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### Re-Imagining Digital Things: Sustainable Data in Medieval Manuscript Studies

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**\*\*Uncorrected pre-print**

Michelle R. Warren and Neil Weijer

### When is a Corpus a Corpus? Making and Keeping Digital Things

Digital materials are well established components of medieval studies. Their production might be said to begin after World War II with Roberto Busa's *Index Thomasticus*, a massive project to organize the entire corpus of texts by Thomas Aquinas (1225-74). We point to this project not to idolize it—or Busa—as the founding moment of the digital humanities, as others have, but rather to illustrate the many formats the project data have taken since that point: computer-assisted data production (starting in 1949), output into print publications (1974-80), digital publication on CD-ROM (1989), networked digital publication (2005), and computer-assisted data analysis (ongoing at <http://www.corpusthomisticum.org>).<sup>1</sup> The longevity of the data—and of the website—testifies to their cultural significance and to the dedication of the communities who have sustained them. This longevity is relatively uncommon for corpus-based digital projects, which typically draw their sources from multiple locations and thus lack the dedicated preservation infrastructure of any one institution. Even so, in 2020 we wonder what the future holds for the Corpus Thomisticum website in a world where interfaces and operating systems have become more complex and thus less durable.

This essay concerns another corpus-based resource published on the web around 2005—the Imagining History project at Queen's University, Belfast, Ireland (QUB). The project included a blog and a wiki, and aimed to organize the corpus of manuscripts that preserve the

Middle English Prose *Brut* Chronicle (*Brut*)—a history of Britain widely copied in late medieval England and important to scholarship on the period. The Imagining History website has fared less well than the Corpus Thomasticus: after several years of periodic outages, it disappeared from the live web sometime in the last months of 2017. In theory, the wiki platform—powered by the same software as Wikipedia—provided for open-ended, collaborative editing of manuscript descriptions by any interested user. In practice, however, the wiki became a static publication whose link to “register to contribute” was never activated.<sup>2</sup> The project, directed by John Thompson, had three years of funding from the Arts and Humanities Research Council (United Kingdom) (2002-05); when the grant ended, so did the project, despite its contributors’ best intentions.<sup>3</sup> This state of affairs is quite common in the digital humanities: obsolescence itself is old news.<sup>4</sup> Precisely because Imagining History represents a norm rather than an exception, it offers broadly applicable lessons for making and keeping “digital things.”

We are in the process of “re-imagining” the Imagining History project with specialist librarians at the Dartmouth Library (Hanover, New Hampshire, United States). Our interest stems from our previous work on medieval chronicles—combined with the fact that Dartmouth purchased a *Brut* manuscript in 2006 (Rauner Codex MS 003183). The manuscript had previously been in private hands and thus was not included in Imagining History nor in the earlier study by Lister Matheson (1998) that still largely defines the Middle English Prose *Brut* corpus. In 2009, Elizabeth Bryan published a study of the Dartmouth *Brut* that concluded that the manuscript represents a unique recension of the text.<sup>5</sup> That same year, Dartmouth digitized the manuscript and published digital images on a website, facilitating further scholarship on the Dartmouth *Brut* and other *Brut* manuscripts (Warren 2014).<sup>6</sup> And yet, the Dartmouth *Brut* remained disconnected from the larger corpus of scholarly writing around the medieval text.

When we realized that contributing a new description to Imagining History would not be possible, we started to think more ambitiously about what it means to represent a manuscript corpus as a medieval “thing” that was never visible as such in medieval culture. And once the Imagining History websites disappeared, we started asking more questions about the social and technical conditions that create and preserve “digital things.”

The very idea of a manuscript corpus as a “thing” raises a number of complex issues about materiality. In the first instance, “corpus” designates a disparate group of materials as a single “body.” It projects retrospective coherence onto materials that are historically, geographically, and linguistically distinct—and that never appeared as a “body” of any kind in the Middle Ages. A corpus is thus a modern thing that also represents a medieval thing. Digital corpora extend this strangeness from medieval manuscripts to media files; they make a single body out even more copies, made in even more variable circumstances. While remaining single and unified, a corpus can also change and multiply. New assessments of individual manuscripts or new digital copies, for example, can re-make a corpus and create new subject-object relationships.<sup>7</sup>

In the case of the *Brut*, the corpus concept is particularly “strange” because it refers to an uncommonly large collection of manuscripts with an uncommonly variable set of texts. The anonymous chronicle traces the history of Britain from its legendary foundation by two separate bands of wandering Mediterranean exiles (a Syrian princess named Albina and the eponymous Brutus, grandson of the Trojan Aeneas) down through the reign of Edward III (1327-77). Generations of anonymous copying produced continuations to various dates: some *Bruts* end in 1333, others in 1377 or 1419, others even later. Printed versions proliferated under the early

Tudor monarchs, by which time the *Brut* had become one of the most common places for late medieval readers to encounter England's history.<sup>8</sup>

