Pastplay

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“I think you’ve missed your audience.” The speaker was a digital humanities colleague, and an amiable guy. His intent was to broker a peace, and perhaps save me from myself. I had been invited to present to a group of scholars and graduate students. All were humanists, some historians, and all for the most part interested in digital technology. The conference had been impeccably organized, the graduate students passionate and interested, and the host a paragon of hospitality. Following dinner with the organizers the night before, I had phoned home to say that it had been one of the most enjoyable social evenings I had spent with a group of strangers. But in the minutes following my presentation, that collegiality seemed to be evaporating.

My talk had outlined a new vision for the use of technology in history teaching and research, inspired by the scholars whose chapters can be found in the pages that follow. When my presentation ended, the room erupted. On one side were those who welcomed my call for a change in how we conceptualize and practice our work—as historians in particular, and as humanists in general. On the other were those who saw this call as an attack on the core of our discipline.

“I think you’ve missed your audience.”

The speaker pointed out that those in the room who found my call misguided (if not offensive) traded in text: the core currency of the humanities. What I had referred to as “playing with technology” seemed to imply substituting cold computer code for that which they most treasured, which would require a level of expertise they did not possess. It was fine for me to follow this track, but few people in the room could manipulate (never mind master) the tools required. The presentation that I had given was not wrong; I had just chosen the wrong audience. Let’s get back to what we were doing, my colleague suggested—you in your sandbox, and we in ours.

But the researchers and teachers in that room were exactly my audience. “Playing with technology” does not demand that we turn our backs on the substance or practices of our disciplines; indeed, the pillars of the humanities
lend themselves to playful engagement. And expertise in sophisticated computer programming skills is not a prerequisite. All that is required is a commitment to, as contributor Stephen Ramsay observes in chapter 5 of this book, “community, relationship, and play.”

At the same time, I understood my colleague’s perspective. His response is not uncommon among humanists. In the second decade of the twenty-first century, we find ourselves in a research and teaching environment characterized by declining financial support and increasing use of technologies that were designed for business. A playful approach to teaching and learning with technology can seem like the worst of all possible worlds: the coupling of strategies developed for entertainment with tools created for commerce.

The contributors to this book have found themselves in situations similar to the one that I encountered at my presentation. We share our “non-digital” colleagues’ concern about losing practices centuries in the making, and their anxiety that the use of computing technology requires skill sets that they do not possess. The contributors to this volume came together to craft a response to those concerns at a symposium held in Niagara-on-the-Lake, Canada, in the spring of 2010. Funded by The History Education Network / Histoire et Éducation en Réseau and the Social Sciences and Humanities Research Council of Canada, the gathering brought together academic historians, public historians, digital humanists, history educators, graduate students, and practicing teachers.

We recognized that our work forms part of a larger conversation about the future of the humanities. In his introduction to Switching Codes: Thinking Through Digital Technology in the Humanities and the Arts (an influential anthology of conversations among scholars, artists, and information technology specialists) editor Thomas Bartscherer observes:

To understand how digital technology is transforming thought and practice in the humanities and the arts, it is necessary to cultivate cross-cultural communication, to establish points of reference, and to develop a shared vocabulary. Given the globalized and decentralized nature of digital culture, this cannot be mandated from the top down, as it were, but must be cobbled together from the bottom up and on the fly. The intention here is not to compile an authoritative survey—truly a quixotic endeavour in such a rapidly changing landscape—but to model and catalyze a conversation.

This is our aim too, with a focus on history in particular. We wrote Pastplay to create and sustain a conversation among historians and history educators across the spectrum of computational expertise. One of our core
messages is that “you too can do this—and perhaps better—let’s explore this together.” Therefore, the chapters that follow are not for “techies”: we are all learning how to use emerging technologies in our disciplines. And we do not believe that we have to choose between new technologies and the time-honored practices of our discipline. In fact, we show that computing can be a way to enhance those practices.

We tread carefully because we recognize that technology has ostensibly come to the rescue of learning on several occasions. We also appreciate that this is not the first time that subjects such as history have been apparently liberated by play—the 1960s, for instance, saw the widespread introduction of play and games across curricula. In the latest turn of this circle, recent years have seen a focus on computer games, the most interactive computer environments yet created. The “edutainment” of the 1990s was repackaged as “serious games,” and educators were told that if students were allowed to play, the challenges of teaching history and other subjects could be overcome.\(^3\) Similar claims are now being made for “gamification,” the application of gameplay mechanics to non-game situations or domains such as education.\(^4\)

Proponents of gamification sometimes appear to operate from the premise that life is boring and must be invigorated with gaming strategies.\(^5\) Apparently, we need to be tricked into performing tasks we would otherwise avoid. In the case of education, the central assumption is that learning is dull. The irony is that gamification proponents make this argument, then spend hours exploring the contexts of their favorite games in the hope of finding information that they can use to win (a practice that is strikingly similar to the “dull” research they want to avoid). They create forums (which bear resemblance to the best features of online courses) where they share games they have modified. They then analyze and critique each other’s insights and demonstrations in long, carefully crafted forum posts (which are often constructed like essays).

