

The Relationship Between a Historical Manuscript and its Digital Surrogate

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Abstract

Through the digitization of rare or special manuscripts, academics have researched the impact of digitization and its relationship with the physical manuscript itself. Past literature has focused on how the digital can complement the physical, the changing manuscript's identity when its digitized, and past research around the quality of a digital surrogate. The importance of carefully considering the impact of the quality of a digitized manuscript is essential. However, every edition (physical or digital) changes in some way and moves further from the original, be it an issue with the digitization or pages being removed or altered in the physical manuscript. Though some scholars find that content may be lost when digitized, there can also be more information added by cataloguers. Ultimately, digital surrogates allow for wider access, but their quality must be considered and properly addressed in research. A researcher who is aware of and within their work clearly states the relationship between the digital surrogate and the physical manuscript will find that it is a great support for any researcher.

Keywords: digitization of manuscripts; rare manuscripts; digital surrogates; digital research; digital scholarship

The digitization of rare or special manuscripts increases accessibility within academia. However, the high costs of digitization can deter institutions from implementing it, and proper consideration of why and how digitization is conducted is necessary (van Lit, 2019). Primarily, scholars have speculated that nuances are left behind when historical manuscripts are digitized. Throughout this review, the term

'digital surrogate' is used based on van Lit's (2019) definition that these digitized manuscripts are substitutes for the physical manuscript and can replace the original item in a limited manner (p. 52). The use of the term digital surrogate draws attention to the fact that it is not an identical copy of a manuscript. A close analysis of the work done around how the digital surrogate could complement the physical manuscript, the changing manuscript's identity when its digitized, and the impact on research around the quality of a digital surrogate could provide insight into the value of using a digital surrogate and the nuances that might be left behind. Investigating the digitization of these manuscripts opens an avenue to discover if something is lost when physical manuscripts are digitized and the existing relationship between a physical manuscript and its digital surrogate.

Does the Digital Complement the Physical?

In digitizing rare or special manuscripts, a complementary relationship should exist between the physical version of the manuscript and its digital surrogate. This complementary nature entails that a researcher can be more confident when using the digital surrogate. Chen (2012) studies how digital surrogates are utilized within interactive exhibits to help content appeal to a broader audience. For example, the Library of Congress' interactive Declaration of Independence exhibit makes content more accessible as the digital surrogate engages more visitors, instead of simply being a physical item that a visitor quickly glances at (Chen, 2012, para. 26). Chen finds that handling or seeing a physical manuscript can elicit an emotional reaction, but digital surrogates allow more time to peruse the manuscript, making manuscripts less imposing, more understandable, and easier to navigate. Chen concludes that the digital version does not mean that a manuscript has been dehumanized and that a digital surrogate can properly demonstrate "human thought, effort, and intentionality" (para. 31). However, the aspect of humanizing a manuscript leads to concerns around how solely using a digital surrogate could compromise how a manuscript is interpreted.

Some scholars have found a potential uneven relationship between the digital surrogate and physical manuscript. Kropf (2017) emphasizes that the quality of the surrogate needs to be carefully considered before it is utilized, as that can create an uneven and incompatible relationship between the digital surrogate and the physical

manuscript. This uneven relationship can result in the physical version being considered more reliable than the digital surrogate. Kropf highlights the importance of ensuring that academics are properly trained in understanding the relationship between the digital surrogate and the physical manuscript. In conducting a qualitative survey between English and Arabic speakers, Kropf's work finds appropriate training will ensure a better understanding around how to use the digital surrogate. This includes training around what aspects might be lost when using the digital surrogate; for example an embossed watermark that might only appear in the physical manuscript (Kropf, 2017, p. 16). Kropf settles on digital surrogates being beneficial, but that training must be done to ensure an understanding of aspects that might be neglected are included. Similarly, Yeo (2010) discusses how the physical and digital are two distinct entities in comparing subsequent versions that are close to its predecessors. Yeo advocates for a continuation of retaining originals to ensure there is no unintended loss (p. 110). In continuing to keep multiple versions, research could be done around what has changed and subsequently what has remained the same in these various versions. These are some potential areas that researchers need to be aware of when consulting a digital surrogate, but it can be a great and complementary item for a researcher.