Current conceptions of the *Brut*, moreover, owe at least as much to modern editors as to medieval scribes. Since the early twentieth century, the *Brut* has been most readily accessed through the edition by Friedrich Brie (1904-06)—which uses the text to 1333 found in the oldest manuscript known to him (Bodleian Library, Rawlinson MS B 171) to define a corpus of 167 *Brut* manuscripts. The second volume valiantly endeavored to represent the textual variety of the continuations found in these various manuscripts, but the third volume explaining the editorial principles never appeared.<sup>9</sup> In subsequent scholarship, “the *Brut*” might refer to any one of the more than 200 surviving manuscripts containing some version of the chronicle, or indeed to any text recounting the story of Brutus and his descendants in some form. Nearly a century after Brie, Alfred Hiatt could conclude that “there was not one *Brut*, or even one Middle English *Brut*, but many.”<sup>10</sup>

The editorial history of the *Brut* since Brie illustrates the infrastructure principle of “path dependence,” that is, the “layering of an emergent system upon an existing one.”<sup>11</sup> Brie's edition sought to establish the *Brut* as a thing by defining a corpus and distributing that “data” through a well-curated platform—the *Early English Text Society*. Matheson took up where Brie left off—developing an elaborate scheme to group *Brut* manuscripts by shared textual variations. *Imagining History* then built on Matheson's schema—using his item numbers and text classifications while also expanding the descriptions to include many more features of the manuscripts besides the text. Now, *Re-Imagining History* works with all of this “inherited data” in an effort to keep the old pathways visible while opening new ones for born-digital use and discovery.

Conceptually, Re-Imagining History is situated at the intersection of digital materialism and critical infrastructure studies. The project’s research questions address the interface between digital data and historical manuscripts. How do catalogue and database structures impact research outcomes? How can the project ethically represent the relative authority of disparate sources? How can users discover things they don’t already know? By what means is the project discoverable to those who don’t already know the *Brut*? What social and technical arrangements will sustain the project over time? By laying bare the design process and investigating the complexity of the data sources all the way back to the manuscripts themselves, the project aims to create and contribute meaningful research to manuscript studies, textual criticism, data curation, and project management.

Throughout this essay, “we” refers to Neil and Michelle as co-authors of this text; we use our first names to indicate individual actions or experiences. Re-Imagining History is part of a larger collaborative project that Michelle initiated in 2015, *Remix the Manuscript: A Chronicle of Digital Experiments (Remix)*.<sup>12</sup> Elsewhere in this essay, the designation “collaborators” refers to everyone who has contributed to Re-Imagining History over time, with names specified for specific contributions and blog posts on *Remix* cited by date. From the beginning, *Remix* has experimented with different ways of representing collaborative work and pursued research models that account ethically for contributors’ disparate institutional roles.<sup>13</sup> In this essay, we benefit from a scaffolding built up over years—from the website theme chosen by undergraduate researcher Logan Henderson in September of 2015 to recent conversations with metadata specialists Shaun Akhtar and Maninder Rakhra in January of 2020.<sup>14</sup> Our text should be approached as a punctual intervention in this collaborative continuum.

## Pixels and Protocols

What are “digital things?” The lifecycle of Imagining History illustrates several answers. In the first instance, digital objects are ephemeral but not immaterial.<sup>15</sup> Web addresses that lead to the notice “page not found” are abrupt reminders that a website requires infrastructure maintenance—from a server connected to an electrical outlet to software upgrades to domain name registration. The so-called opposition between virtual and physical, then, needs to be set aside in favor of a continuum of “digital materiality” which moves from macro to nano scale and includes hardware, software, metadata, and protocols.<sup>16</sup> In this frame, Re-Imagining History approaches materialism as a quality of the manuscript corpus but also of the data that represent it, the interfaces that structure access to the data, and the multitude of social and technical arrangements that constitute “being online.”

From the perspective of materialism, “digital things” have what has been called a “dubious ontology:” their way of being is inseparable from our way of knowing them.<sup>17</sup> Or, conversely, the way that we know them becomes what they are. Their ontology is users’ epistemology. For Imagining History, these dubious things were not images of manuscripts but metadata about manuscripts produced manually by the project team. This born-digital information was meant to become a new way of knowing the existing medieval manuscripts of the *Brut*. The project developed a custom data model that combined common elements of manuscript description with elements specific to the scholarly study of the *Brut*, with considerable variation in detail. And as with any data model, the selection of metadata elements determined what aspects of the corpus would be visible and thus determined the characteristics of the corpus itself. For example, by including “annotations” as a category, reader responses and

doodles became part of the corpus whereas they are absent from the corpus as presented by Brie’s edition or Matheson’s textual study. The descriptions of annotations on *Imagining History* are simultaneously metadata about the medieval manuscripts and data on a website. This fluidity—in which metadata at one level becomes data at another—further confounds the stable classification of digital things.<sup>18</sup> For *Re-Imagining History*, these slippages focus attention on data modeling and metadata schemes as things that make knowledge.