The notion that learning is boring is also belied by our personal experience: from cafeteria gossip to insights on the origin of the universe, we love learning. At the dawn of our Western cultural tradition, Aristotle observed that “all men by nature desire to know.”\(^6\) We are essentially curious, and once we begin to learn it is difficult to stop. As several of the contributors to this book illustrate in their chapters, give students a little bit of history and they are hooked.

The easy assumptions of those who breezily promote technology as education’s salvation might also be challenged by more experience in the environments they seek to save. Many of these proponents appear not to have visited a school or university in years. If they had, they would have seen the
many ways in which students engage with subjects like history. Others are perhaps too highly motivated by the windfall that may come with access to a coveted market of young consumers.7

Our book takes a different approach to playing with the past. We are past the play moment, roughly the first decade of the century, when the challenges of teaching history could ostensibly be solved with a new technology or game. To put it simply, these are not a panacea. What is needed, and what this book seeks to provide, is a consideration of the ways in which technology can and cannot help us interact with the content and practices of the discipline. This point bears repeating: in our case, we are not concerned with history the subject so much as history the discipline. And we do not address teaching in terms of classroom exercises but as research practices and discourses that we use alongside our students. In this book, we are preaching what we practice every day as researcher-teachers.

Why should we play with technology in history? Because doing so can help us think about the past in new ways. We expand on our thesis in four parts. In the first section of the book, “Teaching and Learning History,” the contributors focus on the content and practices of the discipline, and show that playful technologies can help students better understand the way historians and storytellers create history. In the second part, “Playfully,” the contributors turn their focus to the roots of our craft, and show that a ludic sensibility lies at the heart of how we research, how we teach, and how we express ideas with computers. In the third part, “With Technology,” the authors illustrate how communicating ideas with computers forces us to model our thoughts, and the development and use of these models can provide us with new insights into the subjects they represent. The contributors to the fourth part, “By Building,” show that, through the act of creating technologies, we can build our understanding of the past.

Teaching and Learning History

We begin by focusing on what history is all about: an encounter with the content of the past, and the manner in which historical narratives are created. This brings us to the most fundamental question: what is history? The answer has been highly contested for the last three decades. In the 1980s, this question became a hot-button political issue after evidence emerged that students had surprisingly little knowledge of the past. The timing was not accidental: the end of the Cold War and the increasingly globalized economy created anxiety among some cultural commentators. Would their countries have a future if their young people could not remember the past?
The problem was politicized, blame assigned, and sides taken in what was called the “history wars.” In the United States and Canada (as well as in Great Britain, Australia, and several other Western countries, although events there lie outside the scope of this introduction) one side contended that the historical profession was to blame: historians’ obsession with issues of race, class, and gender had diluted a narrative of progress that should be instilled in the young. Students did not know their country’s past because they could not see through the fog of political correctness. On the other side, researchers contended that this apparent problem was in fact the solution. The new historical emphases on race, class, and gender had been the result of demographic changes within universities (especially the hiring into the professoriate of women and ethnic minorities). New histories were being told, providing a fuller picture of the past that was resonating with young people from a variety of backgrounds. The problems that had been identified in history teaching, according to these researchers, lay not with this new content, but with the manner in which it was taught.

Should history be a single chronological narrative meant to provide young people with a common understanding and cohesive social purpose, or a way to evaluate diverse accounts of the past? Researchers and educators chose the latter option, and pushed it further still. They agreed that the content of history—the names and dates—were important, but they concluded that students needed to move beyond this to an understanding, and indeed use of, the skills of historical practice: generating, corroborating, representing, and assessing interpretations of the past. History educators increasingly gave attention to the concepts, methods, and vocabulary required to do history, and underscored to students the challenge of knowing the past in an approach that has come to be called “historical thinking.”

They followed the lead of science educators who had earlier championed a shift from the absorption of scientific facts (for example, the memorization of the periodic table of elements) to the acquisition of skills of scientific practice (such as familiarity with the tools of chemistry, or a command of the language with which chemistry is discussed). History educators began to explore ways to bring students into the historical “community of inquiry,” most often by encouraging them to work with the evidence—primary documents—which historians use.

In “Teaching and Learning History,” the contributors address the ways that playful technologies can help us better understand how history is created, and how to think historically. “What Has Mystery Got to Do with It?” by Ruth Sandwell and John Lutz provides a cogent summary of the historical thinking literature, and especially the research on the use of primary source documents. Sandwell and Lutz also outline how theoretical and
methodological developments within the discipline of history have informed the research on the teaching and learning of history in schools. They show that the conclusions of the historical thinking research are encouraging for those who develop playful history quest environments, pointing to their *Great Unsolved Mysteries in Canadian History* project as an example of what can be accomplished. In the various micro-histories that together make up the project, students must examine primary source documents (in a manner similar to that of historians) to solve a mystery. Sandwell and Lutz show how playing with technology supports the development of the skills of historical practice, such as the assessment of primary documents with contradictory information. In the *Mysteries* project historical knowledge comes not from knowing facts so much as understanding processes.

