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Sierra On-Line and the Archaeology of Video Game History

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Abstract of the Dissertation

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This dissertation is a critique of contemporary video game historiography, executed through a cultural history of the home entertainment microcomputer software company Sierra On-Line (1980-1998) and its husband-and-wife co-founders, Ken and Roberta Williams. Sierra On-Line developed from a cottage industry business managed from the Williams' kitchen table to an international top-five entertainment software publisher, yet the past fifteen years of historical writing on video games have left the company in relative obscurity. This project advances theoretical methods from media archaeology and critical materialism to construct a history of Sierra On-Line that runs against the grain of broader narratives in video game history. This dissertation offers three case studies on Sierra On-Line, titled "On Origin," "On Industry," and "On Gender." Each chapters plies a history not only counter to, but in excess of, the traditionally understood relationship between this company and the larger constellation of video game history. "On Origin" turns itself to the murky world of "beginnings," assessing the specter of the origin story in video game history. In place of an origin story, I trace an emergence, attending to technological and domestic disparities that become obscured in the effort to write a smooth, progressivist account of how Sierra On-Line came into being around the development of the Williams' first game, *Mystery House*. "On Industry" deconstructs how video game history imagines the industry as a monolithic entity, one often abstracted from any particular geographic context. This chapter explores the video game industry in three slices: the profoundly local arrangements of the small mountain towns Sierra was located in; the regional West Coast microcomputer hardware and software scene; and the national conception of the 1984 Video Game "Crash." "On Gender" takes Sierra's lead designer, Roberta Williams, as both its subject and object: her games, her design practices, and, above all, how she has been formatted to fit within video game history. As the first female computer game designer in the United States, historians struggle to make sense of Roberta Williams within the male-dominated arena of game history, typically shoehorning her into "pioneer" narratives and singling her out on a pedestal. Through a case study of Williams, this chapter explores how gender is a structuring silence within video game history. Thus, each chapter complicates the authority of video game historiography's common frameworks, while also providing a model for how we might buttress alternative histories about our technological lives. This dissertation concludes with a lateral move about a figure largely left out of historiographic reflection: that of the gamer. Through personal narrative and research anecdotes,

I explore both how we remember and what we forget of our "gamer" cultures, and suggest that the figure of the gamer is actually what holds video game history in thrall. This, I will contend, is the contribution Sierra On-Line is uniquely poised to make: showing us a video game history with no gamer at all.

Dedicated to my mother.

“The shape your 'silence' took is in part what has incited me to speech.” -Uma Narayan

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Acknowledgements

Perhaps this dissertation began to unfold some twenty-two years ago, when a computer first came into my family's home. It was the gift of my maternal aunt, whose husband worked in computing. For my tenth birthday, they offloaded a machine on me, a Tandy 1000 I think, a machine at least five years out of fashion—not that I knew it at the time. For me, this computer played a world of games that felt painfully new: *Janitor Jim*, *Alley Cat*, *Clue*, *Tetris*. But all of these—simple 5.25 disk games sold in flimsy plastic bags—paled beside the grandeur and expanse of Sierra On-Line's *King's Quest* games. Both my mother and I enjoyed these games, so she bought more Sierra games, newer ones. After spending an afternoon trying to get *Conquests of Camelot* to play at sufficient speed on that tired old Tandy (no amount of RAM upgrades seemed to help), I recall my mother solved that problem by simply buying a new computer. And that was how things went in my house, these intermittent upgrades, long drives to Radio Shack, learning how to take the chassis of a computer on and off, to handle its little hex-headed screws. That's how I learned about computers and digital games, on summer afternoons in West Virginia, from my mother. I'm sure I would never have been so suspicious of the histories I read about computers and video games if I had not lived something different.

And yet, the way a particular project arrives and flourishes as a possibility is very much bound up in the intellects and experiences a graduate student encounters. In that regard, this project is nothing exceptional. Thus, I owe a debt of inexpressible proportions to Raiford Guins. Working with you as an advisor, mentor, co-teacher, co-author, sounding board and friend, I believe our relationship had embodied a truly rare form of comradeship. Neither of us knew of the other when we arrived at Stony Brook, yet the circumstances of our scholarly entanglement is marked by the kind of fortuitousness that makes one wonder about divine will. You've been a fair and solid guide to me all these years, even in our moments of fire-sign headbutting and dazzling disagreement. Thank you for always putting up with my shit (I gave it probably better than I got it, I know), always picking up the tab, and always opening your door to me. It's from you that I realized one of the pillars of mentorship must be indefatigable honesty—your candor and sincerity are virtues that have helped guide me through both error and success. All graduate students deserve an advisor as attentive, supportive and trustworthy as you have been over the years.

To Lisa Diedrich, I'd wager that you more than anyone has taught me how to think with integrity—a labor you model effortlessly in daily practice as scholar, advisor and mentor. From you I learned how to resist instrumentalizing my objects, how to permit complexity and contradiction with grace and humor, and even, I think, how to let myself come into being with my work—a concept I couldn't even understand when I arrived here seven years ago, let alone imagine as integral to my intellectual practice. Your influence took the longest to manifest, but is perhaps the most foundational of all.

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To Marq Smith and Jo Morra of the *Journal of Visual Culture*, your support, appreciation, kindness and goodwill was felt warmly here, even if it came from far across the pond. It has been a pleasure to work with you over these years (and will continue to be so, I have little doubt). Working on the *JVC* with you has helped me refine my critical discernment, develop a secure and confident professionalism, and generally taught me to kick ass and be a good colleague. I owe you a generational debt, one that will only come full circle when I exercise the lessons you've taught me with my own students one day.

This project was supported by the Faculty-Staff Dissertation Fellowship Award, as well as the Distinguished Travel Award, both granted by the Graduate School at Stony Brook University. This funding permitted me to perform necessary archival research in California, and share my work abroad at the 2012 annual meeting of the Society for the History of Technology in Copenhagen. That trip was also supported by the National Meeting Travel Grant, which was generously funded by the Society.

I owe thanks to the curators, librarians and volunteers at numerous institutions, who have extended curiosity and assistance toward my project: Jon-Paul Dyson, Carol Sandler and Shannon Symonds at the Strong Museum of Play; Alex Bochannek and Chris Garcia at the Computer History Museum; Roger and Loris Mitchell of the Fresno Flats Historical Society; and the Smithsonian Institute Archives. I am additionally grateful for the welcome and assistance I received from Brian Wilkinson at *The Sierra Star*, Carol Cramer on Mudge Range Road, and the docents of the Coarsegold Historical Society. Lastly, I extend a very warm thanks to Ken Williams, John Williams, Bob Heitman, Lori and Corey Cole, and the Sierra On-Line fan community at www.sierragamers.com and the Sierra Gamers Facebook page. Brandon Klassen and Brad Herbert deserve special recognition in this regard.

I have been immensely fortunate to spend my graduate education in the Department of Cultural Analysis and Theory. I would especially like to highlight the contributions of Robert Harvey, Jacqueline Reich, and Krin Gabbard, who did the hard work of helping me feel at home in this academic community. During my time here, I have found myself amid an active, gregarious cohort of graduate students and future colleagues within the department, the University, and the New York City area. I especially extend this appreciation to Jacob Gaboury, Tim Johnston, Brent Strang, AC Deger, Charles Eppley, David Smucker, Jennie Goldstein, and Carlin Wing. You each have made my time in New York one colored by pleasure and friendship. Special mention must be made of the luminous Kette Thomas—for all the 3-hour phone calls, relationship advice, absurd stories, and a laughter as deep as it is genuine. I have grown and survived in part because of your intuitive understanding and recognition.

The ones closest to us are marked by their lastness; it is the weight of their significance that brings them to the bottom of our acknowledgments. Thus: to Ida (and to Nathan). For charging into my life with a spirit of love and adventure, and refusing to step out of it.

Chapter 1: Emergences

"In some adventures you are limited by the number of objects you can carry at one time. When it comes to a decision as to whether you should keep carrying an object that you already used, or drop it so you can get a new one, I would be inclined to drop it in order to be able to carry a new one."

—Roberta Williams

"Winning Strategies for Adventures"

The On-Line Letter, June 1981

Late in the summer of 2013, I traveled to Coarsegold and Oakhurst, California, a pair of towns separated by a seven-mile band of asphalt marked State Route 41, tucked away in the foothills of Madera County along the southern border of Yosemite National Park. On the last day of my trip, I drove out to Oakhurst's Fresno Flats Historic Park, a community heritage site established in 1975 in homage to the area's nineteenth-century Gold Rush roots (Figure 1.1). In a landscape rife with salt-of-the-earth history, these sorts of regional memorials dot and fleck every one-stoplight town along the highway. Most of them were founded in the 1970s and '80s, the boom years of civic pride in Madera County, when the middle-aged grandchildren of gold panners and loggers began gathering oral histories and commemorating landmarks. Yet, by 2013, these locales were mostly forgotten, the stuff of grade-school field trips and the occasional wedding reception. Those who had long served as the guardians of small-town memory, the founders of these dusty parks and ramshackle museums, were all thirty or forty years older now, their bodies too broken down to continue necessary repairs, their hands shaking and shivering as they leafed through archival documents, their memories shot through with forgetting. The Fresno Flats Historic Park's docents and guided tours had long since dried up; only a “caretaker” resided on premises during daylight hours, an old-timer sitting in an air-conditioned cabin who could hand you a pamphlet or give you directions. Mostly, I just saw people stop by to use the park's unlocked bathrooms.

But if there was no docent to play warder to this park, to ensure I wasn't trying to jimmy my way across every locked door and sagging chain-link fence (which I certainly was), I did have to confront a very different kind of gatekeeper. A centennial plaque held empty court on the central axis of the park's sunburnt grassy entrance—what I suspected was faux marble mounted

on faux wood. Dedicated by E Clampus Vitus, a regional fraternal order once founded to care for miners' widows, the plaque iterated Oakhurst, California's most defining testaments to national significance over the past hundred years. Most prominently, the town held a key location on the supply trails that once siphoned tools, liquor, and mules up to the northern gold mines and lumber sites leading in and out of Yosemite; second, Oakhurst was the founding location of Pizza Factory, a restaurant franchise boasting over one hundred establishments in five Western states; and lastly, the plaque dubbed Oakhurst “the birthplace of computer gaming” (Figure 1.2). Through the 1980s and '90s, Oakhurst and the smaller town Coarsegold had been home to Sierra On-Line, one of the most iconic and successful home computer entertainment software producers in the world. Co-founded by a curious husband-and-wife pair, Ken and Roberta Williams, Sierra found its fortune mostly in designing and distributing graphical adventure game software for the home computer market. Sierra would become one of the town's largest employers, alongside the Sierra-Tel telephone company and the county government. Up until the early 1990s, every box, every disk, every package was printed, formatted, and shrink-wrapped right in Oakhurst by the hands of self-declared “mountain folk.” Sierra On-Line was the reason I had traveled three thousand miles from New York City to get sunburnt and dehydrated twenty-two hundred feet above sea level. I'd come to this countryside to ask a question: what is video game history?

Answers shift. In Coarsegold and Oakhurst, it seemed something best forgotten. There had been a soft promise, nearly thirty-five years ago, that a company like Sierra On-Line could turn the economic sinkhole of Madera County into a “Little Silicon Valley.” When Sierra moved most of its corporate operations to Bellevue, Washington in 1993, it left behind disgruntled memory and boundless rumor: Sierra had left because corporate taxes were too high, because

they couldn't get a T1 line strung into Oakhurst, because relations were amiss at the top of the company chain. Double damage came in the late 1990s when the company was shuttered for good, closing up its remaining Oakhurst offices. After that, Sierra On-Line was just someone's last paycheck.

Yet, to the now-adult fans who teethed on Sierra's software in the 1980s and '90s, the company's material remnants—folded and boxed and sleeved by local labor but shipped to an audience worldwide—are objects to save, collect, cherish. These childhood memories are for sharing and endless reiteration. And there are other bodies, spaces, things. To the women of today's indie game scene, there's the hope of finding a history in Roberta Williams that reflects the history they lived but no one seems aware of—that, yes, women have always played games, and made them too. In the archives of the Strong Museum of Play, video game history is the mundane artefacts that clutter acid-free boxes: nameplates and buttons and broken awards. To the designers and employees I interview, it's a curiosity about why I care. It's a question of how long a floppy disk can hold its data before bit rot eradicates magnetic trace, and about how long Yosemite's Half Dome will stand, a reminder of the thick temporality of stone. While the realm of armchair historians and amateur preservationists may swear to a video game history circumscribed by a heroic chronology of hacker heroes and coding wizards, "seminal games" and groundbreaking companies, tracking and tracing Sierra 'cross fields archival and literal has only confirmed to me the articulate queerness of our historical desires, of what we want history to *do* for us.

The question of "what game history is" finds its answer in the doing, as this project is one that will take shape in the cluttered valley between history and historiography. The writing of

video game history, despite its many participants, has been a fairly narrow field of action landmarked by a handful of monuments: Pong and the Magnavox Odyssey, Mario and Pac-Man, the alien death romps of *Doom*, the mesmerizing landscapes of *Myst*. *Goldeneye*, *Grand Theft Auto*, Wii *Tennis*. The ruins are real, and their importance inestimable—but they also cast shadows. In marking the map, they make it, they *become* what game history has been organized to show us. No book of video game history ever told me that Oakhurst, California was the "birthplace of computer gaming." It probably is not. But what does that physical memorial make available to me, which I otherwise might not notice?

I believe: Sierra On-Line is the case that makes a mess of video game history. It makes good on Foucault's promise that "what is found at the historical beginning of things is not the inviolable identity of their origin; it is the dissension of other things. It is disparity."[1] My work herein is a media archaeological pressuring of several historiographic devices governing the structure and arc of what is taken as video game history. Articulating sites of disparity is a critically overdue maneuver in the unfolding historiography of the video game, a gesture countering the obviously problematic teleologics of much writing in the field. And it is a move that scales nicely beyond itself, to all the reasons video games are not just one component of a digital media landscape, but a condensation of digital media's most significant cultural and theoretical properties, from labor to materiality to transnationalist flows, global economics and mobile ubiquity to representation and virtual identity, down to design, distribution, the evils of e-waste. These are all part of a use-cycle of the global video game industry, a multiplicity which

[1] Michel Foucault, "Nietzsche, Genealogy, History," in *Language, Counter-Memory, Practice: Selected Essays and Interviews*, ed. D. F. Bouchard (Ithaca, NY: Cornell University, 1977), 142.

has no monolithic center, no representative feature, especially not once we formulate on planet-wide scales. Gaming is the first form of computational technology most of us ever handled—the first time, in many cases, a computer was ever "in our hands." The level of convergence games enact with other media is a phenomena unto itself: games are constrained by no essential medium of transmission or reception, and can operate across digital and analog substrates. Games are neither experimental novelties nor thin amusements: they are definitive modes of mediation in the twenty-first century. The value of studying video game history should not be that it leads us back to games, but that it leads us somewhere else.

Most straightforwardly, this dissertation is about a computer game company. Yet to ask "What is the significance of Sierra On-Line in video game history?" is to explore the former only in the context of the latter, and to offer the latter an unjustifiable degree of authority over itself. Historical writing on video games typically operates with a perilous certainty as to its object, even at academic levels, and has cemented a narrative over the past twenty years at a speed likely unmatched by any other contemporary medium. This is a fundamentally linear representation, one in which the historian's job is, as Raiford Guins puts it, "seemingly confined to neat descriptive snapshots—Rankean historicism reporting on 'who,' 'what,' and 'when.'"[2]

My role, but also my contribution, will prove somewhat oblique. I never intended to write a dissertation on video game history, and for this reason I never precisely paid much attention to the scaffolding to begin with. Other things brought me to take an interest in this company: mostly, a fascination with the domestic context of personal computing, how computers remade

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[2] Raiford Guins, *Game After: A Cultural Study of Video Game Afterlife* (Cambridge, MA: MIT Press, 2014), 22.

homes, and how women came to be computer users. Expect neither a satisfying company history, nor a diligent accounting of all Sierra's games, nor a thorough biography of anyone. If these had ever, once, been aims of this project, they were long ago lost in the realization that dissertations are products of dramatic erosion: they are at once ghosts of their initial ambition and humble suggestions of future landscapes. The intellectual and creative impulses that drew me into the orbit of Sierra On-Line were spatial, political, gendered, forgotten, and largely un-archived—a long walk from the universal, apolitical, ungendered, and deeply nostalgic remembrances that structure the "explosions" and completionist histories bowing the bookshelves of video game history.

This dissertation pries at three overlapped historiographic frames that each play a substantial role in conditioning the structure and limits of video game history as told: origin, industry, and gender. I will sand down the surface of each against a specific case study of Sierra On-Line, plying a history not only counter to, but in excess of, the traditionally understood relationship between this company and the larger constellation of video game history. My craftsmanship will serve to both complicate the authority of common frameworks in video game historiography, and provide a model for how we might buttress alternative histories about our technological lives and the material forces we are concomitantly bound up within. This is not a story about margin and center. Rather, it is about, in some sense, how the center was made, and the labor of tracking down what gets lost when we repeat that cut over and over in the action of historical writing. This process ultimately encroaches upon the tremendous *work* that goes into establishing and reaffirming game history's stability and storyline, and, paradoxically, how quickly that effort may be undermined. In what I massage here, Sierra is not a node reflecting

progress, or some means to temporally mark what will follow after. That only makes sense if we treat history as static, as a narrative fundamentally additive in construction—the scaffolding to which we merely contribute floors.

Insofar as this project follows a trace of historical experiences, events, and materialities that cannot otherwise be accessed by our dominant video game narratives, I consider my efforts part of the expanding dialogue of media archaeology. In the most generous terms, media archaeology is a loosely-codified set of cross-disciplinary methods attached to the historical and material study of media and media transmission. Additionally, these methods typically privilege non-progressive history, analysis of failed and dead media, and strong attention to technological materiality and medium specificity (rather than a representational or screen-based focus). Indeed, as the following chapter will attest, media archaeology is a collective of methods especially suited to the developing history of the video game medium, which wades in broken objects, obsolete technology, and evocative dead ends. But media archaeology is also a realm with limitations as dramatic as its affordances are vast, particularly as the domain relates to (or obfuscates) concerns regarding human subjectivity and power relations along vectors of gender, race, class, sexuality, and their allied intersections. I have collected these concerns in their own chapter, dedicated to the sole process of "making use" of media archaeology despite these critical limitations. Doing so requires a bit of hackwork; I propose an alternative called "media speleology," a methodological adjustment intended to reframe specific materialist principles within media archaeology. For this, I draw from scholarship on critical materialism, much of which finds its most potent articulation in the hands of explicitly feminist and queer theorists such as Karen Barad and Sara Ahmed. While only one of my chapters explicitly tends to a

female subject as such (Chapter 6, which concerns Roberta Williams), a sensitivity to bodies, media objects, and spatial politics is entangled throughout this work. I am motivated by a desire to pull Sierra On-Line away from a narrative of ludological and technological progress (often decorated with the triumphs of white male inventors and innovators), as well as an attentiveness to the ghosts, gaps, and curious repetitions on game history's so-called margins.[3]

Bracketing, for the moment, methodological exploits to be parsed in a following chapter, I fall back upon my earlier caveats: I have tried to avoid writing a dissertation on video game history, yet here I am. Sierra might tell us something, not of how video games got here (or at least, not only that), but of how video game history got here. My project engages this concept in two parts. The first part of the dissertation is comprised of a pair of chapters, "Archaeologizing Video Game History" and "Spelunking Media Archaeology." Together, these chapters establish the landscape of video game history and Sierra On-Line's function within that history, the relevance of a media archaeological account, an explanation of the media archaeological method, and a second-order critique of media archaeology that establishes my concept of "media speleology." While it may be over-extensive, offering an intervention within media archaeology itself was a critical component of how I formulated the historical content of this dissertation. Media archaeology got me part of the way, but what I consider this dissertation's deepest and

[3] My thinking on the materiality of the "ghostly" is deeply informed by Avery Gordon, who describes haunting as "mediation" in which "organized forces and systemic structures that appear removed from us make their impact felt in everyday life in a way that confounds our analytic separations and confounds the social separations themselves." *Ghostly Matters: Haunting and the Sociological Imagination*, 2nd ed. (Minneapolis, MN: University of Minnesota, 2008), 19.

most subtle observations were only brought out through my exposure to critical materialism—an exposure I carried out explicitly to reconcile the problematic political orientation of media archaeology. Thus, the output of that labor holds pride of place in this dissertation; I could not have thought its contents without the development of the "media speleology" method, and, backwards, these contents were the grindstone for sharpening the shape and contribution of that methodological intervention. As a set, these two chapters establish the disciplinary and methodological terrains I explicitly consider this research to operate within.

The second part of the dissertation is comprised of three "content" chapters, each of which tells a different kind of history about games through three separate case studies on Sierra On-Line. Each is both a critique and a model. Titled "On Origin," "On Industry," and "On Gender," the three chapters do not produce a progressive narrative, although the first two do follow one another temporally. "On Origin" turns itself on the murky world of "beginnings," assessing the specter of the origin story in video game history. In place of a story of origin, I trace an emergence, attending to disparities that become obscured in the effort to write a smooth and uncluttered account of how Sierra On-Line came into being. The chapter spans a mere nine months in the history of Ken and Roberta Williams, while also untangling the historiographic mechanisms that have caused Sierra On-Line to default into a history told through the lens of genre.

"On Industry" follows shortly thereafter, beginning with the Williams' relocation from Simi Valley, California (where they started Sierra On-Line, then called On-Line Systems) to the Coarsegold-Oakhurst area, and ending with an alternative, microcomputer-centric account of the 1983/1984 "Video Game Crash." This chapter deconstructs how video game history imagines the

industry as a monolithic and flat entity, one that is often abstracted from any particular geographic context. In this chapter, I explore the video game industry in three slices: the profoundly local arrangements within the small mountain towns of Coarsegold and Oakhurst; the regional microcomputer hardware and software scene which the Williamses existed within; and the national conception of the infamous "Crash," which took a very different form for microcomputer software manufacturers than it did for game console producers.

"On Gender" skids out from under the chronological track of the previous chapters. Roberta Williams is its subject and object: her games, her design practices, and, above all, how she has been formatted to fit within video game history. As I put it, historians struggle to "make sense" of Roberta Williams within game history, shoehorning her into "pioneer" narratives and singling her out on a pedestal. I insist on sitting with this non-sense, as that action produces the conceptual space to track all the moments gender has been meaningful within video game history, without being made to appear meaningful as such. This chapter trades on a careful contention: it insists on "statements of the obvious" (Williams was, after all, one of the earliest female computer game designers in the United States), while complicating the gendered structures of precedence and priority that give such statements meaning.

My conclusion follows one of the basic rules of urban exploration: never leave where you enter. The practice of a dissertation is to assemble process into tentative solidity. Once signed and stamped and filed for digital eternity, it must be disassembled to try again. I want to leave us with something of a taste for that future state, rather than capitulate back to the beginning. Following this history around has led me to better questions about how we do history—only some of which do I have the space to represent in this work. My conclusion will therefore be a lateral move

about a figure largely left out of historiographic reflection: that of the gamer. Through personal narrative and research anecdotes, I will explore both how we remember and what we forget of our "gamer" cultures, and suggest that the figure of the gamer is actually what holds video game history in thrall. This, I will contend, is the contribution Sierra On-Line is uniquely poised to make: showing us a video game history with no gamer at all.

Part I

"Archaeology—like nostalgia—is not what it use to be [...]."

—Paul Bahn

Archaeology: A Very Short Introduction, p. 8.

Chapter 2: Archaeologizing Video Game History

The Historiographic Situation

Video games have long captured the public imagination. The earliest published texts on video game history date back to the early 1980s, and the Internet overflows with the bones, bits and pieces of video games' short but voluminous record. A curious enquirer into the field might puzzle together a sense of events from any combination of published trade press paperbacks, web journalism at sites like *Polygon* or *Gamasutra*, wiki-style crowd source projects, blogs (active and defunct) by lay historians, and a wide range of independent and institutional preservation initiatives. Simultaneously, video game history circulates through mixed physical locations and less explicit "sources," including conventions, conferences, intertextual references within games (that can always be handily cross-referenced through game wikis), game jams, torrents, shareware or retropacks of emulated obsolete game software, institutional archives and video game museum exhibits (such as the Strong Museum of Play, the Computer History Museum, or the Museum of the Moving Image), peer socialization, and institutional knowledge within the game industry. It is a testament to the intensity and dedication enthusiasts and "amateur" preservationists offer that game code, emulators, documentation, and other ephemera are typically little more than a Google search away. Yet video game history as a *critical writing practice*—circulated by publishers and authorized through citations, indexes, and archival research—is barely twenty years old, while consistent academic engagement on the subject is roughly half that. Game history is, primarily, an enthusiast's literature, informed by cultural memory, interviews, and a nostalgic, celebratory affect. Given the variety of outlets, the increasing volume of public interest, and the sheer mass of information available for

consumption, video game history is clearly thriving, in full defiance of a fairly narrow historical and theoretical toolkit.

While many—indeed, almost all—video game histories manage to warp the world in relation to the centrifugal force of their object, interrogation into Sierra's peripheral status weakens these energetic bonds. Tracing the composition of both video game history and Sierra's function within that body of work should be understood as more than "lit review." The "literature" is a historiographic situation, a terrain to be reflexively roamed so its investments, possibilities, and limitations might become more tactile. To explain *how* this project is an intervention within the historiographic situation of video game history, I first summarize how video game history has heretofore been written, its invested parties, and its apparent stakes. Then I map how, and on what terms, Sierra On-Line has been chronicled within that history. This execution will emphasize video game history as the production of specific accumulated orientations to the "video game" as a historic object. Beyond this dominant narrative, however, I will focus on several historiographic traces that can productively complicate and reorient this project. These will include the relevance of the history of computing, very early (pre-1984) biographic and journalistic work about Sierra On-Line, the highly specific work of Sierra fan communities, and the wider "historiographic," "institutional," or "critical" turn within video game history. This project exists within this turn, and I will spend some time linking my research to what Raiford Guins identifies as an emergence of "critical historical studies of video games."[1] I will conclude by both sketching out my collaborative overlaps with leading game history scholars in the field and, simultaneously, advancing a Foucauldian, media archaeological critique of how the "institutionalization" of video game history is circulated as a knowledge project.[2]

[1] Guins, *Game After*, 21.

[2] In his introduction to the special game history issue of the online journal *Game Studies*,

Throughout this chapter, I will emphasize various methodological limitations that recur within the body of this literature, and explain how media archaeology provides alternative avenues for historical exploration.

The Chronicles of Video Game History

The first comprehensive video game history texts emerged in the mid-1990s through the early 2000s. Presenting video game history in broad, chronological strokes, books like *Phoenix* (1994) and *The Ultimate History of Video Games* (2001), as well as coffee-table-style visual histories such as *Supercade* (2003) and *High Score!* (2002), focus on histories of commercial arcades and console games, and the short "pre-history" of playful computational experiments that produced interactions like *Spacewar!* or *Tennis for Two*.[3] These texts emphasize the luminous aesthetics and countercultural scenes that dominated the arcades, the three-decades-long competitive sagas of the Console Wars, and the itemization of particularly epic moments in

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Editor-in-Chief Espen Aarseth suggests that "what has been lacking is not the writing of game history, but the *institutionalization* of the study of computer game history in the shape of enduring structures: archives, museums, journals, conferences and international networks." "Game History: A Special Issue," *Game Studies* 13, no. 2 (December 2013), http://gamestudies.org/1302/articles/eaarseth.

[3] Van Burnhan, *Supercade: A Visual History of the Videogame Age, 1971-1984* (Cambridge, MA: MIT Press, 2003); Rusel DeMaria and Johnny L. Wilson, *High Score!: The Illustrated History of Electronic Games* (Berkeley, CA: McGraw-Hill, 2002); Leonard Herman, *Phoenix: The Fall and Rise of Videogames*, 2nd ed. (Union, NJ: Rolenta Press, 1999); Steven L. Kent, *The Ultimate History of Video Games* (New York: Three Rivers Press, 2001).

the "evolution" of gameplay. Typically, these texts privilege arcade and console games, limiting the intersection with computing to either the "pre-history" phase or computing platforms primarily intended as gaming platforms (such as the Atari 8-bit series, Coleco Adam, Commodore VIC-20, Commodore 64, and TRS-80).

In the past decade, the trend among trade press authors has shifted to more generalist works, with chapters that sample important moments, genres, or games—managing to cover most significant "landmarks" while still taking on games as a whole. Only vaguely chronological, books like *Replay* (2010), *All Your Base Are Belong to Us* (2011), and *Vintage Games* (2009, organized alphabetically by game) dart across the historical field, arranged more for thematic holism and narrative pleasure than temporal progression—although the overall story of technological advancement holds together through each book.[4] Beneath the layer of books that try to "do it all," there is an equally substantial quantity of writing regarding individual designers, platforms, companies, or game franchises, often published by small houses or vanity presses.[5]

[4] Tristan Donovan, *Replay: The History of Video Games* (East Sussex, UK: Yellow Ant, 2010); Harold Goldberg, *All Your Base Are Belong to Us: How Fifty Years of Videogames Conquered Pop Culture* (New York: Random House, 2011); Bill Loguidice and Matt Barton, *Vintage Games: An Insider Look at the History of Grand Theft Auto, Super Mario, and the Most Influential Games of All Time* (Burlington, MA: Focal Press, 2009).

[5] As my interest is in texts that offer a wide-scale chronology or completionist history of video games, I necessarily overlook the numerous books written about individual platforms, companies, designers, or genres. For well-known examples, see: Scott Cohen, *Zap!: The Rise and Fall of Atari*, rev. ed. (New York: McGraw-Hill, 1987); David Kushner, *Masters of Doom: How Two Guys Created an Empire and Transformed Pop Culture* (New York:

It is this body of enthusiast literature that media archaeologist and Victorian cultural scholar Erkki Huhtamo dubs the "Chronicle Era" of video game history, reflected in publications "mainly concerned with amassing and organizing data."[6] Huhtamo's position is a critical one; he notes that the collection and assemblage of facts about video game objects preoccupies most historical writing, especially by those authors for whom video games were "a powerful formative experience…observing games with the eyes of a fan and insider."[7] Summarizing the traditional narratives of video game history in his essay "Slots of Fun, Slots of Trouble," Huhtamo writes:

> The (hi)story is usually told in a remarkably uniform fashion, built around the same landmarks, breakthroughs and founding fathers (not a word about mothers!). The history of coin-operated arcade video games is routinely said to begin with the appearance of Nolan Bushnell's *Computer Space* (1971) and *Pong* (1972), that of home games with the introduction of Magnavox Odyssey (1972), the first video game console for domestic use, conceived by Ralph Baer, with Bushnell another founding father. The main predecessor to these landmarks has been identified in *Spacewar*, associated with the name of Steve "Slug" Russell, but actually created by a group of student hackers at MIT in the early 1960s, and subsequently improved collectively by other students at the computer science departments of various American universities throughout the 60s. The main argument

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Random House, 2004); David Sheff and Andy Eddy, *Game Over: Press Start to Continue* (Wilton, CT: Cyberactive Media Group, 1999); Curt Vendel and Marty Goldberg, *Atari Inc.: Business Is Fun* (Carmel, NY: Syzygy Press, 2012).

6 Erkki Huhtamo, "Slots of Fun, Slots of Trouble: An Archaeology of Arcade Gaming," in *Handbook of Computer Games Studies*, ed. Joost Raessens and Jeffrey Goldstein (Cambridge, MA: MIT Press, 2005), 4.

7 Ibid.

> concerning the "prehistory" of electronic games has centered around the status of *Spacewar*—was it really the first video game? While most seem to agree, there are those who claim that this honor really belongs to a simulation called *Tennis for Two*, created on an analog computer by the physicist William Higinbotham at the Brookhaven National Laboratory in 1958. Most game historians have also something to say about the emergence of computing as a precondition for the video game phenomenon, yet few of them venture further than that.[8]

What Huhtamo traces in this extended paragraph are the motifs of origin and lineage which are of the utmost importance in video game history. In Huhtamo's estimation, these limitations result in a history "unable to [be related to] wider cultural framework(s), including contemporary media culture."[9] Under such discursive conditions, video game history is largely a chronology of its self-declared objects: the games (software) and the platforms (hardware) that proceed, with each generation, toward ever more mobile, technologically immersive, or narratively complex user experiences. The "Chronicle Era," as Huhtamo estimates, reduces game history in a way that produces more gaps than it ever resolves. Thus, as will be explored further on, video game history's "Chronicle Era" gives a shape to historical knowledge that media archaeology is expressly designed to challenge and complicate.

Sierra On-Line and the Adventure Game Genre in the Chronicle

Huhtamo's diagnosis offers some purchase on how Sierra On-Line might be understood through the lens of video game history's chroniclers—as it is both paradoxical and entirely accurate to state that Sierra On-Line *is* and *is not* addressed in accounts of video game history.

[8] Ibid.

[9] Ibid.

Video game historians currently employ a very limited set of analytic and organization devices, in large part contributing to Huhtamo's estimation of its uniformity and emphasis on discrete "landmarks." Typically, these histories are ordered by some matrix of chronology, genre, technological primacy or progress, platform object, economic success, and historical novelty.

To outline briefly, Sierra On-Line's significance and character is dominated by two historiographic terms: the primacy and progress of the adventure game genre and, to a lesser extent, the curiosity of Roberta Williams as a female game designer.[10] Accounts of Sierra On-Line rarely, if ever, exceed these stakes; all other detail becomes merely trivia. In various texts,

[10] Recent controversies regarding sexism in the game industry have amplified interest in histories of women and gaming, bringing increased attention to the legacy of Roberta Williams. See Nina Freeman, "Dad? Where is Mom? I Can't Find Her in This Videogame," *Kill Screen*, August 7, 2013, http://killscreendaily.com/articles/articles/dad-wheres-mom/; Laine Nooney, "Roberta Williams: The Mother of Video Games," interview by David Brancaccio, *Marketplace*, March 6, 2013, http://www.marketplace.org/topics/tech/who-tech/roberta-williams-mother-computer-video-games. For some of the more visible events related to sexism in the game scene over the past twenty-four months, see: Griffin McElroy, "IGDA Draws Backlash, Member Resignations over Female Dancers at GDC Party," *Polygon*, March 28, 2013, http://www.polygon.com/2013/3/28/4157266/igda-gdc-party-brenda-romero-resignation; Luke Plunkett, "Here's a Devastating Account of the Crap Women in the Games Business Have to Deal With. In 2012," *Kotaku*, November 27, 2012, http://kotaku.com/5963528/heres-a-devastating-account-of-the-crap-women-in-the-games-business-have-to-deal-with-in-2012; Anita Sarkeesian,"TEDxWomen Talk: Online Harassment and Cyber Mobs," TEDxWomen, YouTube video, 10 min. 30 sec., filmed November 30, 2012, http://tedxwomen.org/speakers/anita-sarkeesian-2/.

Sierra On-Line is represented within the context of one or more of the following: a chronology that traces computer gaming from institutional mainframe, minicomputer, or first wave microcomputer programs such as *Hunt the Wumpus!*, *Colossal Cave Adventure*, and *Zork* to a home computer software industry dominated by companies like Infocom, Sierra On-Line, Adventure International, and Sir-Tech (*Replay*); the demise of the graphical adventure game genre, and the fall of Roberta Williams, in the face of fast-paced action, racing, and shooting games (*All Your Base*); and a decontextualized overview of Sierra's adventure games, largely fixated on the technological and graphical progression showcased in the *King's Quest* series (*Vintage Games*). In some instances, histories frame Sierra On-Line through a hyped-up competition narrative with the Cambridge-based text adventure company Infocom, developers of the infamous *Zork*—although, oddly enough, it is academic texts, rather than enthusiast ones, which are most egregious in this regard.[11]

Because the category or genre of the "adventure game" plays such a significant role in dictating how Sierra On-Line is historicized, it deserves a formal explanation. In his essay "Genre and the Video Game," Mark J. P. Wolf distinguishes the adventure genre as one typified by games

> set in a "world" usually made up of multiple connected rooms, locations, or screens, involving an objective which is more complex than simply catching, shooting, capturing, or escaping, although completion of the objective may involve several or all of these. Objects usually must be completed in several steps, for example, finding keys and unlocking doors to other areas to retrieve objects needed elsewhere in the game.[12]

[11] See Chapter , "On Origin," section titled "The Descent of the Adventure Game" for an extended demystification of the Sierra-Infocom mythology within academic scholarship.

[12] Mark J. P. Wolf, "Genre and the Video Game," in *The Medium of the Video Game*, ed. Mark

I would massage this definition to additionally state that adventure games are a genre in which "progress" is impeded by puzzles that must be solved by the player. The notion of progress is game dependent, but typically means either advancing a narrative or opening up access to new areas of the game environment (these are often joined as one goal). While, as we will see, microcomputer software developers produced many types of games in the early 1980s, including action- and arcade-style games, adventure games were a genre unique to microcomputers because of their technical input requirements. Such games required either natural language keyboard input (typing "take rock" or "go north") or the capacity to move a mouse pointer across a screen image to garner information, talk to other characters, or engage in complex object interactions. Unlike the action, simulation, or shooting genres typical to arcade and console platforms, computer-based adventure games emphasized slow, exploratory play and limited speed or hand-eye coordination sequences,[13] and they could be saved and returned to at a later time. In some sense, adventure games could be played away from the keyboard: in the way that

J. P. Wolf (Austin: University of Texas Press, 2001), 118.

[13] What I mean here is that adventure games are not defined by arcade action components like fighting or shooting, where controller manipulation becomes an integral part of game mastery. Of course, exceptions necessarily prove the rule. There is certainly no lack of RPG-adventure hybrids, such as *Quest for Glory*. Additionally, many of Sierra's adventure games are remembered for frustrating arcade-style sequences (the skate rink in *Space Quest IV*, jousting in *Conquests of Camelot*), or appalling "navigation" exercises in which an avatar must be moved up or down a precarious, narrow pathway using a keyboard's arrow keys, and could easy fall to death (sequences like these occur infamously in *King's Quest I-IV* and other Sierra games).

one can ponder a riddle long after the moment of receiving it, one might dwell on how to solve a puzzle during the day and sit down to a game with new solutions at night. In colloquial memory, Sierra On-Line is considered synonymous with the genre, since the company is responsible for several commercially successful technological "firsts" within the adventure game genre. The weight of this identification grows exponentially when the icon of Roberta Williams is added to the scale, making Sierra On-Line an especially handy nexus for encapsulating several historiographic concerns in one easy go.

Because the terms of historiographic legibility are so narrow, Sierra On-Line becomes a company fitted to the history. Could it, rather, be a plow that might furrow historical uniformity? It is almost never stated: Sierra On-Line was one of the longest-standing, consistently-successful home computer entertainment software companies of the 1980s and 1990s, and one of several prominent software publishers that galvanized the emergence of a commercial home computer gaming market in the United States. It has also never been stated that the company's co-founder, Roberta Williams, was the first female home computer game designer in the United States. Even more curious, the company's *King's Quest* series held a 35-40% female player base in the late 1980s—a statistical measure of female play much higher than historians have ever acknowledged or even suggested for the era.[14] Yet, despite these historical and cultural indicators, Sierra On-Line has received little critical attention beyond its memorialization within the history of a specific genre.