The “things” of digital infrastructure are not just the representations of historical objects but also the markup languages, encoding standards, databases, and interfaces that shape our perceptions of those representations: they are all what Costis Dallas has called “thingformation” that take shape at the intersection of imagination and infrastructure.<sup>19</sup> Since they are constructed, reconstructed, and rearranged over time, the materiality of these digital things lies not in their data but in the relationships that cause them to be *realized*.<sup>20</sup> A digital “thing” is thus a temporal concept. In this sense, *Imagining History* shows that research infrastructure, digital or analog, is also not a fixed thing—a “what”—but rather a relationship—a “when.”<sup>21</sup> It exists most palpably when its absence is felt. Preserving digital objects, then, is about encoding and preserving relationships as much as it is about software upgrades. *Re-Imagining History* also seeks to develop a durable resource by forging social relationships among people with diverse personal and professional interests: researchers interested in medieval chronicles, institutional stakeholders at the Dartmouth Library, digital humanists interested in our methodological questions, and anyone else drawn to the project. The incremental contributions and understandings of direct collaborators and other interlocutors affect the perception of the entire thing, and in this way are not dissimilar to the development of the *Brut* corpus itself.



Finally, “digital things” include paradata as well as data. That is, the scope of a project includes description and analysis of the process of making the project.<sup>22</sup> This information provides transparency—so that users know what they are seeing, why it looks the way it does, and how it might be used. Making and preserving paradata makes project data not just accessible, but approachable to individuals unfamiliar with the project’s history and purpose. As Heather Bamford and Emily Francomano emphasize, “both material and digital medieval manuscripts remain physically and intellectually inscrutable for non-specialists, often little more than pretty pictures.”<sup>23</sup> For Re-Imagining History, paradata practices include the *Remix* blog and this article—which itself has prompted us to organize, preserve, and publicize the documents that collaborators have already produced. Periodic assessments of the work become part of the work—project outcomes that shape future project outcomes.

## **Published and Perished**

What was Imagining History? It began with the complex, even chaotic, history of the *Brut* manuscripts sketched above. While their text had long been shunned as uncritical, derivative, and fanciful, over the past several decades the manuscripts have drawn new interest from literary scholars, manuscript scholars, and even the odd historian. Nonetheless, there remains no ironclad definition of when a manuscript is (or isn’t) a *Brut*. The story of Brutus and his descendants was the product of translation and exchange between Latin and vernacular chronicle writing from the twelfth century onward, with the earliest Middle English prose versions emerging at the end of the fourteenth century.<sup>24</sup> As a result, the Middle English *Brut* corpus has morphed over time and in accordance with scholars’ critical approaches. Individual

chronicles may start out as *Bruts* (in that they follow the text established by Brie to 1333 or 1377) and turn into something else when their scribes drew continuations from other sources, sometimes years later. And Matheson's study of Middle English Prose *Bruts* includes texts that are neither uniformly Middle English or prose—for example, a considerable section of “Peculiar Texts and Versions.”<sup>25</sup> Moreover, the manuscript codices also contain texts that are not the *Brut*, such as romances, saints' lives, and even receipts, wills, and inventories, which are subsumed within a manuscript's classification as a “Brut” in both Matheson's print corpus and *Imagining History's* digital one.

As we have described above, each successive attempt to re-define the boundaries of the *Brut*—whether in a medieval manuscript or in subsequent scholarship—thus created a different thing, making the medieval chronicle particularly relevant to the understanding of digital projects. As developments in scholarship push the focus of investigation away from “texts” and towards objects and artifacts, this colossal corpus risks disappearing into of the particularities of its individual manuscripts, even as studies of those manuscripts cause “the *Brut*” to loom ever larger in our understanding of medieval attitudes towards authorship and collaboration.<sup>26</sup> In the print publications by Brie and Matheson, the textual and material variety of the *Brut* corpus looked unwieldy and even confusing. Despite their best efforts to organize masses of information into useful lists, no common standard for describing codicological features existed from manuscript to manuscript, so their contents and titles reflected the impressions of the individual cataloguers, who were often working miles and centuries apart. At the beginning of the twenty-first century, the more dynamic affordances of digital tools seemed to offer a new way of structuring information about manuscripts that could, in turn, lead to new knowledge about the production, composition, and transmission of historical knowledge in medieval England.

