Contextualizing Galileo’s Digital Library

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This summer, I worked with Professor Crystal Hall to contextualize and visualize the book collection of Galileo Galilei using digital humanities methods and tools.

Professor Hall whittled Galileo’s lengthy list of books that influenced his work down to a more manageable and confirmed 348 – titles that were explicitly mentioned in his letters, in his marginalia, or in his writings.

Using the programming language Python, I streamlined and sorted this data in Excel. I then utilized computational tools to explore and visualize this list and the metadata attached to it. With the mapping software ArcGIS, I mapped the publication locations of the books in his library, spatially demonstrating the breadth and concentrations of intellectual influences. Additionally, I used a combination of Excel and InDesign to create a publication chronology of the books in his collection, putting it in context with the major events of Galileo’s life and career. Interestingly and counterintuitively, the most substantial spike in the number of books that he owned occurs after the publication of Galileo’s *The Starry Messenger*, in which he encourages intellectual pursuits within the sphere of the natural world. With Excel and InDesign, I developed a scatterplot of all known works in his collection, organized by date, location and quantity. (Visualizations below)

Working with centuries-old data comes with its challenges, particularly in the computational realm. Though 348 titles are confirmed to have been in his collection, Galileo undoubtedly read and was influenced by many more. Galileo mentioned in a letter that he had memorized a work by 16th century Italian poet Francesco Berni. The specific work is unknown, but Berni’s influence on Galileo was evidently substantial. Without metadata – title, date, publication location – this influence is difficult to incorporate in the collection, particularly due to the bounds and structure of the digital medium. Professor Hall and I sought to incorporate this uncertainty and include Berni in the collection, ambiguity and all. To that end, I created a scatterplot of Berni’s publications, demonstrating the breadth of possibilities of titles on Galileo’s shelf. (Scatterplot below)

These visualizations will be incorporated in Professor Hall’s upcoming *Digital Humanities Quarterly* article, and we are excited to continue developing the project throughout the school year. I am incredibly grateful to Professor Hall, the Gibbons Fellowship and Bowdoin College for the opportunity to contribute to such an innovative and exciting project.

**Faculty Mentor: Professor Crystal Hall**

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