[14] The numbers, reported by Sierra's head of marketing, John Williams (Ken Williams' brother), were based off registration card data mailed back to Sierra On-Line. Patricia Cignarella, "Roberta Williams: Girls Just Want to Have Fun," *Sierra News Magazine*, 2, no. 2 (1989): 24.

The Complication of Computer Game History

As we have seen, the limited role Sierra On-Line plays in the "Chronicle" is indicative of tangled historiographic issues within video game history, specifically concerning genre. While the category of genre is one implemented to organize game history, another agent in Sierra On-Line's history is often avoided or minimized, lest it further *disorganize* this history. In this section, I argue that the lack of a critical history of microcomputing plagues efforts to assess 1980s video games as part of a technological history beyond discrete gaming platforms.[15] Sierra

[15] I typically use the term "microcomputer" rather than "personal computer" or "home computer," as the latter terms had different meanings in the late 1970s through the early 1980s than we associate them with today. A microcomputer is any digital computing machine based on microprocessor technology and intended for individual use (rather than time-sharing terminals), with mechanisms for input/output and data storage—what are often today simply anachronistically called "personal computers." While "personal computer" and "home computer" are considered synonymous today, the terms actually referred to different buyer's markets and lines of hardware during the period in question. Generally speaking, "personal computers" were computers intended for small businesses—companies which could benefit from database software or digitized file management, but which did not require (or could not afford) a minicomputer outfit. "Home computers" were machines that ranged from "general-purpose" use (a Commodore PET or Apple II) to extremely inexpensive gaming or calculation machines (Commodore 64, Coleco ADAM, or Mattel Aquarius). Yet the highest end home computers, such as the Apple II, might also find themselves used as a business machine. What I wish to point at here is the tremendous degree of sensitivity users, dealers, and hardware and software manufacturers brought to these distinctions, as a new culture of technology was being formed: these are details easily lost when we simply call these machines "personal

On-Line produced its first game, *Mystery House*, in May 1980—a game developed exclusively for the Apple II microcomputer. It is necessary to understand that the earliest years of Sierra On-Line, and the first commercial market for microcomputer entertainment software, are intertwined with an emergent understanding of microcomputers as domestic technologies. Yet computer gaming has often languished in historical obscurity beside the lustrous visibility of arcades and consoles—especially in first-wave completionist tomes, where late-1970s through early-1980s computer gaming is a hazily understood phenomenon.[16]

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computers" in the contemporary sense. "Microcomputer" maintains some of that alien necessity, making the things we believe so familiar seem as foreign as they once were. For primary documents parsing these terms, see: Edward J. Coburn, *Learning About Microcomputers: Hardware and Applications Software* (Albany, NY: Delmar, 1986), Chapter 1; Gary B. Shelly and Thomas J. Cashman, *Computer Fundamentals for an Information Age* (Brea, CA: Anaheim, 1984), Chapter 1; Jerry Willis and Merl Miller, *Computers for Everybody: 1984 Buyer's Guide* (Beaverton, OR: dilithium Press, 1984).

[16] For example, *Phoenix* is bookended by the subject, opening with a brief chapter on computer history, a swift tour from the invention of calculation through modern computation, and covers both *Spacewar!* and *Tennis for Two.* The book is additionally supplemented with a four-page appendix titled, shortly, "Computers," covering Videobrain, Atari 8-bit, TI-99/4A, Commodore VIC, C64, and the TRS-80 machines. *Supercade* similarly covers *Tennis for Two* and *Spacewar!*, nods to Crowther and Woods' *ADVENT*, and then covers every major machine through 1984: the 1977 triad of Apple II, Commodore PET, and TRS-80; the Atari 8-bit series; TI-99; Commodore VIC-20; IBM PC; C64; and ZX Spectrum. However, these are each one or half-page essays; the bulk of *Supercade*'s 448 pages is devoted to individual arcade games. *High Score*, for a book that looks quite immature, gives the most substantial

Part of what makes this culture of microcomputer gaming so difficult to locate is the inconsistency regarding what subject area this history belongs to. The field of computing history and the field of video game history critically overlap in the moment of the late 1970s/early 1980s microcomputer boom; however, each remains numb to the significance of the other. The more established history of computing, which is largely nested within (and shares methodological heritage with) the history of technology, tracks developments in computing technology rather than cultural histories of use—whereas the history of video games often does the reverse. Paul E. Ceruzzi's *A History of Modern Computing* focuses on the three computers that comprise the "second wave" of personal computing, systems which "signaled the end of the experimental phase of personal computing and the beginning of its mature phase": Radio Shack's TRS-80, the Commodore PET, and the Apple II.[17] In contrast, in Kent's *Ultimate History of Videogames*, commercial computing is not broached until the arrival of the Commodore 64, the computer that Kent states "broke the [personal computer] market wide open" and was "a turning point in the history of home electronics."[18] The Commodore 64, which was widely regarded as a "cheap seat" microcomputer, versatile and general purpose with an array of software, nonetheless warrants no technical consideration within the history of computing, even though hundreds of thousands of these machines were sold.[19] However, the Apple II (which is ignored in Kent's work), with its "tour de force of circuit design," is historically valued as a technological innovation in ways "cheap seats" home computers like the VIC or the Commodore 64 never will be.[20] On the part of the history of computing, there is less interest than there could be in the fact that suddenly millions of people were using home computers to engage in an entirely novel form

page space to computing systems and companies through the history of video games.

[17] Paul E. Ceruzzi, *A History of Modern Computing*, 2nd ed. (Cambridge, MA: MIT Press, 2003), 264.

of digitally mediated interaction.

In the case of video game history, significance is measured in terms of perceived cultural impact or saturation, household penetration, and economic dominance, while the history of computing privileges a lineage of computing innovation that more directly expresses significant technological transformation from one generation of computing to the next. At the very site where their aligned interests should offer a gravitational pull, their commitments to different objects and notions of technological change wind up repelling one another. Sierra On-Line, and the early microcomputer entertainment software industry more broadly, is situated in the blind spot between these two historical disciplines.

This concern is further complicated by the position of the machine itself. The microcomputer was not a clearly coded cultural object, but rather a device of much social

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[18] Kent, *Ultimate History of Video Games*, 248, 252. When Commodore 64 sales plateau following the games crash and software shakes of 1983-85, the story of computer gaming is dropped again, only to be resuscitated in 1993 with the release of *Myst*, *The 7th Guest*, and most importantly, *Doom.* In such a history, the computer is framed as a threat to the console era—indicating the way by which video game history is largely told through a capitalist competition narrative wherein various companies strike and parry for the limited resources of consumer dollars.

[19] The Commodore 64 is referred to as a "Cheap Seat" in a prominent 1984 computer buyer's guide, alongside thirteen other systems often associated with gaming, including the Atari 8-bit series, Coleco ADAM, TI 99/4A, the Mattel Aquarius, and others. Willis and Miller, *Computers for Everybody: 1984 Buyer's Guide*, 117.

[20] Ceruzzi, *A History of Modern Computing*, 264.

concern and confusion. It is accurate to assess that microcomputers were not as embedded in American culture as arcades or as present in American households as consoles were. However, what this disparity points to is not a straightforward expression of preference but a complex drama of newly forming habits, as people learned how to "make use" and "live alongside" computer technology. Yet much of this cultural uncertainty, so alive in enthusiast magazines and software advertisements of the era, has been masked in the more thrilling historical narrative of computing's unstoppable ubiquity. Enthusiast historians are often early adopters, over-influenced by their own sensations of the computer zeitgeist.

Microcomputers were still strange and expensive objects, especially when compared to arcades and consoles; there are numerous factors we must account for to understand why microcomputers did not reach the levels of installed base that gaming platforms would in early 1980s American homes. In straightforward fiscal terms, consoles were cheaper than microcomputers. The Atari VCS retailed for approximately $200 when it was first released in 1977, packaged with *Combat* and available for purchase at general commercial retailers. Alternatively, the TRS-80 started at $400, at least twice the cost of Atari's VCS, and even the leanest Apple II purchase started at $1200.[21] Microcomputers also required a higher degree of technical familiarity than video game consoles. At a minimum, microcomputer users had to be able to install or boot software from a command line; a healthy publication stream of dictionaries, beginner's manuals, and buyer's guides attests that, for many, computer use was not intuitive or self-evident.[22] Users lacked a template for the domestication of this technology in

[21] Ibid., 263.

[22] For some examples of the era's paratextual materials, see: Coburn, *Learning About Microcomputers*; Patricia Conniffe, *Computer Dictionary* (New York: Scholastic, 1984); Alfred Glossbrenner, *How to Buy Software: The Master Guide to Picking the Right Program*

their own homes, and there was extensive debate as to whether computers were "useful" for households.[23]

Yet, despite the fact that microcomputers were not as quantifiably embedded in U.S. households, they still existed in substantial numbers, and propelled the development of an individual buyer's market for software. According to Martin Campbell-Kelly, by 1983 the installed base for personal computers was approximately 5 million (distinguishing "personal computers" from "videogame consoles and cheap home computers").[24] Serving those 5 million

(New York: St. Martin's Press, 1984); Jerry Willis, *Peanut Butter and Jelly Guide to Computers*, in collaboration with Deborrah Smithy and Brian Hyndman (Beaverton, OR: Dilithium Press, 1978).

[23] For research covering the "domestication" of the personal computer, see: Marsha F. Cassidy, "Cyberspace Meets Domestic Space: Personal Computers, Women's Work, and the Gendered Territories of the Family Home," *Critical Studies in Media Communication* 18, no. 1 (2001): 44–65; Elaine Lally, *At Home with Computers* (Oxford: Berg, 2002).

[24] By 1983 (the beginning of the video game crash in the console industry) sales of video game console and home computers were flattening to near equivalency: 5.7 million for consoles, 5 million for home computers. This was a remarkable adjustment from 7.9 million and 2.2 million, respectively, the year prior—although it does indicated that the installed base for consoles was dramatically higher overall. Martin Campbell-Kelly, *From Airline Reservations to Sonic the Hedgehog: A History of the Software Industry* (Cambridge, MA: MIT Press, 2003), 276, 279. Ken Williams roughly corroborates those numbers, although his estimate is purely based on personal experience: "My guess is that 20 million game machines have been sold, zillions and zillions of dedicated computers have been sold, 5 million business/office computers have been sold." Ken Williams, "Computers: The Myth, The Promise, The

units was a microcomputer software market nearly two-thirds comprised of games, and many of the early computer game companies quickly emerged as multi-million-dollar enterprises, Sierra On-Line included.[25] These statistical facts remain underrated in both video game and computer histories. The lack of a deeper awareness about microcomputing means we miss the thing that computers did that consoles and arcades could not: computer games were foundational for acclimating households of early adopters—adults and children alike—to the conventions of the computer medium, as well as establishing a domestic culture of computer use that has barely begun to be explored.

Sierra On-Line Beyond the Chronicle

Where do we begin, then, to assess this company if mainstream historical writing does not, or does so too narrowly? There exists no canonical source for the history of Sierra On-Line. Rather, as is the case with many video game histories, it is a sequence of events cobbled together by invested parties—typically journalists, lay historians, and fan collectives—from diverse and often uncited magazine articles, popular press publications, designer interviews, fan memory, and company documents. Among the "Chronicle Era" histories that offer significant unique information on the company, we can include the generalist trade paperbacks: Tristan Donovan's *Replay*, Harold Goldberg's *All Your Base Are Belong to Us*, and Bill Loguidice and Matt Barton's *Vintage Games*, as well as the ostensibly more "scholarly" Routledge co-authored textbook *Understanding Video Games*, which dedicates its third chapter to game history.[26] However, as

Reason," *Creative Computing* 10, no. 11 (November 1984), 240.

[25] Campbell-Kelly, *From Airline Reservations*, 276.

[26] Simon Egenfeldt-Nielsen, Jonas Heide Smith, and Susana Pajares Tosca, *Understanding*

stated, these are precisely the texts that organize Sierra On-Line so narrowly to begin with.

Given the tendency of video game history to position Sierra On-Line within a very rigid narrative of genre and technological progress, the two most lucrative primary sources are actually books written in the mid-1980s. Steven Levy's famed *Hackers: Heroes of the Computer Revolution* and Broderbund founder Doug Carlston's truly obscure semi-autobiographical account of the microcomputer software scene, *Software People*, both supply accounts prior to

Video Games: The Essential Introduction, 2nd ed. (New York: Routledge, 2013). I place "scholarly" in quotes not just to temper distinctions in quality that might be made between academic authors and popular press writers, but also because the information on Sierra On-Line is not rigorously researched or edited. It leans heavily toward the same dismissive, ahistorical aesthetic attitude about Sierra On-Line that can be found in Nick Montfort's *Twisty Little Passages: An Approach to Interactive Fiction* (Cambridge, MA: MIT Press: 2005). See Chapter 4, "On Origin," for further discussion of historical concerns regarding Montfort's work. The first edition was also riddled with basic historical and editing errors, including: mis-citing the publication date of *Mystery House* (listed as 1979, rather than 1980, on pg. 58), incorrectly naming the protagonist of *King's Quest 1* (written on pg. 72 as both "Gawai" and "Gawain" rather than Grahame—this was changed to Graham later in the series), referring to the company in 1980 as "Sierra Online" on pg. 72 (it was On-Line Systems until September 1982, and the company name was spelled with a hyphen in "On-Line"), implying that the 1981 *Ulysses and the Golden Fleece* followed *Mystery House* and was the first On-Line game to use color graphics (the game that followed *Mystery House*, which also was the first adventure game with color graphics, is On-Line's 1980 *The Wizard and the Princess*), and spelling Passionate Patti's name wrong on the second reference (as "Patty" on pg. 72). The authors also use screen captures from the 2004 AGDInteractive fan remake of *King's Quest I*,

what is remembered as Sierra On-Line's watershed game, *King's Quest* (1984).[27] In other words, these books offer a partial rendering of Sierra On-Line, literally before it became Sierra On-Line (as the company was called On-Line Systems until 1982). The impression thus garnered is refreshingly distinct—and historiographically rich—compared to the narratives found in Donovan, Goldberg, and others. Levy's *Hackers* documents the emergence of the hacker ethos, tracing it from MIT in Cambridge in the 1950s and 1960s, to Northern California in the 1970s, to the Sierra Mountains in the 1980s. Levy treats On-Line Systems, and in particular Ken Williams, as a critical transition in the cultural history of coding culture, a "Third Generation" ruled by assembly language idiot-savants in tension with an emerging corporate culture that wanted to protect code as intellectual property. Doug Carlston also discusses the company, and Ken and Roberta Williams, within the greater landscape of the Apple II software scene, documenting the "Software People" who ruled the business from 1980–1985. In these accounts, On-Line Systems' context and emergence is made part of cultural environments in a way that goes beyond what is typically offered in video game history accounts. On-Line is understood as a software company rather than a producer of adventure games—reaffirming how video game history's technological progress narratives and cumbersome treatment of the microcomputer foreclose other historical valences.

The Sierra On-Line fan community has also been critical in sustaining the accessibility and preservation of various artifacts and digital materials, as many of these objects are held in

rather than the versions produced by Sierra On-Line. Several of these errors remain in the second edition of the text.

[27] Doug Carlston, *Software People: An Insider's Look at the Personal Computer Software Industry* (New York: Simon & Schuster, 1985); Steven Levy, *Hackers: Heroes of the Computer Revolution* (New York: Penguin Books, 2001[1994]).

the private collections of individual community members. The scene is an "amateur" one, insofar as none of its members are specifically training in preservation nor carry institutional alliances. However, this relatively small community has preserved an impressive range of objects, both disk images and ephemera, and have done so with more specific and sustained attention than most institutions could offer. As is often the case in video game fan communications, what distinguishes the amateur preservationist from the professional is not the methods of preservation themselves, but the degree of "institutionalization" the preservation is granted, and the "amateur's" familiarity with the broader institutional structures of video game preservation, library systems, museum practice, and curatorial needs.[28]

Like many fandoms, the Sierra community is an enclave unto itself, an unbounded, loosely-knit collective that lacks ties to any larger institution or broader game history project. The main hub for conversation and circulation of information is currently Facebook, which members migrated to as independent Sierra On-Line message boards fell into disuse due to cost

[28] For models within the Sierra or adventure game community itself, see: Howard Feldman, *Museum of Computer Adventure Game History*, last modified April 13, 2014, http://www.mocagh.org/; Kurt Kalata, ed., *Hardcoregaming101.net Presents: The Guide to Classic Graphic Adventures* (Lexington, KY: published by author, 2011); Rudy Marchant, John Williams, and Ken Williams, *Sierra Gamers: The Official Website of Ken and Roberta Williams, Creators of Sierra On-Line*, last modified 2014, http://www.sierragamers.com/; Rudy Marchant, Bojan Arah, and Britton Mathews, *The Sierra Chest*, last modified 2013, http://www.sierrachest.com/. For a useful discussion of the status of digital ephemera and amateur digital preservation communities such as Atari Age, see Guins, *Game After*, Chapter 4.

and maintenance issues.[29] Fans frequently post images of their personal collections, links to Sierra-related eBay auctions, Kickstarters by ex-Sierra employees, or indie "golden era" style adventure games, as well as quizzes, questions, fan art, favored screen caps, and relevant news. The Facebook group is autonomous, although regularly maintained by well-established members of the fan community. This self-monitored, community-content-managed site exemplifies "participatory culture" in the terms Henry Jenkins describes, as an "expansive self-organizing [group] focused around the collective production, debate, and circulation of meanings, interpretations, and fantasies in response to various artifacts of contemporary popular culture."[30] Digital spaces such as Facebook, and the circulation and preservation of digital rather than physical resources, allow for articulations of affinity to be prioritized above notions of connoisseurship. One need not be a collector to engage in conversation with other enthusiasts—it is enough to simply trade in memory. As such, the site is extremely useful not just in its circulation of memories and reflections, but for actively registering how a company that has been shut down for almost fifteen years continues to be made valuable in the present.

While Facebook is notable for its daily circulation of collective appreciation, other fan sites provide an important function as static storehouses for company ephemera. *Sierra Gamers*, billed as "the official website of Ken and Roberta Williams," is a significant repository of primary documents such as box scans and PDFs of Sierra's in-house *InterAction Magazine*, as well as catalogs, interviews, promo videos, and game synopses. Hosted by Ken Williams but content-managed by one or two fans, the site is moderately supplemented by content from fans,

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[29] "Sierra Gamers," Facebook group page, accessed April 21, 2014, https://www.facebook.com/groups/273746983994/.

[30] Henry Jenkins, "Interactive Audiences? The Collective Intelligence of Media Fans," in *Fans, Bloggers, and Gamers: Exploring Participatory Culture* (New York: NYU Press, 2006), 137.

designers, and other ex-employees.[31] Likewise, the "Sierra Entertainment" *Wikipedia* page combines a short company biography with a thin, uncurated account of various game releases, along with one of the more useful accounts of the numerous acquisitions, office closings, and buyouts that ghosted Sierra's shuttering.[32] However, much of the information cited on both *Sierra Gamers* and *Wikipedia* is sourced to *MobyGames*, which organizes historical data through chronological timelines of games and events, bullet points, and short designer summaries. Content is often not cited or verifiable—affirming that even the ubiquity and crowd resources of the internet often fall back on the soft padding of personal memory. Other notable websites include the *Museum for Computer Adventure Game History*, which has scans of many early release Sierra games, and *Sierra Chest*, which includes images of some very obscure memorabilia, as well as AVI files of game music.[33] Fan preservation efforts also exceed the digital realm: a handful of Sierra enthusiasts have been working on a preservation project, *The Art of Sierra*, and intend to compile and publish a book under that title.[34]

While most enthusiast work operates in Huhtamo's "Chronicle Era" mode of collecting

[31] While the site is described as "the official website of Ken and Roberta Williams," Roberta Williams has never appeared to be involved in its maintenance. Ken Williams' only other visible website is his personal site, Ken's Blog, which details his and Roberta's travels across global waters in their yacht, a Nordhavn 68 named *San Souci*. Ken Williams, *Ken's Blog*, last accessed April 28, 2014, http://www.kensblog.com/.

[32] *Wikipedia*, s.v. "Sierra Entertainment," http://en.wikipedia.org/wiki/Sierra_Entertainment (last updated April 3, 2014).

[33] Feldman, *Museum of Computer Adventure Game History*; Marchant et al., *The Sierra Chest*.

[34] Eriq Chang, Brad Herbert, and Brandon Klassen, "The Art of Sierra Preservation Project," *The Art of Sierra*, last modified 2013, http://artofsierra.com/.

discrete data and assembling this data for fan consumption and reorganization, Jimmy Maher, otherwise known as "The Digital Antiquarian," is one "enthusiast" who has produced some of the most diligent, comprehensive, and acute analyses of early adventure gaming. Maher's methods intertwine interviews, primary document research garnered from digital archives of computer and gaming magazines, as well as code analysis. Maher is an uncommon case hailing from beyond the trappings of institutional affiliation, a thoughtful "amateur" who nonetheless recently published *The Future Was Here: The Commodore Amiga*, the third installment in Ian Bogost and Nick Montfort's MIT Press Platform Studies series.[35]

Fan efforts provide a plenitude of revisions, reinventions, and resuscitations of Sierra-related objects and histories, but many of these are sustained by the energetic nostalgia fans bring to them. As with the message boards and webrings that fell into disuse, the Facebook page and remaining websites may not long outlive the life of the fan. More long-lasting preservation of Sierra On-Line's cultural heritage has been vouchsafed by the International Center for the History of Electronic Games at the Strong Museum of Play in Rochester, New York. In 2011, the Williamses donated hundreds of items from their company history, many of which, according to Ken Williams, were considered private to the company.[36] Much of this material comprises

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[35] Jimmy Maher, *The Future Was Here: The Commodore Amiga* (Cambridge, MA: MIT Press, 2012). Maher holds a master's in aesthetic studies from the University of Texas at Dallas. His success as an "amateur" historian mimics that of the more notorious Jason Scott, a documentary filmmaker who produced computer and game history features like *BBS: The Documentary* and *GET LAMP*.

[36] International Center for the History of Electronic Games, "Ken and Roberta Williams of Sierra On-Line Donate Major Collection to the International Center for the History of Electronic Games," news release, September 16, 2011,

specifically unique objects with no digital corollaries: awards, handwritten design documents, Ken Williams' doorplate, framed articles, annual reports, press releases, and other assorted materials. The Ken and Roberta Williams Collection marks one of the first cases in which a game company's founders have turned over personal effects to a major institution.

In conclusion, while Huhtamo's notion of the "Chronicle Era" is a useful shorthand for distinguishing a wide-scale generalist orientation toward progressivism, hero narratives, and nostalgic identification within video game history, it is possible to locate more case-specific reasons as to how video game history has come into its current shape. On the one hand, "Chronicle Era" video game historians privilege their own generational position and experiential closeness to games, their embodied sense of having "lived through" critical stages of video game history. On the other hand, such positioning can be, as Raiford Guins puts it, "valuable precisely for its subjective and experiential voice."[37] This is something we can see in the irreplaceable first-person accounts of Carlston and Levy, in the fan labor that makes digital preservation possible, in Jimmy Maher and *The Art of Sierra* and other projects which provide evidence that Sierra On-Line warrants a collection to begin with. Sierra On-Line remains blinkered for reasons as much about computing as about gaming, because the company is bound up in technological and cultural currents beyond any narrative about "the video game revolution." This suggests that the "Chronicle Era" might itself be something of an impression built up from Huhtamo's own historical moment. In the following section, I want to pressure what the commonly perceived media archaeological position is within game studies. As this section has shown, there may be more to the context of video game history than an easily assailable myopia among game history's

http://www.thestrong.org/press/releases/2011/09/3789-ken-roberta-williams-donate-major-sierra-line-collection-icheg.

[37] Guins, *Game After*, 23.

earliest "chroniclers."

Critical Video Game Historiography?

In thinking over Huhtamo's critique of the "Chronicle Era" and some of the antecedent issues I drew out over the previous section, we might now put Huhtamo's own position up for closer inspection. Huhtamo's essay went into publication in 2005, and is now one of the most frequently cited articles in video game history, along with the first edited journal issue devoted to the subject of video game history, a 2009 *IEEE Annals of the History of Computing* special issue on "perspectives in the history of computer games," edited by video game historian and curator Henry Lowood. These two texts are considered landmarks themselves within the field. What was rippling on the surface of video game historiography in the aughts boils over as we cascade into the second decade of the twenty-first century. I would argue that 2013 marked the final authorization and institutionalization of video game history as an academically legitimate field, as that year saw the first edited volume on the subject, *Before the Crash*, as well as the first international game history conference in Montreal in 2013, the first "Game History" *Game Studies* issue devoted to the subject, and the establishment of the Local Game Histories Listserv. Video game history *is arriving*, it seems, even if we're not sure where.

Huhtamo envisions another era for video game history, an "archaeology of gaming" in which context and cultural history stage a wider panorama for locating the mechanical and electronic precedents for game machines. As Huhtamo succinctly states, "electronic games did not appear out of nowhere; they have a cultural background that needs to be excavated."[38] Huhtamo skillfully shifts the organizational rubric from one of video game objects to that of

[38] Huhtamo, "Slots of Fun," 4.

human and machine interaction, permitting him to argue that "the *roots* of electronic gaming go back to the time of the industrial revolutions of the nineteenth and early twentieth century."[39] In short, Huhtamo's proposition for video game histories and archaeologies is a simple one: dig deeper to locate cultural connections that lie beyond the history of games themselves.

While Huhtamo's prescription aptly diagnoses the form of the "Chronicle Era" and its attendant historical weaknesses, his solution is not enough to induce a new era in video game history. Huhtamo's essay assembles a barrage of unique mechanical and electronic devices that prefigure "games as an interactive medium."[40] But is there a better question here—such as *why* the "Chronicle Era" exists at all? Why is this the method of historical writing that seems most relevant and reasonable—and will simply adding "historical context" dramatically alter the underlying epistemological constructions that allow video games to arrive to us as historical objects to begin with? We cannot be so naïve as to presume that historical writing can itself exhibit progress. We might slide the scales back a century to locate other influences and antecedents, but if we're still looking for *roots*, we have not really dug up the structure of video game history's genealogical tree.

In his 2014 monograph *Game After: A Cultural Study of Video Game Afterlife*, Raiford Guins maintains that "rigorous scholarship contributing to something that we could confidently call 'historical analysis,' 'game historiography,' or, better yet, 'critical historical studies of video games' is long overdue."[41] If Huhtamo's call to arms is an evolutionary schema, Guins' is comparative, skimming from the top of the finest work in media and technology studies: "Where

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[39] Ibid., emphasis mine.

[40] Ibid.

[41] Guins, *Game After*, 21.

are game studies' *Analog Days*; *Of Bicycles, Bakelites and Bulbs*; *Between Human and Machine*; *More Work for Mother*; *Make Room for Television*; *Window Shopping*; *The Atlas of Emotions*; and *Aramis, or the Love of Technology?*"[42] The proposition Guins makes is not so much how to make game history have more "context," as if we are just diminishing the focal length on a zoom lens, but how to embrace methodologies which expose the "multistability" and flagrantly alternative forms of objects passing through what we presently call video game history.[43] In developing a response to Guins' open question ("Where are…?"), I want to first broach the media archaeology question by way of a necessary detour through Michel Foucault.

Turning (Back) Toward Foucault

Turning to Foucault is not only in keeping with an "archaeological" method (however that might be disciplinarily defined), but furthermore Foucault contends with the structure of historical writing with a self-reflexive directness often lacking in the writing of video game historians or media archaeologists. If we are to understand the contour of video game historiography, Foucault permits us to stay with the fact that "the writing of" is part of the discursive and material condition that allows history to emerge as meaningful, sensible, and actionable to human interpreters. I am interested here in Foucault's genealogical methods, a

[42] Ibid.

[43] Guins' notion of multistability relies on the work of postphenomenologist and philosopher of technology Don Ihde. As Guins puts it, Ihde "demonstrates the need to think less in terms of the 'thing-in-itself,' something with fixed hermeneutic, intrinsic properties, confident ontological value, and predetermined uses over time, than of 'things in contexts,' and contexts are multiple." Guins, *Game After*, 12.

historical methodology he sets apart from the sort of retrospective coherence present in the "history of ideas." Foucault's essay "Nietzsche, Genealogy, History" is a succinct and direct treatise on the genealogical historical method. In this essay, Foucault sculpts the distinction between generic history and his notion of genealogy, a method he draws out from Friedrich Nietzsche's *The Genealogy of Morals*. Foucault writes:

> [The pursuit of the origin] is an attempt to capture the exact essence of things, their purest possibilities, and their carefully protected identities, because this search assumes the existence of immobile forms that precede the external world of accident and succession. This search is directed to "that which was already there," the image of a primordial truth fully adequate to its nature, and it necessitates the removal of every mask to ultimately disclose an original identity. However, if the genealogist refuses to extend his faith in metaphysics, if he listens to history, he finds that there is "something altogether different" behind things: not a timeless and essential secret, but the secret that they have no essence or that their essence was fabricated in a piecemeal fashion from alien forms.[44]

To put Foucault's statement in somewhat different words, standard historiographic methods produce retrospective constructions of causality by concretizing certain forms as available for historical consideration—be they things, events, or people. It is a logic which instills inevitability into the happenstance of its object. Once the tree of genealogy has been appropriately rigged into the timeline of decades and years, roots drill downward and history becomes sedimented in ways that are difficult to dislodge—because it is those very roots which condition the range and reach of thought's possibility. Foucault describes this with an ironically domestic image: "the long

[44] Foucault, "Nietzsche, Genealogy, History," 142.

baking of history."[45]

Laying Foucault alongside Huhtamo, we may recognize that, even in Huhtamo's "media archaeology," the timeline is not intended to be reassembled so much as simply "expanded" and "filled in." New discoveries may be appended, "context" may be brought into fuller bloom, yet the broader architectural coherence built out of the accumulation of historical "fact" stays more or less fixed. In the project of getting history "right," coherence comes to be valued over discontinuity, narrative is privileged above fragment, straight lines are forged from a scattered plot of historical indecipherability. These conditions explain why, in the face of a near-insatiable popular fascination with and desire for video game history, very little "new" is ever offered. In order to keep the daisy chain of genealogy flowing, lines of influence are rationalized as the basis for historical significance. This is critical: *a game is rendered historical only insofar as it illuminates conditions of the present*. History becomes an individuated assembly of isolated historical actors, or at best nested relations; economic, technological, geographical, and cultural qualities remain inaccessible as co-relations of emergence. This is history poured out like resin, trapping its objects in the amber of an illusory timelessness. Huhtamo's intervention does not particularly shift how "the present" and "the past" are sutured together through the activity of writing history. In fact, it continues the same: it grounds the relevance of the industrial era's mechanical wonders on the "significance" of games today.

What is in operation here is not what we can know of any given historical object—as if the object itself is a constant that can be endlessly mined through new perspectives, theories, and lenses—but how "the object" is a historical emergence produced through the processes of historical writing, memory, archival practice, and historically specific affective attachments. As

[45] Ibid., 144.

Foucault writes, "[a genealogy] will cultivate the details and accidents that accompany every beginning; it will be scrupulously attentive to their petty malice; it will await their emergence, once unmasked, as the face of the other.…The genealogist needs history to dispel the chimeras of the origin."[46] The "object-emphasizing" mode of video game history cultivates and is reproduced by historical practices in which a game or console comes to be formed as a historical object through the appellation of certain data types—discrete "facts" about dates, places, inventor processes, and technical specifications. Such knowledge formations require that their truth must manifest a mimetic correspondence to a world of date-keeping, geospatial and geopolitical relations, individual biographies, and the physical properties of electronics. This explains why shifting the method of historical discourse proves so consistently *difficult*—our very idea *of* the historical object is co-constituted by the writing of history. It literally requires imagining that the object of inquiry—in our case "a game" or "a designer"—might have boundaries entirely other than the historical perceptions we initially approach with. The emphasis on imagination here is critical, as a creative practice that vigorously works over whatever pre-given delimitations might be. While media archaeology, in its many flavors, gets us part of the way there, I will propose, in my following chapter, that it could productively expand its own genealogical capacity through engagement with new models of materiality.

Conclusions

It has been the goal of this chapter to establish the range and stakes for video game history at present, and assess engagement with very recent critical interventions within the field. Video game history welcomes us to an already cluttered bookshelf, and I have established many

[46] Ibid., 144.

of the historiographic limits in much of this writing. I traced the historiographic terms of genre, technological primacy, and the novelty of Roberta Williams' gender, which structure how Sierra On-Line has become included in video game history. I have additionally sketched out how Sierra On-Line's various gaps are conditions of broader historical uncertainties regarding the status of the microcomputer, and the uneven relationship between video game and computer history. Furthermore, I have mapped the resources one might find on Sierra On-Line beyond the trade press. Finally, I reflected on our present moment within an emerging critical video game historiography.

This chapter is one of two that are intended to situate the reader within the field of video game history and its potential overlaps with media archaeology. In my next chapter, I will bring media archaeology itself under closer examination: there is more to the archaeological problem than Huhtamo's work alone. The chapter will prove somewhat internal to itself, engaging solely with the assemblage of methods collected under the banner “media archaeology.” Because media archaeology has experienced such remarkable popularity within academic circuits, I believe it is all the more necessary to lay out its many investments and implicit contradictions. What it means to “do a media archaeology” does not escape me as an object of reflexive inquiry. Furthermore, I want to explicitly acknowledge the critical materialist thinkers I read alongside my media archaeology headliners; it was they, not media archaeologists, who have most strongly contributed to the methodological sensitivity present in this work.

Chapter 3: Spelunking Media Archaeology

What Is Media Archaeology?

It is a curious, generous coincidence that video game history is experiencing an uptick in academic and popular visibility at roughly the same moment "media archaeology" has become shorthand for any media-specific historical inquiry that is a bit crooked, off-kilter, or let's even say queer. As this dissertation evidences, "archaeologies" are piling up in every media field. Video game history is no exception, and, if anything, might be media archaeology's optimal case study. The interactive intimacy of gaming, merged with the magnitude of its technological obsolescence, renders the video game a possible heraldic object for media archaeology: name a medium whose loss wades in a greater seasickness of nostalgia. Media archaeology and video game history have found a transubstantiating force in the scholarly figure of Erkki Huhtamo, whose archaeologies of pre-electronic gaming swiftly became required reading for academic game historians. Given the extent to which populist and journalistic video game history relies on a highly linear, heroic encapsulation of events, it is likewise an ideal field for timeline hacking, anti-progressive antics, materialist analysis, and all the other assorted digs (figurative and literal) that comprise the media archaeological method.[1] Huhtamo himself has even declared that studies

[1] Perhaps the most literal dig of all, and one which was of great interest to media archaeologists conversing across social media: the recent Atari landfill excavation in Alamogordo, New Mexico. See Taylor Hatmaker, "See Atari's Buried Treasure: E.T. Among 30 Retro Games Unearthed In The Desert," *ReadWrite*, April 28, 2014, http://readwrite.com/2014/04/28/atari-et-dig-alamogordo-game-list; Harry McCracken, "E.T. Is Right Here: Lost Atari Cartridges

of electronic gaming may have finally found their "first true media archaeologist" in Raiford Guins, whose 2014 monograph *Game After* Huhtamo considers "like no other game book you have ever read […] it penetrates the materiality of game culture." The question of what media archaeology *is* seems almost a distraction from the practice itself.

Ease back from this display of back-of-book blurb enthusiasm for a moment, far enough to consider that the language of "media archaeologist" would have carried little currency even a decade ago. Media archaeology has emerged within the field of media studies largely over the past twenty-five years; the past five to seven years of media archaeology scholarship have developed a more explicit contour. In this time, media archaeology has shifted from a sub-field of media history, media theory, and media arts practices, to a major player in media studies trends.[2] Media archaeology should also be taken as part of the larger critical turn toward materialism. As I will flesh out in forthcoming sections, many scholars have noted that critical

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Unearthed in New Mexico Dump," *Time*, April 27, 2014, http://time.com/78303/atari-et/.

[2] It is worth noting that media archaeology tends to operate within a fairly specific conception of media—as that which stores or transmits data or information. In this regard, media archaeology actually has a strong overlap with histories of computing, which trace the processes of computation through histories of calculation and inscription. This may have to do with Friedrich Kittler's own force within media archaeology, and his reduction of media to communication media through the information theory of Claude Shannon. See Friedrich Kittler, "The History of Communication Media," *CTheory.net*, July 30, 1996, http://www.ctheory.net/articles.aspx?id=45.

thought is shifting away from the "linguistic turn" and toward renewed questions of materiality.[3] Yet "media archaeology," a term so avidly tossed about across the academic terrain of media and technology studies, is by no means self-evident. While this is certainly true of every discipline or field—always rapt in the process of articulating its coherence as a knowledge project—the recent prominence of media archaeology methodologies within media studies, whether explicit or suggestive, makes claiming one's work as "media archaeology" both carelessly simple and all too troubled.

English-language work on media archaeology has been buoyed in recent years by the publication of the first truly introductory texts of the field: Jussi Parikka and Erkki Huhtamo's 2011 edited collection *Media Archaeology: Approaches, Applications, and Implications*, and Parikka's 2012 *What is Media Archaeology?*[4] Both texts expose the coalescence of academic inquiry around specific objects (media, especially dead, failed, imaginary, and electro-technical) and particular methods (anti-progressivist history and media materialist analysis) under the quasi-disciplinary rubric of the term "media archaeology." Media archaeology is also indicative of a broader cultural and intellectual zeitgeist: an affectively acute sensation that media now

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[3] A brief and digestible assessment of the material turn is offered in Susan Hekman, *The Material of Knowledge: Feminist Disclosures* (Bloomington, IN: Indiana University Press, 2010). For more extended conversation, see Rick Dolphijn and Iris van der Tuin, *New Materialism: Interviews and Cartographies* (London: Open Humanities Press, 2012).

[4] Erkki Huhtamo and Jussi Parikka, eds., *Media Archaeology: Approaches, Applications, and Implications* (Berkeley, CA: University of California Press, 2011); Jussi Parikka, *What is Media Archaeology?* (Cambridge: Polity Press, 2013).

conduct the currents of historical subjectivity in the electrical age. In the narrow margin between the end of the twentieth century and the beginning of the twenty-first, we live embedded between the dense and heavy analog, and the ever-portable digital—material conditions reified by a historical consciousness obsessed with presentist revisions of the retro, the throwback, the ironic gaze, the forgetting-what-we've-forgotten that is the precondition of nostalgic longing. As the academic barometer of such historical being, media archaeology has come to be identified with any number of scholarly or aesthetic works which may be said to operate in such a "spirit."[5] Yet something remains unclear: will media archaeology emerge, in the long term, as anything more than this decade's hot academic keyword?