This desire is apparent in *Imagining History*'s key ambition: a plan to “culturally map” the *Brut*, visualizing connections among the manuscripts, their owners, regions of production, and textual characteristics. Matheson's manuscript categories were to be augmented by further paleographical descriptions, dialect assessments, annotations, and other features. This information would be published in flexible digital formats in order to generate new insights into the historical imaginary of late medieval England. The project team's documentation and external publications argued that this construction of the *Brut* corpus would transcend the editing of its texts and instead illustrate its geographical and social reach.<sup>27</sup> The team created a series of project-specific categories to illustrate the textual and provenance history of the *Brut* manuscripts in their corpus. Some of these were borrowed from Matheson's study. For example, icons for textual versions and conjoined manuscripts were proposed that would represent chronicles that had been copied in stages, or which had missing exempla. Other categories reflected the project team's focus on manuscript provenance, for example icons for individuals, households and religious houses. The proposed visual interface to display these connections was modeled on the London Tube Map.<sup>28</sup>

These plans for “cultural mapping” would likely have required custom maps for each manuscript, which the project team evidently hoped to crowdsource. No mapping information ever materialized on the blog or wiki, and the models made to illustrate the finished maps have not survived as they relied on JavaScript (which does not archive well with the Wayback Machine software). Thus we can't now determine how much of the project team's effort over the grant period was reflected in their final product. Although *Imagining History* was not able to visualize the connections between the *Brut* manuscripts, the project published its manuscript data online in July 2006, with updates added through 2007. On the blog, a resource called a

“database” included 124 “short” descriptions in alphabetical order by location. The entries could be grouped by Matheson’s textual categories or searched by keyword. Separately, 80 manuscripts had “long” descriptions on a wiki site. The “short” descriptions, however, are not exactly abbreviations of the “long” ones: where two versions exist, the metadata fields are different and sometimes the data themselves are contradictory. The descriptions indicate that most entries were developed from microfilms; each is signed by individual contributors (principally Jason O’Rourke and Ryan Perry).

Within a few years, the Imagining History blog and wiki were already at risk of oblivion. Arrangements had been secured with AHRC to host the project until 2010, and subsequently the site moved to QUB where it had to contend with compatibility of the university’s software. While conducting research for a PhD on the *Brut*, Neil used the project descriptions in late 2012 to compile an initial list of manuscripts to examine, but discovered a year later that most of the content had disappeared from the live web. At that time, project co-director Stephen Kelly commented that while the site was dormant, the information should be preserved indefinitely; in response to Neil’s inquiry, the IT department at QUB restored the site to functionality.<sup>29</sup> Two years later, the same problem occurred. Neil’s request to restore the site was again successful, but revealed that the site had been scheduled for permanent removal.<sup>30</sup> In 2017, the project’s pages finally disappeared from the live web. During its ten years, the wiki was actively used (the blog doesn’t show access statistics). The page view statistics captured on Archive.org are impressive for a specialist resource on a specialist topic: the main wiki page was visited 154,161 times by July 5, 2017. Many of the individual manuscript pages were visited thousands of times each—one 40,584 times (Trinity College, Cambridge, MS O.9.1). These statistics of course don’t record how many unique visitors accessed the pages—and many “visits” may have been web

crawlers for automated indexing. Nonetheless, these access data demonstrate how digital search increases the visibility of historical information. They suggest that Imagining History represented something valuable to at least some actual people, even if we can't be too sure what.

Imagining History typifies challenges that all digital resources face. Are they by definition short-term projects that answer discrete research questions, often for specialized audiences? Or do they aspire to become long-term infrastructure for questions that haven't yet been asked? Corpus-based projects generally imagine themselves as both but are in regular risk of achieving neither. When project teams disband or disperse, so does the project's collective memory, unless the collaborators produce and archive documentation in discoverable and sustainable formats. In some cases, the arrangements necessary for sustainability conflict with a project's original design—yet partial migration is the only alternative to complete loss. This was the case with another manuscript corpus project dedicated to a text with a complex material history, the Roman de La Rose Digital Library (RRDL), begun in 1996 and still hosted at Johns Hopkins University. By 2009, the site hosted images and metadata for more than 140 manuscripts from multiple institutions. The RRDL site was built in JavaScript and was organized so that users could navigate through common themes in the text or search the manuscripts' additional contents. In 2017, RRDL was migrated to a new platform, the Digital Library of Medieval Manuscripts (DLMM). In this new environment, the metadata created for RRDL is no longer browsable in its entirety nor tagged to manuscript images. While the information still appears in keyword searches of the entire corpus, a user has to know to look for it. In other words, in the DLMM the manuscripts have become "*Roman de la Rose* texts" rather than "manuscripts that include the *Roman de la Rose*." On DLMM, the manuscripts' digital images are now accessible in a more interoperable environment, but much of the metadata created for

RRDL has been effaced. The images have been preserved through migration, but the resource has fundamentally changed in nature, and its past infrastructure is obscured to new users.