The digital surrogate and the physical manuscript have a relationship where the digital surrogate complements the physical manuscript. A proper understanding and training of how to leverage this relationship can provide a more fulsome research experience. Shafir (2013) and Terras (2010) in their studies of digital surrogates emphasize that digital surrogates reduce travel time and costs, which allows for a more in-depth examination of the ancient manuscripts. With physical manuscripts there is a short period of time (e.g., when a library is open) that a researcher is allowed to examine them. In looking at the impact of digitization on early modern Islamic intellectual history, Shafir elaborates that in examining the digital surrogate a researcher is allowed more time and capacity to examine multiple manuscripts. This longer period is in direct contrast to only being allowed to examine one or two per visit. Examining digital surrogates could help refocus the study of a physical manuscript, with a potential for a growing interest in the physicality of a manuscript (Shafir, 2013, para. 14). Since

there is a chance that a researcher will not get the full sense of a text, this initial study of the digital surrogate can be a great method to further understand what manuscripts need to be examined in person. Terras raises concerns around what trusting digital surrogates can mean, specifically for academics in Classics. Issues raised include the appearance of the digital surrogate and how faithful it is to the original manuscript, including quality, copying, representation, and substance (Terras, 2010, p. 45). However, identifying the purpose of digitizing a manuscript can lead to additional reassurance around how the digital surrogate will complement the physical manuscript (Terras, 2010). In Shafir's and Terras' works, the complementary relationship between the digital surrogate and the physical manuscript is best understood when the differences and potential shortfalls are also appropriately acknowledged by the researcher.

Treating the digital and physical versions as two separate entities may not always be necessary, depending on what research is being conducted. Yeo (2010) acknowledges that it depends on the researcher and their focus of research (e.g., studying only the textual content). When comparing the digital and physical manuscripts of the medieval poet and composer, Guillaume de Machaut, McGrady (2016) identifies how digitized manuscripts are supportive of the physical 'real' manuscript. The digital surrogate can provide larger access to the work that would not be available otherwise (McGrady, 2016, p. 22). Bonilla (2021) and McGrady focus on how each version can be used to support researchers, with Bonilla emphasizing that we should not lose contact with the original. The digital surrogate continues to have great value as new computer methods can generate new perspectives (Bonilla, 2021). Though, there is a chance of the digital surrogate diluting the wider social history behind a specific, physical manuscript. Subsequently, questions remain around if interacting with the physical manuscript is the only solution to ensure that nothing is lost when examining the digital surrogate. Possible solutions to this problem include cautioning researchers to look at the quality of the manuscript as digital surrogates can mediate the physical qualities of the manuscript (Kropf, 2017). Overall, a consideration must be made around what type of research will be conducted and if using the digital surrogate is sufficient or if a consultation of the physical manuscript is required. In critically looking at the relationship

between the physical and digital surrogates, Correa (2017) examines the best teaching methods on how to critically examine and compare the two options. Correa looks at the relationship from the perspective of two different audiences: the librarian and the researcher via the Israel State Archives' digitization project. Correa identifies the key issues that researchers and special collections librarians might have around digitization, including preservation, access, and scholarly research methods (p. 177). The digital surrogate allows for a physical manuscript to have less degradation from constant human interaction; however, the high cost of digitization and the potentially damaging effect of the process itself need to be considered (Correa, 2017). Van Lit (2019) inspects how strongly the digital surrogate is linked to the physical manuscript, settling on their 'digital materiality' (p. 51). Due to the potential overlap, van Lit states that the relationship can easily be confused and that when a digital surrogate is used it should be identified and fully evaluated since the experience will be different than consulting the physical manuscript. For researchers, these relationships need to be fully considered when examining a digital surrogate, and more research around how librarians can properly teach researchers about how the digital complements the physical would be beneficial.

Has a Manuscript's Identity Changed?

In attempting to study the potentially complementary relationship between the digital and the physical, some scholars find the relationship more akin to the digital surrogate being an abstract of the fulsome, physical version. Yeo (2010) examines how two cans of soup are completely different entities as they are not occupying the same space. The example is then directly contrasted between how each text material is also different and that one manuscript is not identical to another. The author finds that print manuscripts can also be compromised through a corner being cut or a page being folded over (Yeo, 2010). Subsequently, this means that a perfect manner of storing physical manuscripts does not exist either. One version may have comments from a scribe, while another is comment-free. Therefore, it is not only the digital manuscript that is different, but any version of a manuscript. Yeo concludes that digitized surrogates differ from the physical versions because readers are missing the tangible

feeling of the physical manuscript, such as the weight or smell of the physical manuscript. This is similar to Foys' (2015) concept that manuscripts have always been changing and are dynamic. Foys provides examples of how texts have been altered, especially when looking at the changes that have been made since the early medieval period to the handwritten codex titled *Cotton MS Tiberius B V/1* where content was constantly edited in the handwritten, print, and digital versions. Stokes' (2021) work also looks at the different versions that exist of a manuscript, be it digitized, printed, or copied by hand as being models of the originals. Throughout the work, the author examines the models, and their challenges and benefits that have consistently been used when examining digital approaches to Book History (Stokes, 2021, p. 8). Yeo, Foys, and Stokes find that all versions of an original manuscript are constantly changing, and that be it a digital, print or copy of a manuscript, they are all different from the original manuscript.