In “‘Why can’t you just tell us?’ Learning Canadian History with the Virtual Historian,” Stéphane Lévesque highlights the ways in which the historical thinking scholarship informed the development of another online environment—in this case his *Virtual Historian* website. In contrast to Sandwell and Lutz, Lévesque sounds a cautionary note: his empirical assessment of the teaching tool has yielded ambiguous conclusions about its effectiveness. In these two chapters we hear variations on two shared themes: optimism for the potential of playful technologies, and recognition that all the data are not yet in. Lévesque’s *Virtual Historian* provided students with access to online documents, and asked them to solve a mystery. In the end, the students treated these sources more like infallible fact sheets than primary documents requiring careful assessment. “What is at stake for virtual history,” Lévesque notes in his conclusion, “is the assumption that the rich volume of multiple-perspective sources available [online] favors historical reasoning. This cannot be accomplished with primary sources alone.” The web supports almost unlimited access to digitized resources, providing opportunities for student analysis, but many students do not have the skills to do that research in the manner of historians.

Perhaps the problem is that they do not want to. Sandwell and Lutz mine the rich literature that shows that students, even in elementary school, are able to think like professional historians. But they also expose another vein, noting the conclusions of leading educational researchers that the problem of using primary sources to teach students the process of critical inquiry is not to be found simply in students’ ability to engage critically with the materials, but also in their reluctance to do so.

These students do not lack the ability, but the interest. They may be passionate, however, about World War II submarines, or the ancient traditions of their ancestors. In this way, they are not unlike their professors and teachers, who majored in history primarily because they enjoyed it.
Pulitzer–prize winning author and historian David McCullough observed that “To me, history ought to be a source of pleasure. It isn’t just part of our civic responsibility. To me, it’s an enlargement of the experience of being alive, just the way literature or art or music is.” This point should not be lost on historians and history educators.

We need to remember, as Richard Levy and Peter Dawson remind us in “Interactive Worlds as Educational Tools for Understanding Arctic Life,” that we are drawn to history for many reasons beyond a desire to think historically. Levy and Dawson describe the ways in which they use computer-aided design (CAD) technologies for architecture to painstakingly reconstruct ancient dwellings using archaeological evidence. In their labs, patterns of stones and whalebones are turned into 3D models that can be examined and explored. Developing digital reconstructions of ancient dwellings, like a Thule whalebone house, has enabled Levy, Dawson, and their students to explore new ideas and theories about how ancient peoples perceived and interacted with their environments. (They propose, for instance, that the Thule might have developed a more acute sense of touch to compensate for the near darkness in which they carved and sewed.) At the same time, these models have also provided opportunities for some of Canada’s aboriginal peoples to connect with the lost landscapes of their past, as Levy and Dawson relate in a moving account of a visit to their lab by several Inuit Elders. Exploring the inside of the whalebone house gave these aboriginal people insight into the origins of some of their most treasured legends.

The Inuit Elders gained knowledge not just through an observation of, but also an engagement with, the digitally reconstructed dwellings of their ancestors. Timothy Compeau and Robert MacDougall push this participation further in “Tecumseh Lies Here: Goals and Challenges for a Pervasive History Game in Progress.” In the final chapter in this part, they also testify to the power of lived and lost history and the potential for communicating it to adults. The difference, in this case, is the authors’ focus on what they call “pervasive games,” which are media agnostic, and “can spread across the entire ecology of electronic and traditional media and into public spaces like streets, museums, and schools.” Rather than bringing history to life in a game environment, surrounding the user with replicas or re-creations, Compeau and MacDougall equip users with historical methods and then encourage them to discover the history that surrounds them. They share the challenges they are facing as they develop and launch a pervasive game that employs both electronic and traditional media in public spaces to engage people with the history of the War of 1812. In the end they make a case for “playful historical thinking” as a “healthy, productive, and even responsible way for citizens of the twenty-first century to relate to the past.”
The notion of “playful historical thinking” may strike some as a new idea. But as the authors in this part suggest, we should play with history because it is a central component of research and teaching, and a central aesthetic of computing. These authors also address concepts central to this volume: “play,” “games,” and “learning.” As they point out, there is significant overlap here, and separating them is a difficult task indeed. These distinctions did not exist among the ancient Romans, for whom *ludus* described both a toddler’s play and a gladiator’s training.13

Play is part of the Western philosophical tradition from which the humanities, as we know them today, have emerged. The origins of this tradition go back to Socrates, whose insights were passed on by Plato in playful dialogues.14 Plato chose to communicate ideas as debates between Socrates and an interlocutor with an opposing viewpoint. By an iterative process of elimination, hypotheses were tested and discarded until truth was revealed. Along the way, Socrates frequently toyed with his opponent, asking leading questions that would force an adversary to contradict himself.15 At the beginning of our present philosophical moment, often summed up by the term “post-structuralism,” playfulness again emerges as a central component. In Jacques Derrida’s 1966 lecture, “Structure, Sign and Play in the Discourse of the Human Sciences,” which for many theorists marks the birth of post-structuralism, Derrida heralded an intellectual “event” or “rupture” that signified a break from past ways of thinking.16 In the emerging universe nothing was fixed—all we had was “free play.”17 Derrida and the early post-structuralists saw this acceptance of ambiguities as liberating; we needed to find courage to enter this new world defined by its lack of absolutes.18