Dropped in the middle of the academic terrain of media archeology, even the most diligent of scholars would struggle for some time to orient herself to the landscape, which terraforms daily through the collective pressure of new books, articles, arts initiatives, conference calls, archive collections, media theaters and labs, workshops, blog posts, tweets—and on. It seems the more fossils of dead, failed, imaginary, and "zombie" media come under

[5] "Spirit" is a term conjured by Jussi Parikka to identify academic, artistic, and cultural practices that are, in my own words, "media-archaeology-ish" in their attitude toward technology, history, and experimentation, but do not participate in media archaeology as an explicit knowledge project. By way of example, Parikka identifies DIY, steam punk, and associated hacker cultures as media archaeological in spirit for "thinking the new and old in parallel lines, and cultivating enthusiasm for media, technology and science through aesthetics, politics and other fields of critical inquiry." Parikka, *What is Media Archaeology?*, 2.

historical heat, the more these objects liquefy into the raw natural resource shunted through the trans-Atlantic, media archaeological pipeline. As a rogue, even "traveling" discipline, the stimulant-riddled DJ auto-tuning our mediatic historical subjectivity, media archaeology supplies a capable set of methods and an enthusiastic body of literature for grappling with the fits of the media upgrade.[6] My poetics are sincere—but they also indicate precisely what remains so unclear about what media archaeology *is*. In a lecture event held roughly a year and a half ago at New York University on the topic of media archaeology, neither of the two presenters (professors with well-respected media studies publishing records) framed their work *as* media archaeology, or explained what was media archaeological about what they do. Rather, the identification was presumed or implicit, as if to speak on a certain *type* of objects or to deploy a specific *kind* of method inherently defined the work *as* media archaeology. The term is often a bloated generalism, standing in for a vague sensation of *something* even if we are not quite sure what.

I unpack media archaeology with deliberate tentativeness; I want to handle it as an object in its own right, more a socio-historical academic phenomenon than a realm of rarefied knowledge production. The process of defining media archaeology, of passing it into a shape, is also the process of producing its history and establishing epistemological stakes in a larger academic conversation. This process of how a discipline comes into being includes many

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[6] Parikka borrows loosely from Mieke Bal's notion of a "traveling discipline" to identify media archaeology as a discipline marked by "mobile concepts and shifting institutional affiliations." Parikka, *What is Media Archaeology?*, 15. See also: Huhtamo and Parikka, *Media Archaeology*, 3.

relations: copies of *Understanding Media* that made their way to Germany decades ago; Thomas Edison's meticulous technical notes; RFCs, sketches of circuit gates, a stereoscope card bought on eBay; a centuries-old colonial-romantic imaginary of "the archaeologist"; the cultural currency of having a computer "die"; digital artists who raise tech from the dead; a systemic suspicion of the humanities at the administrative level of the university, which makes space for media even as it forecloses space for books; a magnetic variance, still held on the surface of a hard drive platter; a student population teethed on the Internet; growing piles of busted computer monitors, jacked keyboards, malfunctioning mice—which we stare at and worry about and still have no answers for besides to throw away; impending ecological apocalypse. And then, others: one scholar makes a Facebook group; another commits to the #mediaarchaeology hashtag; two write a book; a continent away, someone teaches a class; a grad student makes a special fields list; her friend puts together a conference panel. And then, further down: a feeling; a hunch; drive; ambition; ego mixed with curiosity; fascination and authority simultaneously felt. Our academic projects are works of sometimes desperate accumulation, historically embedded yet never pre-ordained. Our stakes, in some sense, are small, as small as our audience. This is what makes it relatively easy for those of savvy and disciplinary desire to steer the rudder a bit, to enact the history of a field—let's call it "media archaeology."

The knowledge project of media archaeology is therefore undefined. As I will lay out in more detail below, media archaeology's dogged apprehension of the media object, technical substrate, or transmission data often results in a stark bracketing of the universe wherein that media object exists. This is a methodological conceit that concerns me critically, insofar as I am invested in pursuing a critical materialism that expands our conception of the world and its

immanent possibilities.[7] I want to attend carefully to the implied ontologies that follow from our knowledge projects. And, given the freshness of video game history as an institutional, scholastic endeavor, as well as the strength its earliest practitioners will have in establishing its intellectual and methodological influence, I want to tread carefully in assessing what methods reap the richest reward. If one of the goals of media archaeology (and critical thought, generally) is to provide better accounts of the world, then I wonder: are the methods media archaeologists privilege unfolding these possibilities, or whittling us down to a redundant theoretical landgrabbing? Or: what are the ethical, political consequences of how we bring knowledge into being for ourselves and of how we encourage others to do so?

While media archaeology excels at fixating upon its objects, "digging deep" to demystify the black boxes of our contemporary digital technoculture, the narrowness of this gaze can fail to bear in mind that objects move beneath our shovels—or that perhaps, for some objects, "penetration" or "excavation" as a method risks shattering what we don't know is there. I will methodologically engage with media archaeology in the project of offering a materialist

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[7] I employ the term "critical materialism" rather than "new materialism" or "neomaterialism" to think in solidarity with Sara Ahmed, who uses "critical materialism" to prioritize her indebtedness to earlier feminist engagements with phenomenology (rather than proposing her thought is discretely "new"). Additionally, the sensationalism of the "new" can often come back to strike a discipline, as with the off-and-on debate regarding the "newness" of new media. Sara Ahmed, "Orientations Matter," in *The New Materialisms: Ontology, Agency and Politics*, ed. Diane Coole and Samantha Frost (Durham, NC: Duke University Press, 2010), 234.

intervention that renders its tools more pliant, and addresses some of its noted critical and political limitations. This chapter should be read as exploratory and expletive; it is both frame and window for understanding the sensitivities of this dissertation, as well as how I have come into range with components of video game history skimmed, covered over, or believed to not exist.

To begin, I flip the metaphors of method that govern our epistemological expectations. Herein, I will not "dig," but "spelunk." I don't want to get out my shovel and "penetrate beyond" historical "surfaces" as Huhtamo has described the archaeological process in one of his essays.[8] I'll settle for something that "gropes toward its limits" as Foucault articulates in *The Archaeology of Knowledge*.[9] Media "archaeology" implies an excavation that brings objects into the light of knowledge, constructing a larger skeleton from the wreckage of bones scattered across the historical field. The rhetoric of exposing objects to the truth of our "excavations" is one which has seen its day and already outlived its usefulness in the work I do here. My explorations are phenomenologically imprecise encounters—I can only see so much at any one time. The shape I hollow out here relies on non-continuity and the inability to apprehend the historical field in its wholeness. This work will be my project of roaming wide of media archaeology, instead drawing out a production in media speleology.

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[8] Erkki Huhtamo, "What's Victoria Got to Do with It? Toward an Archaeology of Domestic Video Gaming," in *Before the Crash: Early Video Game History*, ed. Mark J. P. Wolf (Detroit, MI: Wayne State University Press, 2012), 32.

[9] Michel Foucault, *The Archaeology of Knowledge and the Discourse on Language* (New York: Pantheon Books, 1972[1969]), 17.

Media speleology proposes that the materialist critique of media archaeology can be bent back upon itself. To properly establish the foundation for what this implies, I will first define media archaeology in its broadest terms, through a comparative exploration of its most frequently cited (and therefore most citationally significant) figureheads. In this process, I will explain precisely where and what theories of materiality come to bear in media archaeology, and how they circulate across the field's various knowledge projects. Arguing that media archaeology and materialist media studies privilege only a very narrow conception of materiality—a materiality vested in the radical independence of the object—I propose critical materialism (as engaged by Jane Bennett, Annemarie Mol, Sara Ahmed, and Karen Barad) as another site from which such materialist media studies could find a theoretical wellspring. I conclude by briefly explaining my own methodological revision, the practice of "holding still and letting recede," which I consider the enactive and affective basis for "doing" media speleology.

Understanding Media [Archaeology]

In what follows, I offer a contour drawing of the field of media archaeology, an exercise which privileges mass and volume over representational and tonal detail; I want to elicit for the reader the range of media archaeology projects, illustrating its greatest benefits through the action of inking its limits. This effort is charted through the writings of four methodological figures within media archaeology—Friedrich Kittler, Siegfried Zielinski, Erkki Huhtamo, and the U.S. projects of hardware, software, and platform studies—selected to offer the maximum breadth of impression (rather than a faithfully scaled map of a terrain). A fifth figure, Wolfgang

Ernst and his "cold gaze," will be taken up at length in the following section through a more specific discussion of materialism within media archaeology.

Readers familiar with media archaeology may notice that I do not begin with the recently-published introductory texts to the field, Jussi Parikka's *What is Media Archaeology?* and Erkki Huhtamo and Parikka's *Media Archaeology* collection. I find their tables of contents bear little resemblance to how I have come to understand media archaeology and its driving investments, methods, and objects. Furthermore, I find that in both texts the development of media archaeology is scripted with a certain implied inevitability—an ironic plot gap in a field that intends to refute traditional teleologics of media history. What is framed as a mindful tracing, particularly in the introductory chapter of *Media Archaeology*, of the epistemic undercurrents accounting for the emergence of media archaeology, quickly takes on a teleological propulsion in the move to retrospectively anticipate such an emergence. In trying to tilt media archaeology away from over-determined association with Friedrich Kittler (and, by proxy, Michel Foucault), Huhtamo and Parikka enlist a genealogy of figures who have "contained seeds of media archaeology."[10] It is a tautological framing that swaps resonance for causality. Rather than a genealogy in the Foucauldian sense, which would trace how media archaeology "came to be" among a host of other possible futures, Huhtamo and Parikka "seed" media archaeology into the past. Media archaeology is presented as flexible enough to not simply be of methodological use to a range of projects, but to actually be able to absorb projects whole into its agenda of being the ultimate umbrella for contemporary critical media studies. In contrast to this architecture, I insist there is something quite useful to holding ground on my experience of media archaeology, as

[10] Huhtamo and Parikka, *Media Archaeology*, 2.

such an operation respects the *struggle* entailed in orienting oneself into scholarly formations that always strive to present themselves as more coherent and deliberate than they are. As I run my hands across these media archaeological figures, my assessment permits an apprehension of political investments within media archaeology (so often figured as having a *lack* of political investments) that remain otherwise obscured by the frameworks of those more invested than myself in establishing the field's continuity.

The Monument: Friedrich Kittler

Perhaps no figure associated with media archaeology has cast quite so tall a shadow as the German media theorist Friedrich Kittler—even though he himself refused identification with the term.[11] A mandatory presence on any syllabus or reading list, and an oft-cited point of

[11] Kittler, who died in October 2011, is often considered the cornerstone of what is warily termed the "Berlin" or "German" style of media studies. Parikka expresses that this is "far from a unified school, and more often perceived as such a unity from Anglo-American perspectives in a similar way to how a lot of French philosophy after the 1960s was labeled under the vague category of 'French theory' or 'French poststructuralism.'" Despite the embedded inaccuracies of this branding, Parikka acknowledges that, "as a historical constellation, German media theory, especially in its mix of enthusiasm for close-reading of technological systems and high theory, can be understood as a critical reaction to the Marxist analyses of media by the Frankfurt school, and, on an international scale, as a desire to differentiate from British cultural studies." Parikka, *What is Media Archaeology?*, 66. See also: Geoffrey Winthrop-Young, "Cultural Studies and German Media Theory," in *New*

departure for those acquainting themselves with media archaeology, Kittler's iconic works are *Discourse Networks 1800/1900* (the English-language translation of *Aufschreibesysteme 1800/1900*) and *Gramophone, Film, Typewriter*. Both texts were composed in the 1980s; *Discourse Networks* was translated into English in 1992, while the more approachable *Gramophone, Film, Typewriter* was translated in 1999.[12] Although not the origin of media archaeology, Kittler's work is considered foundational for the field, encapsulating many of its basic thematics: non-linear history that takes media as its actor, materialist analysis of a medium's given technological substrate, emphasis on electric media, media as the condition of human sensorial perception and subjectivity, and the methodological influence of Michel Foucault. *Gramophone, Film, Typewriter* focuses on what Kittler perceived as the three media that defined the first major technological communication revolution, separating sound, image, and language from one another into discrete signals, and profoundly re-organizing human subjectivity. For Kittler, human subjectivity is media-conditional and media-dependent; media are the ontological *a priori* of human consciousness. His analysis tilts the linguistic and discursive turns of Foucault, Derrida, and Lacan to offer a conception of epistemic human consciousness shaped, not by language, but by the *medium* or process of transmission that

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Cultural Studies: Adventures in Theory, ed. Gary Hall and Clare Birchall (Edinburgh: Edinburgh University Press, 2006), 88–104.

[12] Friedrich Kittler, *Discourse Networks 1800/1900*, trans. Michael Metteer (Stanford, CA: Stanford University Press, 1992); Friedrich Kittler, *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford, CA: Stanford University Press, 1999).

language, or information, passes through. While Marshall McLuhan, who is only recently being acknowledged for his deep influence on Kittler, articulated media as the extension of man, Kittler reversed the paradigm: man was the extension of media.[13] As Parikka paraphrases from John Durham Peters, Kittler is infamously associated with a theory of media "without people."[14] Peters writes:

> Like the early Foucault, he is interested in historical ruptures and not the slow sedimentation of social change through everyday practices: he gives us evolution by jerks, not by creeps. He prefers to focus on the turning points rather than the long state of play between the drama. Agency Kittler tends to attribute to abstractions such as world war and not to living, breathing actors. He is not interested in audiences or effects, resistance or hegemony, stars or genres; he spends no time on subcultures, postcoloniality, gender, race, sexuality, ethnicity, or class.[15]

It is the very brawniness of this refusal that renders Kittler so beguiling: his unrelenting, unapologetic commitment to stridently performing Foucault's indictment to "define a method of historical analysis freed from the anthropological theme."[16] Kittler practiced a "hard read" of media technology, wherein hermeneutics were a conditional misapprehension of the mediation process—media alone set the terms for the possibilities of knowledge in a given episteme. In a

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[13] For further insight regarding Kittler's often-unacknowledged affinities with Marshall McLuhan, as well as Canadian communication theorist Harold Innis, see John Durham Peters, "Friedrich Kittler's Light Shows," introduction to *Optical Media: Berlin Lectures, 1999*, by Friedrich Kittler (Malden, MA: Polity Press, 2010), 1–17.

[14] Jussi Parikka, "Operative Media Archaeology: Wolfgang Ernst's Materialist Media Diagrammatics," *Theory, Culture and Society* 28, no. 5 (2011): 56.

[15] Peters, "Friedrich Kittler's Light Shows," 5.

[16] Foucault, *The Archaeology of Knowledge*, 16.

Kittlerian media archaeological climate, the claimed interpretative task of history betrays the hubris of a human subjectivity failing to recognize that, in words Kittler borrows from Nietzsche, "our writing tools are also working on our thoughts" before we ever produce a composition.[17] Kittler's read of media attends to the possibilities of non-human agency over any representational interest in what meanings transmission content or media objects might hold for their human users.

The Alchemist: Siegfried Zielinski

German media theorist Siegfried Zielinski has long held an oblique relationship to work styled after Kittler, even though he too trucks in the realm of anti-progressivism, buried histories, histories-that-could-have-been, and the weird world of media's long-lost objects. His most frequently cited work remains *Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means*, but his earlier 1989 work *Audiovisions: Cinema and Television as Entr'actes in History* (translated and published in English a decade later) is an under-regarded and exceptionally lucid model of media archaeology that historicizes the process by which an arrangement of technological phenomena become a discrete media object.[18] In *Audiovisions*, Zielinski positions the book in opposition to prevailing chronological and event-based media

[17] Kittler, *Gramophone, Film, Typewriter*, 203.

[18] Siegfried Zielinski, *Audiovisions: Cinema and Television as Entr'actes in History* (Amsterdam: Amsterdam University Press, 1999); Siegfried Zielinski, *Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means* (Cambridge, MA: MIT Press, 2006).

histories, and reframes the history of the television as a series of "audiovision" *dispositifs,* or shifting audiovisual signal transmission assemblages; each chapter accounts for a specific plateau in the arrangement and formalization of a given *dispositif*. Tracking a history of audiovisions all the way back to nineteenth-century visual and auditory illusions, Zielinski refutes the popular idea that all audiovisual media were precursors to film. Rather, the documented effort that went into successfully producing instantaneous images between a transmitter and a receiver (rather than *stored* image, which is the mechanism of cinema), suggests to Zielinski that television and cinema are technologies that developed *alongside* each other, rather than chronologically following one another. As Zielinski states, "To understand [audiovisions] as historically distinguishable *dispositifs* means, first and foremost, to characterize the socio- and technoculturally dominant arrangement of a particular time and, at the same time, to bring out the social and private relations which led to this type of hegemony, including how it came to establish itself."[19]

This interest in producing an archaeology of a medium's dispositific "variation" is a thread that is given more play in Zielinski's better-known *Deep Time of the Media*. In this work, Zielinski identifies his method as a media "variantology" restoring heterogeneity to media pasts and presents, particularly through media arts practices. Such a method combats uniformity to expose the possibilities of media in our lives and thoughts:

> My quest in researching the deep time of media constellations is not a contemplative retrospective nor an invitation to cultural pessimists to indulge in nostalgia. On the contrary, we shall encounter past situations where things and situations were still in a state of flux, where the options for development in various directions were still wide open, where the future was conceivable as holding multifarious possibilities of technical

[19] Zielinski, *Audiovisions*, 19–20.

and cultural solutions constructing media worlds.[20]

By traveling along the lines of early modern and modern scholars of arts and natural sciences such as Giovan Battista della Porta, Athanasius Kircher, and Aleksej Gastev, Zielinski retrieves the magic, quite literally, of media possibility.[21] As with the closing chapter of *Audiovisions*, *Deep Time* affirms Zielinski's commitment to the generative possibilities of art practice, in which he sees the potential to renew that variation that was once transparent and at-hand in media objects and experiments. He shares little of Kittler's disregard for human autonomy and subjectivity; rather he seeks in the variant past a wonder from which to imagine new media futures.

The Cyclist: Erkki Huhtamo

Erkki Huhtamo, a Finnish scholar teaching at UCLA, has composed some of the earliest English-language articles on the subject of media archaeology, yet also does not associate himself with Kittlerian methods. In his 1997 article "From Kaleidoscomaniac to Cybernerd: Towards an Archeology of the Media," Huhtamo broadly sketched the historical shifts in media studies that paved the way for media archaeology, with particular attention to

> the ways in which artefacts are embedded in the complex discursive fabrics and patterns reigning in a culture. From a predominantly chronological and positivistic ordering of things, centered on the artefact, the emphasis is shifting into treating history as a multi-layered construct, a dynamic system of relationships.[22]

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[20] Zielinski, *Deep Time*, 10.

[21] Zielinski's travel was quite literal—he "followed in the footsteps" of his historical subjects. Zielinski, *Deep Time of the Media*, 37–38.

[22] Erkki Huhtamo, "From Kaleidoscomaniac to Cybernerd: Towards an Archeology of the

By Huhtamo's account, the archaeological turn in media history arose in response to more progressivist media histories that only charted successful media technologies or relied on chronicles that presume a teleological impulse within the technologies themselves that connects "old media" to "new media" in a simplified line of descent.

Huhtamo attaches a substantial range of thinkers to the historical trend, including Tom Gunning, Siegfried Zielinski, Carolyn Marvin, Avital Ronell, Susan J. Douglas, Lynn Spiegel, Cecelia Tichi, William Boddy, and others, as earliest advocates of an "archaeology of media."[23] With the exception of Zielinski, none of these authors overlaps with major names in German media studies; Huhtamo is oriented more toward European and American visual culture, film history, and histories of modernity than the realm of critical theory which influenced Friedrich Kittler. While Foucault is a clear influence for both Huhtamo and Kittler, the relevance for Huhtamo is more gestural than foundational. In English-speaking contexts, Foucault becomes a stand-in for any number of alternative history practices, a generic representative of the generic concept of "counterhistory." As Huhtamo and Jussi Parikka write in *Media Archaeology: Approaches, Applications, and Implications*:

> The field of media archaeology in its more modern form (i.e. not discussing such forerunners as Walter Benjamin and others) has emerged from a fruitful tension between media history and theory. Not only has it taken a narrative mode of writing histories of media in the empirical mode, but it has also tried to follow a Foucauldian path in articulating the coexistence of continuities and ruptures as elemental components in understanding the "newness" of digital media. Often media archaeology has been closer to media *genealogy*: writing counterhistories of such practices, ideas and contexts which

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Media," *Leonardo* 30, no. 3 (1997): 221–224.

[23] Huhtamo, "From Kaleidoscomaniac to Cybernerd," 221.

are not included in mainstream film and media histories.[24]

Thus, the nod to the Foucauldian term "archaeology" is deliberate within media archaeology, although more straightforwardly practiced by some scholars than others—one might say much of media archaeology is more Foucauldian in resonance than in explicit methodological identification. The philosophical tradition that would be so accessible for the Germans—an intellectual lineage stemming from Kant to Hegel to the Romantics to Heidegger—is absent from Huhtamo's self-cited intellectual trajectory, and his treatment of historical subjectivity is generally performed at a remove. While so-called "German-style" media archaeology can produce densely materialist interactions between media theory, continental philosophy, and German literature, and Zielinski roams a sprawling, magical field of historical enactment, Huhtamo's work is direct, unencumbered by stylistic and methodological poetics, and more recognizably historical. The "media archaeological" components of Huhtamo's work derive from his unique definition of the term, based on his method of analyzing "topi," or "recurring cyclical phenomena which (re)appear and disappear and reappear over and over again in media history and somehow seem to transcend specific historical contexts."[25] Thus, Huhtamo's own work forages through a variety of topi related to nineteenth-century media of attraction and entertainment, much of which he leverages to offer archaeological alternatives to the predominantly late-twentieth-century histories of video gaming.

The Ahistorical Variants: Hardware, Software, and Platform Studies

[24] Huhtamo and Parikka, *Media Archaeology*, 54.

[25] Huhtamo, "From Kaleidoscomaniac to Cybernerd," 222.

Jussi Parikka has noted that one of the clearest overlaps between U.S. and German media studies traditions is located in their mutual emphasis on materiality. In the American context, this emphasis is found in software studies, platform studies, and media forensics. Prominent among these works include: Matthew Kirschenbaum's analysis of the hard drive in *Mechanisms: New Media and the Forensic Imagination* (2008); Alexander Galloway's close reading of TCP/IP protocols in *Protocol: How Control Exists after Decentralization* (2004); Nick Montfort and Ian Bogost's treatment of the Atari 2600 in *Racing the Beam: The Atari Video Computer System* (2009); and Wendy Hui Kyong Chun's articulation of software's materiality in *Programmed Visions* (2013).[26] While not all identify with media archaeology (indeed, not one of these writers uses the term in the work cited here), these writers are often broadly referenced to media archaeology through their methodological affinity for rigorous digital materialist analysis, time-criticality, and a Foucauldian orientation to the conditions of existence of a media object or practice.[27] As Parikka very explicitly argues:

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[26] Wendy Hui Kyong Chun, *Programmed Visions: Software and Memory* (Cambridge, MA: MIT Press, 2013); Alexander Galloway, *Protocol: How Control Exists after Decentralization* (Cambridge, MA: MIT Press, 2004); Matthew Kirschenbaum, *Mechanisms: New Media and the Forensic Imagination* (Cambridge, MA: MIT Press, 2008); Nick Montfort and Ian Bogost, *Racing the Beam: The Atari Video Computer System* (Cambridge, MA: MIT Press, 2009).

[27] In the same essay where Parikka discusses these American scholars who share materialist methods typically associated with the Berlin school, he also posits German media materialism as having a long-standing, but perhaps overwrought, opposition to "cultural analysis of technology," based in cultural studies (exemplified in the work of Raymond Williams or the

> Yet more recent developments, concerning especially software studies, platform studies and media forensics, all seem to draw from at least partly similar intellectual terrain and develop toolboxes and methodologies…that are potentially offering a further bridge to bring varieties of media archaeology into a new dialogue.…[T]hemes of processuality, materiality and close reading of processes of material inscription in digital culture are very central to the Anglo-American research agenda.[28]

For example, in *Racing the Beam*, much of the book simply unpacks the technological limitations and affordances of the Atari 2600's Television Interface Adapter (TIA) chip, and explains how the constraints of the chip shaped game design processes. Similarly, scholars such as Galloway, Kirschenbaum, and Chun were critical in steering new media studies away from utopian claims of networked free-for-alls and the immateriality of the digital. Such work agendizes media analysis apart from what is often identified as a cultural studies interest in content and representations, instead privileging what operates beneath the level of the screen in languages never intended for human speech, processes never designed for human observation.[29] As German media archaeologist Wolfgang Ernst argues, the de-centering of the represented or mediated human subject within media studies is an opportunity to talk about the material reality of the medium itself, not just what is discursively or representationally produced by humans: "Archaeology, as opposed to history, refers to what is actually there: what has remained from the past in the present like archaeological layers, operatively embedded in technologies."[30] Parikka,

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Birmingham School). Parikka, "Operative Media Archaeology," 68.

[28] Ibid.

[29] Ibid., 54.

[30] Wolfgang Ernst, "Media Archaeography: Method and Machine versus History and Narrative of Media," in *Media Archaeology: Approaches, Applications, and Implications*, ed. Erkki Huhtamo and Jussi Parikka (Berkeley, CA: University of California Press, 2011), 241.

often positioned within the discipline as a translator between German and Anglo-American approaches to media archaeology, sees these similarities in materialist method as a means for building affinity relationships among media scholars toward the project of a refreshed media archaeology.[31]

It is here that the distinction between a "materialist" media archaeology and a "contextualist" media archaeology might begin to be discerned. This separation in emphasis is one registered by Parikka when he identifies the crude but useful general distinction within media archaeology between "hardcore/-ware" media materialist strands and the more "contextualist" works of media archaeologists who mine more closely to the veins of cultural history.[32] The disciplines which Kirschenbaum, Bogost, Galloway, and Chun stem from are not historical in a primary sense: while history may form a parcel of the analysis, it is not the dominant knowledge project. Rather, their impetus is to unveil the technical foundation of "computational expression," to assess the diagram and management style that defines "a new apparatus of control," or to articulate how software "disciplines its programmers and users, creating an invisible system of visibility."[33] While never explicitly framed as a "debate" within media archaeology, these obtuse trajectories unevenly disperse the position of the human subject in relationship to media theory and media history, and function as an easy litmus test for assessing where in the media archaeological contour a given work might rest or find affinity.

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[31] Parikka, "Operative Media Archaeology," 67–70.

[32] Ibid., 54.

[33] Montfort and Bogost, *Racing the Beam*, 2; Galloway, *Protocol*, 3; Chun, *Programming Visions*, 27–28.

Thus, while there can be no total encapsulation of the media archaeology conversation, my outline of the terrain discloses precisely what is so appealing about the term: its perpetual shape-shifting as it strings itself taut between materialist and historical interests. This tension between historically or contextually motivated media archaeology and materialist modes of media analysis will be the object of my following section, as well as the grounds for proposing a speleology—if only to better move us around this particular limiting dichotomy.

Taking the Materialist Turn

Bearing the prior section in mind, we can conclude that the academic conception of "media archaeology" signals a loose formation of unregimented, if formally and methodologically similar, historical and materialist projects across Europe, the United States, and Canada. While the precedents for media archaeology's historical orientations come from association with figures such as Foucault, Benjamin, McLuhan, and others, the materialist emphasis within media archaeology should also be contextualized more broadly within the contemporary spatio-material turn of critical theory. The past fifteen years have seen a marked advance in efforts to hybridize theory so as to more deeply account for the materiality, agency, and action of non-human objects and phenomena. Susan Hekman, author of the 2010 book *The Material of Knowledge*, summarizes the epistemic smear toward the material as an encroaching discontent with the linguistic turn, which wrought the expectation that all knowledge, whether about the self or the world, was mediated through language and thus a construction of that language. Hekman writes:

> Theorists from across the intellectual spectrum are finding linguistic constructionism inadequate. Specifically, they are finding that linguistic constructionism's loss of the

> material, its inability to bring the material dimension into theory and practice, its inability to talk about anything except language, imposes an unacceptable constraint on theory.[34]

While Hekman frames this shift as overly rupturous for her own purposes, she does accurately pinpoint a general dissatisfaction that has brewed out of the academic feast on dominant post-structuralist linguistic theorists (especially, as is Hekman's emphasis, among feminists who felt linguistic constructionism disenfranchised them from speaking to and with science). Similarly, although speaking from a slightly different vantage within critical geography, Nigel Thrift suggests that the lasting significance of what he terms "the spatial turn" lies precisely in the "processual sensualism that a material schematism provides."[35] He suggests that, in kindling our attention to space, we may question

> categories like "material," "life" and "intelligence" through an emphasis on the unremitting materiality of a world where there are no pre-existing objects. […] The world is made up of all kinds of things brought in to relation with one another by this universe of spaces through a continuous and largely involuntary process of encounter and the often violent training that encounter forces. […] [A] whole series of fields have been constructed out of the resurgence of what Paul Carter calls "material thinking" […] These fields must necessarily emphasize the materiality of thinking, and include the study of material culture, the sociology of science, performance studies from dance to poetry, site based art and architecture, various aspects of archaeology and museum studies, some of the excursions into interaction design, as well as various developments in cultural geography like non-representational theory. In particular, they have been forced to take the energy of the sense-catching forms of things seriously—rather than see things as mere cladding—because of their object of inquiry and, as a result, have begun to forge a new approach to "theory," one which is both more and less abstract, more and less empirical.[36]

The material turn is a theoretical shakedown en masse, re-negotiating the terms of a previous century's epistemological concessions concerning the relevance of matter and where we establish

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[34] Hekman, *The Material of Knowledge*, 2.

[35] Nigel Thrift, "Space," *Theory, Culture and Society* 23, nos. 2–3 (2006), 140.

[36] Ibid., 139–40.

the limits of practical human agency. However, the "materialist turn" by no means promises a unified conception of the material, and different disciplines and individual scholars wield powerfully conflicting ideas regarding where materialist analysis should begin, what it should bracket, and what political questions, if any, should organize its investigations. Within the field of media archaeology, materialist analysis is typically registered as an analytic emphasis on the formal, operational properties of a given technological substrate. This is the same mode of materialist attention that, for Jussi Parikka, bridges that so-called "Berlin style" of media archaeology and the media archaeological variants of U.S. hardware, platform, and software studies.

By situating media archaeology's materialist habits within the larger scope of the material turn, I am afforded more space to negotiate the ontological and political presuppositions of media archaeology beyond the particulars of any given individual case study or media-specific knowledge project. Affording myself this "room to move" will be crucial to this dissertation's effort to produce an intervention within video game history that modulates between mediatic, humanist, and historiographical concerns (all of which have material forms), taking up alternating historical materialities and relations where and when they are appropriate. Effortful modulation is the practice of this project. Thus, we move from a higher-order programming code to something closer to assembly language. Rather than let media archaeology's materialist politics only be put to the task of plying knowledge from gramophone recordings and circuit boards, I want to enable a critical materialism based on relational ontology to raise the stakes—even at the risk of re-inserting the human subjectivity media archaeology is so often wary of. To begin this process of slowly unraveling media archaeology's materialist preconditions, I will

focus on the fifth media archaeology figure that I left untouched: Wolfgang Ernst's cold gaze.

The Arctic Eye: Wolfgang Ernst

Among self-identified media archaeologists who engage in materialist analysis, the German theorist Wolfgang Ernst is likely among the most prolific and widely-read by English-speaking audiences (thanks, largely, to Parikka's efforts at translating and mediating Ernst's work in an Anglo-American context). Ernst is himself indicative of the material turn within media archaeology, insofar as his work marks new debates which "seem to be taking [media archaeology] forward not only as a subdiscipline of (media) history but increasingly into what will be introduced […] as materialist media diagrammatics."[37] Trained as a classicist and a historian, Ernst began attending to media in the 1990s, and was strongly influenced by the works of Foucault and Kittler. Like Kittler, he resolves that a properly Foucauldian study of media removes uniquely human conceits from the inquiry; thus, not only are the politics of representation tabled, but historical narrative itself is put on the defensive as a purely human mode of "making sense" of media. Thus, for Ernst, media archaeology is *not* to be confused or collapsed with "writing history." The project of the new historicist counterhistory, so deeply associated with the work of Huhtamo and others, does little for Ernst but naively invert the logic of master narratives in the service of other kinds of *human* histories. Rather, Ernst's attention trains away from the "semantically meaningful" to the a-representational qualities of the signal in and of itself. The signal is *everything* operatively embedded on a technological substrate, with no valuations made between components which are or are not linguistically and

[37] Parikka, "Operative Media Archaeology," 53.

representationally comprehensible. As Parikka summarizes:

> For [Ernst], it is the non-discursive and what he curiously calls the "agency of the machine" instead of the mode of narrative from which any understanding of media starts. In a manner that many would be tempted to tie in with theories of posthumanism, Ernst explains that is it the machine in which the past gets archived as a monument and that is the true subject of technical media culture, not the spectre of the human subject idealistically looming between the words and as summoned by modes of literary writing. […] Ernst argues that he is not so much interested in any writing of counter-histories or neglected passages of media history […] but in the epistemological conditions of technical media.…[T]he writing of history and hence memory becomes a function of non-discursive inscription systems.[38]

For Ernst, such a methodological orientation is enabled through what he terms "the cold gaze," an "objective mode of registering the world outside human-centered sensory perception" which is taken up in the project of "pure data navigation" unencumbered by "hermeneutic empathy."[39] The cold gaze is *enabled* by technology's indifference to human communication; a technology's inability to distinguish between the "meaningful" and the "meaningless" per se is what offers up the materiality of inscription to the media archaeological eye, an eye considered "more akin to the gaze of the optical scanner than to that of the anthropological observer."[40] For example, an audio recording (whether an 1890s phonograph or a 1970s 8-track) captures all sensible sound available to it, regardless of "content," including what we might conventionally dub "background noise." In Ernst's conception of media archaeology, our human subjective preference for parsing "content" from "noise" inhibits the historical condition of media; studying the materiality of the transmission itself, in its immediacy and its flatness, through digital technologies that can convert data back and forth across auditory, visual and textual modes, provides opportunities for

[38] Ibid., 55–56.

[39] Ibid., 71; Ernst, "Media Archaeography," 249.

[40] Ernst, "Media Archaeography," 249.

"suspending human perception" so as to "reveal insights that cultural codes simply do not perceive."[41] For Ernst, this is to truly engage in an archaeology of knowledge rather than an exercise of the historical imagination. The propensity toward narrative is a "cultural inclination" of our fallible human subjectivity, one only machines can "temporarily liberate us from."[42] In short, this method of objective measurement and analysis of media objects is, as Parikka puts it, "less about the objects of/in those channels than about the operations which introduce the patterns, pulsations and intervals through which information becomes a reality of the channels before becoming a reality for the phenomenological viewers/listeners/readers of media."[43] For Ernst, like Kittler, the subject is a relic of humanist fancy; the true questions of historical memory and agency are found in our transmission technologies, not in any volitional human perception or action. The promises of Ernst's method are phantasmic, a cyborg vision that need not ponder too long upon the turpitude of affective perception; technology can see for us, supply a replete and unadulterated scan of the world in its cold, blank, thoroughly alien ontological existence. To quote him again, Ernst believes that "archaeology, as opposed to history, refers to what is actually there: what has remained from the past in the present like archaeological layers, operatively embedded in technologies."[44]

The frigidity of this thought gives me pause. I would say there's some problematic thinking here, not the least of which is that not all archives are created equal, not all media are

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[41] Ibid.

[42] Ibid., 240.

[43] Parikka, "Operative Media Archaeology," 59.

[44] Ernst, "Media Archaeography," 241.

valued and saved, not all information leaves an inscription, and sometimes the "things" that we search for can't be studied except in their ghostly residue—and there can be political, social, gendered, and racial dimensions to how these ex- and inclusions come to be. Whatever the promise of the material turn, we may not want to think about media without considering the structures that give them over to us to begin with—and those are questions very much about human *and* non-human actors, questions of media and questions simply of other "things."

My uncertainty regarding such theoretical moves within media archaeology has been echoed recently by major scholars in media studies. Over the past fifteen months since originally drafting this chapter, I have noted a significant expression of dissatisfaction with materialist media studies and media archaeological projects (insofar as I may momentarily conflate both along the lines of their investment in the ontological independence of media objects). As media historian Jonathan Sterne recently acknowledged, in reference to the methodologies used in his monograph, *MP3: The Meaning of a Format*:

> There are lots of theoretical frameworks that look at the material dimensions of machines. I certainly think of media archaeologists as kindred spirits (and we both have read our Foucault), but I have an ambivalent relationship to that tradition. I learned to think about the "hard" operational dimensions of technologies as political and cultural through cultural studies, science and technology studies, feminism and the cultural history of media. For me, the fact that the psychoacoustic model "works" in the MP3 is not enough—what matters is where it comes from and why it's there. […] At the same time, media archaeologists are often great at helping us see past naive narratives of progress, and to understand communication technology as an important part of our cultural heritage, and I am 100% behind that program.[45]

[45] Jonathan Sterne, "The Meaning of the MP3 Format: An Interview with Jonathan Sterne," by Trevor Owens, *The Signal: Digital Preservation*, April 21, 2014, http://blogs.loc.gov/digitalpreservation/2014/04/the-meaning-of-the-mp3-format-an-interview-with-jonathan-sterne/. See also Jonathan Sterne, *MP3: The Meaning of a Format*

Sterne's work is often notable for a technical, material, and historical finesse; it is a combination which should put Sterne in the media archaeological court, and yet his alignments explicitly position him otherwise. While not disavowing the field, Sterne lightly sidesteps and instead affirms his debts to an assembly of disciplines known for their interest in points of contact between human and non-human relationalities: "cultural studies, science and technology studies, feminism and the cultural history of media." Similarly, infrastructure studies, as exemplified in the work of Lisa Parks and Nicole Starosielski, is attentive to a variety of materialities located in global communication systems. Scholars working in and around infrastructure pay particular attention to points of contact between media transmission systems, geography, and human and other kinds of bodies, as in the case of Starosielski's transatlantic cable landing point, or the female water carriers of rural Zambia whom Parks identifies as component parts of a material infrastructure enabling wireless internet access.[46] Parks, as a participant in the 2013 Society for Cinema and Media Studies Feminist and Queer Platform Studies workshop (alongside Tara McPherson, Alex Juhasz, Caetlin Benson-Allott, and myself) asserted the significance of cultural and political critique, as well as philosophical non-combativeness, as part of any rigorous materialist project (historical or otherwise).

I am additionally preceded in my concern, rather usefully, by Parikka himself, who

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(Durham, NC: Duke University Press, 2012).

[46] Nicole Starosielski, "'Warning: Do Not Dig': Negotiating the Visibility of Critical Infrastructures," *Journal of Visual Culture* 11, no. 1 (2012): 38–57; Lisa Parks, "Water, Energy, Access: Internet and Mobile Phone Infrastructure in Rural Zambia," (lecture, Habits of Living Conference, Brown University, Providence, RI, March 23, 2013).

acknowledges that "such theoretical moves as distancing have been more or less articulated together with a politically dubious rationalism and neglect of the messy ontologies of the world where things and humans are continuously *entangled* [emphasis mine]."[47] This nod to both entanglement and messiness as ontological conditions of worldly relations alludes to the same critical materialists I will turn to shortly—specifically Jane Bennett and Karen Barad. Further on, Parikka concedes that much of media archaeology generally has "never been too strong in terms of political economy," and the field still needs to "articulate more tightly the wider networks in which the techno-mathematics of media take place."[48] In other words, media materialities can leaves us in a political, and, frankly, ethical and historical, stalemate when they are only conducted through frosty eyes. Parikka has very recently tried to marshal engagement with these questions, most clearly in his work on dust as an "immaterial" by-product of developing world technology production (and first world technology consumption) that clogs lungs, cripples bodies, and traces a "geopolitics of hardware."[49] However, more targeted and critical work remains to be done when it comes to imagining a politics for media archaeology beyond application to obviously political sites. Rather, the methodologies which are the foundation for media archaeology's citation, propagation, and diffusion might be critically analyzed as the "platform" for the field's own buoyancy.