A second lesson to draw from *Imagining History* is the role that user communities and their needs play in the survival of digital things. The project was doomed not by the wiki technology itself but the lack of an invested user community, including the host university. The data curators' attentions were defined by funding opportunities and the teaching program of their university, but so was the scope of the project—the things it was able to do. Without the “cultural mapping” function, the site became a digital extension of a printed finding aid. It was text searchable, but its data couldn't be manipulated in the ways its designers intended or its users might have wanted. The site worked best for specialists already familiar with Matheson's catalogue and Brie's edition. Such users would have been well positioned to contribute new findings or descriptions to the site, but these interactions would have required regular attention from an editor. Specialists were far more likely to publish new research elsewhere or to cite a physical manuscript or a print resource rather than the wiki, thus rendering the digital resource invisible.<sup>31</sup>

Both *Imagining History* and the Roman de la Rose Digital Library were built according to the standards and schools of thought of their particular scholarly disciplines. They adapted schema for describing their subject matter that made sense within the boundaries of their specific fields. Much like other types of publication, they were designed to showcase completed work. The structure of the project determined how the data could be used and preserved, rather than the other way around. Thus, they built their data into their desired outputs. In the case of *Imagining History*, the simplicity of the interface made the data relatively easy to capture from archived web pages. At the same time, the descriptive categories were custom-built for the purposes of

understanding the *Brut* manuscripts on Matheson's terms (even though the project contested some of his conclusions). The results had little in common with any other digital manuscript corpus. And once the project left the care of a well-funded, specialist community, it began to decay.

## **People and Processes**

What is Re-Imagining History? The collaborators seek to create new relationships, and thus new material, out of the legacy data from Imagining History. The project investigates practices and opportunities in digital design, preservation, and community building. The collaborators have been assessing the corpus data alongside project modeling, such as “The Socio-Technical Sustainability Roadmap” developed as part of migration planning for the website Images of Medieval Art and Architecture (2016-18). Re-Imagining History is also guided by the “FAIR Principles” (2016) for digital assets— that they be findable, accessible, interoperable, and reusable. Finally, the *Brut* corpus is a national and nationalist corpus that prompts reflection on how digital representation might replicate that inheritance. We are thus inspired by models of “post-custodial” archiving to consider what a “non-custodial” platform might achieve.<sup>32</sup> That is, what responsibilities are embedded in the data set itself when hosted at an institution that only has “custody” of one manuscript? We are mindful, too, of how the profits of extractive colonial capitalism brought the *Brut* to Dartmouth in the first place--and to every other repository where manuscripts are preserved.<sup>33</sup> As collaborators develop the project and its data set, they are driven to create something coherent enough to be understood but open enough to be flexible, conscious of its limits and conspicuous about its connections to the past.

This essay is part of the project's paradata. The story of what collaborators have done so far is part of the "thing" that Re-Imagining History is and will be. From the beginning of *Remix the Manuscript*, Michelle envisioned some project involving Imagining History and received permission to re-use the manuscript descriptions from John Thompson, former project lead.<sup>34</sup> Michelle and Laura Braunstein (Digital Humanities Librarian at Dartmouth) conducted some initial experiments to capture the content of the blog and wiki pages in July 2016, with support from the Institute for Liberal Arts Digital Scholarship at Hamilton College and a small seed grant from Dartmouth.<sup>35</sup> Soon after, collaborators formulated the following questions for Re-Imagining History: "What are our options for reformatting the basic records? How can we remix, revisualize, and remap them in newly meaningful ways? GIS (geographical information systems) platforms, for example, might be brought to bear on the ambitious questions of cultural geography that were part of the original project vision. What happens if we run the same data through different mapping tools?"<sup>36</sup>

The first phase of Re-Imagining History addressed the manuscript descriptions as data. Throughout the academic year 2017-18, Monica Erives (Edward C. Lathem '51 Digital Library Fellow, Dartmouth College) reformatted the information that Laura and Michelle had downloaded. The goal was to turn a collection of individual HTML files, one per description, into a single spreadsheet of clean data. Since some manuscripts had both "short" and long" descriptions, Michelle and Monica envisioned combining them into a single record for each manuscript. Monica, in collaboration with Data Visualization Librarian James Adams, used several tools to automate the compilation process.<sup>37</sup> This work made clear that the descriptions presented a number of challenges as "data." In effect, they were not structured like data at all. The review made it apparent that the "short" and "long" descriptions, as we mentioned above,



used different terms for similar elements. It wasn't clear whether the "long" elaborated on the "short" or if the "short" condensed the "long." In some cases, the two contradicted each other. The descriptions were full of detailed information but there was very little that we could do with them as data.

In the midst of figuring out what to do with the spreadsheets, Laura proposed Re-Imagining History to Digital by Dartmouth Library (the Dartmouth Library's digitization program) as a library-hosted project (February 2018). At that time, Laura and Michelle described the project's value thus: "The benefits include: renewal and expansion of a valuable digital resource, integration of Dartmouth's own *Brut* chronicle in the larger corpus, and increased visibility for Dartmouth as a digital research destination." The next step was a gathering of all the people who would be involved in development and preservation of this new digital asset. This meeting in May 2018 included thirteen library specialists. The discussion ranged broadly, from describing the *Brut* corpus to digital rights to tough questions about audience. Who indeed would be the users and why should the library invest in them? A key concept became the value of the historical manuscript: in order to promote research and teaching with this valuable artifact, it needed to be connected to the broader corpus. The digital resource would serve a variety of interests, including the library's interests in the manuscript.<sup>38</sup> This meeting also raised new questions about the Dartmouth digital *Brut*, which had been published as an HTML page ten years earlier. Within the library, the digital manuscript is one "collection" in an ecosystem of more than forty other digital collections on various platforms, its potential migration remains an open question. In the evolving environment of interoperable images (IIIF, International Image Interoperability Framework), the digital *Brut* is at risk of a new form of isolation.