Not only does something change with the digital surrogate, but there's also the potential that something might also be lost. Hirtle's (2002) work looks at the impact of digitization on special collections through its advantages and disadvantages (p. 42). Hirtle acknowledges that digital surrogates are useful but concludes that the physical manifestation of a manuscript is a more unique object than the digital surrogate. McGrady (2016) focuses on how the digital surrogates are missing the whole picture that is present in the physical manuscripts, specifically when looking at manuscripts attributed to the French composer Guillaume de Machaut. In contrast, Correa (2017) acknowledges that metadata and other information can exist in digital editions, demonstrating that additional and unique information can present itself in digital surrogates. Proper training and sufficient time for a cataloguer to become knowledgeable enough help ensure that appropriate information, such as metadata, is added to the digital surrogate. Manuscripts when digitized may change, but these types of changes have been taking place before digitization and will continue to happen with or without digitization. An interesting research point in scholarship might be to compare the various versions to understand what has or has not changed over time.

The potential changed nature of a digital surrogate can stem from various factors, including the changed reading experience. Chen (2012) and Nolan (2013) focus

on the altered sensory experience of reading a digital versus physical text. In their work around digital surrogates in interactive exhibits, Chen notes that seeing handwriting or the physical attributes of a text stirs emotions that seemingly do not exist within a digital version. Nolan's article compares the reading experience for medievalist scholars between the physical manuscript and the digital surrogate via various visual cues present in objects to conclude that firsthand touch with medieval books is essential. Nolan expresses that touching an object provides a different experience than simply seeing it on a screen, and that the reader loses something when using the digital surrogate. Even though the digital surrogate may reveal something that was previously hidden, the reading experience has changed (Nolan, 2013, p. 470). Nolan highlights how the reading experience between the physical manuscript and the digital surrogate are different, but when texts are digitized, new aspects can be revealed that are not present in the physical version. These new aspects may encourage researchers to approach digital texts in a different manner. Nolan frames this as a negative, that the sense of magic and close intimacy with a manuscript when touching the object vanishes with the digital surrogate (p. 471). However, different researchers may need various aspects that can prove useful based on the actual text of the manuscript, and not just the look and feel of it. Evidentially, many researchers will want to see a physical manuscript; however, work can still be achieved without doing so. Looking at the digital surrogate is a great way to go forward and extract key information that may be useful. If the manuscript has always been adjusted, there's a sense that this next step towards digitization is simply adding to its historical narrative.

There are academics who highlight that the fragmentation of a manuscript into a digital version helps to create something different. Through an examination of the German romance: *Parzival* and the copying processes in relation to molecular biology, Stolz (2017) examines ideas around mutation and relationships that may be rootless from the original physical manuscript (p. 259). Stolz scrutinizes how the physical manuscript has an aura that is not kept when digitized, and the digital surrogate becomes a mutation of the original as the digital surrogate moves the manuscript into the mechanical sphere. In contrast, a hand-copied edition is more dynamic and allows

for a wider breadth of fluid changes, such as shortenings, replacements, and re-emphasis (Stolz, 2017, p. 257). There is an implication that this cannot be replicated with a digital surrogate. Yeo (2010) provides a more hopeful interpretation that the digital surrogate is not so mechanical as there is hidden information that might not be present in the physical manuscript, such as metadata that's been added by a librarian. When doing anything to a manuscript there will be some sort of fragmentation that takes place; however, this is not solely excluded to a physical manuscript to the digital. This type of fragmentation can also happen with a careless researcher ripping off a corner of a manuscript. Having access to the digital surrogate can help widen access to manuscripts that might be incredibly delicate to handle.

What Happens to the Quality of a Manuscript When Digitized?

The quality of digitization varies based on its creators and how it will appear depends on the skill of these creators (Grover, 2015). This lack of cohesion brings about an inconsistency and can make it difficult to compare the quality of a manuscript due to it being uploaded from different institutes. Kropf (2017) and van Lit (2019) find that the quality of the digitization helps to establish its potential scholarly uses. Van Lit further elaborates that there is a stacking effect with the bad quality of a manuscript creating a bad reading of the text and resulting in a bad analysis of the text itself (p. 70). Optimism is present in Stokes' (2021) examination of the potential challenges when looking at the different versions of a manuscript, be it copied by hand, printed, or digitized. The author expresses that manuscripts are moving towards being digitally captured in better quality and that could entail a future that allows for a more fulsome experience of the digital manuscript. One aspect that might provide some assistance in creating a fulsome experience is properly capturing the colour in a manuscript.

