



Digital Narrative, Documents and Interactive Public History

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Abstract. To date, the implications and potential of interactive digital narrative have had a limited effect on history as an academic discipline. This project is an attempt to form a dialogue between the practice of historians and the rich scholarship on interactive narrative already undertaken by literary theorists, researchers of interactive systems, scholars of media studies, and practicing creative technologists. Probing the narrative devices common to the production of historical work, this VR project uses Maya, Unity, and a range of visual and aural historical sources from Republican-era China (1912–1949) to offer a digital demonstration of the possibilities of combining interactive digital narrative with long accepted materials and modes of historical production. Specifically, our project focuses on making accessible to a global audience the stories of several scientists and historical factories key to the rise of the renewable energy industry in China during the 1940s. In turn, we hope that we can offer participants in the interactive digital storytelling community a few thoughts on the potential of collaboration with historians via the avenue of “public history”.

Keywords: Digital humanities · VR · Public history · Modern Chinese history

1 Relevance and Significance of the Work

1.1 Repositioning Archival Sources

Traditionally, historical documents are preserved in archives, often accessible only to qualified specialists. It is then the work of the historian to select, analyze, and boil down masses of archival documentation, enrich them with pre-existing secondary sources, and then produce a legible historical narrative for a wider public. This is of course something of a simplification – historians of cultures and regions that do not rely on written records often prioritize oral sources, while historians of art or material culture focus on physical objects. Yet the archive remains a dominant aspect of historical production, both in terms of the authority its inclusion confers on historical work and in structural terms – simply put, many sources of funding for the discipline revolve around the use of institutional archives.

In recent years, historians themselves have called attention to the “epistemic anxieties” [1] imbricated in the production and maintenance of archives. And scholars in adjacent fields have pushed the point further. Expanding on reader-response theory, media scholars like Lisa Gitelman [2] suggest that “individual genres aren’t artifacts... they are ongoing and changeable practices of expression and reception.” Building on this point, Gitelman argues for understanding “the document” as a genre itself. Much like a novel or serialized sitcom, the historical document is a “mode of recognition instantiated in discourse”, which for all of its subgenres (tax records, government memo, draft treaty) is recognizable by its institutional framing and its preoccupation with systematized, bureaucratic knowledge.

If Gitelman is correct, it is worthwhile for historians to deeply consider the relationship between the archive, the source document and the completed historical work. In other words, if the sources that historians commonly use to construct historical work cannot be regarded as fixed, timeless entities preserved unchanging in archives, it is worthwhile rethinking the balance between the source material and authorial voice in historical work. Given the possibilities available via digital formats [3], could the source not become more visibly and accessibly a part of the final work?

Meanwhile, scholars of electronic literature like Scott Rettberg [4, 5] increasingly question the idea of the “work” itself - - many digital projects can appear as installations, apps, and websites without the need for a fixed form. And a digital project reliant upon audience input seems to exist in a different state of “completion” than say a printed detective novel. What might this mean for the possibilities of non-print historical work?

1.2 History and Narrative

If the “historical” document can be interpreted as a genre, and the concept of a fixed “work” is increasingly problematic, can historians afford to rely solely on the static, text-based format that characterizes the majority of contemporary historical production? The discipline’s relatively limited engagement with alternate formats is not simply indicative of disinterest on the part of academic historians toward anything “digital”. On the contrary, for well over a decade, venues like the *Journal of Digital Humanities* have welcomed initial efforts by historians to reconceptualize the production of historical work in a non-print format. Meanwhile, professional organizations like the American Historical Association have sponsored conferences and grants aimed at promoting consideration of digital output for tenure and increasing training in digital tools for graduate students. If anything, younger scholars of history are anxious to produce work that is increasingly categorized under the larger rubric of “digital humanities” [6].

