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Game Studies Now, History of Science Then

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This article compares the growth of history of science as a discipline to the situation faced by game studies today. What can researchers learn from the elevation of the history of science to an established discipline and profession that might help scholars understand the situation of game studies? And why are game studies today being talked about in ways similar to the rhetoric that accompanied the history of science in the 1960s and 1970s? The author suggests that the growth of history of science then and game studies now has been fueled by similar motivations and strategies. These reflections on the history of science suggest there is nothing about such divisions that dooms or even threatens the growth and eventual success of this new discipline.

Keywords: *game studies; history of science*

Maybe it's a pathetic symptom of some modern malaise in a world lacking things really worth striving for. . . . Perhaps the game is a pure place to get yourself a good spate of solitary willpower in a social world with decreasing options for courageous expression.

—David Sudnow (1983, pp. 210-211)

The adaptive problem to which the video game is a response is the computer. The computer is, to this century, what printing was to the sixteenth century.

—Brian Sutton-Smith (1986, p. 64)

In a recent editorial for the Digital Games Research Association's Web site, Frans Mäyrä (n.d.) depicted the "quiet revolution" in contemporary culture that has created a profound need for the academic discipline of game studies.

> There is an ongoing, mostly silent revolution taking place in our culture and society. . . . Extension and investment of modern life and energy into digital puzzles and parallel universes presents modern universities with a major challenge. We must take these popular realms seriously, or face loss of both intellectual and social relevance. To meet the demands presented by these changes, there is need for a new discipline.

Mäyrä's reasoning struck me as eerily familiar. Coming to grips with a modern cultural revolution by establishing a new academic discipline . . . where have I heard this song before? The notes resonate with themes familiar from my own graduate training in the new academic discipline of the late 1970s: the history of science. You say you want to study a revolution? In the formative years of the history of science, the Scientific Revolution and Industrial Revolution were focal points of research. Many of the seminal writings of the field presented, reconfigured, or debated notions of cultural and intellectual revolutions that could be applied to or derived from the rise of modern science. The most influential book of the history of science's growth years was surely Thomas Kuhn's (1970) *The Structure of Scientific Revolutions*. A twofold conviction motivated the discipline's rapid growth from the mid-1950s through the 1970s: that modern science had revolutionized human affairs and that scientific change itself could be understood as intellectual disjunctions ripe for contextualization rather than a linear progression of discoveries. This growth could be quantified in terms of publications in the *Isis Current Bibliography in the History of Science*, academic positions and programs, membership in professional societies, graduate students, or opportunities for participation in wider forums of discourse.

Mäyrä's (n.d.) passionate appeal for academic game studies echoes convictions that could be found among postwar historians of science. If anything, they were even more vigorous in proclaiming the significance of the revolutions they studied. Consider this often cited passage in Herbert Butterfield' (1958) *The Origins of Modern Science 1300-1800:*

> Since that [scientific] revolution overturned the authority in science not only of the middle ages but of the ancient world—since it ended not only in the eclipse of scholastic philosophy but in the destruction of Aristotelian physics—it outshines everything since the rise of Christianity and reduces the Renaissance and Reformation to the rank of mere episodes, mere internal displacements, within the system of medieval Christendom. Since it changed the character of men's habitual mental operations even in the conduct of the non-material sciences, while transforming the whole diagram of the physical universe and the very texture of human life itself, it looms so large as the real origin both of the modern world and of the modern mentality that our customary periodisation of European history has become an anachronism and an encumbrance. (p. 7)

Maybe we are not willing to go quite this far in making a case for game studies—but we must nonetheless commit ourselves to the notion that games reflect significant changes in contemporary culture and society. Mäyrä (n.d.) and others, such as Sudnow (1983) and Sutton-Smith (1986) in the opening quotes, have suggested a few ways in which this case can be made. Reaching the conviction that games are this important—that they are representative, symptomatic, impact causing—and thus concluding that they deserve scholarly attention is the yeast that will give rise to an academic discipline of game studies.

As compelling as Butterfield's (1958) dramatic conclusion may be for the need to devote attention to the history of science, tracking this momentous revolution in human affairs was not everyone's incentive. Humanists committed to bridging the

"two cultures," scientists tracing lineages of invention and the triumphs of the scientific method, and critics focusing on questionable and even threatening impacts of scientific progress all pitched tents in this new academic territory. Translated into terms relevant for game studies, we can see similar concerns in the two cultures of design and critical studies (cf. Crawford, 2004) or the continuous proliferation of publications on the positive (serious games, games for health, game-based learning) and negative (violent content, cultural stereotyping, addiction) ramifications of games and game play. These parallels may justify the reflections in this article, drawn from my own parallel professional allegiance to the history of science. What can we learn from the elevation of the history of science to an established discipline and profession that might help us understand the situation of game studies? And why are we talking about game studies today in ways similar to the rhetoric that accompanied the history of science in the 1960s and 1970s? I would like to suggest that the growth of history of science then and game studies now has been fueled by similar motivations and strategies.