It is at this point that I am motivated to move laterally around media archaeology as an

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47 Parikka, "Operative Media Archaeology," 60.

48 Ibid., 67.

49 Jussi Parikka, "Dust and Exhaustion: The Labor of Media Materialism," *CTheory.net*, October 2, 2013, http://www.ctheory.net/articles.aspx?id=726.

object itself, no longer convinced by the gravitational force of its "spirit." Media-archeology-affiliated methods increasingly ground ways of knowing that privilege the technological object as discretely, individually singular and objectively knowable. This is typified in the hard reads of the technical substrate common to the work of Friedrich Kittler, which proposes technology as the *a priori* of our unconscious; the "cold gaze" of Wolfgang Ernst, which promises to aid us in muting our human subjectivity so as to better extinguish the primacy of human temporality and storytelling in our critical media scholarship; and the isolating case studies of software and platform studies, which analyze the barest technological structure of code and hardware to disclose their operative logics and design affordances, in eerie isolation from larger cultural imbrication. While many of the most provocative and innovative materialist media archaeologies attempt to productively short-circuit the subject-object division by displaying how media are active agents in the world, these efforts often wind up simply re-arranging actor-network deck chairs, envisioning histories and theories without corporeal *or* discursive bodies, histories or theories lost in their own love for the mechanism's indifference *to* your body (the virus doesn't care about your subject position—it chews through your hard drive all the same). In the enthusiasm for getting us to stop anthropomorphizing the media object, we do the reverse: we erase ourselves, we try to "liberate" ourselves from a "human subjectivity to overcome" in Ernst's words, as if a medium can be cut out of the world like an image from a magazine and exiled to a realm of solid and singular object-ness.[50] My contribution to this conversation is a formalization of this critique which takes into account the diversity of media archaeology's expression by its independent scholars, an interest in the sustenance of the discipline itself, and a

[50] Ernst, "Media Archaeography," 240.

desire to straightforwardly engage media archaeology's conception of materialism through a critical materialist frame. I consider this work done *from within* the media archaeology, rather than critique originating from the outside.

Encroaching on Critical Materialism

In pivoting such a critique on the body of media archaeology, I would not suggest that the resolution is to simply capitulate back to "contextualism," or the more cultural-historical approaches employed by figures like Zielinski, Huhtamo, Eleasser, or others. The benefits of materialist analysis, as outlined by thinkers such as Hekman and Thrift, are profound, and must be followed through to assess media's contemporary and historic agency in a world composed of more than just human intentions, desires, and actions. Furthermore, a move back to contextualism will not actually address the critique that media archaeology, and other forms of materialist media studies, have yet to meaningfully extend our engagement with or contribution to the understanding of identities and bodies beyond the most generically "universal" of propositional subjects (read: white, Western, male, heterosexual, networked). I identify this work, in part, as a political project informed by efforts in critical and feminist theory which account for the "first cut" of difference, and how such cuts shape the freedoms and potentialities of bodies and subjects in space and time. Thus, I want to mend what I interpret as a critical chasm between the range and goals of media archaeology and my interests as a scholar engaged by negotiations of power in the production of "history."

I insist there is a way to thread this needle—to keep our materialist interests while accounting for that which is most typically avoided in media archaeology. Rather than isolate,

prioritize, or measure a media object, let's wonder: could we intra-act, enact, orient, or vibrate *with* a media object (or observe and document how other materialities intra-act, enact, coincide, or vibrate with a media object)? The authors of these conceptual verbs—Karen Barad, Annemarie Mol, Sara Ahmed, and Jane Bennett, respectively—occupy a range of scholarship often termed "new" or "critical materialism." Diane Coole and Samantha Frost explain these terms as a shift from the focus on subjectivity to "objectivity and material reality…foregrounding material factors and reconfiguring our very understanding of matter [as] prerequisites for any plausible account of coexistence and its conditions in the twenty-first century."[51] Whereas media archaeology, in some sense, is driven by a knowledge project that drills down to the transmission or storage capacity of a discrete object, the inspiration for Coole and Frost, co-editors of *New Materialisms*, is "the emergence of pressing ethical and political concerns that accompany the scientific and technological advances predicated on new scientific models of matter and, in particular, living matter."[52] Given these investments, such work frequently converges within subsets of contemporary feminist theory, perhaps most explicitly in the work of Karen Barad and Sara Ahmed. Within this intersection, critical materialism engages the materiality of the "real world" in a way that avoids the trap of scientific essentialism. This scholarship locates its genealogy decades earlier in the scientifically fluent works of Donna Haraway, N. Katherine Hayles, and Evelyn Fox Keller, supportingthe suggestion that feminism has never *not* been speaking of materiality.

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[51] Diana Coole and Samantha Frost, "Introducing the New Materialisms," in *New Materialisms: Agency, Ontology, and Politics* (Durham, NC: Duke University Press, 2010), 2.

[52] Ibid., 5.

Where I draw on such theoretical foregrounding is in my desire to cast such methods in a historical dimension. What shakes out of historical accounting if greater attention is paid to "material reality" and the compounded complexity of these relations? Can historical writing be a site for imagining and working through "pressing ethical and politics concerns" of a different sort, perhaps concerns about how we nurture and project such an orientation onto the world to begin with? This is something different from, although at moments aligned with, the media archaeological project of disrupting "naive narratives of progress," "excavating" the materiality of media history, chasing forgotten objects, or even deferring our subjectivity to pull in close to a medium's unique technological way of taking in the world. Whereas many within media archaeology would begin with a disk or a platter, a sector or a chip, and would posit this as *the* place to begin, critical materialism occupies itself more with the ontologically fragile project of *thinking many things together*. In swapping media archaeology's distanced materialism for something relational, entangled, messy, or vibrant, a critical materialist intervention suggests the materialist trick can be turned on bodies and non-technical objects too. I occupy myself with the cuts of difference that condense around media *in particular* but never *in exclusion*. In what follows, I turn to four methodological/conceptual practices and their respective authors: Jane Bennett's vitality, Annemarie Mol's multiplicity, Sara Ahmed's orientation, and Karen Barad's intra-action. Each of these terms has produced, for me, the basis for a speleological mode of encounter, a revisionary "media archaeology" poised contra the chronicle of video game history.

Jane Bennett: Vitality

In *Vibrant Matter: A Political Ecology of Things*, Jane Bennett defines vitality as "the

capacity of things […] not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own."[53] For Bennett, the world moves and breathes. Matter is animate and laden with potentialities for action, even if such action is not recognizable through human sensorial means. While influenced by materialist philosophers such as Lucretius, Spinoza, Deleuze, and Bergson, Bennett finds companions in vitality in less obvious sources, such as Adorno and Nietzsche. In the hands of Bennett (herself a political theorist), the stakes are both philosophical and political. Through the philosophical practice of carefully and deliberately unravelling the presumption of "matter as passive stuff, as raw, brute or inert," Bennett is able to reach a political practice, wherein attending to "the active powers issuing from nonsubjects" sharpens our sensitivity toward the nonhuman forces operating in the world and better empowers us to create sustainable human existence.[54] This is a careful—and at times provisional—posthumanism. While Bennett wants to lay horizontal the relations between humans and nonhumans, and outright refuses theorization of subjectivity, she is only willing to elide human uniqueness "for a while and up to a point."[55] Tabling the human question can only ever be temporary, as Bennett herself is perhaps most deeply motivated in this book by what remains unique to her own humanity. *Vibrant Matter* is littered with Bennett's own affect, intuition, concern, and motivated self-interest; she shares the *faiths* and *convictions* of philosophers such as Spinoza and Deleuze. Insofar as Bennett cathects

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[53] Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010), viii.

[54] Ibid., vii, ix.

[55] Ibid., ix.

the claim that affect itself is material, the book refuses aspirations of radical philosophical distance, preferring to wear its sincerity on its sleeve.

Annemarie Mol: Multiplicity

Annemarie Mol's *The Body Multiple: Ontology in Medical Practice* betrays a multiplicity of intellectual and disciplinary positions: having received basic training in medical school, as well as a Ph.D. in philosophy, Mol makes an empirical argument for a theory of multiple ontology.[56] Taking "atherosclerosis of the leg" as her object, a disease typically marked by hardening of the arteries of the leg, Mol philosophically traces where this disease comes into being and how it becomes an object of science through site-specific ethnographic attention to different locations within the hospital. This is not to posit "multiple perspectives" or a "situated knowledge" which allows for the object to remain in the center, an axle centering the spokes of medical observation. Instead, she holds tenuously—carefully—to the idea that "atherosclerosis of the leg" is a different *thing*, has a different ontology, contingent on *where* it is enacted.

Mol's method documents the compound, co-constitutive relationship between spaces, practices, and being. As an ethnographer, Mol is attentive to the literal footwork required to follow bodies around a hospital and see what kind of realities manifest in different locales. Mol tracks atherosclerosis through the hospital as it materializes in tissue samples, blood pressure tests, clinical examinations, patient discussions, CAT scans, surgery tables, and even the morgue, where amputated legs are sent. In the life of a pathologist, or a general physician, these spaces

[56] Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, NC: Duke University Press, 2002).

remain apart far more often than they cross paths; it is the object, atherosclerosis, which crosses these spaces. In this sense, space (and the practices enacted in specific spaces) shapes what gets counted as reality, what parts and qualities of the body are treated as evidential in diagnosis; when these realities are assembled, they may or may not coincide. Coincidence—the very practical matter that information given in an intake interview would align with the observations of the physical examination—is what holds disease together in any given site.[57] No practice or space can take ontological precedence in the production of the reality of atherosclerosis, although it may be that the social practices of human constituencies make such hierarchical calls.

Yet Mol also notes how often observations of atherosclerosis do not coincide within the single space of the examination room, the pathology lab, or the morgue: "Blow up a few details of any site and immediately it turns into many…So what I am trying to relate is not that there are two, or five, or seventy variants of atherosclerosis, but that there is a multiplicity. That as long as the practicalities of enacting a disease are kept unbracketed, out in the open, the varieties of 'atherosclerosis' multiply."[58] This multiplication can only amplify exponentially once atherosclerosis moves from one site to another, or, in other words, once observations made coherent in one space are expected to sustain that coincidence in another.

Mol's method invites an affective position that is the basis for a theorization of multiple ontology. The reader encounters this alongside Mol, following her follow her object. The writing is patient and careful; Mol holds her claims only for as long as they require, and then moves on. Multiple ontology itself is evoked as a practice built up through slight traces, and rather than

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[57] Ibid., 51.

[58] Ibid.

taking objects as givens, it insists they must be understood *where they are*. This is a powerful corrective to a media materialist discipline like platform studies, which posits the platform as the stable ur-object grounding knowledge of the digital (Figure 3.1). Platforms, along with socio-technical phenomena such as reception, operation, interface, form/function, and code are positioned as discretely individual even as they are tucked within the ominous rectangle of "culture and context." This produces a rubric of the world as one of nested relationships between objects that can be effectively sorted—it is something that Mol's work, in all its honed precision and conceptual juggling, cannot concede to.

Sara Ahmed: Orientation

If Mol's *The Body Multiple* emphasizes practice and space in pursuit of a multiple ontology, Sara Ahmed's *Queer Phenomenology: Orientations, Objects, Others* is equally earnest about the character of these phenomena as they materially condense into "orientations."[59] Orientations, Ahmed writes, "'matter' in both senses of the word."[60] In the simple sense, they are important: orientation describes what one is pointed toward (and space itself can be oriented). But orientations are also material and corporeal, they play out on the bodies of those oriented (and space, too, materially manifests the consequences of its orientations). And here objects play their roles as well, as we have seen with Bennett and Mol. Orientation is about how givenness gets felt as such, about what falls in and out of the realm of the experiential as a consequence of

[59] Sara Ahmed, *Queer Phenomenology: Orientations, Objects, Others* (Durham, NC: Duke University Press, 2006).

[60] Ahmed, "Orientations Matter," 235.

particular life "orientations" that play out over time. As a queer and feminist theorist who "became a lesbian" in midlife, the stakes of orientation "matter" quite deeply to Ahmed, as both gender and sexual orientation "become naturalized as a property of bodies, objects, and spaces partly through the 'loop' [of] repetition, which leads bodies in some directions more than others as if that direction came from within the body and explains which way it turns."[61]

Ahmed's chief engagement throughout the book pertains to the discipline of phenomenology. Taking "the table" as a case study across the history of philosophy, Ahmed accounts for how the citation of the table is always coupled with a "turning away" from something else, which has allowed philosophers to arrive at phenomenological inquiry. The table as object is a productive surface for Ahmed to work herself out against, as the table too is something bound under its own weight, yet often apprehended without a history of its own. Vis a vis Marx and Engels, Ahmed observes that objects too "appear by being cut off from [their] histories of arrival, as histories that involve multiple generations and the 'work' of bodies, which is of course the work of some bodies more than others."[62] An object's own orientation can itself be overlooked when it is considered only in the moment it is observed.

But what Ahmed gestures to is more finessed than the erasure of (typically female or racialized) labor—it is also about how bodies bend themselves over time toward some forms of potentiality and possibility rather than others. These are concerns of habit and expanse, functioning for Ahmed along all the possible ways that bodies can meaningfully inhabit difference, whether gender, sexual "orientation," or race. Ahmed writes:

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[61] Ahmed, *Queer Phenomenology*, 58.

[62] Ibid., 41–42.

> When something becomes part of the habitual, it ceases to be an object of perception: it is simply put to work. Such objects are incorporated into the body, extending the motility of the body, or extending what is within reach […] Habits, in other words, do not just involve the repetition of "tending toward," but also involve the incorporation of that which is "tended toward" into the body. These objects extend the body by extending what it can reach. Reachability is hence an effect of the habitual, in the sense that what is reachable depends on what bodies "take in" as objects that extend their bodily motility […].[63]

The interlinking of habit and reach foregrounds the liveliness and conditionality of existence, while emphasizing the fact that the embodied subject is never an agent free of its own sediment. Reach, a condition of potential and action, is shaped by the temporal weight of habit, "determined precisely by orientations we have already taken."[64] Or, more simply: "what we 'do do' affects what we 'can do.'"[65] This is what it means to have an orientation, to be oriented, in short—to live life, carry a past, and pivot toward a range of futures. The political responsibilities that emerge from a habituated and temporal conception of the embodied subject are quite distinct from a realm of philosophical action that emphasizes perception, rationality, free will, and control of action. As Ahmed theorizes, we are not free to think and do in all directions at all times. That major traditions within philosophy have come to represent such a point of view is only indicative of *their* point of view—a "point of view," an orientation to thinking enabled by the ability for a philosophy to turn toward the table, and away from other things.

Karen Barad: Entanglement

Karen Barad's door-stopping 544-page monograph *Meeting the Universe Halfway:*

[63] Ibid., 131.

[64] Ibid., 55.

[65] Ibid., 59.

Quantum Physics and the Entanglement of Matter and Meaning (a book "lengthier than is fashionable" she admits in her introduction) is a profound, and entangled, proposal for a conception of the world floating above the traps of representationalism and social constructivism.[66] Suggesting that the world is neither plainly "out there," a realm of pre-given independent objects and their interconnections, nor a construction of language, discourse, or social conditioning, Barad offers "agential realism" as an alternative ontological, epistemological, and ethical framework.

Entanglement, Barad argues, is the basic ontological condition of an agential realist conception of the universe, an ongoing state of "ontological inseparability" and "intra-acting agencies."[67] Principally, entanglement is a theorization of materiality that refuses the "postulation of individually determinate entities with inherent properties…the hallmark of atomistic metaphysics."[68] Instead, Barad turns to the work of physicist Niels Bohr, who rejected the notion that things have "inherently determinate boundaries or properties," and questioned the Cartesian certainty of distinctions between subject and object, observer and observed.[69] But more than simply not having "determinate boundaries," Barad hones in on Bohr's realization that materialization occurs through "specific physical arrangements," the organization of bodies,

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[66] Karen Barad, *Meeting the University Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 37.

[67] Ibid., 139.

[68] Ibid., 137.

[69] Ibid., 138.

practices, and apparatuses that constitute the phenomena of observation.[70] For Barad, vis a vis Bohr, the weight of an object (let's say an apple) is not a property of an object or an abstract "truth" of its being. Rather, weight "only has meaning when an apparatus with an appropriate set of fixed parts is used"—when the apple is placed on a stationary scale that has been accurately adjusted.[71] Extrapolating along Bohr's lines, Barad establishes that knowledge derived from the action of measuring an object is a configuration of material and discursive arrangements enacting a phenomenon of observation. Subject and object, myself and the apple and the scale are *entangled within* specific phenomena, and only become delineated according to specific configurations. It is only within a specific configuration that all components (myself, the apple,

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[70] Ibid., 139. The particle/wave light experiment is probably Barad's clearest example of materializations produced by specific physical arrangements. Barad explains, in magnificent detail, the differing experimental conditions under which light will exhibit wave-like behavior, and alternatively exhibit particle-like behavior. Barad writes: "Classically, these two results together seem contradictory—frustrating efforts to specify the true ontological nature of light.…The notions of 'wave' and 'particle' do not refer to inherent characteristics of an object that precedes its intra-action. *There are no such independently existing objects with inherent characteristics*. The two different apparatuses effect different cuts, that is, draw different distinctions delineating the 'measured object' from the 'measuring instrument.' In other words, they differ in their local material resolutions of the inherent ontological indeterminacy. There is no conflict because the two different results mark different intra-actions" (815–16, emphasis in the original).

[71] Ibid., 139.

the scale, the floor, the notepad, the camera, whatever else may be involved) become meaningfully articulated: "relata do not preexist relations; rather, relata-within-phenomena emerge through specific intra-actions."[72]

Attuning ourselves to the fundamental entanglement of the universe involves recognizing that the universe is always in a verb state: worldly relations are not discrete *interactions* between independent things (as the object-oriented ontologists might have it), but rather a manifold host of *intra-actions* through which the world is constantly materializing. Intra-action, for Barad, is what produces "agential separability." In other words, what matter "is" is not pre-given; matter materializes, or is appended with meaningful difference, through its intra-action in the world. Agential separability is not an illusion or some false impression of separateness, but rather the local condition of "exteriority-within-phenomena."[73]

It is significant for Barad that the universe is an "entanglement of matter and meaning." The material and the immaterial (discourse, consciousness, emotion, meaning) are not separate, nor even meaningfully distinct except in the intra-actions that produce their agential separability. Matter and meaning, materiality and discourse, constitute a "*field of possibilities and impossibilities in the ongoing dynamics of intra-activity that is agency*."[74] Ideas, much like "things," insofar as they are ongoing materializations and not pre-given states, foreclose and afford other materializations in different degrees. One might think of video game history itself as just such a field of entanglement. Archival documents and artefacts are material entities that

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[72] Ibid., 334.

[73] Ibid., 339.

[74] Ibid., 170 (emphasis in original).

express the specific ways matter may have been ordered at a given moment in time and space. However, the relative value we ascribe to their own material conditions, the way they are arranged or archived, and what we can even epistemically know of them—these are all materializations of knowledge that configure the world into certain shapes in our present, and will also constrain and afford different types of knowing and being in the future. Given that boundaries and difference are the play of being, these conditions would insist that the world is only ever manifesting a *particular* materiality of the world. Different arrangements of material-discursive practices constitute different phenomena, arrange the world differently and make different cuts—meaning that there are possibilities for other kinds of materializations (which is not to say that other possibilities are freely, easily, or epistemically available—as Barad insists, some differences matter more than others).[75] For Barad, existence indicates a degree of responsibility, an ethical indebtedness, to the rest of the world for one's own intelligibility, as we are constituted *through* intra-actions: "A delicate tissue of ethicality runs through the marrow of

[75] It is helpful here to understand Barad's notion of objectivity. Barad writes: "In contrast to more traditional conceptions of objectivity, which are only responsible to the norms of correct practice as narrowly conceived, […] objectivity in an agential realist sense requires a full accounting of the larger material arrangement (i.e., the full set of practices) that is a part of the phenomenon investigated or produced. […] Hence objectivity requires an accounting of the constitutive practices in the fullness of their materialities, including the enactment of boundaries and exclusions, the production of phenomena in their sedimenting historiality, and the ongoing reconfiguration of the space of possibilities for future enactments." Ibid., 390–91.

being."[76] To be entangled is to owe your being to the rest of the universe in its manifold blossoming of intimate and local intra-activity.

If Karen Barad's agential realism offers a viable materialism, then the cold gazes and hard reads of media materialism might be productively reconfigured toward something less certain, and, I would argue, more humane ("the human" need not rest at the center of the humane). In refuting the notion of ontological independence we can recognize that each instance of the archaeologist's analysis performs only an *agential cut,* permitting an object to momentarily coalesce and become intelligible. *This is all we can ever do*—which is not to say our observations and arguments have limited consequences (indeed, I would not be consuming so much paper on this topic if I thought they did) but rather that an articulation of one's intra-action with the phenomena under study is a scientific and theoretical prerequisite for responsible action. Close analysis of the technical substrate is one way to materially "know" an object, but it is not the limit of that knowing, the basis for object knowing, nor, perhaps, even the most productive way *to* know.

Taken together, Bennett, Mol, Ahmed, and Barad supply a versatile set of plug-ins for tinkering with media archaeology's materialist software. Their collective capacity to account for the entanglements of material and immaterial forces, of trash and human existence, of a doctor and an amputated leg, of a philosopher and a table—each theorist may differ in her account of "the human" and "the object," but nowhere are these distinctions obvious or inherent. The range of their work parries media archaeology in both its materialist and its contextualist modes; critical materialism defies the stunting ahumanism and unconditional givenness of the object that

[76] Ibid., 396.

grounds much hard media materialism, while also productively complicating what we refer to when we speak of "context." When I have wondered "What is media archaeology?" my question was not one of lineages but of orientation—of what we had to turn toward and away from, not what has led us here. Bennett, Mol, Ahmed, Barad (and their respective domains of disciplinary practice)—they invert the dig, they render a well-lit dent in the earth into something more existent in both its density, its potentiality, and its darkness. They constitute the mood of this history, and have been the "spirit" through which I imagine other ways that media archaeology *might be*. As a conclusion, I close with a proposition for how we might *do* media speleology, enacted through a methodology I refer to as "holding still and letting recede."

The Method of Media Speleology: Holding Still/Letting Recede

For media archaeology to develop as a robust methodology, a sticky set of tools for hooking into the world, it must contend with the fetishistic privilege at the heart of its techno-formalism. Downloading critical materialism as a utility to re-toggle media archaeology produces relational methods better able to adjust for all the ways that media means and does—deploying a deep material dynamism that has the capacity to fixate or "hold still" an object under analysis so as to better disclose how it functions through practical, observable enactment, but that also has the charity to let an object go, to let it recede into the complex imbrication of material life so that one may be confronted by—and be touched by—the agency of things. The motif of "holding something still" aids us in remembering that the objects we observe do not cease to move beneath our gaze. Like a firefly cupped in our hands, we only artificially and momentarily limit its movement, and find the opportunity to make an agential cut, to permit a transfer of

intelligibility. Likewise, the generosity to let an object recede demands our cognizance that these objects are not here *for us*. The methodological ethic of media speleology requires making oneself responsible to a practice of recurring dilation between these two modes.

Thus, the concern I have here is not the emphasis on the material object and its technological substrate, but when this emphasis is encouraged to operate *to the exclusion of other materialities,* when a scholar refuses to let the object fall away into the infrastructures to which it is germane. Many popular media archaeologies and media materialisms model terms of inquiry that exile other materialities—including the materiality of the archaeologist herself, as well as the material cultural sphere the object emerges from—in the effort to get at the hard reality of the object, its unique form of being in time and space. But that being relies on things beyond itself. Media archaeology is the materialization of a particular arrangement of apparatuses and phenomena—except what might be confusing is that there was never any intentional experiment. As I stated forty-three pages earlier, before you knew where this was going: "Media archaeology is also indicative of a broader cultural and intellectual zeitgeist: an affectively acute sensation that media now conduct the currents of historical subjectivity in the electrical age." It is not a realm of methodological encounter that sits beyond us. It is bound up in clusters of own affectual relations, alongside the many more "material" components that seem to necessitate its existence and replication. It cannot, in any believable manner, claim to absolve itself from the very components that brought it into being—matter and meaning, the material and the immaterial. Media speleology is my revisionist attempt to bring these conceits to the forefront of my work.

As this plays out in this dissertation: Yes, Sierra On-Line can be mapped as a chronology of games and designers, and easily so as one which disrupts the naive chestnut of progress. But

there is something more to this than media novelties or historical revisionism. This history is also punctuated by geography, economic precarity, and technical infrastructures; beset by heteronormativity; overflowing with the affects that come with friendship, with ambition, with letting oneself forget. Its capacity for distribution was mechanized thanks to Ziploc bags and telephone lines, vector-based drafting tools and bedroom floors. Its instantiation will always exceed what I can make of it. And what I can, in the process of writing about it, reconstitute of the "thing itself" (if we might even speak of such a thing) is well frayed by the volatility of memory (both bioelectric brains and magnetic disks) and the wear of the long forgotten. What I produce here will be a dilation between points and lines, continuities and scatters—the tension of holding still and letting recede.

Part II

"The most important thing to remember is to always map your way through this mythical land right from the very beginning. If you don't, you will get lost right away, or miss out on some important places to go."

—Roberta Williams

"Winning Strategies for Adventures"

The On-Line Letter, June 1981

Chapter 4: On Origin

The Most Important Thing

In 2005, Ralph Baer—inventor of the 1972 Magnavox Odyssey and the oft-cited "Father of Videogames"—felt he knew where to begin.[1] That year, Baer published a first-person account of his production of the Odyssey, and entitled this book *Videogames: In the Beginning*. Baer's Jewish ancestry looms large in the threadbare parallel to Genesis. The title might feel overwrought if video game history were not already such a comfortable stage for its cast of "gods," "wizards," "geniuses," and "pioneers." This confession of biblical immanence is actually nothing original—just the simple linguistic alchemy that summons the Fathers of Invention. The "origin story" of any given game, console, or company is a saga traditionally cut whole from presumedly timeless components of human experience: inspiration or curiosity, followed by scenes of compulsive creativity or dogged, Horatio-Algerian determination. The origin story is lubricant for the sprawling, frenetic drama of historical emergence.

Perhaps such an epic phrasing is fitting for a book that promises, as Leonard Herman puts it in the forward, to finally "get the facts straight" on who invented the first video game.[2] Herman

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[1] The Magnavox Odyssey was demoed and released in 1972, but Baer had been working on the project since 1966. For a thorough account of the platform's development, see: Ralph Baer, *Videogames: In the Beginning* (Springfield, NJ: Rolenta Press, 2005). Prior to the publication of *In the Beginning*, Baer had also produced an "unpublished autobiographical manuscript" titled "One Inventor's Odyssey: The Life Story of an Engineer and Inventor," which is held by the Smithsonian Institute's Lemelson Center as part of the Ralph H. Baer Papers.

[2] Leonard Herman, forward to Baer, *Videogames*, xiii.

was crucial years earlier in originally leveraging Baer's visibility as the producer of "the first video game," a historical antidote to the (then) reigning interpretation that Nolan Bushnell's *Pong* cabinet was the first technology to chalk the tabula rasa of what would become video game history.[3] Baer's claim to precedence lies largely in holding the first patents for a video game, granting his paternity rights substantial legal and commercial justification. Yet this juridical right-of-way has become strained over the years, as unpatented precedents are easy to find and increasingly tossed about. The question of "the first" video game quickly liquidates into a debate over what constitutes a video game at all, as viable alternative contenders to the lineage might include *Spacewar!*, *Tennis for Two*, or the little known 1952 British EDSAC program *OXO*—among others.

Baer's development of the Magnavox Odyssey made sense to him as part of a life patterned by technical exploration and innovation. In the first chapter of *In the Beginning* (also titled "In the Beginning" even though preceded by a forward, acknowledgments, a "Cast of Characters," and an introduction), Baer explains that "coming up with novel ideas and converting them into 'real' products has always been as natural as breathing for me. […] To lend some credence to my assertion that 'inventing' comes naturally to me, one might note that I currently hold about fifty U.S. patents and another hundred patents elsewhere in the world."[4] Here, the retrospective thrust of living incentivizes personal history to "make sense." Through biographical narrative, Baer nests the genesis of the Magnavox Odyssey as far back as his college experiences working part time with television studio equipment in the late 1940s, which instilled a "TV-engineer lurking 'unused' inside of me ponder[ing] about ways of using a TV set

[3] Ibid. See also: Leonard Herman, "The Baer Essentials," *Electronic Gaming Monthly*, January 2000, 168–76.

[4] Baer, *Videogames*, 4.

for something other than watching standard broadcasts."[5] The advent of the Magnavox Odyssey exposes what was always already there, an essential force that Baer attributes even farther back to the vicissitudes of genetics: "I have no idea whose ancestral genes have blessed me with the gift of imagination or my technical bent. Whoever it was...I thank you!"[6] Invention narratives such as these are hardly novel, nor limited to video game history; they saturate an entire genre of creative and historical writing wherein individual biography is employed to weld dramatic historical shifts together with exceptional performance in a significant cultural register.[7] In doing so, inventors may emerge as larger than life, their historical context a backdrop for their genetically and situationally preordained genius, rather than the other way around. Grand narratives and origin stories are in some sense the rational outcome of histories focused on certain kinds of objects: individual, presumably knowable "things" (cartridges, disks, consoles, game characters, inventors) that are clear remainders of human production, circulate as discretely valued commodities, involve non-directly accessible technical components, and occupy space through material dimension and weight.

But where else might Baer's story begin? What kinds of histories open up to us if we sketch the shape of a video game history vaster than a litany of games, designers, hardware, and software? In the case of Baer's Magnavox Odyssey, we might look no further than *In the Beginning* itself—in this case, by turning to the literal beginning of the book. As is convention in

[5] Ibid.

[6] Ibid.

[7] For a productive critique of invention and innovation narratives in the history of technology, see David Edgerton, *The Shock of the Old: Technology and Global History Since 1900* (New York: Oxford University Press, 2007). Edgerton appeals to histories of technology that centralize everyday objects and user experience.

the medium of a book, *In the Beginning* opens with a slim unit of prose, penned by Baer, which is not accounted for in the table of contents (nor viewable on the Amazon preview): the dedication. It goes:

To Dena...

who has patiently held house and home together

while I spent all hours of the day and night working in the lab.[8]

Dena emerges again in Ralph's acknowledgments: "Last but not least, there is my better half, Dena, who has gracefully put up with the fact that I spent more time at the computer than with her."[9] We might interpret these as charming lines, in which Baer admits to a classic male fault of consuming hobbyism and tinkering. But the space they hollow out tells us something of Dena's life—of what it looked like, and who it lacked. What sort of video game history might be written if Dena were the first historical agent we encountered? If we are to "map our way from the very beginning," as Roberta Williams suggested, is Dena not "an important place to go"? What if we have only places to start, rather than "a beginning"? Noticing Dena is an opportunity to locate a gesture: a turn of the head, a shift of weight, a commitment to look after that which falls away from our beginnings, and in doing so, reach further than recouping lost voices. Instead, we might let something of our certainty recede.

Dena writes small what Sierra On-Line accomplishes at large: we miss out on important places to go when we fail to look around and keep account of all the places we discover when we wander off the path. This is an invitation to draft history as a map forever moving—whenever video game history thinks it knows where to begin, the opening screen could shift to a new

[8] Baer, *Videogames*, v.

[9] Ibid., xiv.

location, and the project of mapping time, marking territory, and making sense must begin anew. Origin stories are deeply limiting devices for understanding the historical embeddedness of people, objects, and occurrences. To say that things are "embedded" in history means that their relations are thick and complex, that "history is unmotivated but not capricious, and larger in outline than we are," to take a line from Gayatri Spivak.[10] Thus, this chapter is an exercise in a careful, cautious historical gelling, wherein Sierra On-Line can be traced as an emergence over time and space rather than a timeline of events tagged with dates and locations. In an era when luminous incantations of a video game company's "origin story" might populate dozens of fan sites, blogs, *Wikipedia* pages, message boards, or softballed pieces of game journalism, it is useful to consider that *why* we enjoy the repetition and overkill of these digital-and-plastic primal scenes tells us more about the constitution of things past than any specific assemblage of discrete historical objects or persons. Part of my work is to locate what origins *do* for us, and how more careful and creative attitudes about their crafting might allow us a history which, quite simply, *affords more*—not in pursuit of historical truth, but in the project of sensitizing us to more complex historical textures. We may find use in valuing a kind of "strategic origination" (to riff on Spivak once more). All origins are to some extent strategic. My concern is not that histories have beginnings, but that we take them far too seriously.

If where we begin were to take no interest in beginnings, how might we hack the chain of historical inevitability in a way that permits us a greater affordance to dismantle histories that serve their prophets and priests more than they serve the material circumstances of their causation? If we could better account for the ways power plays with a soft hand, might we "do history better" in addressing the often ghostly realities of privilege, access, affect, and identity

[10] Gayatri Spivak, "'In a Word': Interview," with Ellen Rooney, in *The Second Wave: A Reader in Feminist Theory* (NewYork: Routledge, 1997), 360.

that constitute the dirt from which we "excavate" media archaeology's objects? If we could imbue history with a sense of unknown possibility, how could these histories serve as a basis for producing alternative futures, or at the very least, histories broader and deeper than anything we have yet imagined? Such propositions rely on a meta-reflexive conceit: I believe the question of where something begins is never half so interesting as the desire to ask the question itself.

The emphasis on Sierra On-Line as a key figure in the origin of the adventure game genre has conditioned the terms on which we imagine the company, its games, and its designers as historical players. This is history told front to back, which wills our history to be merely Wikipedic: "Sierra is best known today for its multiple lines of seminal graphic adventure games started in the 1980s, many of which proved influential in the history of video games."[11] I am concerned with how Sierra On-Line has come to serve a specific "influential" function within video game history, often demarcating early computer game history as predominantly a competitive saga between the "image-heavy" graphic adventures Sierra produced and the "literary" text-based adventure games or "interactive fiction" developed by companies like Infocom. The Infocom-Sierra matrix is a confusing mythology—it emphasizes that which, over the longer lifespan of the company, was not tremendously significant, and minimizes or maps over that which might be most surprising or unexpected about the company.

This chapter dedicates itself to a simple aim: to tell a different kind of story about how Sierra On-Line "came to be." In a straightforward way, this relies on a more diligent approach to archival documents and methodological concerns than has previously been offered by other accounts, including *Replay*, *All Your Base, Vintage Games*, or fan-authored histories found on various websites. This chapter will primarily emphasize the breaks and disparities this story has

[11] *Wikipedia*, s.v. "Sierra Entertainment."

with more standard narratives about the company, with special attention brought to the technological conditions of the initial emergence, production, and distribution of the Williamses' first game, *Mystery House*. It should be noted that there is an origin story about Roberta Williams commonly interwoven into this saga, but which I will not address in this chapter. As best I can, and for good reason, I am parceling one from the other, because of how densely gendered her "official" story is. I will address these issues in Chapter 6: "On Gender."

While this chapter will cover only a ten-to-twelve-month period, there is much to be discovered by simply assessing the information at hand with as little motive as possible. By bracketing the inclination to prove how Sierra On-Line links up with other adventure games or adventure game producers, we may bring more curiosity to the mangle of technological, spatial, and social resources at hand in the Williamses' lives, the outstanding particularity of objects, affects, and practices that are awaiting inquiry from video game historians. The media speleological move here will be in the conceptual emphasis of the chapter, and how I mine the historical scenarios I document to elicit their embedded material overlaps. I want to write precisely about specific technological "happenings" within the Williamses' home, while not deferring their human experience of such technologies. This is a move that shrugs aside the universalizing or magical divination of genius in favor of a more grounded, sympathetic account of human affective forces (such as talent, creativity, drive) within a specific spatio-temporal context. At every turn, history is different than we said it was, something less true, something that could begin anywhere, elsewhere. Let's begin.

The Descent of the Adventure Game Genre

Hindsight is most of what we know. In the introduction to the 1996 *Roberta Williams*

Anthology manual, Ken Williams recounts his first experience playing the text-based adventure game *ADVENT*, offering readers a rear-view reflection on the moment in 1979 that changed his and Roberta's lives:[12]

> YOU ARE STANDING AT THE END OF A ROAD BEFORE A SMALL BRICK BUILDING. AROUND YOU IS A FOREST. A SMALL STREAM FLOWS OUT OF THE BUILDING AND DOWN A GULLY. >SOUTH
> YOU HAVE WALKED UP A HILL, STILL IN THE FOREST. THE ROAD SLOPES BACK DOWN THE OTHER SIDE OF THE HILL. THERE IS A BUILDING IN THE DISTANCE. >GO BUILDING
> YOU ARE INSIDE A BUILDING, A WELL HOUSE FOR A LARGE SPRING.
>
> This is the beginning of the game that so captured my wife, Roberta, that she could not sleep for days while exploring the caves beneath the well. The year was 1979. I was programming an income tax program on a mainframe computer that was 3,000 miles from my Los Angeles home.[13] To access the computer, I had a teletype machine. It was really just a typewriter with a modem and a printer communicating at 110 BPS; but it

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[12] I elect to use the name *ADVENT* in reference to the game Roberta Williams played on a teletype terminal networked via an acoustic coupler to a mainframe. Using the name *ADVENT* emphasizes the game's status as a mainframe game programmed on the DEC PDP-10—the DEC timesharing operating system, TOPS-10, limited file names to six characters. This distinguishes the game from later microcomputer ports and clones, often simply titled *Adventure*. In other accounts, the mainframe version of this game may be referred to as *Colossal Cave Adventure*, *Colossal Cave*, or *Adventure*. Information on *ADVENT* long suffered from being extremely scattered and inaccurate. Over the past thirty years, much of this story has been revised in corrected in Montfort, *Twisty Little Passages*, 91–93.

[13] Ken Williams and Roberta Williams give different reports regarding where the teletype terminal's mainframe connection was located—Ken claims the mainframe was 3,000 miles away (sometimes mentioning it was connected to MIT), while Roberta states it was connected to a mainframe in downtown L.A. See: Ken Williams, introduction to *The Roberta Williams Anthology Manual* (Bellevue, WA: Sierra On-Line, 1997); Ken Williams, personal

> allowed me to get my work done. Although the teletype was at home solely for work, that didn't stop me from exploring the mainframe for anything else interesting to do.
>
> I will always remember the thrill of discovery when I saw something called Adventure and typed it just to see what would happen. Back typed the computer, "You are standing…" Within minutes I was calling over to Roberta to show her my discovery. No work got done that night.[14]

Little could Ken and Roberta have imagined, sitting on their spare bedroom floor in a Simi Valley, California bungalow home, that game history would develop such that the adventure game, and this historic link with *ADVENT*, would come to wholly define the relevance of Sierra On-Line in video game history. *ADVENT*'s status as the first adventure game has long been deemed canonical by game scholars; it was played widely enough to initiate the genre standard wherein player progression through a game space or advancement in a narrative is inhibited by puzzles.[15] The emergence, development, and "progress" of the adventure game genre has come

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communication, January 25, 2013; Roberta Williams, "1984 Interview with Roberta Williams," *The Roberta Williams Anthology Manual* (Bellevue, WA: Sierra On-Line, 1997), 35; Dave Albert et al., "Smithsonian Videohistory Program: Minicomputers and Microcomputers, Session One: The Brotherhood," interview by John B. Eklund, transcript in the Smithsonian Institution Archives, Record Unit 9533, July 31, 1987, 10.