A few months later, *Remix* posted a preliminary corpus spreadsheet, based on Monica's work.<sup>39</sup> This document lists all the manuscripts from *Imagining History*, with links to the descriptions on Archive.org, including longitude and latitude for each repository location (to enable location mapping). Later that month, Neil read about the project on the blog and joined the team.<sup>40</sup> With contributions from a new Digital Library Fellow, Madeline Miller, *Remix* posted a second spreadsheet in July of 2019 which included additional manuscripts (160 total), links to repository records, and links to digital manuscripts where available (31 items, some with only a few images).<sup>41</sup> From this spreadsheet, Madeline produced a simple map of repository locations.<sup>42</sup> Madeline's map does not "culturally map" the *Brut*'s medieval production but rather marks a step toward mapping its modern dissemination. With this data set, the Dartmouth *Brut* was finally part of a corpus. Spreadsheet 3.0 is underway, with the goal of completing the census of known manuscripts associated with the *Brut* (more than 200).

Most recently, beginning in December 2019, Michelle re-evaluated next steps with the co-leads of Digital by Dartmouth Library (DxDL), Laura Braunstein and Jennifer Mullins (Digital Lifecycle Librarian). Since the original proposal in February 2018, the social arrangements for digital development in the library have been shifting. Laura and Jennifer saw Re-Imagining History as an opportunity to refine workflows across library departments and to pilot new ways of collaborating between librarians and faculty. Across several meetings into January 2020, Laura, Jennifer, and Michelle redefined the project plans and timeline. These conversations culminated in a symposium, funded by Dartmouth's Leslie Center for the Humanities, to mark the fifth anniversary of *Remix*. Participants discussed Re-Imagining History for about an hour and half. The overall conclusion was to produce a "medium project that lives" rather than a "big project that dies," and to be conspicuous about the sources of our

information—including the project’s messiest spreadsheet.<sup>43</sup> At this juncture, collaborators are focusing on creating consistent, reliable data for a smaller number of variables rather than potentially unreliable or partial data for a larger number of variables.

From these multidisciplinary discussions, collaborators have drawn two key conclusions. First, we no longer refer to the digital product as a “database” or “catalogue” but as a “data set” and “handlist.” This shift in terms clarifies what the project represents, both in terms of content and in terms of infrastructure. The manuscript data will be structured in a CSV (comma separated values) spreadsheet, for automated conversion to a simplified scheme in TEI syntax.<sup>44</sup> In the current vision, Re-Imagining History will have several initial forms, from the data set to a user interface. The hope is that some forms will be durable (in line with principles of “minimal computing”) and some forms will be temporary by design.<sup>45</sup> The project “thing” is several things—this essay, the *Remix* blog, spreadsheet, and websites created and hosted by Digital by Dartmouth Library.

The pivot away from “database” reflects the technical and theoretical implications of the term. By turning contextualized materials into data within a predefined structure, “database” seems to liberate information from history and narrative.<sup>46</sup> At its furthest and most provocative extent, “database” has even been conceived of as a kind of “anti-thing,” obliterating both the physical structure of an archive and the original nature of its material.<sup>47</sup> In this spectral and highly theorized form, the database is immediate and infinitely mutable, grinding its contents down into syntax that an algorithm can parse. However, when it comes to representing a manuscript corpus, choosing between databases often means adhering to existing infrastructure, as well as categories of description that might not convey the most significant relationships among project data.

Second, “database” and its categories of data almost always conjure an assumption of “bigness”—with implications of complete and exhaustive coverage. But the *Brut* corpus is “big” in a different way. As we have also noted, Imagining History focused collaborators’ labors on manuscript descriptions, using common conventions of codicology and paleography as their “data model,” but not with the kind of controlled vocabulary that would enable search and discovery across different user communities. Manuscripts do pose challenges for metadata schemes designed for broad classifications of print materials. Manuscript and rare book records in COPAC or OCLC, for example, cause no end of confusion, even among specialists.<sup>48</sup> Since manuscripts lack universal cataloguing standards, existing catalogues reflect various combinations of individual and institutional interests. A digital representation of a corpus, then, must adjudicate between consistency and idiosyncrasy—legacies of the medieval materials themselves as well as their modern descriptions. Where does the balance lie between the interests of a textual editor and those of a paleographer or linguist? How can the richness of detail be balanced with the controlled vocabulary of a data model? In short, how can a corpus become searchable? How can a dataset yield new knowledge beyond that of its makers? The textual and material history of the *Brut* corpus provides ample material to test the balance.

