies Colony (May 19, 2017–February 3, 2018), curators at the Royal Danish Library hosted a summer school for students in the US Virgin Islands, introducing their collections and participating in public talks there.11 They have also produced norm-critical online educational materials from the exhibition for high school students in Denmark, to ensure continuity and raise awareness.12 Small steps. Overall, however, the Danish situation is instructive (particularly when viewed within an energized international context), because it concretely shows how power is wielded through material/matter on the battleground of history. Denmark has the “things” that attest (witness, certify, authenticate) their colonial entanglements. In brokering these memories with the US Virgin Islands, through and with digital data, the texture or grain of the archive itself is once more revealed: the grain that represents “signatures of a history that neither can be scraped off nor removed without destroying the paper,” the grain that brings the initial violations into “bolder relief” (Stoler 2009:8).

Grappling with Data
At this moment in the text, I initially wanted to reproduce an image that is both deeply troubling and demonstrative, an act of violence by an internet troll who recently repurposed a well-known American lynching photograph from 1930, in order to symbolically “hang” a European politician of African descent. I considered representing it with a heavy editorial blur, so that only the faint outlines of the action could be seen. I also contemplated abstracting a detail. But the purpose of lynching imagery was profound humiliation in the context of White supremacist solidarity, and this is an effect being mobilized by the anonymous troll (Apel and Smith 2007). In the end, I simply did not want to participate in its racist work. But the remediating action, and the image’s very existence, underscores the necessity for vigilance surrounding the digitization of sensitive collections.

Now I want to think more loosely—which is to say sketch, intuit, browse freely across ideas. This is in order to consider the digital surrogates of collections and propose what might constitute “fair use” online, particularly when curators and institutions are not looking. One of my core concerns is that we have yet to delineate a sacred environment for the images that articulate (in part) the experiences of slavery and colonization, that we have not yet decided what material is off-limits. I say “off-limits” with trepidation because I do not mean to suggest cultural ghettoization but, rather, to insist on care where there has historically been none. Perhaps it is pertinent here to retrace the arc of the problem. Erasures of Black subjectivity in colonial documents, and in the information kept by collections that house them, index the hierarchies of rights and value embedded in the slavery system. These erasures also reenact what Édouard Glissant described as the “deterioration of person” marking African experiences of the “open boat” (2010:5). European use and commodification of the enslaved body for manual labor transferred to the domain of the visual, producing a surplus of images in different materials (ink, paint, paper, silver, wood, porcelain) that became surrogates for unsanctioned intimacies that only continued through the emergence of photography. The ethnographic use of photographs for record, capture, and surveillance also brought with it reproductive copyright issues tied to “legal personhood,” which maintained a racialized view of privacy as “a privileged form of property” that could only be claimed by those who owned themselves and/or the means of production (Osucha 2009:73). Appropriation and excessive production of the Black body image as cipher has thus taken its toll, on the level of being, knowing, and doing.

So delineating some kind of sanctity for difficult images is not a simple task. As Susan Crane asks, “What constitutes an atrocity image? Do we ‘know it when we see it’? Must it be sufficiently horrific and disgusting? Should the victims be innocents?” (2008:322). This whole terrain becomes even more complex when we think beyond photography. For example, it is currently possible to buy clothing and household goods with a digital imprint of the 1797 Brookes slave ship diagram (fig. 8). This is not a document representing identifiable people but rather an explanatory tool created by British abolitionists to express the dehumanizing mercantile logic of the trade, as African bodies met the technology of the ship (Radburn and Eltis 2019). Over time the image has acquired resonance as an

artifact representing one aspect of the Middle Passage Atlantic crossing, the "womb abyss," which is still a deeply painful part of Afro-diasporic memory work (Glissant 2010:6). Is the Brookes an image that needs "protecting"? Indigenous communities in varying contexts are exploring refusal and/or counteractive strategies when dealing with archival material, for example, Sápmi artists in their confrontations with ethnographic imagery, and particularly race biology photography and documents that in some cases represent known family members (Dobbin 2013). Native feminist Laura L. Terrance says about finding an indigenous woman’s boarding school journal that "I am not going to tell you the name of the young woman the journal belonged to or even her tribe. I am not going to tell you which boarding school she attended and I am not going to tell you which library I found it in or where it is now" (Terrance 2011:621). Bodily and "analytic practices of refusal," argue Eve Tuck and K. Wayne Yang, "involve an active resistance to trading in pain and humiliation, and supply a rationale for blocking the settler colonial gaze that wants those stories" (Tuck and Yang 2014:812). To look, to say, to share, or not?