[14] K. Williams, introduction to *Roberta Williams Anthology*, 3.

[15] Beyond the adventure game genre, *ADVENT* is considered an early touchstone in a history of computer gaming. It is notable that *ADVENT* is not tied to action-based games that were produced for early computers, such as *Spacewar!* and *Tennis for Two*. These games, which seem to prefigure what became classic simulation genres (space shooters and *Pong*-style games), are lined up in a history of arcades and console games. The ur-game of *ADVENT* is also considered to be the inheritor of its own disparate programmatic, ludic, and linguistic trajectories—Montfort and Donovan trace progenitors of *ADVENT* to Joseph Weisenbaum's

to mark out where, how, and for what reasons Sierra On-Line, its games, and its designers appear in game history. This habit produces paradoxical limits: game history can neither witness Sierra On-Line for what it was, as a fluctuating eighteen-year event more elaborate in shape than simply the rise and fall of a specific genre, nor relate the company to the broader landscape of early microcomputer software development. In works such as *Replay, All Your Base Are Belong to Us*, *Vintage Games*, *Twisty Little Passages* and *Understanding Video Games*, Sierra On-Line simply solidifies and provides one trajectory for the history of the adventure game genre; geography, biography, conditionality, and other historical modifiers render down to merely memorizable details, articulating difference even as these differences are never called to account in the mattering.

In the history of 1980s microcomputer gaming, Sierra On-Line is most frequently contrasted with the interactive fiction software company Infocom, a company started in 1979 by MIT staff and students who, like Roberta and Ken Williams, were influenced by *ADVENT*. Infocom's first release, *Zork*, was initially designed in 1977 as a PDP-10 "follow-on" to *ADVENT*.[16] The fledgling company elected to commercialize the game for microcomputers,

natural language simulation *ELIZA*, the game *Hunt the Wumpus*, and *Dungeons and Dragons*. For texts documenting the history and significance of *ADVENT*, see: Mary Ann Buckles, "Interactive Fiction: The Computer Storygame *Adventure*" (PhD diss., University of California, San Diego, 1985); Donovan, *Replay*, chapter 5; Goldberg, *All Your Base*, chapter 9; Levy, *Hackers*, chapter 14; Loguidice and Barton, *Vintage Games*, chapter 25; Jermone McDonough et al., *Preserving Virtual Worlds Final Report* (n.p.: Preserving Virtual Worlds, 2010), http://hdl.handle.net/2142/17097; Montfort, *Twisty Little Passages*, chapter 3; Jason Scott, *GET LAMP: The Text Adventure Documentary*, DVD, 2010.

[16] The game's original designers were Marc Blank, Tim Anderson, Bruce Daniels, and Dave

partitioning, refining, and compressing mainframe *Zork* into *Zork I–III*.[17] The game met with considerable success; Infocom would gain notoriety throughout the 1980s producing a prolific and award-winning lineup of "no-res computer logic game[s]," as a *Softalk* writer termed them in a June 1981 *Zork* review. Rather than implementing graphics as Sierra On-Line and other adventure game developers did, Infocom honed a reputation for text-only games with broad vocabularies, compound-sentence parser input, and sophisticated NPC interaction. Today, Infocom is generally remembered as the market leader in text adventures (a claim less epic than it sounds, given sparse competition), and interactive fiction enthusiasts have avidly bolstered Infocom as a keystone of the ludo-literary medium. The genre more or less dissipated as a commercial product after Infocom went defunct in 1989, but remains sustained as a cultural form by scholars, author-programmers, and aficionados.

Lebling, all members of the Dynamic Modeling Group (DM) at MIT's Laboratory for Computer Science. Earlier ludic creations by these figures include *Maze* and *Trivia.* Tim Anderson, "The History of Zork—First in a Series," *The New Zork Times*, Winter 1985, 6.

[17] The other founders of Infocom were DM graduate Joel Berez and DM supervisor and MIT computer science professor Albert Vezza. Infocom did not initially intend to publish microcomputer software (the DM attitude about personal computing could be summed up in their unofficial motto, "We hate micros!"). Stu Galley, "The History of Zork—The Final (?) Chapter: MIT, MDL, ZIL, ZIP," *The New Zork Times*, Summer 1985, 4. For more information on the history of *Zork* and Infocom, see also: Anderson, "The History of Zork—First in a Series"; Tim Anderson, "The History of Zork—Second in a Series," *The New Zork Times*, Spring 1985, 3–5; Briceno et al., "Down From the Top of Its Game" (Paper for Structure of Engineering Revolutions, MIT, Cambridge, MA, December 15, 2000); Montfort, *Twisty Little Passages*, especially chapter 5.

It is necessary to reflect on how *ADVENT* itself also "came to be" in order to understand the historic primacy it has been granted today. Numerous accounts have been written on the origin of *ADVENT*, but few begin where I would: by 1975, Will Crowther's marriage to Pat Crowther had dissolved to the point where she moved out and took their two daughters with her. Like Pat, Will was a programmer, a caver, and an employee at Bolt, Beranek and Newman [BBN], a DARPA defense contractor in Cambridge, Massachusetts and the East Coast point for the first cross-country ARPAnet link (with UCLA, installed in 1970). Pat and Will had frequently commingled the pleasures they took in caving and programming, uploading survey data of the Kentucky Mammoth Cave system to a mainframe at BBN, and printing out plotter line drawing maps of the caves. Pat was even involved in the historic 1972 traverse of an unmapped seven-mile connection between the Kentucky Mammoth and Flint Ridge Cave systems—a grueling expedition that left her and her teammates "caked in mud 'like chocolate frosting'" but proved these systems to be the longest cave in the world, an "Everest of speleology."[18] Pat's participation was critical; it was her lean, 115-pound frame that first passed through the initial uncharted link in this connection, a narrow canyon known as "The Tight Spot" (dubbed so as she reported back to her caving ground, "Oh! It's very tight...but we have cave!").[19] But surveying this unmapped connection between Pat Crowther's expedition and Will Crowther's production of *ADVENT* requires a bit more exploration than often undertaken: that same historic expedition was led by John Wilcox, Chief Cartographer for the Cave Research Foundation. He

[18] Richard D. Lyons, "A Link is Found Between Two Major Cave Systems: Link Found Between 2 Cave Systems," *New York Times*, December 2, 1976.

[19] Ibid.; Roger W. Brucker and Richard A. Watson, *The Longest Cave*, 2nd ed. (Carbondale, IL: Southern Illinois University Press, 1987), chapter 31.

was also the man Pat would marry in 1977, just one year after her divorce from Will.[20]

As the story goes, Will Crowther missed his daughters and so programmed a little caving simulation for them to play on the computer when they visited (he also stopped caving over this time, as it had "become awkward").[21] The simulation, programmed in FORTRAN on a DEC PDP-10 at BBN, was a sketch of the Kentucky Mammoth Cave's Bedquilt entrance, complete with its own "Tight Spot"—players had to drop everything in their inventory before they could pass through. Given such details, the game appears as much a melancholic post-marriage exercise as a diligent programmer's version of a children's story. The game used textual input/output, permitting the girls to navigate game space with one- or two-word natural language commands ("NORTH" or "GO BUILDING"). Crowther scattered objects throughout the environment, which could be picked up, carried (held in an "INVENTORY"), manipulated, and used to affect the environment for the purpose of defeating monsters, gathering treasure, and solving the puzzles blocking further exploration.

Unexpectedly, Crowther's colleagues at BBN pushed the game through the circulatory system of ARPAnet. By unknown hands *ADVENT* was copied into the Stanford Medical Center computer's "games" folder, where it came to the attention of graduate student Don Woods, who requested a copy be transferred over to the PDP-10 where he did research at the Stanford

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[20] "John Preston Wilcox Obituary," *The Columbus Dispatch*, accessed April 30, 2014, http://www.legacy.com/obituaries/dispatch/obituary.aspx?n=john-preston-wilcox&pid=145049233&fhid=8700.

[21] Dale Peterson, *Genesis II: Creation and Recreation with Computers* (Reston, VA: Reston, 1983), 188.

Artificial Intelligence Lab.[22] Woods eventually tracked Crowther down via electronic mail, obtaining both the FORTRAN source code and permission to expand, and, as he felt, enhance the simulation. Woods refined the puzzles, expanded the exploratory space, added various features such as scoring and saving, and cleaned up the code enormously, providing copious program line commentary.[23] This version of the game became wildly popular—features like scoring, saving, and time-limited objects clearly identified it as a *game* rather than a navigation simulation with game-like components. Woods left the game on the SAIL mainframe for others to copy and play, and this clever, unique program circulated enthusiastically. Tim Anderson, one of the original *Zork* programmers, recounts the experience: "When *Adventure* arrived at MIT, the reaction was typical: after everybody spent a lot of time doing nothing but solving the game (it's estimated that *Adventure* set the entire computer industry back two weeks), the true lunatics began to think

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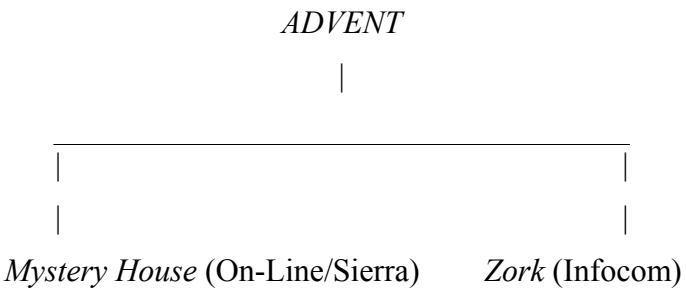
[22] Donovan, *Replay*, 51; Jimmy Maher, "The Completed *Adventure*, Part 1," *The Digital Antiquarian* (blog), June 2, 2011, http://www.filfre.net/2011/06/the-completed-adventure-part-1/.

[23] The nature of the impersonal collaboration between Crowther and Woods means having any sense of the "original" game or what we mean when we talk about *ADVENT* is delightfully confusing. For more information of the specifics of interactions between Crowther and Woods, see: Donovan, *Replay*, 50–52; Montfort, *Twisty Little Passages*, chapter 3. For specific details about the distinctions between the two programs, see Maher, "The Completed *Adventure*, Part 1"; Jimmy Maher, "The Completed *Adventure*, Part 2," *The Digital Antiquarian* (blog), June 3, 2011, http://www.filfre.net/2011/06/the-completed-adventure-part-2/; and Jimmy Maher, "The Completed *Adventure*, Part 3," *The Digital Antiquarian* (blog), June 4, 2011, http://www.filfre.net/2011/06/the-completed-adventure-part-3/.

about how they could do it better."[24]

Sierra and Infocom thus share a joint moment of encounter with *ADVENT*. However, the stark ludic, aesthetic, technological, and narrative distinctions between the companies have resulted in an evolutionary narrative of the genre graphed as a competition between these graphical and textual inheritors of *ADVENT*.



Sierra would be chronologized for pushing graphical envelopes well into the mid-'90s with technically notable games such as *King's Quest* (1984), *King's Quest V* (1990), and *Phantasmagoria* (1995), while Infocom carved into the techniques of parser input, storytelling, and puzzle solving with feats such as *Deadline* (1982) and *Planetfall* (1983). Yet between these two companies (and within the adventure game genre generally), Infocom has received the enormous majority of academic attentiveness, as it is historicized as a reference point for language-oriented academic disciplines and e-literature communities invested in the status of interactive fiction.[25] Interactive fiction is the most theorized and published-upon genre of 1980s

[24] Anderson, "The History of Zork—First in a Series," 7.

[25] Games such as *ADVENT* and *Zork* were referenced as "interactive literature," "interactive fiction," "participatory computer prose," "participant novel," even "ultra adventures" and "micro-stories" at the time they were published, and since have been sheltered under the academic and literary awning of "interactive fiction." For use of all these terms, see Fred Saberhagen et al., "Call Yourself Ishmael: Micros Get the Literary Itch," *Softline* 3

computer gaming—and the only genre of pre-networked computer gaming to receive the attention of an entire monograph, Nick Montfort's 2005 *Twisty Little Passages: An Approach to Interactive Fiction.*

In the popular chronology, Infocom is the proper inheritor of what *ADVENT*, as the first piece of interactive fiction, prefigures; scholars frequently attribute a literary purity to Infocom that Sierra fumbles and apes. However, the imperative need to substantiate the value of interactive fiction as serious literary creation has shaped a historical analysis that distances interactive fiction from the ludic shallow end of "games." Montfort's *Twisty Little Passages* provides a treatment of Sierra that is strikingly presentist and dismissive, labeling *Mystery House*'s graphics "minimal" and "bizarre," and its parser "primitive," while begrudging the company almost no relevance aside from being "the first" to add images to text adventures.[26] Similarly, the Routledge co-authored textbook *Understanding Video Games* lauds Infocom as the aesthetic and ludic superior to the "crude" style of "less purist" Sierra On-Line.[27] Reducing the era of 1980s adventure gaming to these two companies does more than perpetrate a blunt historical shorthand: it misrecognizes that which actually is historical, trading the vague iteration of titles, dates, and isolated competitive sagas for an embedded sensibility of just how much was happening in the video game industry, how many diverse historically specific components defined the pace of the computer gaming world in the United States (as we shall evaluate further in the following chapter). Accounting for the diversity of the market, the range of games available for microcomputers, the economic volatility the market experienced within less than

(September-October 1983): 30–34. For an explanation of interactive fiction, see Montfort, *Twisty Little Passages*.

[26] Montfort, *Twisty Little Passages*, 169–70.

[27] Egenfeldt-Nielsen, Smith, and Tosca, *Understanding Video Games*, 58, 72.

five years of its emergence, the month-to-month flip-flop of sales standings, and the mixed level of discourse on the relative merits and pleasures of graphical hi-res and text-based works, there is little historical basis for claims that any company uncontestedly led the industry or that the immense popularity of any specific game was solely the effect of literary and ludic merits rather than in concert with various technological and market conditions. Yet the graph above represents genealogy in only the most tree-like sense, wherein video game history can trace the inevitable unfurling of a genre through leaps and bounds of technical and creative progression, until its presumed and much-cited "death" at the hands of first-person shooters and online gaming worlds in the mid-to-late 1990s.

The common chronologies of the adventure game and the emergence of interactive fiction would do well to keep in mind that what was sticky about *ADVENT* was not its "firstness" as a game but its distribution and its multiplicity, its *spread*—a fact that cannot and should not be reduced to a pure set of freestanding aesthetic or ludic conditions. The desire to cultivate a historical solidity around the object of this particular game—as a historical artifact in and of itself, and as the catalyst for the adventure game genre—has obfuscated the game's more substantial historical erotics: how frequently it was copied, extended, or implemented for different mainframes (no less than sixty non-commercial "versions" or implementations of the game have been documented, to say nothing of its numerous uncited microcomputer clones); the transcontinental network that was the measure of the reach of these games (country-wide, international, even all the way into the innocuous locale of the Williamses' spare bedroom); and the networks, terminals, mainframes, and keyboards that enabled its quasi-collaboration yet left the facts of the game's production, implementation, and re-implementation in near utter darkness (names etched on the wall of a cave only to be found decades later).[28] *ADVENT* points to a

[28] Rusel Dalenburg, "Versions and Ports of Adventure Known to Exist," version 2.6.7, *Rusel*

meshwork of affective and material relations, the edge wherein desire and capacity unfold upon one another in the desire to do something other than work. Individuals were provoked to play the game and reproduce the game, and afforded the opportunity of doing so due to the possibilities and limitations of their own independent lives and the technical infrastructures they were bound up in.

As we pry a little further into Sierra's origin in this chapter, I am keen to uncover the places where the company proves just well-documented enough to expose its own "disparity."[29] In the story told by Ken Williams (who was aware, by 1996, of *ADVENT*'s historical significance), Sierra On-Line becomes *already historical* before it even exists because of the status afforded to the moment of encounter with *ADVENT*. It is a retrospection that serves to make coherent the Williamses' place on a timeline of advancement in the history of the adventure game. Although the common mythology jumps from the scene of Roberta Williams playing *ADVENT* at a teletype machine directly to the scene of Roberta Williams designing *Mystery House* at her kitchen table, we would do well to slow down. Game history is quick to forget that no one knew *ADVENT* was the first adventure game at the time Roberta Williams played it. One of the hazier parts of this story is the question of how Williams understood what she was doing, what else influenced her game design, and on what terms we should understand *ADVENT*'s significance, especially if we attempt to plot that significance through something other than the development of a genre. While more technical details of *Mystery House*'s design will be handled in Chapter 6, it will suffice for now to set the scene for how the Williamses made sense of the possibilities of cottage industry software development.

Dalenburg's Home Page, last modified July 21, 2006, http://www.prismnet.com/~ged/www/advelist.html.

[29] Foucault, "Nietzsche, Genealogy, History," 142.

A Motor in the Bedroom

So let's begin again: Ken Williams executed the *ADVENT* program via his teletype machine and found himself standing at the end of a road before a small brick building. Teletype terminals were mecha-digital Frankensteins of the 1970s, machines of gears, springs, and belts moreso than Ouija boards of the digital beyond. Plugged in and turned on, the motor of the machine would have filled the acoustic space of the bedroom he and Roberta kept the teletype in; during data relay, anyone in earshot would have had to abide the Gatling gun of the printer head, bullets punched through the paper tape reel. This teletype terminal was portable, or as Ken described it to me in an e-mail, "luggable," which meant it lacked a stand and rested on the floor —a device for hunching.[30] Printing and networking was a slow, noisy business in 1979, but the short descriptions and simple commands of *ADVENT* would have suited the teletype's plodding printer-based output mechanism. User input was forward-moving only; backspace buttons were things of the future.

Ken may have been entertained, amused, curious, or drawn in by the game, but his sense of the world was not fractured. He had a frame for what he was looking at—games, simulations, and other interactive entertainments were exceedingly common on mainframe computers throughout the late 1960s and 1970s, often programmed as exercises or for personal amusement. As an energetic, code-slinging mainframe programmer, Ken would have been familiar with such unapproved uses of a mainframe's memory and processing power. In a 1983 interview, Roberta Williams recollected that Ken would play games like *Star Trek* on the teletype, often

[30] E-mail message to author, January 25, 2013.

encouraging her to take part.[31] Thus, Roberta also knew that games existed on computers prior to playing *ADVENT*, but was typically uninterested despite her marginal familiarity with computing (Roberta had a little experience programming COBAL[32]):

> He kept trying to get me to play, but I didn't want anything to do with it. A lot of women don't understand computers, act bored by them, and are basically intimidated by seeing their husbands slaving over them night and day, so they're just turned off to the whole idea. But finally, like me, many of them kind of wander over when their husbands are playing and within five minutes they're hooked.[33]

ADVENT was something other than the statistical or randomized play scenarios common to mainframe games, and Roberta Williams found herself enraptured. The game's natural language input/output—the fact that *ADVENT* was designed for individuals who were not familiar with programmer terminology and symbol use—and the terminal's typewriter were significant material components that enabled her access to the game. Ken Williams noted in an interview,

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[31] James Delson, "A Young Girl's Fantasy Turns to Fortune," *Family Computing*, December 1983, 67. Roberta Williams does not specify which *Star Trek* Ken was playing. It may have been Don Daglow's early 1970s *Star Trek*, which was a narrative game spoken by Star Trek crew characters, or Mike Mayfield's more spatial *Star Trek* game programmed for the HP2000C, which was reproduced in DEC BASIC-PLUS in David Ahl's *101 Basic Games* under the inapt name *SPACWAR* (*Spacewar*), and later revised by Bob Leedom into *Super Star Trek*. *Wikipedia*, s.v. "Star Trek (text game)," last modified November 19, 2013, http://en.wikipedia.org/wiki/Star_Trek_(text_game); *Wikipedia*, s.v. "Star Trek (script game)," last modified February 28, 2013, http://en.wikipedia.org/wiki/Star_Trek_(script_game).

[32] Dave Albert et al., "Smithsonian," 9.

[33] Delson, "A Young Girl's Fantasy," 67.

"Roberta would have never been able to do anything if there wasn't a keyboard"—a telling statement in an era where women would have been trained in touch typing but male programmers still did hunt-and-peck.[34] *ADVENT*'s "seminal" power was not a teleological inevitability—rather, the game had the right set of affordances to find space in the lives of both Ken *and* Roberta.

The emphasis placed on *ADVENT*'s "first" tends to obscure what else Roberta Williams did after finishing the game: she played more adventure games, on the TRS-80 and later the Apple II.[35] A handful of articles published within a year and a half of On-Line Systems' founding

[34] Phone interview with author, October 8, 2013.

[35] Primary documents indicate that the Williamses had a TRS-80, either soon after Roberta played *ADVENT* or concurrently. In 1996 *The Roberta Williams Anthology Manual*, Ken mentions that he borrowed a TRS-80 from work; however, in a January 25, 2013 e-mail interview, he stated that he bought the machine. Alternatively, in a *Sierra News Magazine* article, Ken claimed he accessed a TRS-80 through a neighbor, prior to Roberta playing *ADVENT*; he does not clarify whether that machine was used in his home. Ken Williams, "A Message from the President," *Sierra News Magazine*, Summer 1990, 35. Regardless of these inconsistencies, it seems accurate to claim that there was a TRS-80 in the Williamses' home. The original intent was to develop a commercial FORTRAN compiler for the TRS-80, but this is also plausibly the machine Roberta played Scott Adams' games on. In late 1979, Ken changed his strategy to develop the FORTRAN compiler for the Apple II instead: "The [Apple II's] extra [disk] storage capacity and ease/speed with which programs could be loaded excited me. I knew it would quickly kill the TRS-80 and represented the future." Phone interview with author, October 8, 2013. The Williamses purchased the Apple in January 1980—shortly after Christmas. Albert et al., "Smithsonian," 9; Levy, *Hackers*, 294.

cite *ADVENT* as just one of several games that Roberta Williams played prior to the production of *Mystery House* (the Williamses developed software under the name On-Line Systems from 1980–1982, at which point the company was rebranded as Sierra On-Line).[36] Al Tommervik's 1981 *Softalk* feature highlighting On-Line Systems shells any claim to *ADVENT*'s primacy: "[...] Roberta discovered and mastered Microsoft's *Adventure* and fell in love with the genre. She bought Softape's *Journey* and every Scott Adams adventure that was released. She loved them all, and then there were none left."[37] In the 1981 newsletter article "Winning Strategies for

[36] The company they produced software under was initially called "On-Line Systems." The company name was changed to Sierra On-Line in 1982. Later accounts of the origin of Sierra On-Line often nod to the Williamses' interest in the text-based adventure games produced by Scott Adams' company Adventure International, but I would argue they are mentioned because Adams' games correspond to another first: Adams' *Adventureland* was the first commercial text adventure ever sold.

[37] Al Tommervik, "On-Line Exec: Adventures in Programming," *Softalk*, February 1981, 4. Tommervik claims that Roberta Williams was playing Microsoft's *Adventure* port (programmed by Gordon Letwin)—this is the only place I have ever seen this claimed. However, somewhat corroborating the possibility that Williams played the game on something other than the teletype machine is Roberta herself: in a 1987 Smithsonian interview, she stated that she began playing the game on a teletype machine and finished it on an Apple II (which was bought January 1980). She does not mention whether or what she played on the TRS-80. This puts into question how long Williams played the game, and whether she had finished the game before she started designing *Mystery House* (almost all accounts claim she had). And, of course, another possibility: Roberta Williams played the game on a teletype machine, and then played it again on a microcomputer.

Adventures," Williams summarizes her own history with games: "I have played quite a few adventure games, notably; [sic] 'ADVENTURE' by Willie Crowther and Don Woods, 'THE COUNT', 'ADVENTURELAND', 'STRANGE ODYSSEY', by Scott Adams, 'JOURNEY', by Softape and 'ZORK', by Personal Software."[38] Williams' catalog offers a strong portrait of what was available to those interested in adventure games in 1981. This representation of events is corroborated, in less detail, by Levy's *Hackers* as well as Ken's 1996 introduction, but what is significant about Tommervik's and Roberta Williams' articles is the extent to which *ADVENT* garners no particularly exceptional importance. These earliest accounts apprehend a moment prior to the concretization of historical significance in the video game history canon. As Crowther and Woods' *ADVENT* has become increasingly cemented as the ur-game for the adventure game genre by hobbyist, popular press, and academic accounts, Roberta Williams' experiences with other games have been pushed aside, forgotten, or diminished in the process of constructing a more clear genealogy from one "significant" game to another. Roberta Williams' gameplay was an accumulation of activity rather than an isolated event. There is a foggy parallel here to Ralph Baer's self-explanation of a life born out of the inevitability of mastery and invention. But what coagulates in Roberta Williams' case is the serendipity of circumstance, the tension between a life arriving well for something and the simultaneous understanding that none of this need have happened at all.

Mystery House would emerge over a series of months following Roberta Williams' completion of *ADVENT*, a game that might be best described as something similar bent into something otherwise. Williams' design dictated a murder-mystery–treasure-hunt. Her setting and story riffed on the board game *Clue* and Agatha Christie's *Ten Little Indians*, while the natural

[38] Robert Williams, "Winning Strategies for Adventures," *The On-Line Letter* 1, no. 1 (June 1981): 7.

language input, object gathering, and puzzle proceduralism gleaned lessons from the other adventure games Williams exposed herself to.[39] The substantially different component Williams insisted upon was graphics. Roberta Williams sought both immersion and novelty, and valued illustration over description; importantly, she had a sense of Ken's talent with programming, even in the abstract, and she continually pressured the limits of what he thought could be programmed. And how could she not, with the whirling motor of his teletype terminal alive in the spare bedroom of their single-story California home, his countless freelance projects, his hit-the-programming-books-all-nighters, the immersed dedication that drew him to the very machines Roberta found herself so turned off by? Steven Levy described the young Ken Williams as a programmer "rising at quantum speed," who would "claim to know computer languages and operating systems he knew nothing about, reading a book about the subject hours before a job interview and bullshitting his way into the position."[40] In 1981, the president of Softsel, Bob Leff, acclaimed Ken Williams as a programmer in the ranks of "Bill Budge, Bob Bishop, Nasir [Gebelli], and just a very few others as one of the software greats of our industry."[41] Levy painted the couple as ambitious, if in different ways, drinking dreams of cabins in the woods, early retirement, more money than they would ever need.[42] Roberta may have felt compelled to create, but she knew from the start that *Mystery House*, no different from Ken's after-hours FORTRAN compiler project, had commercial aspirations.

The commercial draw of *Mystery House* was both the new representational possibilities it

[39] Significantly, *Mystery House* did not share the influence of *Dungeons and Dragons* (*Zork* and *ADVENT* were both influenced by tabletop fantasy role-playing games).

[40] Levy, *Hackers*, 288, 287.

[41] Bob Leff, letter to the editor, *Softalk*, April 1981.

[42] Levy, *Hackers*, 288, 293.

showcased in the adventure game genre (and for the Apple II) and the programmatic feat of its sheer quantity of images (Figures 4.1–4.3).[43] The game was a tour-de-force of programming ingenuity: *Mystery House* had over seventy illustrations, which Ken Williams fit onto a single floppy disk along with all the rest of the game code by using assembly language to script the images as stored coordinates, rather than actual lines.[44] As mentioned earlier, evaluating these graphics as bizarre, crude, or otherwise profane is to read too much in the present. In 1980, microcomputers were uncertain objects: few people knew what to do with them, even as many people desired to have them and understand them. Ken Williams relates: "[Computer companies] were selling these computers but it wasn't clear what you could do with them when you had them. […] It was a weird time, and people didn't really understand what computers could do. […] You couldn't do very much, you couldn't do anything with them."[45]

But *Mystery House* "was something," something you could do with a computer, and

[43] *Mystery House* is widely regarded as the first adventure game with graphics. These graphics were static; animation would not be introduced in adventure games until Roberta Williams' *King's Quest* (1984). It is unclear to the author what strong precedents exist for other microcomputer games with graphics produced prior to *Mystery House.* Mainframe games like *Rogue* and Mike Mayfield's *Star Trek* used ASCII typographic symbols to graphically represent spatial locations, and numerous mainframe role-playing games using the PLATO system had graphics as early as the mid-1970s. Jimmy Maher, "The First CRPGs," *The Digital Antiquarian* (blog), August 18, 2011, http://www.filfre.net/2011/08/the-first-crpgs/. Late 1970s computing enthusiast magazines typically carried ads from software producers that included games with simple graphics—tic-tac-toe, basketball, slot machines, etc.

[44] Levy, *Hackers*, 298.

[45] Phone interview with author, October 8, 2013.

something you could specifically do only with an Apple II. While *Zork* and other text adventures gained traction because they could be easily ported to *any* microcomputer system, *Mystery House* appealed to early Apple II consumers who wanted to experience the processing and graphical power of the Apple II *in particular*. *Mystery House* made use of the Apple II's cutting-edge 280x192 pixel hi-res mode, a graphics display that was a substantial jump from the 40x48 low-res mode.[46] The Williamses drew the images with a Versawriter, a vector-based drawing tablet with a drafting arm and stylus meant for tracing over images.[47] What feels crude to critics now was not only the height of technical accomplishment in its moment, but a legitimate selling point for the game. David Lubar, in the December 1980 Christmas issue of *Creative Computing*, described the game's graphics as "[...] very nice, showing the rooms and objects in detail."[48] Similarly, Ken recounts the initial impression computer dealers had of the software: "They were

[46] A significant percentage of commercial microcomputer software used the hi-res graphics mode, including graphical adventure games. For more information on programming the Apple II in hi-res mode, see: Ken Williams, Bob Kernaghan, and Lisa Kernaghan, *Apple II Computer Graphics* (Bowie, MD: Robert J. Brady, 1983). For a useful, lucid explanation of how *Mystery House* was programmed in the Apple II's complex hi-res mode, see Jimmy Maher, "Mystery House, Part 1," *The Digital Antiquarian* (blog), October 8, 2011, http://www.filfre.net/2011/10/mystery-house-part-1/.

[47] Jimmy Maher explains that "the device was marketed as a tool for getting diagrams—flowcharts, circuit diagrams, floor plans, etc.—into the Apple II; its packaged software did not deal very well with the irregular lines and patterns typical of full-blown pictures." "Mystery House, Part 1," *The Digital Antiquarian*.

[48] David Lubar, "Software, Hardware and Otherware for Christmas," *Creative Computing*, December 1980, 24.

blown away. They really loved it right from the beginning. They were like, yeah, this is awesome, we can sell this with our computers, how can we get more? It was immediate and a real strong opinion."[49]

The Williamses did not initially intended to distribute and market the game themselves. They had early dealings with a software distributing company called Programma, but ultimately determined that they did not want to take Programma's offer of 25% royalties. Ken Williams also tried to interest Apple Computer in the game, but couldn't get a reply fast enough (Apple eventually responded a year after he contacted them).[50] Only then did the Williamses elect to sell *Mystery House* independently for $24.95, demoing the game at local computer shops and tentatively taking out a full-page ad in the May 1980 issue of *MICRO: The 6502 Journal.* In their *MICRO* ad, they offered *Mystery House* alongside two arcade-style games, *Skeetshoot* and *Trapshoot* (both programmed by an unnamed friend of Ken's). According to the ad, these two games could be bought independently on cassette or disk, or bundled with *Mystery House* for $37.50.[51] The fate of *Skeetshoot* and *Trapshoot* is unknown; they appear to have been quickly pulled from On-Line's offerings.[52] The ad was a text-dense page describing the premise and wonders of an adventure game ("one who goes on an adventure is a venturer," the copy casually

[49] Phone interview with author, October 8, 2013.

[50] Levy, *Hackers*, 298-299; Tommervik, "On-Line Exec," 4.

[51] *Skeetshoot* on cassette cost $14.95; *Trapshoot* was $9.95. On disk, *Skeetshoot* was $19.95, *Trapshoot* was $14.95. Shipping was $1, and California sales tax was 6%.

[52] Levy suggests that Ken Williams added these two other games to make On-Line seem like a more professional company with a broader product line. Levy, *Hackers*, 299. A review and a rare screenshot of *Skeetshoot* (referred to as *Skeet*) can be found in Lubar, "Software, Hardware, Otherware," 24.

explains), composed in the unfocused, overwrought language that comes with having no market standard for how to sell microcomputer game software. Otherwise, the ad was only broken by two off-center screen photographs and a sales/shipping form: customers were directed to make their checks out to "On-Line Systems," a company name that was a "holdover from Ken's vision of selling the respectable kind of business software for the Apple that he did in his consulting for on-line computer firms."[53] Orders by check, Master Charge, or Visa were received at "772 No Holbrook, Simi, CA, 93065"—the Williamses' home address.

The Williamses soon found themselves selling *Mystery House* by the hundreds out of their home, fielding orders and giving clues on the family telephone line (805-522-8772).[54] By day Ken would go off to a programming job. Roberta would care for house and children while packaging 5.25" game disks and simple photocopied documentation sheets into Ziploc bags and mailing out orders.[55] Steven Levy recounts: "Ken and Roberta made eleven thousand dollars that May. In June, they made twenty thousand dollars. July was thirty thousand. Their Simi Valley house was becoming a money machine."[56] A more amusing measure might be Roberta Williams' recollection of wheeling a shopping cart full of Ziploc bags out of the grocery store.[57] Just two months after releasing *Mystery House*, the Williamses bumped their advertising purchase from the middle pages of *MICRO* to the front: when eager readers flipped the cover on their July 1980 issue of *MICRO: The 6502 Journal*, they would have been staring at On-Line's latest software offerings, including two new graphics utilities and a French version of *Mystery House* available

[53] Levy, *Hackers*, 299.

[54] Ibid., 300.

[55] Albert et al., "Smithsonian," 19; Levy, *Hackers*, 300.

[56] Levy, *Hackers*, 300.

[57] Albert et al., "Smithsonian," 19.

"upon request." The newly designed ad referred to *Hi-Res Adventure ("Mystery House")* as *Hi-Res Adventure #1*, indicating anticipated expansion. At night, Roberta had begun working on a more elaborate adventure game, while Ken tuned a new machine-language system for On-Line Systems' next installment. As the money piled up and the prospects of running their own business became abruptly feasible, the Williamses flung themselves at their fantasy: finding their cabin in the woods. Just five months after advertising *Mystery House* in *MICRO*, Ken and Roberta had moved the family from Simi Valley to Coarsegold, California in the foothills of the Yosemite Valley, and began laying the track for a life in the computer software industry. It was September 1980: Ken would turn twenty-six in October, Roberta twenty-eight the following February.

Conclusions

Beneath the promise of a timeline that jumps from *Colossal Cave* to *Zork* to *Mystery House*, there is a confusing array of play and production. Embroiled in the heroic, simple origins of "Sierra On-Line" are a diverse arrangement of technological, spatial, and social circumstances complicating the monocular gaze of video game historiography thus far. A primary aim of this chapter has been to thwart a well-worn passage into video game history through specific attention to the casual construction of such history. In attending foremost to how Sierra On-Line "became historical," something of history's nature become plainly manifest: just how much effort goes into maintaining and cultivating origin stories, progress narratives, and linear paradigms. The phantasm of the emperor's new clothes requires cyclical reassurance. History is volitional: we hold these scattered facts in place, we ratify their truth, we perform the alchemy that conjures simplicity from a cauldron of disparity. It is hardly laziness; rather, it is an exhausting, far-

reaching investment. At many turns, the archival record proves that the smooth linearity of video game progress to be moreso knotted.

The gains of this chapter will bleed readily into the following chapter on industry. Fixating and reducing Sierra On-Line to a single genre of game-making ignores the thicker ecology of software production the company emerged from and thrived within, leaving unconsidered the possibility that what is most dynamic about computer game history is not individual games or software producers but the software all together, the way games as well as productivity and utility software, as a collective, turned shoulders and heads toward a machine, the way they commanded looks and taught hands the choreography of joysticks and keyboards. As we follow the trace of a moving van into the forested wilds of Yosemite Valley, On-Line Systems will shift form and scale outward, suddenly finding itself embroiled in an industry nationwide, even as it became more isolated than a Simi Valley spare bedroom floor.

Chapter 5: On Industry

Showing Up

In the summer of 1981, Brian Wilkinson arrived at 36575 Mudge Ranch Road in Coarsegold, California, and took a set of photographs. “I'm no Ansel Adams,” he might have told Ken Williams, “but I can take a photo.” Wilkinson was an editor at the local Madera county paper at the time, *The Sierra Star*, and knew Ken as just a guy around town, the kind of guy he might drink beers with. Wilkinson arrived at the Williamses' home to do Ken a favor—to shoot some advertising photographs for a new software product. “It was strictly personal. There was no payment, there was no exchange, I just gave him the photos. They were Kodachrome color slides at the time.”[1] That original slide was long ago lost, but the capture of that moment, the impressions of light pressed out in the emulsion of a film negative, linger on in the ad and packaging for a game known as *Softporn Adventure*, released by On-Line Systems in September of that year.

The photo was shot low to the raised deck of the Williamses' happily bubbling hot tub, on the ground level of their Mudge Ranch home. Wilkinson's camera positions you hovering inches from the water, where you can catch dappled reflections of the tub's occupants in puddles just beyond the lip of the tub. Three topless brunettes ring the interior of the hot tub, each placid-faced and poised, their breasts hovering at the waterline. On the far left, Diane Siegal, On-Line's production manager, holds a half-eaten apple in a coy pun on Wozniak's forbidden fruit; in the middle, Susan Davis, On-Line's bookkeeper and wife of programmer Bob Davis, touches a glass of champagne to her mouth; and on the right, Roberta Williams calmly looks out at the camera, as if she were cut from marble and had all eternity to meet your gaze. Just behind and between

[1] Interview with author, August 20, 2013.

Roberta and her two companions is Rick Chipman, a waiter from The Broken Bit, a restaurant just down the road on California State Route 41. Here, he is an enterprising servant, a "lucky guy," standing waist deep in the tub decked in his waiter's vest and bowtie, holding aloft a tray encumbered with a champagne bottle and two more glasses. Beyond the scene, a decorative curved redwood privacy wall rises behind the hot tub, setting the tableau apart from the sloping treeline of the background. One last detail—holding the center gaze of this image is a pane of glass cast in perfect opposition to Wilkinson's camera lens: the blank leaded screen of an Apple II. Imagine Wilkinson in the reflection of that glass for a moment, and think of the whole charade as *Las Meninas* for the software set.

Softporn Adventure was a curious choice of software for On-Line Systems. Ken had encountered the game at a computer trade show in Boston, and convinced the programmer, Chuck Benton, to let On-Line Systems publish and distribute it (Benton wound up staying on with the company for two more years programming ports).[2] The advertisement offered more flesh than the game ever did—*Softporn* had no graphics, making it the only text adventure the company would ever publish. Yet *Softporn* was, as its title professed, an erotic adventure game, or as it was described in its ad, "A funny, provocative, challenging adventure game for adults only." There could be no better testament to just how small, insular, and utterly naive the early independent microcomputer software scene was, a corporate culture wrought from the volatile mixture of inexperience and exponential growth—the game, like the ad, reads like a inside joke.

Ironically enough, the ad photography turned out to be more controversial than the game.

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[2] Chuck Benton, "Chuck Benton," interview by Jason Scott, May 26, 2006, website for the documentary *GET LAMP*, http://www.getlamp.com/cast/20060526benton/index.html; Ken Williams, forward to *The Authorized, Uncensored Leisure Suit Larry Bedside Companion*, by Peter Spear (New York: Bantam, 1990), vii.