Re-Imagining History attempts this mediation by adopting existing open data standards that might create pathways between *Brut* data and other similar data sets. Given that the manuscripts in the *Brut* corpus contain additional texts, this is a critical step in creating networks of potential interaction. The TEI schema for manuscript description (TEI P5) borrows its categories from another descriptive vocabulary, Dublin Core, which is widely employed in the digital humanities. The Dublin schema, however, was not developed specifically for manuscripts. Thus even the adapted TEI schema presents tough choices between preserving

specificity and maintaining uniformity. The impact of different data models on the representation of medieval manuscripts has been clearly shown in Bridget Whearty's account of reconciling manuscript data originally prepared in different repositories according to different schema.<sup>49</sup> With these cautions in mind, Re-Imagining History aims to balance categories shared by manuscripts in general (such as annotations) with those specific to the *Brut* corpus (such as Matheson's textual groupings).

Additionally, Re-Imagining History seeks to represent the partial nature of current knowledge about the corpus, both as a whole and for individual items. Collaborators envision judicious use of the designation "unknown" in many of the metadata fields, rather than simply leaving them blank. This approach pushes users out of the data set as often as they are drawn in, increasing the likelihood that users will find new pathways to and through the corpus. Likewise, building a resource that makes visible the limits of scholarly knowledge also increases the likelihood that users will expand that knowledge. Collaborators would like to achieve Imagining History's goal of creating a "manuscript mapping facility" for users to "track the dissemination of *Brut* MSS—and subsequently any MS they are interested in— geographically and temporally."<sup>50</sup> But first, the scope of data production must be better understood. It may well be that such a goal lies well beyond the current state of knowledge about the corpus.

Finally, collaborators recognize the limits of crowdsourcing: crowds don't sustain themselves. Digital preservation requires communities—and not just communities of users. With Re-Imagining History, collaborators are investing as much effort in forging community as in creating data. The project, like *Remix* as a whole, is inherently a library-based collaboration. In many early digital humanities projects (and still now in many cases), librarians were more involved in the preservation of digital artifacts than in the intellectual work of creating them;

libraries served primarily as repositories rather than as research spaces.<sup>51</sup> By contrast, Re-Imagining History contributes to some of the library's own goals for outreach, asset promotion, and resource development. The data set, moreover, already integrates links to catalog records and digital facsimiles, making the contributions of librarians more visible and accessible. These links provide pathways out of the data set and into the more than forty other institutions that hold *Brut* manuscripts, exposing the labor of the many library professionals who curate data, maintain records, and conserve the books themselves. Moreover, the range of digital facsimiles collected in our project spreadsheet—PDFs, digitized microfilms, JPEGs—raise new research questions for digital scholarship curators.<sup>52</sup> More work remains to be done to encourage active and meaningful partnerships among the many specialists who touch and are touched by the *Brut* corpus. Indeed, one of the things most at risk in the creation of digital projects is not the tools or the outputs they generate, but the gatherings of people who produce them.

## **Conclusion**

So, what kind of a thing is Re-Imagining History? The data set will be a new corpus alongside a new chronicle—the accumulated narrative of the intellectual and physical history of the Middle English Prose *Brut*. In this respect, the project continues the long collaborative and iterative tradition that has been practiced from the time the *Brut*'s scribes put ink to parchment or paper and editors and scholars attempted to parse the mass of what their predecessors created. Though Re-Imagining History has no physical form yet, it is already tangible as an accounting of relationships that have made the *Brut* manuscripts, as well as the data about them what they are today. In investigating the distinctions between physical and digital things, the project brings out

some of their fundamental similarities. As humanists, we approach the contents of books not as an end but as a beginning, information whose relations are unstructured enough for new interpretation. This project encourages more people to do the same for digital things.

The theorizing of digital projects also offers several benefits for how curators approach special collections. Without question, book historians have been great beneficiaries of digitization in repositories and the multitude of digital research projects (both personal and institutional). It is now possible to consult and compare copies across many repositories without having to put down your coffee cup. But digital projects can, and should, offer more than increased access to content, especially if that access comes at the expense of scholar-generated metadata. Digital projects have the capacity to help interpret and illustrate some of the nuances of manuscript research for new or infrequent users, but those functions must be created and designed; they don't derive naturally from manuscripts or from the digital medium.<sup>53</sup>

Secondly, digital objects can represent dynamically how historical objects have changed over time. As a discipline, book history attunes researchers to the many "lives" that books and manuscripts have enjoyed over time.<sup>54</sup> Digital environments and other scholarly projects help to illustrate the travels of these books through time and space, along with the readers, collectors, and other figures who have altered their content<sup>55</sup> In the *Brut* manuscripts, handwriting forms and dialects become outdated, in some cases unintelligible. Passages morph from facts to fanciful tales to out-and-out lies in the judgment of readers who annotated the margins. References to saints become blasphemies to be excised from the text and then resurrected by later readers. Are current institutions, or their digital repositories, the final stop in these objects' journeys? Have they been completely "collected," to be kept in a state of stasis until they are

unable to be preserved? The number of books that contain the marks of earlier libraries suggests that it is not impossible for them to eventually go elsewhere.