That is not to say that “play” requires a complete disregard for boundaries. Indeed, determining the borders of play—what is in and what is out—has been a central preoccupation of game theorists. First among these was the Dutch cultural historian Johan Huizinga, who saw play as central to cultural development. His graduate work had focused on the role of the jester in Indian drama, and several decades later he returned to some of these themes in an attempt to define play. In *Homo Ludens* Huizinga described play as a “free activity standing quite consciously outside ‘ordinary’ life,” which nevertheless “absorb[ed] the player intensely and utterly.” It was “connected with no material interest, and no profit [could] be gained from it.”19 A few years later, Roger Caillois, who found Huizinga’s definition too limiting, sought to expand on it. His ultimate contribution, however, was to define what a “game” is, highlighting six specific attributes: games were not-obligatory,
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separate from everyday life, without a predetermined outcome, not connected to a material interest, governed by rules, and make-believe.20

This etymology may seem to leave little room for an incorporation of play into learning, yet psychology has underscored what the ancient Romans recognized: that “play,” “games,” and “learning” can be difficult to differentiate. The psychologist Mihaly Csikszentmihalyi and his colleagues have conducted experiments over the course of decades to determine the attributes of what they have coined “flow,” a state in which we are totally immersed in what we are doing. To be in “flow” is to be “in the groove,” a feeling of complete involvement in an activity for its own sake. We lose all sense of time, becoming absorbed in the task at hand. In this space, that which is play and that which is work, or learning, are one and the same.21 Each of us knows this feeling of flow, and each of us knows what it is to play. For some of us, childhood memories supply the experience that provides the definition. Professional historians and history teachers can learn something from young people, which completes the loop: while we teach students history, they can help us remember play.

If play is central to the origins of the Western tradition, and to the present cultural moment, it has occasionally been lost when the computer has been applied to our resource base—the archives—where the work of historians and their students begins. Significant resources have been invested in digitizing documents and entire collections, extending access, and providing new opportunities for analysis. Additional effort has gone into building sophisticated tools that will parse the data, such as the Google Ngram Viewer, which displays the results of word string searches of the massive Google Books database.22 As Stephen Ramsay notes in “The Hermeneutics of Screwing Around; or What You Do with a Million Books,” these databases allow us to quickly answer our research questions, but real insight emerges when we browse, make unanticipated associations, and ask new questions. He dares us to approach the archives in this manner—essentially to “screw around.” “There are so many books,” Ramsay observes. “There is so little time. Your ethical obligation is neither to read them all nor to pretend that you have read them all, but to understand each path through the vast archive as an important moment in the world’s duration—as an invitation to community, relationship, and play.”23

Just as a playful ethic should guide our research—our encounter with, and expression of, our sources—so too should it guide the way we teach students. In “Abort, Retry, Pass, Fail: Games as Teaching Tools,” Sean Gouglas and his coauthors address the ongoing debate over the definitions of “play,” “games,” and “learning”: scholars have spent the last decade attempting to define what play and games are, and also what they are not, in the hope of
being able to identify moments of genuine “learning” (which they consider a separate concept). As Gouglas et al. show, separating these concepts has proven especially difficult in the case of history computer games: claims for the educational effectiveness of in-game learning have not been adequately demonstrated. Significant resources have been invested in developing interactive media tools, especially games, for our students. But are students learning? And if so, what? The authors point out that hard conclusions are few and far between, but that this should not stop our use of games. Echoing Ramsay, Gouglas and his colleagues encourage us to press on nonetheless, and suggest that separating “learning” from “play” seems impossible anyway. Gouglas and his colleagues encourage us to instead focus on building open environments. They see more potential for learning in the development of games, which encourages students to share their knowledge with one another, and then collaboratively assemble these mental models.

Bethany Nowviskie focuses specific attention on exactly how we should build with technology. If playfulness is central to our research practices and our teaching, Nowviskie shows that it is also a central component of our interaction with computing. Increasingly, historians and teachers are building digital tools for students and members of the public to use; but the underlying functions of these tools are often hidden from the user. In “Ludic Algorithms,” Nowviskie addresses this issue by turning our focus to the origins of digital humanities and digital history, and specifically to thirteenth-century philosopher Ramon Llull and his Ars Magna. According to Nowviskie, the genius of Llull’s invention and method—several inscribed, layered, rotating wheels that essentially asked questions of the user—lay in its accessibility: it revealed the decisions inherent to the creation and interpretation of its algorithms, allowing users to play with these components. Like all problem-solving devices, algorithms—the building blocks of computing—are formulated out of interpretive decisions. Humanists in general, and historians in particular, must ensure that users can view, analyze, and test—to put it another way, “play with”—our algorithms, and indeed formulate new algorithms that yield new interpretations of humanistic data.