In September 1981, a half-page ad was printed on page 68 of that month's *Softalk*, an Apple II enthusiast magazine that was a major advertising venue for On-Line Systems. The ad became a lightning rod in the "Open Discussion" section of *Softalk* shortly after its September publication, inducing over half a year of debate regarding family, obscenity, and the representation of women in popular and technological culture.[3] The two earliest responses were printed in the November 1981 issue of *Softalk*. The first, from Richard Gillett of Manhattan, Kansas, accused On-Line of turning the pages of *Softalk* into "cheesecake," saying:

> […] There are many [Apple] owners with children who read their issue of the magazine. Finding an ad like yours in the magazine must certainly put these parents off. It is bad enough that their children's television viewing hours are riddled with sexual themes and suggestions. Now a child can't even attempt to work with a computer—an essentially sexless tool—without being besieged with these unnecessary ads.[4]

Mary Miller Smith of Doraville, Georgia likewise complained that the presence of sexually suggestive ads prevented her from using the magazine in her computer literacy class, arguing that "women will never get out of the bedroom if this type of advertising is continued."[5]

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[3] The fallout that followed the advertisement was not just directed at *Softporn*—from September 1981 onwards, *Softalk* was increasingly peppered with advertisements for other "adult-themed" entertainment programs like *Interlude* and *Street Life*, and the adult software guide *The Dirty Book*. But unlike these other products, *Softporn Adventure* hailed from a reputable software publisher owned by a well-recognized member of the Apple II programming community. Even if the inside joke of having Roberta Williams in the ad was lost on most readers, On-Line's visibility would have made them a special target of censure.

[4] Richard Gillett, "A Letter to On-Line," letter to the editor, *Softalk*, November 1981.

[5] Mary Miller Smith, "Vacuous Sex Symbol Misrepresents Women," letter to the editor,

Shortly after that initial printing, the ad was published in the October 5, 1981 issue of *Time*, where it ran as the only image illustrating an article entitled "Software for the Masses." In the *Time* article, Benton claimed that four thousand copies had already been sold in the single month since its release.[6] The one-page *Time* article was a brush with fame for the Coarsegold area—it wasn't every day that four locals might be seen by millions of Americans. *The Sierra Star* reprinted the ad in their October 7 issue, listing the names of all four participants, as well as the otherwise uncredited photographer, Wilkinson. The photo created a bit of a local flap. *The Sierra Star* printed one extremely short letter to the editor from Helen Doty of Oakhurst in the following week's October 14 issue: "Good grief! Are we that hard up to call attention to our area?"[7] On-Line Systems responded in surprisingly long and somewhat dismissive form, defending the free publicity as a revenue generator that would feed directly back into the pockets of local mountain-area employees and local mountain-area businesses. Signed by general manager Larry Bain, and "Entire Staff, On-Line Systems," the letter closes by stating:

> We have gone way out of our way to tell all radio, television, and even Time magazine reporters that our company publishes many products other than "Softporn." Can I help it that SEX makes more interesting reading?
>
> If our presence in the community, our product line, or our advertising and promotional success has offending [sic] this community or even one of it's [sic] residents, on behalf of the On-Line Systems staff I apologize for not feeling compelled to apologize.[8]

Wilkinson sat with me in his office thirty-two years later, now editor-in-chief of *The Sierra Star*,

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Softalk, November 1981.

[6] Kenneth M. Pierce, "Software for the Masses," *Time* 118, no. 14 (October 5, 1981): 69.

[7] Helen Doty, letter to the editor, *Sierra Star,* October 14, 1981.

[8] Larry Bain, letter to the editor, *Sierra Star*, October 21, 1981.

chagrined and amused at his moment of dubious, and unpaid, fame: "I should have gotten at least a beer."[9]

The three reproductions of the *Softporn* ad—in *The Sierra Star*, in *Softalk*, and in *Time*—evoke the varied scales at which On-Line Systems operated as part of the microcomputer software industry, and even illustrates the friction that could readily be found at the overlaps. The production of the image itself was a profoundly local encounter, the making of bars and free time, casual meetups, a loose network of town acquaintances, the regularity of dining at a steakhouse down the road ("about the only decent place to eat in town," as Steven Levy put it).[10] However absurd or even sexist the image seems in retrospect, it makes a certain sense within a company where the CEO was just a walk down the hallway, in a town so deserted in the mountains that the world could burn and the inhabitants of Yosemite might never know.[11] Those private, local bonds, thickened by time and geography and habit, came under public scrutiny as the image's circulation in *Softalk* transformed the ad into social theater. In their written responses to the ad, readers were sorting through just what they thought their industry should look like. The distance between a *Softalk* subscriber and "the industry" was narrow; this was a magazine that *was* its industry, where its advertisers were also always its subscribers. And in the annals of *Time*, the red-bordered American monolith of weekly periodicals, we get the first inkling of

[9] Interview with author, August 20, 2013.

[10] Levy, *Hackers*, 337.

[11] The local nature of the ad's production is one of the reasons locating the identities of the models and the photographer was even possible for me. As with much video game advertising of the period, no one's name, not even Wilkinson's, was listed in any game documentation or advertising; only the notoriety the ad received for featuring locals resulted in its reproduction, and attribution, in *The Sierra Star.*

software's future ubiquity and populism: could software be for everyone? In 1981 this was still a true *question*, information to be chewed in the national maw.

How do we make sense of such a nested object when early video game history is traditionally told as a saga of unambiguously national proportions—from the U.S. arcade craze that ran from coast to coast to the 1983 American video game crash? The Chronicle Era may specify companies by location—the Sunnyvales of Atari or the Cambridges of Infocom—but their impact is often traced only through an immediate stretch to the elastic confines of a conceptual "nationwide." While very recent developments within video game history evoke a long-overdue turn toward transnationalist interests, this chapter dilates in reverse of that trend.[12] Even within the national framework, geography and regional specificity are critical components of a nuanced history of the early microcomputer entertainment software industry that On-Line Systems ascended within. How do we account for materialities that get left to the side—of landscape, region, distance, and range—in the formation of an industry?

Industries, like companies, are sprawling ensembles, more self-defined in concept than in practice. As Jonathan Sterne notes in his complementary analysis of the music industry, "the industry" generally refers only to monetization constructs, reducing our assessment of industry participants to those involved in the traceable sale of a given medium.[13] When we fall into such a

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[12] The Local Game Histories Listserv was established with the explicit goal of sharing information among global video game historians, specifically about "local" game histories across the world. Additionally, as of the time of this writing, both Mark J. P. Wolf and Jesper Juul have pending projects underway on the topic of a transnationalist video game history.

[13] Jonathan Sterne, "There is No Music Industry," *Media Industries Journal* 1, no. 1 (2014): 50, http://ec2-54-83-44-0.compute-1.amazonaws.com/ojs-2.4.0/index.php/mij/article/view/17/0.

thinking and speaking habit, we accept the status of the medium-as-commodity as a given, rather than analyzing the way economic models and cultural discourse shape the objects we believe our research studies. Sterne asserts that understanding "music" requires an effort in "subtraction":

> When we go looking for unity inside a music industry, we should instead assume a polymorphous set of relations among radically different industries and concerns, especially when we analyze economic activity around or through music. There is no "music industry." There are many industries with many relationships to music.[14]

Like music industry scholars who reserve their focus for the "musicians-audiences-recordings nexus," game historians, scholars, and journalists are similarly prone to centralizing what might be thought of as the "developer-gamer-software nexus."[15]

While this chapter cannot track the entirety of a "polymorphous set of relations" within the production of even a single On-Line Systems game, it will demonstrate some condition of that complexity and dispersion at local, regional, and national scales. As discussed in Chapter 2, economic impact is one of the guiding frames for writing video game history. This is perhaps, in some part, the consequence of living and writing in a culture that struggles to take games seriously no matter how many times we invoke the weary fact that the game "industry" typically makes more money than Hollywood; economic impact is often the primary qualifier for substantiating cultural significance.[16] Yet, as Sterne suggests, "unity" is largely an impression produced by our capacity to manage granular calculations of specific music "objects": an

[14] Ibid., 53.

[15] Ibid., 52.

[16] Tom Chatfield, "Videogames now outperform Hollywood movies," *The Guardian*, September 29, 2009, http://www.theguardian.com/technology/gamesblog/2009/sep/27/videogames-hollywood.

individual CD or MP3, seats sold at a concert, songs streamed through a web service. Once we imagine that these quantifiable individual elements are equal to the flux of cultural practice that streams out from all sides of a "game," we have, instead, an almost limitless set of potential configurations.

In this chapter, I explore On-Line Systems/Sierra On-Line as part of a developing ecology of software and hardware producers and distributors, at one of the most volatile moments in the history of that system: when its coherence and sustainability were still dramatic unknowns. This chapter will emphasize the varied points at which the game industry would coagulate and manifest, from the profoundly local geography that On-Line Systems headquartered in, to its broader regional alliance among West Coast Apple II software companies, to the decentered, multi-billion-dollar national video game market. As young titans of software ran wild with unanticipated profit, they often paradoxically imagined their authority as vaster than its reality, while behaving as if their visibility was less prominent than it was. In my previous chapter, I pressured the historical "facts" by which the early lineage of the adventure game genre has been mapped and stabilized as a succession of specific games. This grounding permits me, in this chapter, to more effectively trace the company's imbrication in a culture of software production that twists any easy conception of the company's historical relevance.

As we trace and twine our way around these particulars, we will stumble headfirst into one of the great carnages of video game history, "The Crash" of 1983–84. This is the epic event against which video game history is traditionally carved, when game industry revenues sunk from billions to millions in a handful of years. Much of the mythology around this event is connected to the spiraling decline of Atari, which by that point had been the largest economic

player in the field of digital games for almost a decade. The industry became a "black hole," wherein "the whole videogame world crashed and burned."[17] Such hyperbole is only correct in the stock market sense—people did not suddenly throw their consoles in the trash, or cease to take pleasure in the cultural life of gaming. It is too large a leap to presume the slowing of sale is equal to the cessation of play. Furthermore, the economic freefall of the console industry did not happen the same way for every company with a stake in producing, designing, or distributing games. Here, too, On-Line will cast a reverse mold—what struck the microcomputer entertainment software industry was not "The Crash" but "The Shakeout," a recession of its own making left untended in narratives transfixed to the constellation of Atari. These moves sustain the overall impulses of the project: to disrupt the embedded architectures of video game history's sedimentation, and imagine histories that are otherwise.

A Little Silicon Valley

When Ken and Roberta Williams moved to Coarsegold in the fall of 1980, they took up residence for a couple years at 36575 Mudge Ranch Road, a tree-enconsced multi-story A-frame buried in the back roads splintering out from State Route 41. This would be the first site for On-Line Systems' business in the area, where Ken and Roberta continued their homebrew tradition of taking business calls and processing orders alongside their meals. By December 1980, the company bumped to the second story of a small office building in Oakhurst, above a print shop and a stationary store, that was reachable only via a staircase on the outside of the building—which was also where the bathroom was located. Ken hired his brother, John Williams, as On-Line's first employee, and eventually put him up in one of the scattered houses Ken rented across

[17] Kent, *The Ultimate History of Video Games*, 239; Goldberg, *All Your Base*, 54.

the countryside, intended as lodging for his growing flock of programmers.[18] But over at Mudge Ranch Road, the Williamses kept receiving orders at their home address—the postmaster of Oakhurst refused for several years to take on the extra mail brought in by the company.[19]

These small dynamics—cumbersome trips to the bathroom and bundles of mail presumably hauled by car and hand—were the first tremors of On-Line Systems' weight in the area. Coarsegold and Oakhurst weren't founded to be good homes to industry. Their history was bound up in the supply trains of the nineteenth-century Gold Rush and the early-twentieth-century Yosemite-area lumber mills. For all that Coarsegold's name was an homage to the handful of mines once excavated in the town, the town rested on the outer, southernmost tip of the Sierra Nevada goldfields; it would do better business as a supply stopover than a mining town. By the 1980s, Coarsegold and Oakhurst were tourism throughways for Bass Lake and the natural wonders of Yosemite National Park. Historically, resources and commerce had always *passed through* these towns, with each facilitator taking their cut, but industries were not inclined to *start* there. The Williamses were drawn in precisely by this removed, outdoor culture, as well as by family ties: Roberta's parents lived in the region. But the remove of Coarsegold and Oakhurst immediately produced challenges for running a business on a national scale. Geographically, the Sierra National Forest and Yosemite National Park form a natural—and impassable—barrier to the north and the east, making the most reasonable access to the town from the west and southwest. Visitors to On-Line Systems could only puddle jump from San Francisco's airport to Fresno, and from there take an hour long car ride. Ken's rental houses were one of his attempts at luring, and maintaining, top technology talent—often the biggest hurdle

[18] Levy, *Hackers*, 301; John Williams, "Sierra's First Ten Years: A Relatively Long Article on the Short History of Sierra On-Line, Inc.," *Sierra News Magazine* 3, no. 1 (Spring 1990): 7.

[19] Levy, *Hackers*, 301; Corey Cole, interview with author, August 20, 2013.

was getting qualified programmers to move there.

The isolation of the company granted it a certain novelty and charm on a journalistic stage, but was also productive of the company's lack of corporate structure and disorganized work environment—there was no comparable company in the area for the Williamses to learn from, or for technical employees to defect to. But if Ken Williams sometimes struggled to keep his tank of programmer talent full, he only had to look around to staff the rest of his company. Williams had a knack for evangelizing the microcomputer as a means of changing lives and building fortunes; in an area that had not seen economic action since the Gold Rush, the prospect of turning the region into a "Little Silicon Valley" drew vagrant hopes to the company like moths to candlelight.[20] Boat refurbishers and hotel maids became vice presidents of product development and heads of accounting; employees transformed into best friends over beers or in the Williamses' Mudge Ranch hot tub. The first couple years were a party in the mountains, as Ken Williams abruptly found himself holding the keys to the microcomputer kingdom. This was the "Summer Camp" era that *Hackers* author Steven Levy encountered in the summer of 1982, at that moment a barely-in-his-30s, journeyman tech reporter looking for a contemporary beat to tie together his book.[21] Levy crashed on the floors of the very programmers he wrote about, while Williams gave Levy unobstructed access to any office or meeting he pleased. Levy's first-hand observations of On-Line's company norms outline nothing short of an extended frat party:

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[20] Jeff Mitchell, "The Third Wave Breaks Over Mountain Area," *Sierra Star*, June 22, 1983, 1, 8.

[21] Steven Levy, interview with author, September 18, 2012. Levy visited On-Line intermittently from mid-1982 to the fall of 1983, typically driving up from Palo Alto where he was researching the homebrew history portion of *Hackers* and staying a week or so each time in the Coarsegold-Oakhurst area.

peppermint schnapps Fridays, hot tub board meetings, marijuana smoking, even efforts on the part of the Williamses to help their star programmer, John Harris, lose his virginity. Company management was uneven and hierarchy barely existed, even as profits continued to pour in; Ken predicted that his company would "either be $200 million in sales by 1985 or bankrupt."[22]

It was an incongruous situation, this national leader in home entertainment microcomputer software, reaping millions and shipping out disks by the thousands—in a town that largely had little idea what On-Line sold. Even by 1983, *The Sierra Star* ran a front page article titled "Sierra On-Line Has Staff Dealing With Technical Computer Software," as if such a statement would be illuminating to residents. The opening paragraphs accentuate the curiosity of On-Line's Madera County presence:

> An ironic situation has developed between Oakhurst and the consumers of computer software. In the computer software industry, one of the best-known names is Sierra On-Line, but the people buying the company's products invariably ask "Where is Oakhurst?"
>
> In Oakhurst, people are aware that there is a business in town that has something do with computers, but, for the most part, really do not know just what it is that Sierra On-Line does.[23]

The article opener itself feels somewhat incongruous, given that, by 1983, the company was one of the largest employers in the area. The company employed 112 residents by the count of *The Sierra Star* in August 1983. It was an entirely self-contained, in-house $20 million enterprise where "everything from product ideas to packaging and shipping [were] being done from the main offices," offices which also housed disk duplication, quality testing, and a ten-person

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[22] Levy, *Hackers*, 362. See chapters 17 and 18 for a thorough accounting of Sierra's company ethos.

[23] Ibid.

software support staff that took an average of 375 calls a day.[24] The bulk of On-Line Systems' staff performed the manufacturing, distribution, clerical, and accounting work that made the company "a company." Their trade was in software, virtual commodity, but one that still made material demands. Disks were volatile and required sleeves, games had to be boxed, documentation copy written and printed, ads placed, packages lifted, mail sorted, reply cards entered into a database. In this regard, at least, On-Line was as well-positioned as it could have been anywhere, even if its employees had only an abstract sense of themselves as participants in the national production, manufacturing, and distribution of computer goods.

Like the CEOs of many early profitable commercial software companies, Ken Williams soon recognized that feasibly scaling in a way that could keep up with demand required heavy capital investment. As a leader in the independent commercial software market, On-Line Systems caught the eye of the venture capital firm TA Associates in 1982, a clear indication of the anticipated consumer computer technology boom that was fueling articles like *Time*'s "Software for the Masses?" On-Line Systems was scouted and hand-selected by TA's Jacqueline Morby, a woman who would be listed as one of *Infoworld*'s five most powerful females in the personal computer industry two years later.[25] With the flush of venture capital came a 24% stake in On-Line for TA Associates, a position for Morby on the board of the company, and the demand for a more efficient, bureaucratic business structure. The stress of these changes, which attempted to condition much of On-Line's intimate and malleable structure into something fixed and less porous, produced uneven times at the company. Williams promised to "fire himself" as chief executive officer and return to programming, but then refused to entirely give up the reins

[24] Earlene Ward, "Sierra On-Line Has Staff Dealing With Technical Computer Software," *Sierra Star*, August 3, 1983, 1.

[25] Marguerite Zientara, "Five Powerful Women," *Infoworld*, May 21, 1984, 57–61.

to the suit-and-tie-wearing set.[26] Bob Heitman, an On-Line programmer hired in 1982, recalls that time as "an aborted attempt at becoming a standard corporation with a standard chain of command and a standard org chart."[27] He recollects:

> They [the new administrators] were trying to move us this way. […] We had other people that were brought in to be professional. It became clear to me at least, with the level of access I had to Ken […] it became clear he was not happy with the direction the company was being pushed, so there was push back. Ken would drag his heels on things. We never transitioned at that time to a traditional org chart.[28]

Even if a standard professional structure was never fully implemented, there was enough transition to shake some of On-Line Systems' earliest employees, especially the programmers who did not want cuts made to their royalties.[29] Jimmy Maher writes that "as org charts started getting stapled to walls, file cabinets started turning up locked, and executive secretaries started appearing as gatekeepers outside the Williams' offices, many of the old guard saw that vision as already dying. Some of them left. Needless to say, Ken no longer looked for their replacements in the local liquor store."[30]

A name change soon followed, with *Softalk* reporting in September 1982: "On-Line Systems (Coarsegold, CA) shall hereinafter and forevermore be known as Sierra On-Line

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[26] Levy, *Hackers*, 359.

[27] Bob Heitman, interview with author, October 4, 2013.

[28] Ibid.

[29] Levy, *Hackers*, 364–65.

[30] Jimmy Maher, "Summer Camp is Over," *The Digital Antiquarian* (blog), December 12, 2012, http://www.filfre.net/2012/12/summer-camp-is-over/.

Incorporated. A rose is a rose is a rose, et cetera."[31] The new name and accompanying logo were a front-end remodel of the company image, an homage to the Half Dome lording over Yosemite National Park, about fifty miles from the company's headquarters (Figure 5.1). A New York City PR agent was hired, largely at Roberta's insistence, and the Williamses found themselves whirling in the hype of interviews, trade press visits, flights to New York City, dinners with entertainment moguls, and entertainment tie-in pitches.[32] IBM even brokered top-secret, cloak-and-dagger business with the company, a chain of contact that proved vital for Sierra down the proverbial road.

Sierra On-Line's successful turn to venture capital, along with the bureaucratic demands and the multimedia opportunities that came with it, were indicators of just how strong the domestic computing market was estimated to be, and the extent of the potential it was expected to meet—both relevant conditions for understanding the drama of the commercial downturn Sierra would weather just two years later. Turns to organizational charts were more than mechanisms for streamlining company routines. They also inked the lines between the company and the environment, serving as conceptual maps for negotiating the balance between a company

[31] *Softalk*, Tradetalk, September 1982, 59.

[32] Sierra pursued various tie-ins and celebrity promotions, including those with Jim Henson, Disney, Johnny Hart's comic *B.C.*, *Family Circus*, John Travolta, and Jane Fonda. The solidity of the possibilities varied: *B.C.: Quest for Tires* and *Mickey's Space Adventure* were early forays into the realm of entertainment crossovers, yet a *Family Circus* children's adventure game that Roberta was designing in 1983 never came to fruition. Delson, "A Young Girl's Fantasy," 69. Sierra's Hi-Res Adventure *The Dark Crystal* was an ambitious tie-in with Jim Henson, but when the film flopped and the game released a month after the Christmas season, Sierra never saw the lucrative profits they were hoping for.

laboring to outstrip the limitations of its material geography, even as the prospect of what a computer company could do for the mountain area stirred local hope and imagination. Chains of command, points of entry, limited accessibility—Sierra On-Line was more centralized than On-Line Systems. The company was something cut in relief to other forces, relationships, and expectations; let's wager the *Softporn Adventure* ad of 1981 would have been unthinkable twelve months later. An industry isn't just larger than its economics, as Sterne points out, but something always being worked through and upon at every turn of its materialization.

In the Midst of a "Brotherhood"

What was happening to the Williamses on Mudge Ranch Road was provoked by an emergent set of conditions occurring elsewhere across the country, fed by slow but sustained interest in the phenomenon of microcomputers. As mentioned in Chapter 2, video game history has largely absconded attention to 1977's "second wave" of microcomputers—the Apple II, the TRS-80, and the Commodore PET—preferring to emphasize slightly later-generation micros like the Commodore 64. In a similarly curious elision, the history of computing acknowledges the significance of micros like the Apple II and the TRS-80, but downplays the relevance of entertainment software in driving the use of these machines. The history of the adventure game is one of the few genre explorations that routs around the grooves of such historical lines in the sand, but as discussed in the prior chapter, this is also a history largely framed as a competition narrative that makes little effort to distinguish between important phases in the history of computing, or to account for the vicissitudes of the market overall.

For all of On-Line System's rural isolation, the company was thickly embedded within the grassroots independent software industry that emerged primarily along the West Coast in the

early 1980s, producing software for a small selection of popular microcomputer systems, most prominently the Apple II.[33] Critical to the project of grasping On-Line Systems'/Sierra On-Line's descent is developing a sensitivity to the highly specific grit of early computer gaming, the broad and active ecology of game publishers, computer practices, contextualizing spaces, and cultural discourses. Grazing through these historical particulars quickly produces the apprehension that microcomputers and computer games existed in a world that cannot be fully circumscribed within loose claims of aesthetic "greatness," simple chronologies, or generalist national approaches.

On-Line Systems rose to significant financial profit in 1980 concurrently with several other microcomputer game and utility software publishers who would become the major industry players over the two to four years following On-Line's release of *Mystery House*. Most prominently, these companies included Sirius Software, founded by Jerry Jewell and Nasir Gebelli in 1980, and Brøderbund Software, started by brothers Doug and Gary Carlston in the same year, and joined by their sister Cathy a year later. By the time On-Line Systems became Sierra On-Line in 1982, these three companies were the leaders of the independent consumer software market, totaling slightly more than $24 million in sales for the year, and together comprising a quarter of the market share for consumer software.[34] These three companies were

[33] For more information on why the Apple II was especially apt for home computer use, see: Martin Campbell-Kelly and William Aspray, *Computer: A History of an Information Machine,* 2nd ed. (Boulder, CO: Westview Press, 2004), chapter 10; Ceruzzi, *History of Modern Computing*, 263–68.

[34] Campbell-Kelly, *From Airline Reservations*, 225. Independent software firms such as On-Line Systems must be distinguished from consumer software that was released by computer manufacturers such as Tandy, Texas Instruments, Atari, Apple, or Commodore. In 1982, the

the ones Levy labeled "The Brotherhood" in *Hackers*, describing them as "the fastest risers of dozens of companies springing up to cater to new computer users, particularly those in what came to be known as the Apple World."[35]

The software published by these companies was mostly comprised of games, but also ranged into various utility and home productivity products. On-Line's own early product line was relentless, and representative of the broadest offerings one could find from a single software publisher. Chief among its catalog were the Hi-Res Adventures, eventually totaling seven games in the suite: *Mystery House* (1980), *Wizard and the Princess* (1980), *Mission Asteroid* (1980),

leading computer manufacturers producing consumer software comprised 39% of the national software market share; leading independent manufacturers held 30%. When market share percentages of manufacturer and independent software producers mixed, On-Line Systems was the second most prominent software producer (11%), superceded only by Tandy (16%).

[35] Levy, *Hackers*, 307. It is not clear whether this term was actually used by the game publishers themselves. In a January 25, 2013 e-mail interview, Ken Williams stated that he did not recall whether or not they used that term, but said that "[i]t does reflect how tight we were as a group." Doug Carlston titled the sixth chapter of his book *Software People* "The Brotherhood" and wrote, "There truly was a sense of brotherhood among the California game companies [...]" (154). This matter is made somewhat more confusing by the fact that Carlston's company, Brøderbund, meant "brotherhood" in Swedish (he started the company with his brother Gary). I have yet to locate archival evidence suggesting that this was a term generated by the group itself. The gender of this phrase should not be overlooked, especially as it became historically entrenched by Levy, yet neither should the presence of Roberta Williams, Margot Comstock, and Cathy Carlston as integral to the function of these companies.

Cranston Manor (1981), *Ulysses and the Golden Fleece* (1982), *Time Zone* (1982), and *The Dark Crystal* (1983).[36] Roberta Williams designed five of these games, including the "microepic" *Time Zone*, which is the largest hi-res adventure game ever designed in the era, occupying six double-sided 5.25" disks, toting more than 1,200 pictures and taking an estimated six to twelve months to complete. In an aggressive effort to diversify, Ken Williams also oversaw the release of almost three dozen arcade-style sport and card games, most notably John Harris' litigious *Pac-Man* clone *Jawbreaker* and the home computer port of the Sega arcade hit, *Frogger.*[37] This ludic software listing was flushed out with "Hi-Res Learning Adventures" for young children, including the award-winning *Learning with Leeper* (1983), as well as an array of utilities and home productivity software, such as the graphics compiler *Paddle Graphics* (1980) and the word processing programs *Superscribe II* (1981) and *Homeword* (1983).[38] As the company gained stature beyond the Apple II world, they regularly ported their games to other

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[36] While there were seven games in the Hi-Res Adventures suite, they were numbered 0–6. *Mission Asteroid* was the third Hi-Res Adventure released, but ostensibly numbered "zero" to indicate its comparative ease—it was intended as an introduction to the genre (although a review of *Cranston Manor* in the September 1981 issue of *Softalk* joked that On-Line, like computers, counted in binary).

[37] For backstories on several of On-Line's early programmers and games, including *Jawbreaker* and *Frogger*, see: Levy, *Hackers*, chapters 16–19. For evidence of Ken Williams' intent to diversify the product line, see: Tommervik, "On-Line Exec," 6.

[38] *Learning with Leeper* established On-Line's very early commitment to what is now typically called "edutainment." The game received a Consumer Electronics Showcase Award, a Parents' Choice Award, and the Electronic Games "Arkie Award" for Best Educational Computer Game in 1983.

popular systems, including the Atari 8-bit family, the Commodore 64, and the IBM PC. While games were a steady revenue source for all the early companies, it was atypical for a company to specialize only in games, let alone a specific genre as Infocom did. On-Line, like many of its competitors, imagined itself serving a diversity of microcomputer software needs, indicating a unique property of computer gaming—it cannot be conceptualized apart from the myriad functions computers took on for their owners. Software provided a variety of user entry points from which to approach personal and home computing; while the dedicated machines of arcades and consoles might make for more convenient and approachable historical objects, efforts to historicize the home computer will always be vexed by the machine's non-dedication to any single use *in particular*, the very multitudinous phenomenon which made it such a fascinating object to early enthusiasts.

While On-Line, Brøderbund, and Sirius may have been the early triumvirate of the microcomputer games industry, their specific sense of camaraderie was unique to their geographic proximity along the West Coast, and extended to include a swathe of Apple-II-related software companies, most long defunct and forgotten, such as Continental Software, Datamost, Lazer Microcomputers, Southwest Data Systems, and others.[39] In other words, geography and platform tied them together, rather than the fact that they were "game designers" or "software producers." Likewise, the microcomputing game industry itself was a national enterprise with numerous players; magazines, distributors, and computer stores were full of products from both long- and short-lived companies firing off bestsellers like *Raster Blaster* (BudgeCo), *Wolfenstein*

[39] The names of these companies can be found in Greg Voss, "River Rafting," *Softline*, September 1981, 14–15, 17. The article covers a weekend-long white water rafting and camping trip organized by On-Line, which included "thirty-seven of the west coast's top names in microcomputer software […]" (15).

(Muse), *Transylvania* (Penguin Software), *Temple of Apshai* (Automated Simulations/Epyx), and *Flight Simulator* (Sublogic). By 1981, the leading designers, programmers, administrators, consultants, and managers of the early West Coast Apple II software industry still amounted to a handful of about fifty people; the heads of these companies became close friends and colleagues, socializing through trade fairs and computer shows, group white water rafting trips, anniversary and holiday celebrations, and a prankish party culture.

Softalk and the Camaraderie of Competition

Annual events and a shared, if hazy, market began roping together these modest leaders of the microcomputer software olympiad early on, but we can also imagine a different kind of map, bonds harnessed and sealed by a different kind of glue. "*The* glue," as *Doom* legendary John Romero explained it to me one summer afternoon. "We called Margot Comstock the glue."[40] Margot Comstock was editor-in-chief of the Apple II enthusiast magazine *Softalk*, which she ran with her husband Al Tommervik, who handled marketing and production. Chatty, charming, and bursting with barely contained enthusiasm, Comstock and her magazine proved an important locus for these early companies. *Softalk* was neither the earliest nor the longest lasting of the dozen or more Apple II enthusiast consumer magazines; it ran only from 1980–84, expelling its editorial breath for almost the exact length of the computer software boom and bust. Despite its short reign, the magazine was extremely popular; it carried a peak circulation of approximately 265,000, partly due to its accessibility to non-technical readers.[41] The magazine

[40] Conversation with author, June 22, 2013.

[41] Finding accurate subscription data for *Softalk*, or any short-lived computer enthusiast magazine, is difficult. In the 1987 Smithsonian interview, Margot Comstock mentions that

covered everything from new software releases to programmer birthdays to inter-company weddings with an affable, insider voice, personalizing the experience of computing by representing Apple ownership as entry into a community. *Softalk* offered beginner tutorials on programming and computer know-how, and built a sense of community continuity with puzzle-based reader contests, cited by Doug Carlston as one of the most popular parts of the magazine.[42] This was a direct expression of Comstock and Tommervik's own non-technical background, as Apple II enthusiasts who were simply "fascinated by the computer itself."[43] Furthermore, this was an ethos that came especially from Comstock, who had cut her teeth as a journalist editing copy for in-flight magazines: the woman knew the meaning of "human interest." As editor-in-chief, Comstock declared *Softalk* "not a programming magazine" in her editorial to the first issue, distinguishing the periodical from more technically-oriented competitors.[44]

Ken Williams "came down on one weekend" (presumably to *Softalk*'s North Hollywood offices) and "rewrote our entire circulation package" because *Softalk*'s subscription list had reached 100,000, at which point *Softalk*'s circulation software (run, of course, on the Apple II) was struggling with the volume of data. Albert et al., "Smithsonian," 49–50. In an e-mail interview, Comstock estimated that peak subscription was roughly 265,000 by the time the magazine folded. E-mail message to author, May 30, 2014.

[42] *Software People*, 169.

[43] Albert et al., "Smithsonian," 19.

[44] Comstock proposed *Softalk* as an alternative to magazines such as *Creative Computing*, *Apple Orchard*, *Micro*, and *Call A.P.P.L.E.*, all of which are mentioned in the editorial of *Softalk*'s first issue in September 1980. The supporting infrastructures of enthusiast newsletters and hobbyist magazines have long been acknowledged as critical to the emergence of personal computing. See: Paul Freiberger and Michael Swaine, *Fire in the Valley: The Making of the*

Softalk served an important role for software publishers, establishing a network based in paper issues and regular phone calls. As Doug Carlston explained in his book *Software People*, "Since Al and Margot talked daily with people all over the country, they were better informed than any of us, and they came to all of us with their frequent calls inquiring about new products and plans."[45] Comstock and Tommervik were a social joint within the Apple world, and readily put companies and distributors into contact with one another. Furthermore, *Softalk* was the first magazine to produce a Billboard-style "Top Thirty" listing—both a numerical ranking as well as a statistical evaluation of comparative strength of sales. Carlston asserted that this sort of information "told us a lot that we needed to know about the market—how we were doing vis-a-vis everyone else, what kinds of products were selling, and how many units we should be able to sell."[46] Comstock and Tommervik were the hub of a growing network of software industry stakeholders; the bonds they nurtured over the phone line, over late-night dinners at expos and parties, in the countless soft jabs and insider jokes that filled the pages of *Softalk*, were material realities in the unfolding potentiality of early 1980s gaming and computer cultures.[47]

Within the context of the Brotherhood, *Softalk* demonstrates the regional-to-national elasticity of the microcomputing scene, as well as the significance of components beyond the companies themselves in the formation of an "industry." Gaming or computer enthusiast magazines are frequently taken as paratextual materials in game history—print material from which to glean reviews, advertisements, or articles. However, as I illustrate here, *Softalk* and its

Personal Computer (New York: McGraw-Hill Professional, 1999).

[45] 172.

[46] Ibid.

[47] *Softalk* also had a spin-off magazine called *Softline*, which was dedicated solely to games. *Softline* was even more irreverent and playful than *Softalk.*

employees were equally part of what made the industry *an industry*, in both a social and an economic sense.

The small population of industry players, thriving sales within a relatively overlooked market, and an industry magazine that served as an internal and external forum for the Apple II community, catalyzed a deep sense of underdog loyalty among these Apple II software publishers, particularly those clustered along the West Coast. This sensation was enhanced by the recognition that they were dodging the shadow of much more experienced, successful, and well-resourced mainframe computer companies, particularly IBM. As Diane Ascher, an independent market consultant, commented at one of the industry's white water rafting trips:

> This is a group of people that is always looking for an excuse to party. […] Basically we have a lot in common. We all sort of feel like we beat the system: we got to microcomputers before IBM did. It gave us a chance to try out the business. We're all competitors, but we also like to cooperate.[48]

The programmers and designers at these companies designed games to impress one another as much as their customers, and built fidelity by protecting their mutual success—even going so far as to clear future game designs with one another beforehand and keep each other appraised on which dealers and distributors weren't paying their bills.[49] While the members of the Brotherhood were not completely transparent with each other, and were forced to become increasingly competitive by 1982, On-Line, Sirius, and Brøderbund shared a non-competitive ethos in their earliest years. First-person accounts from figures such as Comstock, Jewell, Carlston, and the Williamses consistently reference these early years as a time of excitement propelled by uncertainty and wonder; it was precisely their precarity that drove their mutual aid.[50] As software

[48] Voss, "River Rafting," 17.

[49] Albert et al., "Smithsonian," 29–30.

[50] Albert et al., "Smithsonian"; Carlston, *Software People*; John Williams, e-mail message to

publisher Dave Albert put it:

> […] [W]hen we all started working in this business, there was no sense of permanence. No one took it seriously. There was a stage where we all waited for the big companies to come in and move in and clear us all out. We were all worried about that. Consequently, there weren't a lot of rules, nor was there a whole lot of knowledge among any of us about how to build or do these companies. So we did a lot of things in a lot of unorthodox ways.[51]

Unorthodoxy, in this context, was not necessarily a product of being a programming wizard or an entrepreneurial fortuneteller: it could also be the outcome of not knowing what you're doing. A lack of "permanence" is adventuresome, but also dangerous when fortunes could be (and would be) lost as quickly as they were won. The video game crash looming around the corner in 1984 was not divine justice; supply and demand does not yield to human morality, nor was it intended to produce narrative climax. Not knowing what they were doing meant they cribbed from other media (were they book publishers, record labels, or filmmakers?), they experimented with business strategies, and they leaned heavily on their network to guide and regulate their internal balance.

Furthermore, this professional naiveté meant that these early companies weren't always aware of how deeply they were under public observation, by either the big-name console and arcade companies that quickly perceived them as competitors, or their own consumers. Approaching game production with a hobbyist-hacker ethic, the Brotherhood frequently cribbed game mechanics from actual console or arcade games, resulting in "unofficial" Apple ports or "borrowed" games. As Comstock explains, it did not initially occur to these early software publishers that a company like Atari might consider such "borrowing" copyright infringement:

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author, January 9, 2013; Ken Williams, email message to author, January 25, 2013.

[51] Albert et al., "Smithsonian," 45.

> [A] lot of the games were borrowed from the arcades at the beginning, everybody was so excited about the idea of playing, being able to create something that they liked playing in the arcades, that it was just great fun to do that. Nobody thought about, "Well, we shouldn't be doing this," or anything. It just never occurred to anyone. It was just exciting. "Wow, look how much like that it is!" There was a great innocence about it.[52]

While On-Line, Sirius, and Brøderbund were careful to give one another's games a wide berth, they felt no such solidarity with companies like Sega and Atari, and thus quickly found themselves targets of legal action. Atari asked Brøderbund to pull games from the shelves that were too similar to Atari games; Ken Williams refused a similar request, and briefly found himself embroiled in litigation regarding On-Line's *Jawbreaker.*[53]

Narratives constraining industry accounts to simply the tumult of companies and their economic tete-a-tete mislocate the dispersed quality of agency and interconnectedness among varied stakeholders. The industry, I must stress, was neither just two points squaring off, nor even a bulleted list of company names. It was a mess, a mangle, a bound-up ball of production, ambition, and technologist intuition. Our capacity to speak of an "early West Coast microcomputer entertainment software industry" is not an indication of internal "unity," but rather something that was coherent only at some of its points, at some of its times.

Sixty Cents vs. Ten Dollars

Much of what came next whittled down the prices of plastics. In video game history, "The Video Game Crash of 1983" is considered an event of truly epic proportions, the industry

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[52] Ibid., 29.

[53] For details on legal action made against On-Line and Brøderbund, see: Carlston, *Software People*, 162–63; Levy, *Hackers*, chapter 16.

equivalent of the diluvial flood. The Crash was a dramatic downward spiral in the video game console market that sank Wall Street's ambitions and investments. It is often told as an Atari-centric narrative, in which that company's "gigantic failure" resulted in the overall demise of the industry.[54] The starting point is usually cited as December 8, 1982, when Atari's CEO Ray Kassar grimly announced that earnings had dropped more than fifty percent, although game journalists and industry analysts sensed Atari was coughing up blood since the spring release of the underwhelming Atari 2600 *Pac-Man* port. The following year was a domino tumble of industry leadership in both hardware and software.[55] The impetus for the crash is often attributed to bloated management at Atari and a market oversaturated with poorly made games—an industry shortsightedness literally and metaphorically signified in the all-out bomb of Atari's *E.T.: The Extraterrestrial*, a game whose millions of unsold cartridges ended up as landfill in Alamogordo, New Mexico (so legend has it, anyway).[56] Throughout 1982, Atari management failed to account for the new rush of software being offered by third-party developers, to say nothing of the splintering home console hardware market.[57]

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[54] Goldberg, *All Your Base*, 54.

