Medieval Textual Transmission Modeling in Unity3D

Lynn Ramey
lynn.ramey@vanderbilt.edu
Vanderbilt University, United States

How did texts and ideas circulate within and between societies in the Middle Ages? We know that there were many potential vectors of movement: pilgrimage, crusade, merchant caravans and ships, and itinerant performers, to name a few. However, particularly in societies where transmission was largely oral, scholars usually cannot identify specific moments and locations when stories moved from one location to the next. For the medieval period, this lack of data has historically been the cause of heated debates as scholars identify stories that share common elements, but due to historical or political reasons they are resistant to any notion that one nation's literary tradition is "indebted" to another. Nonetheless, societies are influenced by art and ideas from around the world, and denying the contributions of global societies to stories that are held dear leads to isolationism and a sense of cultural superiority. In 2016, US Congressman Steve King (R-Iowa) questioned what non-whites have contributed to civilization. I am presenting an early version of a project that aims to address a part of that question, giving an immersive digital experience of what some of those contributions might look like and just when and how they occurred.

My project uses the Unity game engine to create stories of textual transmission. In particular, I am modeling how elements of the Thousand and One Nights could have circulated between East and West via the Lusignan court at the crusader kingdom of Cyprus circa 1194. In collaboration with Professor Sahar Amer (Arabic Studies, University of Sydney), we have identified a story from the Arabic text, The Prince Qamar Al Zaman and Princess Boudour, that shares narrative patterns and tropes with Old French romances *Floire et Blanchefleur, L'Escoufle, Huon de Bordeaux*, and *Miracles de la fille d'un roi.* Of course, each story has unique elements, but some of the striking scenes (dramatic public unveiling of mistaken gender identity) and themes (a princess who cross dresses and becomes an itinerant knight search of her lover only to be such a valiant warrior that she winds up married to her lord's daughter) are repeated. What is the relationship between Princess Boudour and Blanchefleur? Circumventing the theories of Joseph Campbell and Vladimir Propp that stories have basic, shared, "universal" components, we look at cultural context and emphasize variants. Our digital story will research and test various proposed vectors of transmission that ultimately result in the morphing of one story into a different incarnation of the same tale. While we will never have all versions of a story with changes and variations as it moved from one culture to the next, we can find the smoking gun as it were—places, times, and persons that we know participated in the exchange of objects, texts, and people. By making these moments visible we can test theories and vectors of transmission.

For example, in the medieval period stories were often changed slightly to please the patrons who paid for them. Traveling minstrels would insert the names of local lords or knights into the story, likely to increase eventual payment at the end of the evening. Stories might also change to use more familiar geographical locations. More dramatic changes could find their way into via mistakes in translation or understanding of stories that passed from one court to the next. Some scribes and minstrels enjoyed changing tales drastically in order to leave their own mark. Within our 3D environment, users will experience the multicultural and multilingual Lusignan court and its environs. Users must make small decisions that will ultimately result in changes, sometimes dramatic, in the final tale.

By illustrating just a few of the factors that influence storytelling and cultural interaction, we conceptualize two audiences. The first is someone who may not have ever considered how much cultural interchange can happen in simple storytelling. As the user makes choices, he or she sees and experiences directly the storytelling environment, becoming agents in the creation process. Our second audience is the researcher who, while being abstractly aware of all of these factors, may not see the potential impact of textual manipulation on a story important to his or her research. By working through these connections in an immersive environment, researchers will consider the global nature of the movement of ideas and interchanges in other texts.

The project brings together two areas of academic interest: global medieval studies and spatial studies. Both areas have well-developed audiences.

1. This project is part of the [Global Middle Ages Project](#) that aims to make apparent the global cultural interactions that took place in the medieval period, a time that is frequently studied in nationalistic isolation with an apparent assumption that before the modern period people did not travel and were not aware of the wider world around them. With its strategic location in the Mediterranean, Cyprus served as a crossroads between east and west in the Middle Ages. Despite their disparate backgrounds, the Cypriots lived together on this relatively small island for centuries. Scholars (Andrews, Carr, Grünbart, Nicolaou-Konnari, Rogge, Schabel, and others) have looked at this multi-cultural space, establishing moments of contact and exchange using artifacts of architecture and art history. We will extend their work using data gathered from literary works.

2. As we create a space where users can experience the past, we must consider that the meaning and experience of that space was likely very different 1000 years ago. Robert Tally, following and modifying the work of Bertrand Westphal, Leonard Goldstein, and others, suggests that perceptions of time and space changed radically about the time that linear perspective arose in artistic works. In a medieval illumination, for instance, one might have snapshots of past, present, and future within one framed block. Foreground and background rest in the same plane. Starting with perspectival drawing, Goldstein suggests that space became experienced as 1) continuous, isotropic, and homogenous; 2) quantifiable; and (3) perceived from the point of view of a single, central observer. As a contrast, a medieval map such as the 1375 Catalan Atlas evinces a different notion of time and space, at least in terms of visual representation. The map simultaneously includes the Queen of Sheba, the three wise men, and the Great Khan from vastly disparate eras (Old Testament, New Testament, and thirteenth century). Distances and landmasses are not measured to a modern sense of scale, though meaning can be induced from the relative sizes given to different areas and cities. Furthermore, we cannot know from which end the viewer was meant to see the map, as the writing and images are oriented in all directions. Space could comprise multiple times and places, and the lack of orientation toward a particular viewer indicates that perhaps multiple perspectives were expected.

In this sense of space, medieval maps share many traits of video game maps, including the relationship between place and object, where time, distance, and proportion vacillate between being important and irrelevant. For Mario in Super Mario Bros., the distance on the map is not proportionate to the difficulty of the task of reaching the next point. On the Catalan Atlas, Sheba and the Three Wise Men are a part of the map because they share space and time since Creation, showing that time unites us (we are all postlapsarian and part of the map of Christian history) and separates us (we can never meet up since we do not exist at the same moment). A video game engine provides a superlative space for modeling these pre-modern notions of time and space that tell us much about how people, ideas, and texts circulated in the medieval Mediterranean.

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