With Technology

In the process of teaching and learning through play, technology provides an opportunity to model knowledge so that our assumptions can be demonstrated and tested. Indeed, the creation of representations alluded to by
Gouglas and Nowviskie may be one of the secret ingredients of effective learning. As Willard McCarty has shown, creating models requires us to formalize our thinking, and helps us better understand both our questions and our answers. In the building of these representations, that which may be assumed or elided when presented in textual form must be formalized and made explicit in a manner accessible to others.25

As McCarty points out, inherent to modeling is the notion of manipulating the model, and in the process deriving new knowledge about it, and the source material on which it is based. A model must be playable: you must be able to turn the crank and see what happens. If it breaks, you can attempt to fix the problem by opening the hood, making adjustments, or inserting or removing components, or you can throw it out and start over. In this way, the representations of digital historians, and digital humanists in general, are much more than “tools”—notwithstanding the popular terminology. As Nowviskie points out, a tool is “a self-contained and inviolable object.” The models, games, and simulations that digital historians and our students build, in contrast, should be more akin to “instruments” or “environments,” inhabitable spaces that can be analyzed, adjusted, and played as well as used.26

In “With Technology,” the contributors are equally optimistic and cautious about the use of models, whether simple or complex. They encourage us to appreciate the full spectrum of “technology,” using whatever is most appropriate to the task. We are reminded that the last decade has seen the application of sophisticated software (such as complicated computer games that require a significant investment of time to understand, let alone master) to questions that might have been better analyzed with pen and paper. Innovative technologies are not always made of silicon microchips: plastic and wood best suited the purposes of William J. Turkel and Devon Elliott. In “Making and Playing with Models: Using Rapid Prototyping to Explore the History and Technology of Stage Magic,” they present a case study on the history of levitation and vanishing, “two icons of performance” in the nineteenth century. Combining insights from science and technology studies and the hands-on critical making movement, and expanding on the practices of the nineteenth-century founders of archaeology (who reproduced artifacts as a way of understanding how the originals were created and used), they ask, “Where is the experimental history to match this practice in archaeology?” They show what this new approach to research and teaching might look like, and how it provides opportunities for building in addition to reading and writing. And what is the result of their development and use of replicas and representations? They see things that would otherwise have remained hidden. They point out that this kind of modeling
is especially useful as pedagogy: students acquire tacit knowledge through making and playing with artifacts, gaining insight that could not be drawn from discourse alone.

Matthew Kirschenbaum makes a similar pitch for the use of a simple model, in his case in the context of games. In “Contests for Meaning: Playing King Philip’s War in the Twenty-First Century” he uses the example of a board game about the King Philip’s War (a brief but brutal episode in American colonial history). As is often the case when gaming and history intersect, some members of the public were outraged that a tragic event in Native American history might be “simplified” and “debased” by play. Kirschenbaum tackles this reaction head-on, and asks why playing the past evokes attitudes different from consuming it in traditional media such as film or books. But he goes beyond the public response, and engages another question: what is the educational potential for these kinds of tabletop history games? Echoing Nowviskie, but with a focus on games in particular, he points out that while computer games have been a hit in the marketplace, board games may work best for education. Tabletop games, in contrast to computer games, expose their mechanisms: the systems and processes that constitute the rules of the game are obvious. As a result, they are open to analysis by students, and this openness makes tabletop games conducive to learning.

Kirschenbaum’s suggestion that board games may do a better job of teaching than computer games would not come as a surprise to Shawn Graham. In “Rolling Your Own: On Modding Commercial Games for Educational Goals,” Graham explains how computer games such as Sid Meyer’s Civilization series can act as models with which to analyze, express, and test historical interpretations. Graham was impressed by the sophisticated discussions that he read in self-organized modding communities such as the CivFanatics forums, where players would meet to analyze the game and its expression of history. He hoped that using the game in his classroom would result in a similar sense of self-motivation in his students, and a similar modeling of knowledge. Yet when Graham attempted to use the game in an educational setting, his students resisted. His conclusion is instructive: in our rush to bring new technologies into education, we must remember that many of the models and practices that make these successful in the “outside world” may not necessarily carry over to the classroom or lecture hall.

In “Simulation Games and the Study of the Past: Classroom Guidelines,” Jeremiah McCall addresses this problem directly, referencing a sister game to Civilization called CivCity Rome. He encourages educators to be mindful of both the educational requirements of history and the exigencies of implementing video games in contemporary schools. A high school teacher with extensive experience in the use of history computer games, McCall is
keenly aware of the demands of elementary and secondary classrooms, and provides practical steps to structure, implement, and assess learning activities with computer games. Recognizing that students are there to learn, he never asks them if they are “having fun,” and knows that at times he may have to “coerce” them into using these environments, in the same way that he may oblige them to read a textbook. What is important, and what he suggests games do especially well, is provide a model that structures a student’s performance of the authentic skills of a historian.