The sheer vibrancy of colour present in medieval manuscripts is one aspect that is not always properly reflected in a digitization. Kropf (2017), Terras (2010), and Yeo (2010) all look at what happens when digitization compromises the colour of the manuscript. In examining Islamic manuscripts captured by the HathiTrustDigital Library, Kropf finds that enhanced image colour and resolution help improve the reading experience (p. 57). Terras further examines how technical distortions can adjust the manuscript in unintentional ways, along with how a computer reads colour in

comparison to the human eye (p. 43). Yeo briefly mentions potential user interface and visualization concerns. Yeo also highlights the problems around properly digitizing font, line breaks, and symbols to indicate illegible content in the physical manuscript itself (p. 96). This brings about the additional concern that the content might simply be easier to read in its physical artifact form. Kropf references that the physical manuscript will always be easier to read but fails to mention how each researchers' monitors may read colour differently. In contrast, Terras does examine this aspect along with lens shape and introducing dust in the lens when a photo is taken (p. 45). However, Terras concludes that even with the potential for some inconsistencies with the digitization, the digitized manuscript can still be used. Van Lit (2019) brings up the importance of cross-checking digital documents and the physical manuscript to ensure that nothing has been lost. This is especially important given that digitization endeavours are usually a project-based effort with an end goal in mind, and there is a chance that items will not be properly double checked or confirmed as accurate after the fact. Overall, a better-quality digital surrogate means a higher chance of use, if the colour, technical distortions, and user interface concerns are addressed. These will help future researchers feel comfortable using the digital surrogate.

Conclusion

In examining what has been written around digitizing manuscripts, there is an awareness that it can be more feasible to utilize digital surrogates rather than only rely on the original physical manuscript. The complementary relationship between the digital surrogate and the physical manuscript, the changing manuscript's identity when digitized, and the importance of a good quality digital surrogate provides guidance on when and how to utilize digital surrogates for wider access to a manuscript. A crucial point in providing wider access is understanding how to use a digital surrogate. Bonilla (2021), Chen (2012), Kropf (2017), and McGrady (2017) found the digital surrogate can be a great support for a scholar if there is an awareness that the physical manuscript and the quality of the surrogate is considered. However, the researcher must be aware that there may be some differences in the digital version of the text, creating an uneven relationship. Further, Correa (2017), Shafir (2013), and Terras (2010), agree that there

is evidence these digital versions help to complement the physical manuscript if researchers are appropriately trained on the relationship between the physical manuscript and the digital surrogate. The type of research that will be conducted can provide further guidance on if the digital surrogate is sufficient or if the physical manuscript must also be consulted. Questions that should be asked around the type of research being conducted include if anything around the physicality of the manuscript is being studied which would entail consulting the physical manuscript, while studying the text itself could mean the digital surrogate is sufficient.

Changes to a manuscript's identity can occur in both physical and digital versions. Foys (2015) and Yeo (2010) found that manuscripts are always changing, for example, when a corner is missing, or the colour is faded because of exposure to the sun in a physical manuscript. So though digitization can compromise the colour of a manuscript and subsequently the readability, this can also occur in the physical version (Kropf, 2017, Terras 2010, and Yeo, 2010). To help address this, cross-checking the digital surrogate with the physical manuscript is critical in ensuring that crucial content has not been lost in the digitization method (van Lit, 2019). A better-quality digital surrogate would also mean that more researchers would feel comfortable using it. A good user interface and high-quality digitization will enable the researcher to review the digital surrogate with greater ease (Yeo, 2010). Digital manuscripts can be seen as an abstract of the physical version, but there will continue to be a relationship between the digital and the physical that exists as they complement each other. Correa (2017), Hirtle (2002), Stokes (2021), and Yeo find that the digital copy can contain more information if cataloguers were able to add items, like metadata. Full training and the necessary time needed for cataloguers to complete this task would entail digital surrogates that were more complete.

Questions raised in the literature are if there is a need to standardize how manuscripts are properly digitized. Though touched on by van Lit (2019), helpful training sessions include those run by librarians that highlight the importance of using digital surrogates and provide guidance on when to use physical manuscripts. Within their work and bibliographies, researchers should also begin to identify when the digital surrogate was used, as opposed to the physical manuscript. This allows for other

researchers reviewing the work to be able to critically consider why a digital surrogate was used instead of the physical manuscript. If this is done well, there should be fewer problems reading the digital surrogate, and Kropf (2017)'s belief around a physical manuscript being easier to read will no longer apply. Though, there will always be purposeful or accidental nuances added to the digital surrogate that are not included in the physical manuscript, the wider access that digital surrogates provide for researchers far outweigh these potential problems.

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