Digital things are less durable than books and change more rapidly. Chronicling the digital presence of old books allows us to appreciate them equally as digital and medieval things. It allows us to see their digitization as a new point on a continuum of materiality from ink to pixel. Unlike the conservation of medieval manuscripts, the preservation of digital infrastructure demands a dynamic and continuous re-evaluation of how data relate to things. This approach is just as beneficial for the continued use and appreciation of rare books and manuscripts, as it takes neither their value nor their survival for granted, and encourages the use of material in new ways.

With *Re-Imagining History*, collaborators' understanding of the data created for the project may be the most tangible "thing" about the project for some time yet. Further embellishments, such as the processing of metadata and the curation of a digital corpus, will be underway by the time that this article is published. The presentation of the data set on a website, however, does not lend itself to preserving these types of recollections and procedures. We have presented here a record of reception that moves back through decades and centuries, and the best way to preserve and present that type of recollection is in narrative. The creation of corpora, whether of manuscripts or of data, constitute another type of cultural mapping, one which makes "the labor and practices that constitute the history and present of humanities research visible and communicable on a human scale."<sup>56</sup> Readers of this article in "print" may find a different *Re-Imagining History* than the one we have described here and now. We will count our effort a success if they can still see the process that led to it way back when.

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<sup>3</sup> Stephen Kelly, “The Future of the Imagining History Website,” *The Imagining History Project* (blog), January 6, 2007,  
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<sup>4</sup> O’Donnell, “Doomsday Machine.”

<sup>5</sup> Bryan, “Rauner Codex MS 003183,” pp. 219-23.

<sup>6</sup> <https://doi.org/10.1349/ddlp.604>. And see Warren, “Situating the Middle English Prose Brut.”

<sup>7</sup> See Julie Singer’s essay in this volume, pp.

<sup>8</sup> Given-Wilson, *Chronicles*, pp. xxii-xxiii.

<sup>9</sup> Brie, *The Brut*, vol. 1, pp. x-xi.

<sup>10</sup> Hiatt, “Historical Writing,” p. 178.

<sup>11</sup> Parks and Starosielski, *Signal Traffic*, p. 2

<sup>12</sup> “Home Page,” *Remix the Manuscript: A Chronicle of Digital Experiments*,  
<https://sites.dartmouth.edu/RemixBrut>. Citations to the project blog will be noted as *Remix Blog*, below.

<sup>13</sup> E.g. Contributor Roles Taxonomy (CREdiT, <https://casrai.org/credit>); Risam et al., “Building an Ethical Digital Humanities Community;” Gadd, “CREdiT Check;” Braunstein and Warren, “Zombies in the Library Stacks.”

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<https://sites.dartmouth.edu/RemixBrut/2015/09/02/posts/>

<sup>15</sup> Kuny, “Digital Dark Ages.”

<sup>16</sup> Kirschenbaum, *Mechanisms*, p. 2; Shep, “Digital Materiality.”

<sup>17</sup> Allison et al., “Digital Identity Matters”; Tarte, “Digitized Artifacts.”

<sup>18</sup> Schöch, “Big? Smart? Clean? Messy?”; Owens, *Theory and Craft of Digital Preservation*, p. 157.

<sup>19</sup> Cited in Shep, “Digital Materiality,” p. 328.

<sup>20</sup> Drucker, “Performative Materiality.”

<sup>21</sup> Star and Ruhleder, “Steps Toward an Ecology of Infrastructure,” p. 113; Anderson, “What are Research Infrastructures?” p. 18.

<sup>22</sup> Bentkowska-Kafel et al., *Paradata and Transparency*.

<sup>23</sup> Bamford and Francomano, “Digital-Medieval Manuscript Culture,” p. 40.

<sup>24</sup> Matheson, *Prose Brut* pp. 30-51; and Marvin, “Sources and Analogues.”

<sup>25</sup> Matheson, *Prose Brut*, pp. 256-334.

<sup>26</sup> Marx and Radulescu 2006, Warren 2014, Rajsic et al. 2016, Bellis 2016.

<sup>27</sup> Kelly and O’Rourke 2003; Thompson 2008

<sup>28</sup> “Research Methods,” *Imagining History* 2007

<sup>29</sup> Stephen Kelly, email message to Neil Weijer, December 12, 2013.

<sup>30</sup> Stephen Kelly, email message to Neil Weijer, July 22, 2015.

<sup>31</sup> Blaney and Siefring, “Culture of Non-Citation.”

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- <sup>46</sup> Folsom, "Database as Genre," pp. 1575-76.
- <sup>47</sup> McPherson, "Post-Archive," p. 487.
- <sup>48</sup> Davis, "Linked Data."
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