By Building

As Graham and McCall note, students sometimes feel constrained because they know they need to play by the educational institution’s rules, and typically those rules limit creativity. The authors in the final section of Past-play show that playing with technology encourages creativity by providing opportunities to build our understanding of the past in new ways. The concept is old, but the tools are new, and they open up opportunities previously unavailable.

In the early twentieth century John Dewey showed that the use of objects—not just words—is an essential component of learning.27 Jean Piaget, for his part, argued that knowledge is not deposited into the student, what Paolo Freire termed “banking,”28 but rather constructed in the mind of the learner.29 He coined the term “constructivism” to describe the manner in which students should be supported as they build knowledge. For Piaget’s student, Seymour Papert, “building” was not a metaphor to describe processes in the brain, but a literal description of a physical activity. From his post at the Massachusetts Institute of Technology—an institution with the motto “Mens et Manus” (mind and hands)—Papert insisted that students build the instruments by which they learn, in a process he called “constructionism.”30 Illustrating his theory, Papert developed a simple computer programming language called Logo with which young people could build their own software programs and bring robots to life. (See Gouglas et al.’s chapter in this volume for a more complete explanation of learning theory.) The Dewey-Piaget-Papert lineage has become a de facto starting point for many developers of educational technology. Each of the authors in “By Building” connects to this lineage, in chapters that address constructivism in museums and classrooms, and test the use of websites, multimedia mash-ups, 3D environments, and computer games.

Brenda Trofanenko reminds us that the use of technology in teaching and learning does not guarantee a constructivist or constructionist approach.
Her chapter, “Playing into the Past: Reconsidering the Educational Promise of Public History Exhibits,” shows that technology can just as easily end up “banking” as “building.” Trofanenko wants to answer the question, “How should museums best take up the challenge of engaging history with computer technologies?” Museums are increasingly employing technology, especially multimedia, to engage young people with the past, but the new toys are sometimes proving to be unsuitable for communicating a singular view of history. At the National Museum of American History, in Washington, D.C., an exhibit that used multimedia to frame history as fixed and serious failed to engage or teach. But when the museum provided opportunities for high school students to use technology on their own terms within the exhibit space, the engagement and learning increased exponentially. How should museums best use technology? By letting students create multimedia mash-ups of museum content, for one. It turns out that mash-ups are not just playful; they are also a way for students to rethink what they know about the past, and how they know it.

Kevin Kee and Shawn Graham reach a related conclusion in “Teaching History in an Age of Pervasive Computing: The Case for Games in the High School and Undergraduate Classroom.” In their chapter, however, the focus is games in the university and high school classroom. Over the last decade, the results here have been disappointing. The problem, according to the authors, is that we have fundamentally misunderstood how games communicate. We presume that a game that claims to be about ancient Rome will support student learning in a course about ancient Rome. Ignore the promotional material, the authors direct; focus instead on the argument the game’s computer code promotes. To this end, Kee and Graham propose a new typology for history games. They also see the greatest opportunity for teaching history with computer games in “meta-gaming,” an outside-looking-in awareness of game mechanics. In this “gaming of the game,” students move beyond playing games, or studying games as artifacts, to modifying and even building them for themselves, developing their own representations in computer code.

Patrick Dunae and John Sutton Lutz propose a different kind of making in “Victorian SimCities: Playful Technology on Google Earth.” They believe that students learn best when they can literally see the past. They describe an undergraduate course in which students were tasked with virtually reconstructing buildings using fire insurance maps (used by insurance companies to determine the dimensions and structures of buildings in case of their destruction by fire). Combining history (the development of historical skills) with play (puzzle solving), students used the maps and old photographs and lithographic views to reconstruct the urban landscape of nineteenth-century Victoria, British Columbia. The authors carefully outline the different stages
of the project, and how students used *Google SketchUp* and *Google Earth* to bring the results of their research into view. In the end, the students were able to draw conclusions that challenged the historical orthodoxy on immigrant settlement patterns at a key moment in the city’s history.

T. Mills Kelly takes a different approach to developing historical thinking through building. “What happens when you teach students to lie?” he asks. The answer: “they learn how to be historians.” In “True Facts or False Facts—Which Are More Authentic?” Kelly reflects on a historical methods course in which his students created a historical hoax, “the last American pirate,” which they subsequently launched into the digital ether through a blog and *Wikipedia* page. Kelly eloquently expresses the motivation of many of the contributors to this volume when he observes, “I think history has just gotten a bit too boring for its own good. This course is my attempt to lighten up a little and see where it gets us.” And just where did they end up? Kelly attests to the benefits of playful building; his students were uniformly enthusiastic about the course, and the process of lying on a bogus *Wikipedia* page helped them better understand the ways in which historians seek to truthfully portray the past. But he also highlights its risks: some of Mills’s fellow historians were taken in by the hoax, and the ensuing controversy landed his course on the pages of the *Chronicle of Higher Education*.