Enrique Martino makes a convincing argument that open-sourcing digital collections does provide a way for archives to enter a wider cultural bloodstream, to be liberated from colonial structures and fully participate; that mobility enables "disembark in different places, and circulate where archival remainders can be reactivated and made meaningful, not only by, for or through professional historians" (Martino 2014:410). And in terms of getting air, online research does provide healthy distance from the loaded choreographies of institutional access to originals: permissions, white gloves, dust, contained spaces, and quietness. But digital artifacts of a sensitive and dehumanizing nature are vulnerable without contextualization. And Wayne Modest (2016) asks an important question: "What kinds of affective force do collections that evidence colonial relations have both within and without the museum?" (25). I am wondering if there is a way to develop an ethics of care for digitization that is able to signal to different kinds of users or audiences where and how sensitivity is required, not as an optional stance but as a prerequisite for the digital encounter.

It is important to consider the ways in which we find enslaved or colonized people and "things" in the sea of data online. My research, for example, is still reliant on historical and highly racialized terminology to find what we are looking for. General terms include "colonial," "slavery," "racism," "race," "Jim-crow," even "sugar" and then specific transatlantic locations or trading hubs such as "Barbados," "London," "Bristol," "Guinea," "Virginia," and "Haiti." Focusing on peculiar searches for people, I might type "African," "Black," "Negro," "Negress," "Slave," "Moor," "Blackface," "caricature," and "Venus." The following terms are adapted in different linguistic contexts: "esclave," "Zuckerhut," and "neger." But the outcome is the same. The database absorbs my searches, provides options for appropriate material based on relevance, and then holds a memory of that algorithmic trail until another inquiry is made. Then the process begins again, while keeping the colonial epistemology intact: search, find, identify, claim, or steal (Christen 2007; Geismar and Mohns 2011). If this incessant searching for presence leaves pronounced traces, then what kind of digital layer are we adding to an already traumatized archive?

Digitization processes (particularly for institutions) come with profound losses. Mark Wolf (2000) succinctly writes that digitization is not a neutral process, for it "changes whatever passes through it" (89). In a technical sense objects are de-materialized, and this influences how institutions handle the
data. As Joanna Sassoon (2005) emphasizes, photographic collections in particular are “reduced to, and managed as, data banks of images, understood to be uncomplicated, transparent and passive representations of truth” (204). Similarly, Joan M. Schwartz (2002) argues that photographic collections that do not provide contextual data transform “photographic archives into stock photo libraries, reducing photographs to their visible elements, and conflating photographic content and photographic meaning” (157). Certainly, there is ambiguity around what is materially lost and what is gained in mediatization. Yet Fiona Cameron (2010 [2007]) insists, as others have, that digital assets are not merely referential: “the digital historical object can exist in many realms and perform many roles that go beyond reproduction, interpretation, education, documentation, and archive” (68). They can have a rich cultural life outside of institutional bounds.

Returning to Axel Ovesen’s photograph, we can see how data orphanings act out in real time and point toward the delicacies of custodianship online. If you tried to search for this photograph or the postcard on the Royal Danish Library’s digital collection, it would be by geographic context, photographer, or by album owner. The main keyword attached to the photograph is “born” or “children” in English. This keyword also links Ovesen’s images to a range of others from similarly precarious situations, such as “Eskimo-types; Children; Hudson Bay” and “Danish red cross feeds German children” and “Poor children ‘Annaly.’” Since several of Denmark’s public collections are tied to an aggregate service that also makes digitized material available on Europeana (the European-wide archival database), it is possible to also find the photograph without entering the library’s institutional interface. However, the same search restrictions apply. On the one hand, the child is somewhat protected by extremely limited metadata (basically for researchers with an interest), but on the other hand, the image still hovers on servers and clouds without proper contextualization—hovers there until someone decides to query, scroll, click, zoom in, and then download.

