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## Teacher/Student: Technology as a Basis for Centrifugal Learning that “Goes Both Ways,” Part 1

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Freely and publicly, I admit that my first employment of technology, specifically GPS/GIS — or the basic technology of geography, was driven by my perception that the reviewers of grant proposals would be inclined to see greater potential in my projects with the inclusion of more scientifically precise methods for recording data, organizing analysis, and deriving outcomes. It was, however, only after engaging geography students, who came to me steeped in the inherent potential of the technology, that I realized my architecturally based, “spatial” questions could be “visualized” in such a way as to turn my own research questions in on themselves. The addition of this data-based technology served to shift the research model from one where the research question drives the search for data, with analysis coming at the end of the process, to one where the generation of data and its analysis serves to identify the appropriate research questions to be asked.

A *Peregrinations: Journal of Medieval Art & Architecture* article of 2016,<sup>1</sup> provided a venue for outlining a successive series of my geographic/architectural projects. This essay traced my own technical “evolution,” from my early hand-drawn maps, with their simplistic pictograph indicators of various categories of data, to later projects that employed much

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<sup>1</sup> Mickey Abel, “Relevant Interdisciplinarity: Taking the Art History Classroom to the Field,” Special Volume, “The Interdisciplinary Field Experience: Maillezais Abbey, Water, Technology, and Team Research,” Mickey Abel, ed., *Peregrinations* 5/3 (2016), pp. 1-11, <http://digital.kenyon.edu/perejournal/vol5/iss3/1/>.

more sophisticated surveying equipment and the electronic manipulation and layering of data sets. With this retrospective point of view, I can now look back on the incremental incorporation of GPS/GIS and see how this addition of technology not only altered the trajectory of my research, but enhanced the range and depth of my teaching. Allowing the visualization of data to drive my research questions, particularly in relation to the fieldwork undertaken at Maillezais Abbey, provided insights at both a micro and macro level not possible with traditional textual research or visual analysis of the standing ruins (**fig. 1**).<sup>2</sup> Importantly, it also became clear that the type of student interested in this type of project was greatly diversified and enriched by offering the opportunity to work with the technology. Finally, this “hindsight” has also highlighted what I believe to be the most beneficial outcome of adding technology to my field research, that is, the recognition that it shifted my own level of participation in these group projects.



**Figure 1** Maillezais Abbey from the canal. Photo: Mickey Abel.

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<sup>2</sup> Mickey Abel, “Water as the Philosophical and Organizational Basis for an ‘Urban’ Community Plan: The Case of Maillezais Abbey,” in *Medieval Urban Planning: The Monastery and Beyond*, Mickey Abel, ed. (Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2017), pp. 8-45.

Significant here was the open admission to the students at the outset of the project that I did not personally possess a detailed working knowledge of the technology. It was an admission that signaled to the group that while I would take a leadership role in the shaping of the project, and would no doubt have a greater command of the historical data, I would be dependent on their knowledge and insights into the potential entailed in the technology. In other words, I made the students aware that we would all contribute equally to the teaching, as well as learning: we would all have a claim in the expertise and a say in the trajectory of the field operation. This admission served to level the playing ground, as I too became an interactive student. I now see more clearly that the progressive move towards projects that featured a basis in shared technology worked to facilitate the enhanced synergy of the group dynamic, in essence equalizing each participant's contribution, including my own. The result of this group dynamic was far from pre-determined; in fact, the project evolved and morphed from moment to moment as data was added and assessed, providing an on-going interactive process of re-evaluation.

In the last phase of my technological "evolution," I realized that I could expand the dynamic potential of this type of research process by insisting that individual members of the research group develop their own related research project based on the core data we would collect in relation to my research on Maillezais Abbey. I encouraged each member of the team to propose an expansion of the fields of data to be collected that reflects their respective corollary research topics. Selfishly, I knew that this would serve to enrich the data sets for the core Maillezais project, but would also keep each member of the group focused on the integrity of the data collection process. In the end, it was clear that this multi-dimensional, interactive approach became a centrifugal force that

while it empowered each member of the group, “spun-off” new and unexpected insights (fig. 2).<sup>3</sup>



**Figure 2** Maillezais Abbey, students collecting visual data. Photo: Mickey Abel.

Now, as I prepare to go back into the field, I would share an interesting side note to these retrospective insights. I continue to see the positive aspects of this “communalized” approach to field research, but I have come to see that the very outcome that I have found to be the most dynamic and productive may actually be at odds with what my university

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<sup>3</sup> Dory Deines and Owen Wilson-Chavez, “Visibility & Control in the Vendee”; Shana Thompson, “The Lady of the Marshes: Place, Identity, and Coudrette’s Mélusine in Late-Medieval Poitou”; and LauraLee Brott, “Reading Between the Lions: Mapping Meaning in a Surviving Capital at Maillezais Abbey,” Special Volume, “The Interdisciplinary Field Experience: Maillezais Abbey, Water, Technology, and Team Research,” Mickey Abel, ed., *Peregrinations* 5/3 (2016), pp. 1-121, <http://digital.kenyon.edu/perejournal/vol5/iss3/>. Another student’s work that came out of this program is Sarah Rose Shivers, “Riparian Geography and Hegemonic Power in the Severn Valley: Glastonbury Abbey’s Canals and Rivers as Definitions of Urban Space, in *Medieval Urban Planning: The Monastery and Beyond*, Mickey Abel, ed. (Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2017), pp. 75-100.

is projecting as one of its core goals. Teaching in a state institution, of course, comes with the implicit compliance with state mandates and educational philosophies. There is also the understanding that these shift over time. Currently, the state in which I teach has mandated that we adopt a rigorous program of assessment, focusing on four learning objectives embedded in our undergraduate academic core. Of these four — Communication, Critical Thinking, Social Responsibility, and Teamwork — it is teamwork that would appear to be the most in line with what I have described above as the outcome of my “student/technology-centered” program of field research. Yet in this objective, what we actually measure or assess is the student’s leadership skills, as if to say that in any team we expect to see someone take on a leadership role. Admittedly, identifying a student demonstrating leadership skills is much easier than assessing the individual weight or validity of an individual’s contribution to the group dynamic, but we seem to be acknowledging that without the level of self-differentiation inherent in a “leader,” the work of the team cannot be expected to be successful in the forwardly progressive, problem-solving model. Moreover, we are encouraged to reward evidence of leadership, as that is what the state has determined to be the hallmark of a well-educated, future citizen of the state. Without demeaning the value of good leadership, I would argue, based on the evidence of my own field experiences described above, that the subversion of leadership — the equalizing of the importance of each contributing member of the group, to include my own contributions — has decidedly positive benefits.

Finally, in the analysis of the leadership/group dynamic dilemma, I wonder if those driving our state-mandated objectives have actually examined the tangible results of their call to add the Arts to STEM, as the proponents of STEAM suggest.<sup>4</sup> It seems likely that if they were to do so, they would discover that it may well be technology that is the magnet that forms the gravitational force around which the other components revolve.

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<sup>4</sup> Abel, “Relevant Interdisciplinarity,” p. 3.



More particularly, I would argue that technology is the equalizing feature, around which the visual and spatial skills of the art and architectural historian can intertwine and mingle with the analytical, data manipulative skills of the scientist, mathematician, or the engineer — or in my case the cultural geographer. The mutual benefits are exponential. Let me be clear: I am not ready to take on the state, but I would suggest that the benefits are indeed measurable at least for the advancement of Medieval Studies. 🐼