**Alternative Readings and Future Experimentation**

Kelly may take some comfort in knowing that the work of his students has been selected as among “The 10 Biggest Hoaxes in Wikipedia’s First 10 Years.” Receiving recognition of this kind is not the goal of most aspiring historians or teachers, but he undoubtedly considers it a badge of honor. It signals a willingness to experiment, take risks, and support student creativity. Often this experimentation goes according to plan; sometimes it brings unintended consequences. Kelly’s chapter, like the others, is iterative and reflective. In contrast to some of the literature in the educational technology domain, the contributors do not declare victory, then turn the page (while retreating). We learn more from our mistakes than we do our successes, and in the chapters that follow we have tried to analyze what happened when our use of technology to communicate history went wrong, and how we can do better next time.

We have intentionally written these chapters for educators and practitioners in different educational environments. K–12 teachers will want to focus on Sandwell and Lutz’s reflections on their *Mysteries* project (chapter 1), Lévesque’s analysis of his *Virtual Historian* (chapter 2), and McCall’s
description of simulation games in the classroom (chapter 11). Instructors of undergraduate history courses, for their part, should concentrate on Compeau and MacDougall’s development of augmented reality games (chapter 4), the insights of Gouglas and his colleagues on games for university history learning (chapter 6), Turkel and Elliott’s use of models for history (chapter 8), Graham’s experiences with game mods (chapter 10), Kee and Graham’s use of mods and student-built games (chapter 13), Dunae and Lutz’s development of nineteenth-century computer models using Google SketchUp (chapter 14), and Kelly’s undergraduate course on historical hoaxes (chapter 15). Professors, thesis directors, and students at the graduate level will benefit from Ramsay’s consideration of how we treat our sources (chapter 5), Nowviskie’s insights into building with technology (chapter 7), and Turkel and Elliott’s insights into building with technology (chapter 7), and Turkel and Elliott’s insights into building with technology (chapter 7). Finally, public historians and museum professionals will appreciate Levy and Dawson’s development of computer models and visualizations for the Glenbow Museum and the Canadian Museum of Civilization (chapter 3), Compeau and MacDougall’s pervasive game for history enthusiasts (chapter 4), and Trofanenko’s work with students at the National Museum of American History (chapter 12).

The contributors to this book also describe different “ways of doing” history and humanities. We can do the humanities and history by theorizing: Ramsay describes how research might be considered as serendipitous play (chapter 5), and Nowviskie suggests that the fruits of that research must be playable, that is, able to be viewed, analyzed, and tested by others (chapter 7). We can also do history through building and modeling, as described by Levy and Dawson in chapter 3, Turkel and Elliott in chapter 8, Trofanenko in chapter 12, Kee and Graham in chapter 13, Dunae and Lutz in chapter 14, and Kelly in chapter 15. The practice of history can also take place in the context of playing a game, as described by Compeau and MacDougall in chapter 4, Gouglas et al. in chapter 6, Graham in chapter 10, and McCall in chapter 11.

Finally, readers interested in building specific kinds of objects can find examples across the spectrum, from plastic models to websites to computer and pervasive games. Websites for history teaching and learning are the focus of chapters 1 (Sandwell and Lutz’s Mysteries), chapter 2 (Lévesque’s Virtual Historian), and chapter 15 (Kelly’s historical hoaxes). Trofanenko focuses attention on the development of iMovie projects in museum contexts in chapter 12. The development and use of 3D computer models are addressed in chapter 3 (Levy and Dawson’s Arctic interactive worlds), and chapter 14 (Dunae and Lutz’s Victorian Victoria in Google SketchUp). Turkel and Elliott describe their creation and use of wood and plastic physical models
in chapter 8, and Kirschenbaum focuses on the controversy created by a history board game in chapter 9. Computer games for history figure in several chapters: student and research projects in Gouglas et al.’s chapter 6, the bestseller *Civilization* in an undergraduate online course in Graham’s chapter 10, *CivCity Rome* in an elementary and secondary context in McCall’s chapter 11, and game mods and games built by students from scratch in Kee and Graham’s chapter 13. Finally, pervasive games (which mix gaming in the real and virtual worlds, and have also been called “alternate reality games”) are the focus of Compeau and MacDougall’s chapter 4.

The contributors to this book hope that the objects, ways of doing history, and educational environments described here will encourage others to experiment in their own unique ways. Notwithstanding the considerable research and innovation among digital historians and teachers, some of which we have captured in these chapters, we still have work to do in exploring and communicating the potential and drawbacks of teaching history with technology. This volume is a collaborative effort at beginning the conversation.

**NOTES**

This introduction was organized during a two-day working session with Geoffrey Rockwell at a meeting in March 2011 at the University of Alberta. Thanks to Geoffrey, the central ethic that animates this volume, best summed up by Stephen Ramsay as “community, relationship, and play,” was in abundance, notwithstanding the weather.