[55] Carlston, *Software People*, 222; Ken Uston, "The Home Computer Industry and Wall Street," *Creating Computing*, November 1981; Mark J. P. Wolf, introduction to *Before the Crash: Early Video Game History* (Detroit, MI: Wayne State University Press, 2012), 4–5.

[56] Guins, *Game After*, 207–236.

[57] The unexpected consequences of third-party development were key factors in Atari's slide. With the Atari 2600, Atari's business model was based on selling cheap console hardware and recouping profit with software sales. However, when the first independent video game console software developer, Activision, won legal rights to produce software carts for the Atari 2600, they were immediately cutting into Atari's profits. This legal proceeding opened

Parsing the state of affairs in the microcomputer software industry, however, is not so easy; there is no monolith that tightened the noose for everyone else. While many a swooning elegy has been composed for the fall of Atari (and many a bullet-pointed list of business strategy "don'ts"), the software scene was operating under a slightly contorted set of circumstances. The desire to calcify the recession into an individual, if multi-year, moment undervalues the platform specificity of the game market. The microcomputer software industry had their own language for what struck them—"The Software Shakeout"—as well as their own unique concerns and community stakes. The "video game industry" was not a monolithic entity, even if both console and microcomputer games were swallowed in an economic downturn.

For the likes of the Brotherhood and everyone else invested in the microcomputer entertainment software industry, the "The Shakeout" descended about a year behind the console industry downturn. Indeed, these software producers were predicted by pundits and analysts to be the beneficiaries of the console downturn—according to Doug Carlston, the computer world never imagined that the "woes of Atari" would touch them.[58] In 1983, cheap, cartridge-loading home computing systems were indeed on the rise, and were legitimate, forceful competition for the console generation once led by the Atari 2600—but not nearly to the extent that the microcomputer software industry predicted. Sierra On-Line, like its competitors, stockpiled cartridge versions of their titles, placing huge factory orders during the summer of 1983 in anticipation of a hot holiday season. Ken Williams and the rest of the management at Sierra believed the demand for cartridge-based computer games would be practically endless, and that

the gate for other companies to get in on the craze; by 1982, over fifty companies were producing games for Atari systems. See Kent, *Ultimate History of Video Games*, 192–95; DeMaria and Wilson, *High Score*, 103–105.

[58] *Software People*, 223.

the VIC-20, Coleco Adam, and Texas Instruments 99/4A home computers would annihilate the console industry. The low-end home computer market may have dented the console market, but, as Jimmy Maher summarizes, it also did tremendous damage to itself:

> [...] [A] funny thing happened during the six months in between [summer and Christmas of 1983]: the market for the VIC-20, the TI 99/4A, and the Coleco Adam, the machines for which most of these cartridges were produced, collapsed. Jack Tramiel [CEO of Commodore], you see, had won the Home Computer Wars of 1983 by then, driving TI right out of the market. In the process, he had just about killed his own VIC-20 as well; the price of the vastly more desirable and capable Commodore 64 had dropped so low that there was little point in buying a VIC-20 instead. As for the Adam… well, it never had a chance; by the time it arrived the war was largely over and the victor already determined. The Commodore 64 rocketed out of that Christmas the new center of the gaming universe, a position it would hold for the next several years. Yet all Sierra had to sell Commodore 64 owners were a few simple games ported from the VIC-20.[59]

Like Atari, much of the microcomputer entertainment software industry was sitting on piles of unsellable plastic. Capital expenditures on cartridge-distributed products were dramatically higher than those on disks—100,000 units on disk could cost $0.60 a unit, whereas the same volume for cartridges could be $10 a unit.[60] Bob Heitman, a programmer working at Sierra during this shortfall, articulated the consequences of such a disparity:

> So every publisher who went from disk to cartridge exposed themselves to the risk that the product they released would be a failure […] You cannot re-use that cartridge in any fashion whatsoever, the way they were manufactured, the way they were distributed, the way they were packaged, it was a complete loss. Software that was a failure in cartridge form was far more expensive, and less lucrative even if they were successful, because their prices were about the same.[61]

[59] Jimmy Maher, "The Unmaking and Re-Making of Sierra On-Line," *The Digital Antiquarian* (blog), July 18, 2013, http://www.filfre.net/2013/07/the-unmaking-and-remaking-of-sierra-on-line/.

[60] Bob Heitman, phone interview with author, October 4, 2013.

[61] Ibid.

But "The Shakeout" was also something that happened in layers. Atop misplaced expectation about what home computer systems would rise to the top, 1983 was when established corporate companies began to look at the microcomputer software market as a potential revenue goldmine. In his 1985 book *Software People*, Doug Carlston thickens the plots offered by Maher and Heitman:

> In 1983, the rumor that soon became common wisdom among software industry watchers held that the big corporations were going to move in soon, pay top dollar for the best products, put on an advertising display that would blow the cottage-industry folks out of the water, and dominate the industry by the end of the year.[62]

From 1982–83, corporations like CBS, Reader's Digest, and Simon & Schuster opened software divisions and published software at volumes intended for the "installed base" (the number of machines actually present in homes), while the software equivalent of literary agents began to broker deals between book publishers and the next "software superstars." Much of this software was sold through bookstores, a distribution pipeline that left the cottage-industry upstarts scratching their heads—they *knew* it would be a disaster to separate software sales from the specialty stores that sold hardware and knew it best. Furthermore, the "installed base" proved a naive method for predicting sales in 1983, as Carlston explains for the 1985 reader:

> So until independent software channels become the principal channels for the sale of software, the size of the real software market depends on the rate of sale of computers, not the installed base. And the installed base was going up every day in late 1983 and 1984. But the rate of software sales wasn't. For while the installed base increased, the *rate* of increase was decreasing, and since most software is purchased with the computer or soon thereafter, software sales are tied to the rate of computer sales, not to the number of machines that have already been sold.[63]

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[62] *Software People*, 224–25.

[63] Ibid., 230.

Thus the market became glutted with software in the strangest of places to the newest of consumers, a consequence of both inexperienced new industry players and cartridge overestimates by the cottage-industry companies that had fueled the initial market three to four years prior. Bankruptcy rippled across the country: most of the cottage-industry companies in the business bottomed out or were bought up. Sirius couldn't sell its remains even for $500,000, and eventually folded under bankruptcy.[64] Other companies evaporated like water in the economic drought: Adventure International, Muse, California Pacific, Edu-Ware, and *Softalk* were only shadows on the map of a once-frolicking scene.

Walking Around Objects

Ken Williams had played a smarter game than many, yet found his company as deeply underwater as the rest. He was preserved from sinking entirely under his cartridge losses thanks to a deal with IBM that offered a steady revenue stream. Slumbering Big Blue had poached the company to produce an exclusive line of software for their newest home computer, the PCjr.[65]

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[64] Ibid., 231. See also: Denise Caruso, "Software Gambles: Company Strategies Boomerang, Some Leading Software Companies Struggle to Stay in the Game," *Infoworld*, April 2, 1984, 80–83.

[65] While the PCjr was IBM's first effort to enter the home computing market, it was not the first microcomputer the company produced. IBM released the IBM Personal Computer in August 1981, and it quickly because the business standard; the company's long history and success with mainframes "legitimated the personal computer" for business users. However, at the cost of $2,880, the IBM Personal Computer was more than double the cost of an Apple II; it would

The highlight of this effort was to be an adventure game that would do for the next generation of computers what *Mystery House* accomplished three years earlier, a piece of software showboating the technology's 128K RAM and sixteen-color graphics. Ken tasked Roberta with the game design, and put six of his programmers behind closed doors. Apparently lightning can strike twice: *King's Quest* is generally recognized as the next significant technical innovation in adventure game design following *Mystery House*. The game was not merely illustrated, but *animated*; POV no longer static first person, but interactive third person (Figures 5.2–5.3). Ken Williams and programmer Jeff Stephenson hammered together a scripting engine that allowed them to establish priority for ascending horizontal layers of the screen and define moveable objects. In action, this meant the avatar, navigable with joystick or keyboard, could walk around objects, disappearing and reappearing just as a person would from our own field of vision if walking around a tree, over a troll bridge, or behind a life-sized gingerbread house. *Space* suddenly meant something in an adventure game, operating as a relation rather than a description. Want to look at that patch of clover? Get near it. Need to push that wicked witch into an oven? Hide behind a wall so she doesn't see you, then give her a shove when she bends over. Indeed, the game design went to great lengths to *assert* the significance of space and physical relationships in solving puzzles and developing a narrative. If the avatar was too far away from something, the game's AI commanded you to “get closer.” Stand in front of a rock that's supposed to roll downhill when you push it, and it will roll over you, killing you. The game reveled in a spatial puzzle logic that had never before been possible in text-based or static-image games that presumed everything in a given room was equally available and at hand. The little figure that players manipulated—“ego” to the programmers but “Grahame” to PCjr owners—

still be several years before IBM became a domestic standard. Campbell-Kelly, *From Airline Reservations*, 225–29.

was a surprisingly delicate mass of pixels in boots and a teal Robin Hood cap.[66] The game was also a significant development in Roberta Williams' craft as a game designer. The plot was simple but classic: gather three magical treasures to restore the kingdom of Daventry and become the king. The world Roberta mapped out was well-suited for the PCjr's enhanced palette and increased resolution—castles and forests, rivers and vales, beanstalks and underground dragon lairs. The puzzle design was also flexible and forking, as IBM had asked for a game with multiple solutions and replay value. It was *ADVENT* meets Grimm's Fairy Tales, in the charm of sixteen colors.

King's Quest should have been evidence of Ken Williams' command of installed base and rate of sale—if the platform took off, so would Sierra. But the PCjr held true to its nickname "Peanut," as that was just about how much IBM made off the platform—peanuts. The machine was underwhelming, looking pathetic next to the Macintosh and taking considerable flak for its buggy wireless keyboard and infamously awkward hard plastic "chiclet" keys that did not even have letters printed on them.[67] Sierra had never dealt with an actual production model of the machine, only prototypes and specs that would arrive to Oakhurst in lead-lined cases, and Ken had to drive to a ComputerLand to buy his own PCjr when the product was finally released in

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[66] In later releases following the PCjr version, the avatar's name was changed from "Grahame" to "Graham." This is always how this character is referred to in fan lore.

[67] Letters, numbers, and symbols were printed on the board, above the keys themselves, in a tiny low-contrast font. *PC World* online declared this the "Worst Keyboard of All Time" in a listicle from November 1, 2007. For other thoughts on the PCjr, see: Carlston, *Software People*, 233–34; Scott Mace and Paul Freiberger, "Industry Reacts to PCjr," *Infoworld*, November 21, 1983, 21–22.

March 1984 (only to have it stolen out of his car when he went to the movies).[68] *King's Quest* was innovative software for a platform going nowhere, and the game could not even be effectively ported because the the PCjr was the only home computer available that could meet the game's technical specifications (neither an unexpanded Apple IIe nor the Commodore 64, both running 64K, could handle the software). Sierra's venture capitalists extended the company more money only on the agreement that, as Carlston summarizes, "the company's valuation [was] cut to half of what it had been before *and only if the previous year's financing were recomputed at the new valuation too!* Ken was aghast."[69] Ken Williams reported that during this time he laid off 100 of Sierra's 130 employees, and "Roberta actually went to work as our purchasing agent, which really just meant explaining to vendors why we couldn't pay, and pleading for time so we could stay in business another few months, hoping something would go right."[70] A national crisis hit home in a flock of pink slips that must have struck the small town of Oakhurst with devastating force.

Company expenses may have been getting charged to personal credit cards, but Sierra On-Line held out long enough to ride the back of the next major 128K computer release: the Tandy 1000. The Tandy 1000 was the first of the IBM PC-compatible computers, and horizontally integrated with the Tandy Corporation's Radio Shack stores—in less populated areas around the country, Radio Shack could be the only computer supplier around for two hundred miles. Sierra strengthened their distribution channels with Radio Shack immediately, "meaning that *King's Quest* and other Sierra games stood almost alone on the shelves in many of these

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[68] Maher, "The Unmaking and Remaking," *The Digital Antiquarian*.

[69] *Software People*, 234 (emphasis in original).

[70] E-mail interview with author, January 25, 2013.

captive markets."[71] Sierra may have lost cabin pressure, but it didn't crash with the rest. Between the Tandy and the creeping sales of the 128K Apple IIc, the company stabilized its revenue enough to remain a contender in an industry it no longer recognized.

Conclusions

By some measure, "The Crash" is our historical inverse reflection of "The Origin"—it is a breakpoint that serves to mark something transformative, specific, and singular. If "The Crash" isn't quite a birth, it is often honored as the ashen ground on which video games would experience a resurrection in the hands of Nintendo. Our sense of game history has not stretched much over the past thirty years. In many game history timelines, "The Crash" is the only turning point of note: everything since has merely been "progress."

If this chapter does anything, let it smooth the jagged edge of this event with sanding statements of the obvious. Game history told this way is the history of an "industry" in the most constrained sense. First, this history regularly overlooks the disparity and diversity of how the many "industries of games" emerged, thrived, competed, collaborated, and ultimately negotiated this recession. Furthermore, it collapses the practice and culture of digital game play into the measure of corporate profit. In other words: people did not stop playing games—they just stopped buying them at rates capable of sustaining most companies' revenue needs. There was certainly enough software and hardware already in circulation to serve the installed base. Enhanced obsolescence has never quite been airtight: game magazines and fan letters indicate that players worked their way through some games four or five years after their initial release. Perhaps it was only ever a minority of players who fit the model of the all-consuming "gamer"

[71] Maher, "The Unmaking and Remaking," *The Digital Antiquarian*.

so iconically identified with contemporary gameplay.

Sierra On-Line's role in this is both direct and oblique. In mapping the tumbleweed travels of a single ad in the opening of this chapter, and flushing out Sierra's local, regional, and national scales of interactivity, we recognize that a generic sense of "the industry" forecloses other histories and internalizes an economic-progress logic. Similarly, the many ways we can configure the company's boundaries and component parts prove the necessity of thinking across and through spaces, locales, and regions to begin with. Video game history can be something other than the aggregation of monumental companies and specific games. Rather, there are a range of constituents holding "the company" in place, each of which might be traced according to its own shape. In a more lateral move, the following chapter, "On Gender," will fold in on where and how this historical category becomes tactile and meaningful (or material-discursive) in the history of the this tenuously conceived notion of a video game industry.

Chapter 6: On Gender

A Dedication: Remembering Roberta

On July 10, 2010, Phoenix Online Studios released the first installment of a game project begun ten years prior: *The Silver Lining*, a much-anticipated, no-one-ever-thought-it-would-really-happen fangame known colloquially around the online Sierra fan community as *King's Quest IX*.[1] A small corps of volunteers, fans who had grown up playing the original King's Quest games in the 1980s and '90s, produced the game alone; no one involved in *The Silver Lining* had ever worked for Sierra On-Line or knew the Williamses. The company was over a decade dead by this point, little more than a property to be managed and monitored by whatever company had bought the rights to Sierra's archaic intellectual and creative assets—Vivendi for a while, then Activision. It was partly fragile questions regarding who owned what—and what, exactly, was owned—that tied up the development of *The Silver Lining* for so long. Corporate rights holders wrangled over the permissibility of software designed by fans and given away for free, yet representing characters, settings, and narratives owned by a corporate entity protecting the viability of unknown financial gain from a game series it had no hand in originally developing. While Activision ultimately rescinded the two cease-and-desist letters they had submitted to Phoenix Online, this concession came with a requirement that the game not be branded "King's Quest."

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[1] Steven Totilo, "The Sequel They Had No Right To Make—Now Has A Surprise Twist," *Kotaku*, May 3, 2010, http://kotaku.com/5529809/the-sequel-they-had-no-right-to-make--now-has-a-surprise-twist; *Wikipedia*, s.v. "*The Silver Lining* (video game)," http://en.wikipedia.org/wiki/The_Silver_Lining_(video_game) (last updated June 28, 2014).

Legal obligations aside, there is no doubt as to the legacy this homebrewed fangame conjures. In true *King's Quest* fashion, the game launches the player on a quest of dire familial urgency. King Graham must set out on one last adventure, to break the hex that cast his adult children, Alexander and Rosella, into a mysterious, deathly sleep. Graham's journey takes place in the Green Isles, a setting fans would fondly remember from 1992's *King's Quest VI: Heir Today, Gone Tomorrow*. *King's Quest* had proven a surprisingly indomitable computer game franchise over the fifteen years since its inception. Its sappy royal family PG-rated soap opera narrative had thrived into an eighth installment by 1998, proving the series more steadfast than Infocom's *Zork* or LucasArts' *Monkey Island*.[2] *The Silver Lining* was intended as something of a palate cleanser to *King's Quest VIII: The Mask of Eternity*, the last game Roberta Williams ever designed. *Mask*, whose release coincided with Sierra's historic downturn, was much criticized in the fan community for adding RPG mechanics to a series long defined by its puzzle solving, and also for diverging from the royal family plotlines that had been the narrative glue holding

[2] *King's Quest* is, at this point, the longest-standing commercial adventure game franchise to maintain a consistent author/designer. Both the *Zork* series (begun by Infocom and continued later by Activision) and *Monkey Island* fluctuate in terms of authorship, development, and (in Infocom's case) publisher, and both have large release gaps, as publishers resurrected held properties to benefit from franchise fandom. In contrast, *King's Quest* games were regularly published only a couple years apart throughout the run of the series, and Roberta Williams was significantly ensconced as the lead designer in packaging and promotions. *Wikipedia*, s.v. "*Monkey Island* (series)," http://en.wikipedia.org/wiki/Monkey_Island_(series) (last updated June 26, 2014); *Wikipedia*, s.v. "*Zork*," http://en.wikipedia.org/wiki/Zork (last updated June 29, 2014).

together the previous seven games. *The Silver Lining* aspired to provide proper closure for a game series—and a game company—that fell apart before its swan song.

In this regard, *The Silver Lining* proves to be a game that knows its debts. Upon initializing a new game from the start of Chapter One, the illustrated menu screen turns to black. White text fades in, evoking a literary form rarely seen in the opening of a game: a dedication. The upper line emerges into readability, then the lower:

To Roberta…

And all those who dare to dream…

If Ralph Baer's wife Dena came to us lacquered in regret, a silent partner to her husband's legacy of patents and medals, Roberta's memory is one less haunted—but perhaps no less fraught. While many "canonical" game design figures have hastened to situate themselves in historical memory, Williams shows no interest in acknowledging the mantle of her legacy. Her implacable silence produces a confusing reflux of historical memory, in which Roberta Williams comes to be remembered—as long-time industry game designer Brenda Romero once put it to me —"sadly."[3]

When I began researching Roberta Williams, I assumed I would be writing about a figure systemically washed out of game history. While this is more or less true within the first-wave video game histories of the late 1990s and early 2000s, it would be hard to argue today that

[3] Brenda Romero made this statement to me at the First Annual History of Games Conference in Montreal, June 2013. She complimented me on a paper I gave on Williams, stating: "That was the first time I ever heard a history of Roberta Williams that wasn't sad."

Roberta Williams has been ignored within video game history.[4] In fact, she is undoubtedly the most frequently cited female game designer in video game history, as her body of work as a lead designer is more voluminous and high-profile than that of any other woman who worked during the 1980s and early 1990s. Williams' image circulates and recirculates in tide with increased fascination with video game history, a current rejuvenation of the adventure game genre and interactive storytelling, and debates regarding the status of women in the video game industry. Williams and her games have been the focus of countless fan memorials, blog posts, and listicles on women in game history; an NPR Marketplace segment (for which I was the interviewee); a moderately well-developed *Wikipedia* page; and full or partial chapters in game history books such as *All Your Base*, *Replay*, *High Score!* and *Vintage Games*.[5] Most recently, Williams and *King's Quest* were included on the "Timewall" of *XYZ: Alternative Voices in Game Design*, a gallery of work by woman-identified individuals working in games.[6]

Thus, it is not her forgetting which occupies the angles of this chapter, but the texture of her remembrance. One of the most telling features of Roberta Williams' historical function is how unerringly stable it has proved over the years. Nothing about Williams has been added or

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[4] Roberta Williams is not mentioned in *Supercade*. *Phoenix*, or *The Ultimate History of Games* (Sierra On-Line and Ken Williams are indexed in the latter).

[5] DeMaria and Wilson, *High Score!*, 140–43; Donovan, *Replay*, chapter 5; Goldberg, *All Your Base*, chapter 9; Loguidice and Barton, *Vintage Games*, chapter 11; Nooney, "Roberta Williams: The Mother of Video Games"; *Wikipedia*, s.v. "Roberta Williams," http://en.wikipedia.org/wiki/Roberta_Williams (last updated June 2, 2014).

[6] "Timewall: 1983, *King's Quest*," *XYZ: Alternative Voices in Game Design*, accessed June 10, 2014, http://xyz.lmc.gatech.edu/timewall.html#king.

revealed, reinterpreted or reimagined since she retired from the industry in the last years of the twentieth century, and there is a repetitious flatness whenever she is referenced today. For example, Williams' wall text from the *XYZ* exhibition describes *King's Quest* as “popular” and Roberta (along with Ken) as “one of the most influential designers in the history of video games,” yet provides no details to support any of these vague statements, and moreover, highlights none of Williams' actually definitive accomplishments.[7] The lack of actual

[7] Ibid. While wall text is always limited in what it can accomplish, the language does not provide a compact grasp of the game's history or significance. No mention is made of the fact that *King's Quest* was a notable technological development (which is arguably the primary reason the game was popular). Furthermore, the game is described as “an early adventure game in the classic 'sword and sorcery' genre.” Sword and sorcery is not an accurate identification (as the game includes no swords, and only a handful of opportunities to solve conflict through violence). Moreover, this misrecognizes the world-building which was so specifically iconic to *King's Quest* as a series: its strange blend of fairytale, mythology, and fantasy. The wall text states the game was followed by “several sequels” (a more accurate statement would be “seven”) and suggests that the game was remade because of its popularity. Presumably this is referring to the 1990 VGA point-and-click remake of the game, although these details are not given. Sierra's early 1990s VGA remakes were not produced because individual games were popular, but to capitalize on the overall popularity of a specific series by adding point-and-click, soundtracks, and enhanced graphics to make these games more appealing to a 1990s audience. In fact, the remake was actually poorly received by critics and was considered the destruction of a gaming classic. Sierra On-Line, “The Epic Adventures of the King's Quest Saga,” in *King's Quest Collection Manual* (Bellevue, WA: Sierra On-Line,

information, when compared with the frequency of her *citation*, feels paradoxical—as if we require nothing but her visibility to affirm her significance.

And yet, it is not true that there is nothing else to say. How have we never stated that Roberta Williams was the first female game designer producing solely for the microcomputer market, certainly in the United States, possibly in the world?[8] She was the lead designer of the first adventure games with both monochrome and color graphics (*Mystery House* and *Wizard and the Princess*, respectively, both 1980), as well as the largest adventure game ever made during the era (*Time Zone*, 1982, on six double-sided 5.25" disks), the first "adventurization" of a major motion picture (*The Dark Crystal*, 1983), the first adventure game with environmental "2.5-D" depth in which you could walk around objects (*King's Quest*, 1984), the first major graphical computer game with a recognizably human female avatar[9] (*King's Quest IV*, 1988), and the first major adventure game to use a live action person as an avatar (*Phantasmagoria*, 1995).[10]

1997), 4-6.

[8] In an estimation of true priority, Roberta Williams is not considered the first female game designer. That honor is typically given to Carol Shaw, who designed *3-D Tic-Tac-Toe* in 1980 for the Atari 2600 and the Atari 8-bit (hence my specification of "solely for the microcomputer market").

[9] *Super Mario Bros. 2*, which offered Princess Peach as a playable avatar, was released for the NES in 1987. To the author's knowledge, this is the only significant precedent for a graphical game with a playable human female avatar—although in *Super Mario Bros. 2*, Peach is offered as one of four avatars a player may select. In *King's Quest IV*, Princess Rosella is the only available avatar.

[10] Full motion video was a technique explored by numerous games in the early 1990s, following

Furthermore, the narrowness of game history's frame routinely fails to acknowledge Sierra's popularity among female players; based on registration card data submitted for *King's Quest IV*, Sierra estimated that 35–40 percent of that game's player base was female.[11] For a franchise that routinely sold half a million or more copies of a *King's Quest* game, this suggests that 200,000 of those players in the late 1980s were women—during an era when most game historians believe women didn't play games. Arguments of historical priority are hardly conceptually compelling, but these are also statements of the obvious, important not because they were first, but because a historical field so obsessed with firsts *has never thought to say them*.[12] I did not need to "find" new historical documents to make these claims. I simply had to look at them from a point of view that sought the logic of game history's silence.

This strange historiographical circumstance indicates to me that the useful question here

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the mainstreaming of the CD-ROM. *Phantasmagoria* was not the first game to use this technology, but was one of the first to capture footage of a live-action actress (Victoria Morsell) and implement that material for all avatar movement and functions.

[11] Cignarella, "Roberta Williams: Girls Just Want to Have Fun," 25.

[12] Historians of science and technology are enthusiastic critics of arguments based on priority, which often simply involve jockeying language to make a point (as I have done here, although with different intentions). As computing historian Michael R. Williams writes: "there is no such thing as 'first' in any activity associated with human invention. If you add enough adjectives to a description you can always claim your favorite." "A Preview of Things to Come: Some Remarks on the First Generation of Computers," in *The First Computers: History and Architectures*, edited by Raúl Rojas and Ulf Hashagen (Cambridge, MA: MIT Press, 2000), 3.

is not "Where is Roberta Williams in game history?" but rather, "Why is she there the way that she is?" In the same way that Sierra On-Line, as a company, has been widely misapprehended in the service of organizing a particular historical trajectory within a genre of video games, Roberta Williams has likewise been highlighted, dropped in, dropped out, mangled, and disjointed to make her fit into narratives of game history that demand her *visibility* within a larger ensemble of historical actors and her *coherence* in a trajectory of video game progress. It is a testament to the stickiness of Roberta Williams as an iconic figure, as some sweater-clad mom crafting fairytale games, that we have taken this as "all there is to see," swallowed the progress story whole, and moreover accepted her as a stand-in for the entire phenomenon of women's home computer use and their video game production and consumption. The longevity of Williams' career, her figurehead status within the genre, and her gender make her impossible to ignore. Yet the curious redundancy of her creative work, and the way her freedoms as a designer were knit up in being the woman "Ken Williams' timid wife," as Levy describes Roberta in his glossary to *Hackers*, has contributed to an inclination to avoid asking too many questions.[13] When we accept the flat read of Roberta Williams, we fail to ask: how did this woman—who did not actively program, who carried no institutional affiliations or interest in technical expertise, who essentially evaporated from the game scene not long after she published her last game—come to sit down, at a kitchen table of all places, and design computer games?

Although our explorations of "Origins" and "Industry" were buttressed by chronology, Williams as a phenomenon can't quite be pulled together by a row of events: the trouble of gender requires something else. Like the balancing act of the prior chapters—attempting to both "make" and "unmake" history in the same gestures—this history is one that comes together in

[13] Levy, *Hackers*, 13.

the act of its deconstruction. Three objects will organize our encounter herein, three scenes dropped out of time: a pedestal, a table, a love letter. They will each unwind components of a problem. First, how has Roberta Williams been made legible in video game history? Second, what is the critical point of emergence for Williams' design practice that video game history, game preservation, and materialist media studies have not been able to locate? And third, what did Williams herself believe she was doing when she designed games, and how was this represented to her fans? This assemblage of questions will carve out conditions of infrastructure and historical embeddedness that I could never twine together on a timeline.

A Pedestal: Historicizing Roberta

In September 1999, *PC Gamer* offered readers a front page feature on the twenty-five "Game Gods" responsible for "some of the most significant, influential, and, gosh damit, *fun* moments in computer game history."[14] Twenty years had passed since the era of the microcomputer broke like dawn over a then-ripening Silicon Valley, fertilizing tendrils of innovation, economic activity, and technological creativity the expanse of which could only be grazed in the preceding chapters. The industry had long ago parsed its "men" from its "boys," and now *PC Gamer* captured them in all their mature and mundane glory—taller, huskier, more seasoned and certain. It was a timely article in retrospect, one composed while the Old Gods still governed the sacred groves, just before the young bucks of an indie game scene would arrive claiming their own histories and desires, crafting their own canons, reveling in their emergent, homegrown sensation of games freed from the plastic husks and ludic expectations of yesteryear.

[14] Aaron Lauer, "Game Gods," *PC Gamer*, September 1999, 55.

Pre-ubiquity, pre-mobility, pre-games-as-personal-expression, “Game Gods” will prove a time capsule as the decades click on, perhaps like a Kodachrome film slide—only luminous when caught in projection from behind.

An interior full-color spread features the names and faces familiar to any game history aficionado: Sid Meier, Will Wright, John Carmack, Steve Meretzky, Richard Garriott, among others. A single goddess ripples this otherwise male assemblage: Roberta Williams. Awkwardly perched on a stool with her knees pressed together and her hands spread wide, Williams is easy to spot, caught in a moment of painfully staged *excitement!* at the prospect of being “together for the first time” with “the world's 25 greatest gamemakers.”[15] Many of her fellow Olympians seem equally uncomfortable, hamming it up for the camera under lackluster art direction. Yet the men who gag the scene point at one another or gesture to themselves; they lounge across each others' bodies on the plush set piece sofas. Warren Spector playfully ruffles what's left of Richard Garriott's hair. There's a quality of comfort and familiarity in many of these gestures, a physiological rendering of that oft-cited “boys' club” that continues throughout the single-page small group portraits that illustrate the feature's bios. Williams' photoshoot with Brett Sperry and Jordan Mechner is possibly the most awkward of those included; it is one of the only images where no one looks at the camera, and Williams herself is not even making eye contact with Brett as she catches his high five. In her stylish leather jacket and camel-colored cocktail dress, Roberta Williams looks uncommonly off point for a game designer who so frequently found herself in front of the camera.

It would have been a weird moment in the life of Roberta Williams. The article's bio on

[15] These statements are on the cover of the “Game Gods” *PC Gamer* issue.

Williams politely dodges Sierra's company status (it had been twice bought out by 1999). Sierra On-Line was little more than a label at this point, a crumbling sandcastle of its former ambition —a transformation that had been both swift and unexpected.[16] In 1998, Ken Williams had receded from the company management in the wake of a historic embezzlement scandal carried out by Sierra's new parent company, Cendent.[17] On the design end of affairs, 1998's *Mask of Eternity*, that eighth installment of Roberta's "popular and enduring" flagship *King's Quest* franchise, had been a creatively and managerially fraught production.[18] Williams sensed the era of the graphic adventure game was waning, that her last work had been out of her control, and both she and Ken felt the company had slipped from their grasp.[19] Her statements to *PC Gamer* promise a mere hiatus from the industry, a desire for time spent "with my family, surfing the 'net, and learning Spanish," followed by assurances that she "does plan to return to adventure game design after her sabbatical, however, and expects to do so online."[20] But the promise never came true, if it had ever been intended as truth to begin with.

What *PC Gamer*'s article so precisely illustrates is the core role Williams has long played —and continues to play—in video game history. It is a part her archival trace performs twofold, a body annotated with dual hashtags: #adventuregame, #femalegamedesigner. *PC Gamer*'s article functions as historical by gathering a kind of collective eminence in the individuals it

[16] John Williams, e-mail message to author, March 25, 2013; Ken Williams, "Who is CUC and Why is Sierra Part of its Family?" *InterAction Magazine*, Summer 1997, 6–8.

[17] Goldberg, *All Your Base*, 156–57.

[18] Lauer, "Game Gods," 75.

[19] Goldberg, *All Your Base*, 157.

[20] Lauer, "Game Gods," 75.

focuses upon, gathering each designer's individual point into a cohesive evolution of the video game medium. In this chronicle, Roberta Williams is subtitled "Adventure Gaming's Pioneer" in her individual bio, a dubbing that renders her simultaneously heroic and solitary (since pioneers, by definition, lead lives of isolated toil). And the framing of Williams as a pioneer in the adventure game genre is an appropriate reflection of her other notable status—as the lone woman of computer game history. She may have earned a right to sit amongst the gods in *PC Gamer*, by some objective measure of significance and longevity, but something about Williams doesn't fit in. Her very existence seems to prove the rule, substantiating the sort of claims made in Harold Goldberg's game history trade paperback, *All Your Base Are Belong To Us*: "[...] Sadly, no woman since Roberta has had such a long running impact on games and on game companies. Decades later, Sierra still represents the high point for women in videogames."[21]

Look again: hers is a body deeply out of joint in a historical narrative that traditionally locates its origins in the male-dominated camaraderie formed across subculturally "masculine" practices of tabletop gaming, hacking and coding, and technical mastery. Like other women of note who worked in traditionally male-dominated technological fields—easy analogies can be made to Ada Lovelace or Grace Hopper in the history of computing—Roberta occupies a *pedestal* more often than a *world*, functioning as the gender-balancing notch on a game history timeline that is more than happy to welcome her as an early one-off (and much-needed) representative of "women in gaming." In Williams' case, her "out-of-place" characteristics are largely reduced to her biological status as a woman. This move causes an evacuation of her particularity; reduced in this way, being female is all that proves particular about her. This way she may be merely a female game designer, unencumbered by the historical weight of that

[21] Goldberg, *All Your Base*, 158.

designation.

While many have lobbied for more "inclusive" or contextual history—from Erkki Huhtamo's call for "wider cultural framework(s)" to more direct feminist entreaties by Mary Flanagan or Anita Saarkesian—"widening" historical analysis has its methodological limits.[22] As a historiographical gesture, it cannot critically inquire into the ways gender is a material-discursive *infrastructure* that profoundly affects who has access to what kinds of historical possibilities at a specific moment in time and space.[23] The question of rigorously exploring gender as a historical category within game studies deserves better than a merely additive or contextual move of "digging up" a history of women and games. Gender dynamics in relationship to technological practices must address how spatial politics, technological and educational access, and social formations set conditions for who might find themselves available

[22] Mary Flanagan, *Critical Play: Radical Game Design* (Cambridge, MA: MIT Press, 2009), 225–26; Huhtamo, *Slots of Fun*, 4. Saarkesian's work in this regard is largely within the social sphere of the contemporary video game community. Saarkesian's series "Tropes vs. Women" is a broad overview of sexism within video game representation, and Pearce regularly engages with questions of feminism.

[23] While there have been a handful of essays on gender and game history, they remain largely in the realm of the propositional, and were published before the rising tide of video game history brought more sustained attention to historical practice. See: Raiford Guins, "'Intruder Alert! Intruder Alert!' Video Games in Space," *Journal of Visual Culture* 3, no. 2 (2004): 195–210; Henry Jenkins, "'Complete Freedom of Movement': Video Games as Gendered Play Spaces," in *From Barbie to Mortal Kombat: Gender and Computer Games*, edited by Justine Cassell and Henry Jenkins (Cambridge, MA: MIT Press, 1998), 262–97.

to games as a medium to begin with.

Thus, the issue isn't that we must "better account" or "tack Roberta on" to preexisting chronicles of "firsts," Wikipedic lists of significant designers, or, possibly most damaging, a history of famous women in gaming. Video game history already does this very frequently in relation to histories of women and games, addressing the relevance of marginalized identities and historically specific subject positions through an "additive" move, as in: "Oh, let's add women on. Let's put them back in." Women habitually emerge as participants in game history as outliers, canonized in a short array of individual names: Dona Bailey; Carol Shaw; Roberta Williams; Brenda Laurel; Jane Jenson. Such additions do little to address the very methodologically systemic reasons that figures such as Roberta Williams, and the lifestyles of play they helped engender, come to be overlooked to begin with.

This is the curious things about pedestals: in the attempt to bring something up, they often set it aside. Any inquiry into Roberta Williams usefully begins here—not with who she is, as if we know, but how her historical materiality arranges certain kinds of stories, typically about invention, genre, and when and where women are relevant to this history. These stories, in turn, do a materializing work: they instruct us on the order of things, frequently damning our capacity to imagine a history outside its rules and measures. The failure to make sense of Roberta Williams, outside of a remarkably narrow frame, should be the indication that sense-making in the discipline of game history might actually constitute the very bodies we believe we make visible. In other words, there have always been more girls to game history than Roberta Williams —we just have not always known where to find them.

A Table: Locating Roberta

Somewhere that was not quite a beginning, but was certainly a start, there was a table. In the late months of 1979, Roberta Williams sat down at this table, a kitchen table, and began to design a computer game. The design contained no code, no IF/THEN statements, no sense of how the game she wrote would function on a computer. Williams was not a programmer; she was a twenty-six-year-old housewife and mother of two. She had, from the years before her time as a mother, some experience as a computer operator, although it seems she never much took to it; seven years later, she would claim she "didn't even know how to plug a computer in."[24] But if not a programmer, she was, by her own admission in later interviews, obsessed with playing games. As she put it in 1983: "once I started playing it I realized I'd been waiting my entire life for something like it."[25] Williams entrenched herself within *ADVENT*'s gameworld. As she confessed to Steve Levy: "I just couldn't stop. It was compulsive. I started playing it and kept playing. I had a baby at the time, Chris was eight months old; I totally ignored him. I didn't want to be bothered. I didn't want to stop and make dinner."[26] In a 1983 interview in *Family Computing*, Williams expanded this particular portrait of motherhood: "I was up until three or four every night. I wasn't cleaning the house. I wasn't taking care of the kids. I would even go to bed thinking about how I could get past the dragon!"[27] In later years, this admission of obsession would typically drop from Roberta Williams' self-accounting—only in her earliest interviews

[24] Albert et al., "Smithsonian," 9; Ken Williams, "A Message from the President," *Sierra News Magazine*, Summer 1990, 3, 35.

[25] Delson, "A Young Girl's Fantasy," 67.

[26] Levy, *Hackers*, 296.

[27] Delson, "A Young Girl's Fantasy," 67.

does she admit to such afamilial loyalties. When the reign of *ADVENT* ended on Holbrook Road, Williams played other games, but was left unimpressed: "[...] I tried to find other good adventure games, but they didn't add up to what I thought they should be, so I figured I'd try and write one of my own."[28]

In the corpus of video game history, *Mystery House* is typically regarded as the gawky predecessor of a beloved genre, a game largely—and merely—honored for its status as a "first." Populist video game histories consider *King's Quest* Sierra's more substantial early contribution; the turn to *Mystery House* is almost always retrospective, a glance at the company "before" the hit, "before" they defined the genre, "before" adventure gaming was never the same.[29] Scholarly researchers, on the other hand, are often lured by *Mystery House*'s awkward mash-up of text and image, its stifled parser, its drunken graphics—and a particular fascination with the game as a digital object. There's Nick Montfort, Dan Shiovitz, and Emily Short's *Mystery House Taken Over*, a project that reverse-engineered the game's code to offer a cross-platform kit allowing others to mod the game.[30] In 2008, *Mystery House* was selected as a Preserving Digital Worlds White Paper case study, notable as "the first work of interactive fiction to employ computer

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[28] Ibid.

[29] While many companies produced static, illustrated graphic adventures, *Mystery House* is the only one of these games ever discussed in video game history. This graphical first universally stands in for the entire history of pre-*King's Quest* production in the genre.