The history of science is a relatively recent academic discipline. The number of departments, research centers, disciplinary history centers, library collections, and scholarly journals founded in the past 50 years testifies to the proliferation of instruction, research, and publication in history of science. The History of Science Society, the primary professional organization, counts thousands of institutions and individuals among its members. Of course, scholarship set the stage for these formations of an intellectual discipline or professional identity, whether as introductory historical chapters in textbooks or as seminal essays and treatises going back as far as Sir Francis Bacon (1561-1626). The modern historiography of science began with George Sarton (1884-1956), who in 1912 founded the first (and still leading) scholarly journal in the history of science, *Isis*. His activities included four decades of writing, lecturing, editing, and bibliography at Harvard University and a key role as cofounder of the History of Science Society in 1924. Despite these various contributions, the history of science grew slowly as a discipline and profession during these years. Given the rapid installation of the history of science on American university campuses in the 1960s and 1970s, it is easy to forget that as late as the 1950s, there were fewer than a dozen full-time professional appointments in this field. No institution had granted more than a handful of doctorates, the first not until the late 1930s. On the eve of World War II, membership in the History of Science Society stood at less than one tenth its membership today.

It is instructive to contrast Sarton's vision of the history of science to the positions that later propelled its dramatic expansion. For Sarton and the cadre of historians, scientists, and philosophers attracted to his projects, the history of science proposed a cultural synthesis. Bridging the humanities and sciences by applying the methods of the humanist to the activities of the scientist, Sarton called this fusion the "New Humanism." Through the 1920s and beyond, his goals for the history of science included this cultural ideal alongside the scholarly tools and professional contributions for which he is remembered today. By contrast, the key text of the growth period during the 1960s and 1970s was Thomas Kuhn's (1970) *The Structure of Scientific*

Revolutions, which gave us "normal science" and the "paradigm shift." In his introduction, "A Role for History," Kuhn put down the foundation for a "quite different concept of science," neither the succession of scientific achievements found in pedagogy and textbooks nor "the discipline that chronicles both . . . successive increments and the obstacles that have inhibited their accumulations" (p. 2). He shifted the paradigm by proposing a history of science that displays "the historical integrity of science in its own time" and by considering how views of nature depicted in a larger set of contexts and often incommensurable with one another could lead to scientific activity and knowledge.

The conceptual transformation that paced the disciplinary growth of the history of science was not the unifying New Humanism but a dividing methodological controversy. Following Kuhn's (1970) work—and here I pass over predecessors such as Alexandre Koyré and more than a decade of sharp debate that succeeded it—the growth of the history of science as a professional discipline was accompanied by disagreement among historians over the incorporation of historical context, discontinuity, and competition as counterweights to the successive triumphs of an eternal scientific method. As Kuhn noted, contextualization put historians in the position of discounting ideas drawn "partly from scientific training itself." Critical academic work might thus be seen as opposing, if not irrelevant to, scientific practice. Inside history of science, the distinction of "internalist" and "externalist" methods, those focusing on the relationship of ideas and discoveries to each other versus those that situated science in a sociohistorical context, drew a sharp line between camps of historians during the growth years.

The issue that translates from the history of science to game studies in both of their formative stages is a tension between inside and outside. As the sharp lines between internalists and externalists gradually blurred during the 1980s, many historians spoke of penetrating the "black box," of closing in on the details of scientific practice through contextualization of various sorts. Many of these methods challenged the authority, stability, and results of scientific work and by implication, its practitioners, thereby raising the specters of social construction and science studies opposing the scientific enterprise as understood by scientists. In game studies, we face and will continue to face a similar set of problems. If the history of science offers a lesson, it is that a new discipline can grow and mature despite tensions between critical study and practice or even between ludology and narratology, our own riff on the theme of internalist versus externalist and how to dissolve such distinctions.

The point of game studies today is not recognition of the maturity or the midlife crisis of the games industry, or even hoisting the impressive aspirations of modern games as art, business, or technology. Its potential lies in critical engagement with games as symptoms of and impacts on society and culture—contextualization—but in ways that illuminate the structure of revolutions in design and game play. Such game studies will speak, eventually, to both academic scholars and enlightened developers; it may be possible to realize the goal of moving inside the black box along mutually traveled paths more successfully than historians of science have done in the eyes of many scientists. If game studies is successful, tones of approval and disapproval, justification

and critique, will be recognized and debated in ways that reflect wider issues of the impact of games on society, culture, religion, warfare, and other aspects of life, just as they did for the history of science in recent decades. But as these reflections on the history of science suggest, there is nothing about such divisions that dooms or even threatens the growth and eventual success of our new discipline.

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