3. According to some commentators, these games were so effective that teachers might become redundant. In his book, *Digital Game-Based Learning* (New York: McGraw-Hill, 2001), Marc Prensky approvingly quoted, “any teacher who can be replaced by a computer, should be” (342). Prensky attributes this quotation to the anonymous “Aging Sage”; others have claimed Arthur C. Clarke, Carl Sagan, or David Thornburg.

4. The term “gamification” has recently come into vogue, promoted by theorists such as Jane McGonigal (*Reality Is Broken: Why Games Make Us Better and How They Can Change the World* [New York: Penguin, 2011]), and is especially, though not exclusively, tied to Internet-based marketing. Websites or location-based (mobile) platforms that feature achievement levels, badges, or virtual currency might all be cited as examples of gamification. Some critics point out that gamification is a new term for...
long-established techniques, and in many cases a rebranding of the concepts central to “serious gaming.”


7. “Harnessing the Power of Video Games for Learning,” published by the Federation of American Scientists, calls for research into the skills that games can teach, but at other times unfairly brands education as a sector that could be saved if only it followed the practices of the business community: “Many companies and industries have transformed themselves by taking advantage of advances in technology, and new management methods and models of organization. As a result, they realized substantial gains in productivity and product quality while lowering costs. No such transformation has taken part in education. Education is not part of the IT revolution” (6).

8. The most prominent critic in the United States was Lynne V. Cheney, the former chair of the National Endowment for the Humanities. In her report to the Congress in 1988, and later in *Telling the Truth: Why Our Culture and Our Country Have Stopped Making Sense and What We Can Do about It*, Cheney argued that American history had been nearly destroyed by historians’ obsession with issues of identity such as race and gender (Lynne V. Cheney, *Humanities in America: A Report to the President, the Congress, and the American People* [Washington, D.C.: National Endowment for the Humanities, 1988]; idem, *Telling the Truth: Why Our Culture and Our Country Have Stopped Making Sense and What We Can Do about It* [New York: Simon & Schuster, 1995]). Much of Cheney’s attack was focused on the “National History Standards.” In 1992, three history professors, Gary Nash, Ross Dunn, and Charlotte Crabtree, were enlisted by the National Endowment for the Humanities to draw up standards for the teaching of history in schools in the United States. In 1994, before their standards were published, they came under attack. For the response of Nash, Dunn, and Crabtree to their critics, see Gary B. Nash, Ross E. Dunn, and Charlotte A. Crabtree, *History on Trial: Culture Wars and the Teaching of the Past* (New York: Random House, 1997). In Canada, the conservative charge was led by Jack Granatstein, who claimed that Canadian history had been dead, “or perhaps on life support” (J. L. Granatstein, *Who Killed Canadian History?* [Toronto: HarperCollins, 1998], 141). The distinction mattered little to Granatstein, and less, he argued, to most Canadians. The general public, according to Granatstein, had no interest in following the work of scholars infatuated by historical minutiae. He stood by his well-publicized complaint that historians were obsessing about matters such as “the history of the housemaid’s knee in Belleville in the 1890s. Really, who cares?” (quoted in Christopher Moore, “The Organized Man,” *The Beaver* 71 [April–May 1991]: 59). The academics’ response came from A. B. McKillop in “Who Killed Canadian History? A View from the Trenches,” *Canadian Historical Review* 80, no. 2 (Summer 1999).


10. In Canada, this shift has been instantiated in the adoption by teachers, and in some cases Ministries of Education (education is a provincial jurisdiction), of the “benchmarks of historical knowledge.” Developed by Peter Seixas at the University
of British Columbia, the “Benchmarks” articulate “structural historical concepts” that can “guide and shape the practice of history” (Peter Seixas, *Benchmarks of Historical Thinking: A Framework for Assessment in Canada* [Vancouver: Centre for the Study of Historical Consciousness, University of British Columbia, 2006], 2). According to the “Benchmarks,” students should be able to: i. determine what constitutes historical significance; ii. effectively use—including asking good questions of—primary source evidence; iii. identify continuity and change; iv. analyze cause and consequence; v. take historical perspectives; vi. understand the moral dimension of history interpretations (ibid., 3–11).


12. See the chapter by Compeau and MacDougall in this volume.

13. See the chapter by Gouglas et al. in this volume.


15. For notable examples of these dialogues, see Plato’s *Cratylus* or *Phaedrus*, both accessed July 13, 2011, http://classics.mit.edu/Plato/cratylus.html and http://classics.mit.edu/Plato/phaedrus.html.

16. Jacques Derrida, *Writing and Difference*, trans. Alan Bass (London: Routledge, 1978), 278. Previously, man stood at the center of the universe and a historical narrative defined by progress. For Derrida and many of his contemporaries, events of the twentieth century such as the Holocaust had called into question this notion of progress; he contended that related intellectual “centers” were in retreat as a result.

17. Philosophers would be quick to point out that Derrida’s notion of “play” is not what we generally think of today. For him, it referred to an acceptance of ambiguities, and in the context of using technology in history we share this willingness to reconsider previous assumptions and consider new possibilities.


23. See the chapter by Ramsay in this volume.


26. See the chapter by Nowviskie in this volume.