Rather, it may be that the historical discipline has yet to fully come to terms with scholarship in media studies, critical theory, electronic literature, and other fields which for several decades have critiqued and disassembled classical modes of understanding narrative. In other words, “narrative” is as much an obstacle as “digital” in deterring the full engagement of historians with the potentialities of incorporating interactive digital narrative into the production of historical works. As early as the mid-1970s, influenced by structuralist linguistics and reader response theory, the philosopher of history Hayden White published widely read and acclaimed critiques of the process of historical production, arguing that historians emulate novelists in adhering to the tropes

of drama, tragedy, and so on to chart the rise and fall of leaders and nations: in short, while the historical work references “real life” archival sources, it conveys levels of meaning beyond “information” found in a scientific text via devices most commonly associated with the literary arts. Yet as Herman Paul [7] concluded in a recent study of White’s work, more than three decades later, White’s critiques have altered less than might be expected in the field of historical work. Meanwhile, social history, post-colonial history, and histories of gender and sexuality have each marked turns in the historical field over the last three decades. But while the expansion of voices and viewpoints has been both needed and welcome within the discipline, historical work is still largely output in text format via monograph and academic journals, offering little chance for a general public audience to see, much less interact with, the issues and materials a historian grapples with on a daily basis.

Our demo is an attempt to address a few of these issues by presenting sources and digitized material artifacts alongside a historical narrative within the context of a reader-centered immersive environment. We are particularly inspired by the challenges of the present moment, when geopolitical events in Xinjiang and Hong Kong as well as the COVID-19 pandemic have limited the abilities of researchers to conduct on the ground research in China. Nor can the accessibility of historical sites and material artifacts be taken for granted, as the domestic political situation can quickly impact scholars’ ability to access materials vital to their work. Beyond the challenge of obtaining archival documents, rapid economic growth in the past few decades has spurred development which while in many respects positive has also endangered historical sites and buildings deemed unviable for renovation or preservation. Sustained exploration of digital mediums as legitimate formats for historical production, and more importantly, attention to the insights of adjacent fields in the arts and digital humanities, are vital steps in confronting these challenges.

2 Design and Development: “China’s First Biofuel Factory”

2.1 Digital Modeling as a Complement to the Archive

While the intended output is a viewer-centered immersive experience, creating historically accurate 3D models and developing methods for making source material accessible enriches the process of scholarship as well. The project began as a series of photos, architectural blueprints, engineering documents, and the crumbling remains of an ethanol factory located in southwest China, about 1 h south of Chongqing. The materials were discovered during archival research on the origins of a biofuel program initiated by the Chinese government during the late 1930s and early 1940s in order to preserve fuel supplies during World War II. Millions of gallons a year of ethanol-based biofuel supplied not only Chinese troops but US army troops stationed in the China theater throughout the war. Wartime conditions as well as the social and political tumult in mid-20th China resulted in many of the factories involved failing and gradually being forgotten, as was much of the documentation related to their existence. Recreating the equipment digitally was made possible by researching early 20th century journals of industrial machinery and applied chemistry, and consulting with experts at the Science History Institute in Philadelphia over a six month period.

Our project uses the game engine Unity to enable significant interaction between the viewer and digitized archival material (maps, blueprints, and scientific notes) as well as digitalized material artifacts (industrial distilling equipment) that would be impossible in a text-based format. Using an interactive UI “field book”, the viewer can choose to read and explore the documents and machinery prior to encountering a historical narrative which places it within a framework. Additionally, mouse click events and keyboard commands have been implemented allowing free movement around the factory environment, interaction with visual sources, animation of the distilling equipment, and so on. Naturally, there is a process of selection which is an interpretative act in and of itself. But by elevating the visibility of sources and digitized material artifacts within the immersive work, we hope to remind viewers that writing history is very much an act of construction.

2.2 Public History and Collaboration

After incorporating feedback from the demo, we plan to present the project as a public installation in several cities in western China where factories in the biofuel network were located. In turn, if the public installation generates additional documents, photos, or recollections from viewers, we will aim to include these in the digital environment as well, creating a feedback loop between project and public. In our project documentation online, we have included photos taken in November 2019 at one of the few remaining ruins, which is located on the edges of a landfill in the city of Zunyi. Images from the working demo of our project have been included in an online project folder, which will be updated over fall and spring 2020–2021.

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