Momentarily, then, I want to speculate about the possibilities for transforming metadata into a repository of necessary tension, where one can “return” to colonial moments and produce what Anjali Arondekar (2006) calls “a counter-record of that history” (12). Metadata as a quiet, undercommons reconfiguring the digital thoroughfares (associations, keywords, hyperlinks) that bring a public into encounters with challenging histories (Sassoon 2005:208–210)—but also, metadata as an alternative cataloging space capable of narrating in full an object’s life and afterlife, and making that known to users with each right-click and download. So, here is a proposition: What if the digital object could do all the speaking that the original could not do? What if the digital object could say on behalf of persons represented: “Look, here is my story. I’ve experienced pain, and now you are part of it; tell me what you intend to do with me?” And such a question, extended by way of a collection to the invisible user, seems fair. It is quite similar to the one in Susan Crane’s (2008) pedagogy with students after they have seen harrowing images: “And so I ask my students, with no political agenda in mind: what are you going to do with what you now know? The ethics of collective memory rests with their decisions and may determine what we choose to look at” (323). Here in this speculation, I am asking the data to perform—to perform (another) haunting (Blackman 2019; Gordon 2008). Because ghosts make their presences felt, precisely in those moments when the organizing structure has ruptured a caretaking contract; when the crime has not been sufficiently named or borne witness to; when someone is not paying attention. The ghost is “pregnant with unfulfilled possibility, with the something to be done that the wavering present is demanding” (Gordon 2008:183). And I know that what I am suggesting here is a form of labor that may be unrealistic on the level of scale, not just because of the sheer volume of collections already digitized but also due to the extra space and electrical energy more embedded data require. However, the opportunities for intervening both in back-end collections practices and web user experience, which insists on a more conscientious data flow around the commons, feels like something approximating practical ethics.

Praxis

I began this paper tentatively and I end it in the same way, uncertain whether I have adequately conveyed what an ethics of care in the open commons could look or feel like. But I have sketched some lines around issues of trust, community, affect, afterlives, and mattering. Let me once more invoke the crying child, which encouraged this veritable thought experiment and which has become in this text a reluctant metaphor for the state of digitized colonial collections (at least in Denmark). In 2016, Crucian artist La Vaughn Belle included this child in a photomontage series called *Upward Mobility, Learning to Be, Preacher Man Belle, Obeah Man Brown, St. Croix Pickney* (2016), where she worked with high-definition digital copies of colonial photographs in the Royal Danish Library collection. Here she juxtaposes the collection’s images with old photographs of herself and her parents, producing some very moving digital diptychs that hinge on the archive itself. Her reparative gestures integrate unnamed people back into the context of a family album, fusing community bonds and providing them a place to rest and to be resignified. At the same time, she inserts and asserts her story into those partially told and fragmented Danish memories saved by various institutions that hold copies of these photographic images. Since these are not photographs the artist took herself but are slivers of family memory, Belle’s juxtapositions also disrupt the temporal register, blending identities to reveal alternative possibilities for bodies in a shared (post) colonial location. Does Belle find visual resonances by coincidence, or does photography call certain bodies into peculiar engagements with the viewfinder?

In the series, Belle also remakes titles, or appropriates them from different archives, asking the viewer to consider how colonial typologies were and are made by language but also to
more intimately register what happened (to families, culture, identity) in the change of custody from Denmark to the United States. When Belle places a photograph of herself as a child in contrast with Ovesen’s postcard “A St. Croix Pickney, D.W.I.,” something interesting happens (fig. 9). On the one hand the comparison immediately opens the emotional field, expanding the possibilities for what a child from St. Croix could or can experience and feel: she is smiling and happy, looked after, smartly dressed in neat socks and shoes. At the same time, the sensitivity with which her momentary joy is captured only further defines the severity of Ovesen’s image, highlighting the need for extra care in the witnessing gaze. Perhaps it is here, in the artist’s hospitable gesture, that the seeds for future digital and cultural practices, seeking to attend to histories of enslavement and colonization, can be found.

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