[30] The historical information provided on the project website about *Mystery House* itself is the standard generically available information about date of release and sales volume. Nick Montfort, "About," *Mystery House Taken Over*, accessed July 3, 2014, http://turbulence.org/Works/mystery/about.php.

graphics as a significant part of the game."[31] Matthew Kirschenbaum dedicates forty-eight pages of his 2012 monograph *Mechanisms* to the "born digital object" that is *Mystery House*'s disk image.[32] Yet he also describes the game itself as a simplistic "novelty," of interest only to collectors of ludic curiosities.[33] But on what grounds do we say that Roberta Williams' *Mystery House* was "born digital"? Or, put differently: what other materialities, affects, objects, and practices do we have to ignore to invest in the digital status of this game, and what other histories do those components draw together? For all the attention granted the digital materiality of *Mystery House* (as interactive fiction to be hacked, a programmatic experience to be preserved, a disk image to be scoured), there has been little corollary interest in the game's material "born analog" conditions. In other words, *Mystery House* is not regarded as much of a mystery in and of itself.

Yet what could be less digital than the table the game was made on, a veritable "platform" for the game's production? This table was not just a thing in space, but also in time: Roberta Williams sat down at her kitchen table, not just once but many times over, and she wrote and she sketched. Relatively little is known about the processes through which Roberta produced her initial game design; few of her interviewers took much interest in the tactile details of her design process. According to Ken Williams, Roberta designed at the kitchen table for lack of any other work surface in their Simi Valley home: "We didn't have much. It wasn't like there was a desk anywhere in the place."[34] But a comment in Roberta's notes to *The Roberta Williams*

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[31] McDonough et al., *Preserving Virtual Worlds Final Report*, 5.

[32] Kirschenbaum, *Mechanisms*, 114.

[33] Ibid., 129.

[34] Phone interview with author, October 8, 2013. The exact state of the Williamses' finances is

Anthology draws a line to different details: "I sat down at my kitchen table and mapped out my own adventure while watching the kids DJ (7 at the time) and Chris (just a year old)."[35] So was Williams designing a game, or watching her children? If Williams' earlier testaments depict a mother chained to the teletype while dishes piled up and children went untended, this spatial shift instantiates Williams in a more sustainable location for a mother of two. A baby can be ignored from within a spare bedroom, where Roberta Williams first played *ADVENT*; one can be a better mother from a kitchen table, even if what one makes there may not be a meal.

The table is a surface we should dilate upon, for its material and affective significance, and because: something happened there, in a setting that could have been nothing but utterly, exhaustingly familiar. Roberta Williams' moment of designing *Mystery House* is often historicized in such a way as to illustrate a fracture between the past and present of game history, between the smooth continuity of history, the "implicit density of the already-said" as Foucault articulates it, and what we retrospectively historicize to prove how, Foucault again, "consciousness awoke from its successive slumbers."[36] In this regard, Roberta Williams' gender and the domestic origin of her game production have often been told as the dramatic rupture categorizing the epic moment of *Mystery House*'s design. Yet if we start with the table and not with the game, *Mystery House* is precisely the opposite of a dramatic fracture with the past.

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difficult to discern; Ken stated to me that they were financially comfortable. For Steven Levy's impressions of their business and financial status prior to On-Line, see *Hackers*, 228–94.

[35] Roberta Williams, note in *The Roberta Williams Anthology Manual* (Bellevue, WA: Sierra On-Line, 1997), 13.

[36] Foucault, *The Archaeology of Knowledge*, 142, 141.

Rather, it is about what was most everyday for Roberta Williams, what was not simply a context but a material instantiation, her self's most intimate horizon of possibility and imagination: home.

Mystery House was set in a "large abandoned Victorian house"—as far as I can locate, the first case of a game taking place *in a domestic setting* (Figure 4.1). Thematically inspired by the board game *Clue* and Agatha Christie's *Ten Little Indians*, the game is propelled by a pair of narrative dilemmas: cryptic notes allude to unknown riches hidden somewhere within the body of the house, while the house's seven stick figure occupants start showing up dead (Figure 4.2).[37] Successfully traversing *Mystery House* requires both locating the treasure in the basement and shooting the killer in the attic. *Mystery House* contains neither the compelling, controlled narrative suspense of a Christie classic, nor the deductive reasoning mechanics of *Clue.*[38] Rather, the game requires the player to navigate domestic space and utilize mostly everyday objects to reveal secrets that exist beneath and beyond the immediately visible architecture of the home.

[37] Descriptions of each character, including their name, hair color, and occupation, are provided in the game's instructions, which the player has the opportunity to read before starting the game. However, this knowledge is largely irrelevant; it does not help the player to succeed in the game, only perhaps to deduce the killer, Daisy, prior to locating her in the attic. The characters die in no particular order; it is clear that the game was programmed with the images of the dead bodies already in the rooms, so order of death is determined by the order in which the player finds the bodies.

[38] Players are never asked to guess the killer; the game hardly contains enough narrative or contextual clues to warrant deductive reasoning, and furthermore the player is never asked to hazard a guess. Infocom's *Deadline* is a more exceptional effort at producing a detective/whodunit game.

The home of *Mystery House* is a space of unexpected distance and dislocation; because of the difficulty of drawing south or bottom-screen doorways with the vector-based Versawriter the Williamses used, some rooms flip cardinal directions, and the stairwells, secret passageways, and trapdoors often defy logical spatial relationship (Figure 6.1). The kitchen itself is a crucial locale, the site of three puzzle-solving objects and the secret entrance to an underground pathway that can be found only by smashing a wall with a sledgehammer (Figure 6.2). The imagination of *Mystery House* rests in neither the treasure nor the murders, but in what extends the space of the home, how everyday objects like butter knives and pitchers of water allow one to traverse the flesh of walls.

While most games, up to that historical moment, posited their ludic experiences in visions of outer space, fields of physical play, or fantasy caves and dungeons, *Mystery House* does not share the genealogical investments in space and military research, tabletop gaming, and science fiction enthusiasm that concretized male affinities, affects, and practices around game-making. Roberta Williams' momentous act of designing *Mystery House* was actually all about what was already familiar to her, a reminder that, as Sara Ahmed posits in *Queer Phenomenology*, "space is dependent on bodily inhabitance," and that the site of historically male game production should not be apprehended as materially neutral "context."[39] *Mystery House* signifies where spatial and temporal orientations coalesce, wherein the daily practices of a life accumulate into what becomes "familiar," "accessible," "comfortable," or "at hand."

If we begin with the table and not with the game, we encounter a history whose circumstances of arrival are gendered in immutable ways, a history actionable long before we

[39] Ahmed, *Queer Phenomenology*, 6.

can even speak of a digital object being "born." The more we absorb the domestic conditions of Williams' game production, the harder it becomes to ignore the salience of her environment as part of the material condition of her game production. The kitchen table isn't a "context" for her production—it is the ontological condition *of* that production. Furthermore, as this exploration suggests, video game history should not imagine space as a "fixed" context into which fall "stable" technologies and "known" bodies. What is often emphasized in video game history is the ingenuity of those who resided in specific labs, rooms, or basements. Rarely do we name this for what it is: a cultural *practice* sustained by specific traditions of access, community formation, and peer socialization. We do not attend to what the walls have been structurally designed and socially coded to let in or keep out. Indeed, these archetypes for game production are so commonplace that other trajectories and pathways cannot be meaningfully accounted for. Boundaries are fuzzy, borders unkempt. The co-relational character of space as a political context of play, of production, of creativity, of technological use, is itself constitutive of the very categories that produce subjects within the history of games. This table and everything that flows from it—domestic duties, maternal obligation, marital relations, a complicated relationship with computing technology—exist outside the history of video games and yet are clearly part of that history.

A Love Letter: Reading Roberta

> In 1987, Elizabeth Hood wrote a love letter to Sierra On-Line:
>
> Dear Sierra,
>
> This is a love letter, pure and simple. […] I do not fit the typical profile for adventure gamers. I am a 45 year old woman, who works for LL Bean as a telephone

> order representative part of the year and travels with her husband the rest of the time. I use the computer in my work for LL Bean. I write (free lance) when I travel, using my home computer primarily for word processing. I love adventure games. Like Roberta Williams, I have always been an ardent reader. I enjoy Shakespeare and Agatha Christie equally well. […] I am addicted. There seems to be no known cure. I hope no one ever finds one. Please continue to create forever. […] Thanks for everything, especially giving me an opportunity to say how much I love you.
>
> Forever yours,
>
> Elizabeth Hood.[40]

Elizabeth Hood thought she did not fit in. Her connection to Sierra games, and to Roberta Williams, follows a path that has no origin in the formation of video game histories as we have organized them thus far. "Like Roberta Williams, I have always been an ardent reader." Elizabeth Hood felt she knew what Roberta Williams was about, and saw a reflection of herself there. Roberta Williams was no game god, even in her heyday. Not an idol or a deity. Her design skills were not ones of coding "wizardry" or the rapture of the hack. She described her design habits as beguilingly everyday: they were readerly.

If Elizabeth Hood did not much identify with the typical profile of a game player, Roberta Williams did not much identify with the profile of a game designer. As early as 1981, she was associating her craft with writing and literature, rather than programming and gaming, and by the mid-1980s called herself a storyteller, an author, a director—anything but a game designer.[41] In a 1993 *USA Today* article, Williams reported, "I hate the term 'adventure game.' It's so archaic. I

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[40] Elizabeth Hood, letter to the editor, *Sierra Newsletter* 1, no. 2 (1987): 14.

[41] Albert et al., "Smithsonian," 11; Delson, "A Young Girl's Fantasy," 68; Roberta Williams, "Winning Strategies," 7.

really think of them as interactive stories."[42] This was a trajectory that tied her to the narrative and world-building fantasies of a childhood spent daydreaming and tale-telling, and situated her adventure games within modes of consumption she was familiar with as a non-programmer. In one of the few deep accounts of Roberta Williams' childhood, Steven Levy writes:

> There was a dreamy quality about her, and her doll-like brown eyes, long brown hair, and frilly, feminine wardrobe—bell sleeves, suede boots, Peter Pan collars—indicated that this was a woman who'd had a childhood rich in fantasy. In fact, Roberta Williams' early daydreaming had taken on almost supernatural proportions. She had always pictured herself in strange situations. At night she would lie in bed and construct what she referred to as "my movies." One night pirates would kidnap her and she would devise elaborate escape plans, often involving some dashing savior. Another night she would be in ancient Greece. Always dreaming of things happening to her.
>
> Daughter of a frugal agricultural inspector in Southern California, she was painfully shy, and the relative isolation of her rural home reinforced that. "I never really liked myself," she would later reflect. "I always wanted to be someone else."[43]

According to Williams, her voracious storytelling was regarded as lying by her parents and neighbors, at least on some occasions.[44] Coming of age in rural California, Williams' creative habits never took the shape they would for the young men who became her eventual peers in "Game Gods," many of whom grew up in a social culture of tabletop role-playing and computer access.

Thus, Williams' relationship to gaming, especially as an allied professional subculture, was always conceptually strained—although there is no evidence this concerned her in any way. She did not socialize or seek mentorship from other designers in the broader industry, nor did she collaborate with producers in other media forms to better envision the future of interactive

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[42] David Landis, "A Genre Built on 'Mystery House,'" *USA Today*, May 27, 1993.

[43] Levy, *Hackers*, 295.

[44] Delson, "A Young Girl's Fantasy," 66.

storytelling. By all accounts, Sierra On-Line was the range and limit of her creative expanse. Yet despite her disidentification with gaming as a professional scene, she was extremely invested in her games as successive technological achievements—even though she had little trained understanding of what any given technology was capable of on a programming level. Williams privileged efforts of visual and auditory immersion and world building, often expecting significant enhancements from one release to another. As Ken recalls:

> She really was interested in pushing the limits. And in some ways it was always frustrating for me because I'd work really hard and build some cool technology for her and she'd do a game and she'd go to start a new game. And I'd say "Well, you've got lots and lots of additional games that could be written with the technology you already got, why do you want to make my life miserable?" And she would make my life miserable, yeah, cause she would be like "Well, you know, the game is black and white, how do we get color?" or "The game has beeps and boops, how do we get a song?" or "People don't like typing, how do we do point and click?" So with every game, she wouldn't really do the game until she could figure out what was new and interesting. All the other designers [at Sierra] pretty much were interested in using the technology she had and moving it into other categories or other kinds of designs.[45]

It was not uncommon for Williams' design requests to demand extensive reworking of game logics on the part of the programmers she worked with.[46] Whereas many game designers used their technical skills as the foundation for their game design, Williams had no such practical limitations on what her imagination could create. As a designer she prioritized the big picture, the scale of the narrative and visual experience—a point of view mirrored in her design practices, whether mapping on the back of wrapping paper or filling pages and pages of legal pads with

[45] Phone interview with author, October 8, 2013.

[46] Bob Heitman, phone interview with author, October 4, 2013.

handwritten lists of mythic, fantasy, and folkloric scenarios.[47]

Williams' role as author/director materialized in the marketing of games themselves. With the 1987 rebranding of the first three *King's Quest* games—originally published in 1984, 1985, and 1986, respectively—and the impending 1988 release of *King's Quest IV*, Williams' image first appeared on the back of the game boxes.[48] Beyond this photo, the game is literally "authorized" by the reproduction of Roberta's signature on the front of the slipcase, alongside the sales count. Reinforcing this remnant of the artist's hand, the back of the slipcase identifies Roberta as the "bestselling authoress" and "the reigning queen of adventure gaming." All of Roberta Williams' future games followed this style, including *Colonel's Bequest*, *Mixed-Up Mother Goose*, and her opulent gore-fest, *Phantasmagoria*. *King's Quest V* and the many iterations and re-releases of her other games were identified on the box cover as "by Roberta Williams," the sort of dubbing that put Williams in the category of "Sid Meier's *Civilization*." The game manual for *Colonel's Bequest* describes it as "A Play by Roberta Williams," and the game itself uses the progression of eight "Acts" to mark plot advancement.[49] This quality of

[47] John Anderson, "The Dark Crystal," *Creative Computing*, March 1983, 168–74. The Ken and Roberta Williams Collection at the Brian Sutton-Smith Library and Archives of Play at The Strong Museum of Play includes Roberta Williams' hand-written game notes in its holdings.

[48] While this was the first time Roberta's image appeared on the back of a slipcase, she was not the first Sierra designer featured in such a way. The designers of Space Quest, Mark Crowe and Scott Murphy (known as The Two Guys from Andromeda), were featured on the back of the 1986 game *Space Quest: The Sarien Encounter*, wearing their characteristic red mohawks and pig snout masks.

[49] Marti McKenna, *The Roberta Williams Anthology Manual* (Coarsegold, CA: Sierra On-Line,

deliberate authorialism reaches a fever pitch with the 1996 *Roberta Williams Anthology*, which was very likely the first release of games encompassing the work of a single designer. The front of the box includes Williams' face from three different angles—frontal, three-quarter, and profile—in varying states of pixelation and transparency, surrounded by classic objects of adventure gaming, such as an hourglass, wings of flight, a crown, and an antique door handle and key.

Williams' face on the game box resonates with the complex intersections sutured by Hood's letter: the sociocultural features that distinguished women from more commercially represented gameplay subcultures, the significance of both workplace and domestic access to computers as a prerequisite for women's play, and the tie to older traditions of women's leisure reading. What Roberta Williams represented in this capacity was a technological imaginary in which one could compute and game safely from the perch of domestic space. Williams was a frequent recipient of letters from mothers enthused by how the computer, as opposed to the television, actively engaged their children and circumvented what Williams referred to in interviews and writings as "potatoism"—passive, sedate image consumption. A "Letter to Our Friends" pamphlet distributed in 1988/89 game boxes penned by Williams discussed the dangers of television consumption, especially by families. The epistle details her commitment to ending "couch potatoism" through the "fantastic interactivity of computers," which are "mentally stimulating" compared to TV's tendency toward "passive" viewing. Roberta asks her readers to help send TV the way of the 8-track player through Sierra's "viable entertainment alternative," and promises to "make television obsolete in our lifetime." A fan letter attested: "The kids almost never watch television now. They're always playing *Wizard and the Princess*, or one of your other computer games. They think the television is boring because you just sit there and

1989).

watch it. They say it doesn't challenge them, and it's just not fun anymore."[50] Whereas 1980s gaming has typically been historicized as a pressure point between parents and children, Williams leverages gaming as a thoughtful curative to a couch culture of media absorption, and one to be practiced within families. Even beyond gaming, this spirit was a nexus of spatial and technological relationships. Much as Margot Comstock had insisted that *Softalk*'s role was to help people feel that computing was a respectable and pleasurable activity uncoupled from anxieties about nerdish obscurism or anti-sociality, the iconic function of Roberta Williams was to instill a sense of computing and gaming that was everyday, uncomplicated, and set apart from cultural concerns regarding video game obsession.

The overtones of such gestures are consistent with the public persona Williams carved for herself at Sierra On-Line, and which Sierra On-Line, in turn, spun outward to its fans and consumers.[51] Williams was almost always photographed at home or in a domestic setting, was rarely depicted with a computer, and never wore a suit or professional attire. Instead, Williams posed before scenic forest backdrops within the very landscape she lived in, lounged in wicker or wooden chairs, and dressed in her own clothes, whether they were voluminous neon T-shirts or

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[50] Ken Williams, "Our Success Comes from Ten Years of Reading Your Mail," in *Tenth Anniversary*, promotional catalog (Coarsegold, CA: Sierra On-Line, 1989), 5.

[51] Sierra On-Line had a special knack for heading its design teams with particularly novel stock, each with their own visual and tropic personalities: *Space Quest*'s costumed galactic adventurers Scott Murphy and Mark Crowe, known as "The Two Guys from Andromeda"; *Police Quest*'s California Highway Patrolman cum game designer Jim Walls; and puny pervert Al Lowe, the creepy-uncle-everyman who designed *Leisure Suit Larry*.

cozy cable-knit sweaters.[52] What the images of Roberta Williams expressly made manifest was a vision of domestic and professional labor, family togetherness, and gaming practice that was comfortable, accessible, and friendly without being fanatical or technical.

Is this an anomaly, a pedestal particular to Roberta Williams, or might all this strangeness be not so strange? Elizabeth Hood, Williams' publicity photos, her stalwart disinterest in following the scene: in their shadows, these things nod to a type of play, and a type of player, that has heretofore had no traction in video game history. They express a lifestyle of play that was quotidian even if enamored, enthralled but not quite in the mode of the all-consumed "gamer." After all, even Elizabeth Hood carried other attachments: a life of travel; a husband; an employer she identifies twice by name. Maybe her perception of her ill fit was more perceptual than actual, as there was no practical way for her to know who was playing these games—or for us to know either. Gaming and computing in domestic space is a more subtle phenomenon than the one that our master narratives claim memory over. The historiographical effort of trying to sort out the question of who was playing games tucked away in closet corners, tapping keyboards in attics, by furnaces, or under the stairs—all strange sites people have confessed to me—this is a task beleaguered by this gap of time and disidentification: how many threads must I weave to claim I've patched a hole, and how far can I stretch anecdote before its elasticity gives?

[52] This mode of representation was not simply about Williams being female. Rather, she was one representation. Sierra's other female game designers played up the roles that suited them: Christy Marx donned a forest green "merry men" outfit, complete with a bow, on the back of *Conquests of the Longbow: The Legend of Robin Hood*; Lori Ann Cole was occasionally illustrated in cosplay with her husband Corey on the back of *Quest for Glory* game boxes; and Jane Jenson used a sensible authoress headshot throughout the *Gabriel Knight* series.

A Silence: Failing Roberta

You may have noted that one silence haunts this chapter throughout: Roberta's own. For the past fifteen years, Williams has receded beneath the sand, increasingly turning down interview requests and largely refusing to dialogue with fans. Roberta Williams has been silent about Sierra On-Line now for almost a decade, with the exception of some anomalous video interview footage garnered by a greenhorn film production company with the dubious recognition of running a twice-failed Kickstarter to fund a Sierra documentary. Molotov Angel Productions launched a Kickstarter in the early summer of 2012, and sought to raise $40,000 for a documentary called "So You Want to Be a Hero? The History of Sierra On-Line."[53] The Kickstarter raised only $1,312 of its initial goal, largely due to Molotov's lack of actual promotional footage, suspicion regarding the qualifications of the filmmakers, and the utterly unknown status of the documentary's lead member, Luke Yost, within the Sierra fan community. Seemingly unfazed at experiencing the Kickstarter equivalent of being tarred and feathered, Molotov retrenched for a second attempt in mid-summer of 2013.[54] In the interim, they had

[53] The Sierra documentary is the company's first (and it seems only) project, although there has been no status update on the project since the second failed Kickstarter. Molotov Angel Productions, *Molotov Angel Productions*, http://www.molotovangel.com/; Luke Yost, "The History of Sierra On-Line," *Kickstarter*, last updated June 7, 2012, https://www.kickstarter.com/projects/772847014/the-history-of-sierra-on-line.

[54] They gained more support, but the funding threshold had been raised to $125,000, which again caused suspicion among backers. Lack of funding transparency caused a complete breakdown among the backer community, and prominent members of the fan community

garnered a significant amount of amateur footage of Sierra alumni, including an interview with Roberta Williams.

Twenty-one seconds of this footage was cut into a trailer for "Heroes: The History of Sierra On-Line," the first new audiovisual material any fan had witnessed of Roberta Williams possibly since the 1990s.[55] Williams had initially refused to participate in the documentary effort, but yielded to pressure from both Ken and the documentary's creator/producer, Luke Yost. "[...] Both he and I worked on her to do the interview," Ken recounted on the Kickstarter's comments page. "She grumbled a lot, but agreed. I got in trouble later for 'hoodwinking' her into doing the interview, which is funny, because I know she enjoyed doing it."[56] Roberta can only be encountered through this complicated conduit of Ken, a push-me-pull-me of husband-and-wife relations. In personal correspondence, Ken explains her reason for this avoidance as part of a personality not prone to dwelling on the past: "She is saying 'I don't do Sierra anymore.' […] She

turned against the project. The Kickstarter closed August 5, 2013, raising only $28,872. Luke Yost, "The History of Sierra On-Line through a Documentary Film," *Kickstarter*, last updated August 5, 2013, https://www.kickstarter.com/projects/772847014/the-history-of-sierra-on-line-through-a-documentar.

[55] It should be noted the Roberta Williams made an anomalous photographic appearance in 2012 to support two Sierra On-Line alumni, *Space Quest* designers Scott Murphy and Mark Crowe, in their Kickstarter to make a *Space Quest* style adventure game titled *SpaceVenture.* Murphy and Crowe posted it on the *SpaceVenture* website to help raise support for the Kickstarter (http://guysfromandromeda.com/wp-content/uploads/2012/06/Roberta_001.jpg).

[56] Ken Williams, July 3, 2013, comment on Yost, "The History of Sierra On-Line through a Documentary Film."

doesn't like looking backwards, and has moved on to other things."[57]

In her moment, Roberta Williams had it better than most women could have dreamed: endless creative space, expansive budgets, the technological resources to will her fantasies into the world again and again and again. Yet what proves most "significant," in the longer rotation of history, may not be Williams herself so much as what "the story of Roberta Williams" elucidates about video game history as an intellectual and cultural practice, and the way the rationalization of her biography maps the structure of video game history's many silences.

Video game history's account of Roberta Williams is marked by its silences. It has made sense of her by putting her on a pedestal, elevating her but also setting her to one side, treating her as an anomaly. In doing so, that history omits the key to her work as a game designer: the deeply gendered circumstances that informed her creative vision and her creative practice. The kitchen table and what it represents—domesticity, motherhood, marriage, technophobia—have no place in video game history as we tell it, yet they play a significant role in that history. Something is missing. Roberta and the fans of her games identify themselves not primarily as "gamers" but as ordinary people who enjoy playing games. Their mode of self-description points us again to another side of game history, one that is not obsessive and technical but enthusiastic and story-oriented. It turns out that Roberta Williams appears out of place, not because she does not belong in video game history, but because video game history has nowhere to put her. For all that game history renders Williams significant mostly in her marginality, there's actually nothing marginal about her. Roberta Williams is dead center in a history we don't know how to tell.

[57] E-mail message to author, October 30, 2013.

“The confusing thing about most mazes is that all places look or seem alike. So, no matter what direction you go, you don't know where you are, where you've been, or where you are going. That makes mazes impossible to map, unless you can make each place look different. The answer to this problem is really quite simple: drop objects along the way.”

—Roberta Williams

“Winning Strategies for Adventures”

The On-Line Letter, June 1981

Chapter 7: Inconclusions

In the fall of 2012, I traveled to Copenhagen to give a talk on Roberta Williams at the annual conference for the Society for the History of Technology, as part of a panel on the cultural origins of personal computing. After my talk, a woman came up to me, a social scientist who had no disciplinary ties to the history of computing, and told me she had attended the panel just because she saw the name Sierra On-Line in the title of my paper. She had played Sierra games as a child. She thanked me for my paper and eagerly recollected with me. We traded memories of scenes and puzzles, then went our ways for the next session. The following day, this woman approached me again, letting me know that she'd been reminiscing about *King's Quest* games all night. And then she told me something striking: "I never realized I was a gamer until now."

This statement hung with me. The day after returning from Copenhagen, I gave my regular Sierra On-Line guest lecture in my advisor's video game history class. Halfway through, a female student raised her hand and told me that she and her mother used to play Sierra games together. But when Sierra stopped making them, she said she and her mom "just went back to reading books." I asked her age. She was thirty—roughly the same age as me, and the woman I spoke with in Copenhagen. Then, a few months later, I located an obscure 1987 archival group interview in the holdings of the Smithsonian, a one-off video documenting original members of the early 1980s Apple II scene, including Ken and Roberta Williams, Margot Comstock, Jerry Jewell, Doug Carlston, and Dave Albert of Penguin Software. A certain section caught my attention:

> EKLUND: What had been your experience, Roberta, with computers before you and Ken bought the Apple in—was it '79?

> R. WILLIAMS: It was January 1980.
>
> EKLUND: 1980.
>
> R. WILLIAMS: It was right after Christmas of 1979. My experience with computers was really pretty limited, and even to this day, I'm not a technical person at all. I don't feel comfortable with computers. I don't even know how to plug a computer in, you know. I don't know why I'm in this industry. [Laughter] But my experience—I did learn how to program a little bit in COBOL.
>
> EKLUND: What made you want to do this game? Were you like Margot [Comstock]?
>
> R. WILLIAMS: A computer fiend?
>
> EKLUND: No, not computers. Just a game player.
>
> R. WILLIAMS: A game player. I don't even consider myself a game player. I must be very unusual, because people look at me and say, "You don't look like a computer nerd, you know, or anything like that." I don't program, and I'm not technical, and I'm not even a game player. So you know, everybody says, "Well, what are you doing in this industry?" [Laughter][1]

The laughter feels more nervous than brackets can express. *"What are you doing in this industry?"* Jon Eklund, her interviewer, doesn't know what to call her. Eklund and Williams pass words back and forth—computer fiend, game player, computer nerd—but the word we would use today doesn't seem to exist yet: gamer.

Or, at least, it doesn't exist in the way that we understand it today. The Oxford English Dictionary tracks the word back to the fifteenth century as a term referring to those who partake in games and sports, but especially those who do so for a stake—in other words, gamblers.[2] This remained the standard definition of the term for a little over five hundred years; only in the 1970s did the word first shift to identify participants in war gaming and tabletop roleplaying. In relation to video games, the earliest usage recorded in the OED is from 1977, in the pages of *Analog Science Fiction and Fact*, where it was used to distinguish "computer gamers" from other types of non-sports game enthusiasts: "war gamers, role players, computer gamers, general game

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[1] Albert et al., "Smithsonian," 9–10.

[2] *Oxford English Dictionary*, s.v. "Gamer," last modified March 2014, http://www.oed.com/.

players and even non game players."[3] Yet, while the word was in use (even Elizabeth Hood used it in her letter to Sierra On-Line), the fumbling between Eklund and Williams indicates it was not ubiquitous. Only in the 1990s does the word seem to take on the meaning associated with it today in gaming enthusiast subcultures, a word signifying a dedication more intense than hobbyism, a word eclipsing all other forms and styles of play in its shadow. "Gamer" has become the battleground for an especially nasty subcultural turf war, as those identifying as "hardcore gamers" regularly mobilize as boundary keepers of this landscape. Frequently they do so through a language of virulent misogyny that casts women as outsiders and pretenders to a gaming subculture believed to be historically male-dominated. But *gamer* has a history. And it has played a role in organizing our history.

Roberta Williams wasn't a gamer. Neither was Elizabeth Hood. Nor the woman I met in Denmark. Nor the student in my advisor's class. Nor was my mother, from whom I learned computing. None of these women were gamers. As a result, we don't remember them as part of the history of games. I started this dissertation with a question: What is video game history? The answer is found in the doing, as I simply wandered around telling people I was a "video game historian." Men always want to talk to me about what I play now, but women rarely try to size me up so obviously. More often, they tell me things they've long forgotten that they remembered, or never expected themselves to say. There was the book review editor I met at a Lower East Side birthday party who reminisced about how she stole quarters from her boyfriend's pockets after sex so she could play *Centipede* on the Miami boardwalk in the '80s. Before she left the party, she wanted to know if I thought it was safe for her son to play *Minecraft*. Another one was the suburban Ohio mom I chatted with at a gallery show, who admitted she'd only ever played one game in her life, about a boy trying to escape a wizard's

[3] Quoted in ibid., definition 3b.

house. I pulled up a screenshot from *King's Quest III* on my smart phone, and she went ecstatic. It would be another twenty minutes before I could refill my wine glass. I've become an unexpected confessor of women's video game pasts, igniting circuits in women's memories dormant twenty years or more. The conversations are never proper oral histories, and they certainly don't meet IRB standards. So I collect and stare at anecdotes, like the minute metal filings of Siegfried Gideon's "anonymous history," and wonder how I'll ever fill my bucket with such swiftly evaporating material.

I fell upon these reflections too late to make them the subject of this research, but they speak to the same emphasis on non-givenness, embedded complexity, and counterhistory I have privileged throughout this project. What Sierra On-Line provides is a case large enough to not be excused as marginal, and counter enough to disrupt several reigning conventions of video game historiography. Instead of adding to the scaffolding, I have leveraged an alternative set of historical methods—equally influenced by materialist media studies, media archaeology, and critical materialism—to draw us back to the way this medium's foundation has been forged. If we are not going to begin with the question "what is video game history?" then we ought not be trying to give an answer.

In *Vibrant Matter*, Jane Bennett asserts that vitality is a condition of materiality that we have not trained ourselves to account for.[4] This implies that our capacity to recognize vitality is something that can be cultivated through repetition and practice. By straining our intellectual and emotional capacities, we might develop new pathways of habit in relation to the world around us. I believe that my media speleological approach strives to coax such a sensibility from historical registers, wherein the writing of history becomes an ethical practice that cultivates new material possibilities in the present. Not only have I given accountability to the circumstances that

[4] Bennett, *Vibrant Matter*, chapter one.

habituated the lives I have encountered (especially the lives of Roberta and Ken Williams), as well as toward the future paths of those lives, but I have also attended to specific objects with "material agency or effectivity."[5] A teletype machine, a kitchen table, a Kodachrome slide, the telephone lines that connected disparate communities of software producers—these are things I take as participants in the unfolding of historical occurrence. Inspired by the possibilities inherent in assuming media objects to be multiple and entangled, I have extracted what environmental and site-specific data is available to me in primary documents, and used that material to move backwards through objects, practices, and spaces. This is a process of historical imagination requiring a cultivated affective relationship with documentary artefacts, a kind of care work that waits for the exposure of an artefact's multiplicity. Like Bennett, who wonders how "patterns of consumption [would] change if we faced not litter, rubbish, trash, or 'the recycling,' but an accumulating pile of lively and potentially dangerous matter," I underscore latent relationships and observations in the moments when I share history across both the hands of my human participants and the stuff around them.[6]

If the history of Sierra tangles video game pasts, it is worth remembering that the Sierra family lingers still, more than thirty years after the company's founding. Now-grown Sierra fans fund the Kickstarter projects of their childhood game design idols, such as Al Lowe, Scott Murphy and Mark Crowe, Jane Jensen, and Lori and Corey Cole. Activision massages its intellectual property rights over the Sierra label, releasing ports of classic Sierra adventure games on GOG.com. In addition, the formalization of game design education and academic game studies means the puzzle-oriented logics of the adventure game have returned as academic objects, towing the history of an entire genre along with every inquiry to "take rock" or "light

[5] Ibid., ix.

[6] Ibid., viii.

candle." Sierra's role in this history suggests formations of game production and game play that contrast with the venerable histories of "video game grandfathers" and the presumptive masculinity of the "gamer" subject. Sierra On-Line emerged amongst an ecology of play and production, equally influenced by technological conditions, geographical location, and individual creativity; such instantiated complexity could even point toward a refreshed imagining for histories of the contemporary indie game scene. In attending to the history of such an eminent yet strangely ignored company, we're afforded a wider perspective not just on the "truth" of game history, but also on the material and archival mechanisms by which game history has heretofore been written.

In his book *A Casual Revolution*, Jesper Juul notes that games are becoming the new normal, largely because people who played games in the 1980s but stopped during the rise of complex hardcore games are playing them again under the new awning of "casual games." Juul writes:

> By now I do understand why some would not feel that pull. I understand the frustration of not knowing which buttons to push, of being unfamiliar with the conventions on the screen, of being reluctant to invest hours, days, and weeks into playing this game, of being indifferent to the fiction of the game, of having a stupid machine tell you that you have failed, of *being unable to fit a game into your life*.[7]

Juul affirms that gameplay has long been more diverse than we can easily account for, yet historiography is beyond his scope: the game history we write is game history *as it is remembered.* When I consider Sierra On-Line through the affective palette available to me within media speleology, I wonder if the weird historical trick here is that what we've written

[7] Jesper Juul, *The Casual Revolution: Reinventing Video Games and Their Players* (Cambridge, MA: MIT Press, 2010), 5, emphasis in the original.

thus far are not histories of gaming but a history of gamers—and that's why so much gets left out?

The curious lives of Roberta Williams, of Elizabeth Hood, of the women who make confessions of their ludic pasts to me, suggest that we may need to flip the sentence: *what does it take for a life to fit a game*? Within game history, the only people we've made historically visible are those we've organized ourselves to see. By the time game history began to be written—by the late 1990s—the people writing those books already presumed that video gaming had a proper subject, a body of people who were its culture. But as we have seen, there have been others. In the case of my colleague in Denmark, she forgot. In the case of that student at my guest lecture, she went back to books. In the case of Roberta Williams, she gave up game design in 1998 and hasn't looked back, always, always riffing to the same refrain: "I don't do Sierra anymore." In the case of myself, I stand around, trying to feel out a history not of gamers past, but of pasts that mostly remain un-subject to our history.

Figures

Figure 1.1: Entry signs to Fresno Flats Historic Park. Photo by author, August 2013.

Figure 1.2: Oakhurst Centennial Plaque at Fresno Flats Historic Park. Photo by author, August 2013.

Figure 4.1: *Mystery House*, starting play screen. On-Line Systems, 1980. Public Domain. Image cropped from contemporary web-based Apple II emulation software. Image dimensions do not reflect Apple II monitor dimensions.

Figure 4.2: *Mystery House*, house foyer. On-Line Systems, 1980. Public Domain. Image cropped from contemporary web-based Apple II emulation software. Image dimensions do not reflect Apple II monitor dimensions.

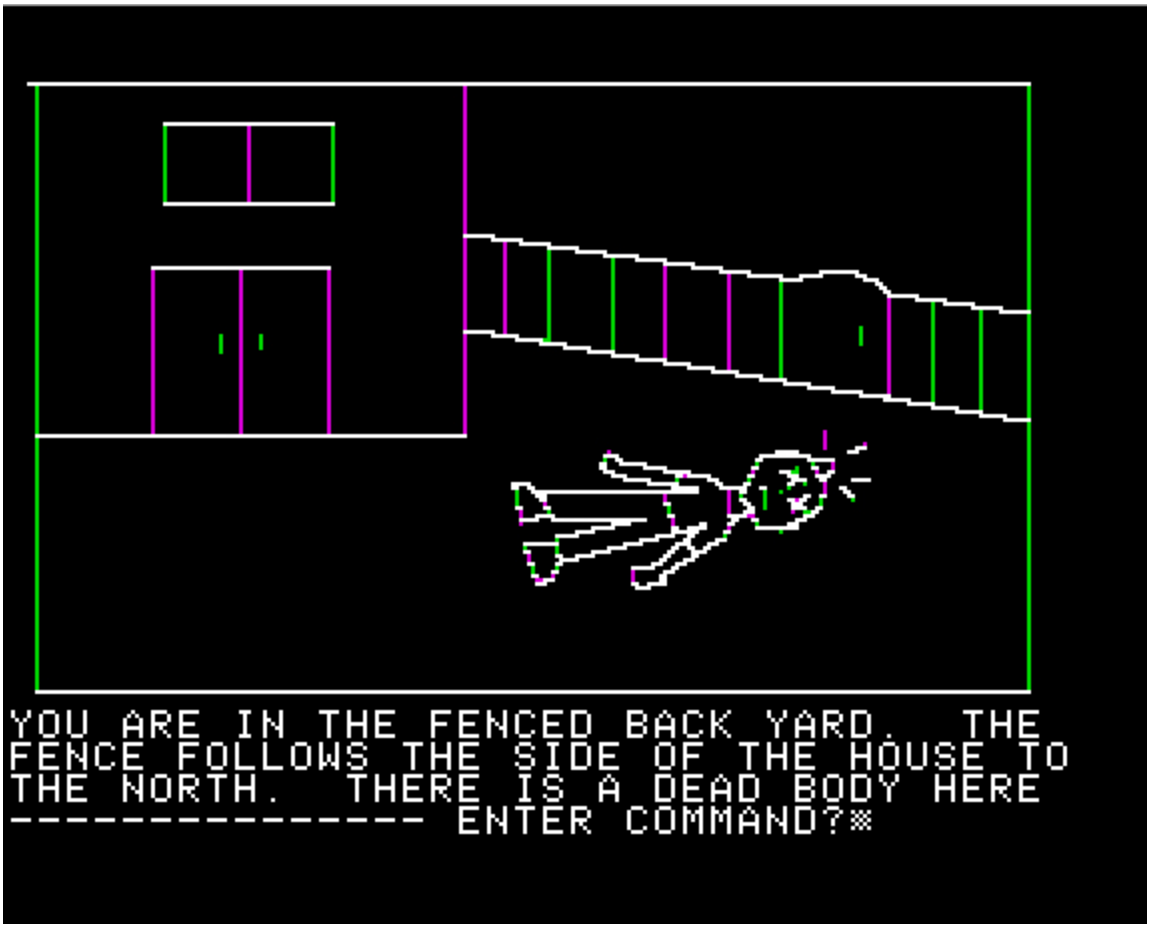

Figure 4.3: *Mystery House*, outside yard, dead body of Sam the mechanic. On-Line Systems, 1980. Public Domain. Image cropped from contemporary web-based Apple II emulation software. Image dimensions do not reflect Apple II monitor dimensions.

Figure 5.1: Half Dome, Yosemite National Park. View from Sentinel Bridge. Photo by author, August 2013.

Figure 5.2: Outside the castle of Edward the Benevolent. Screenshot from *King's Quest: Quest for the Crown*, 16 color. Played in emulation on DOSBox, from GOG.com.

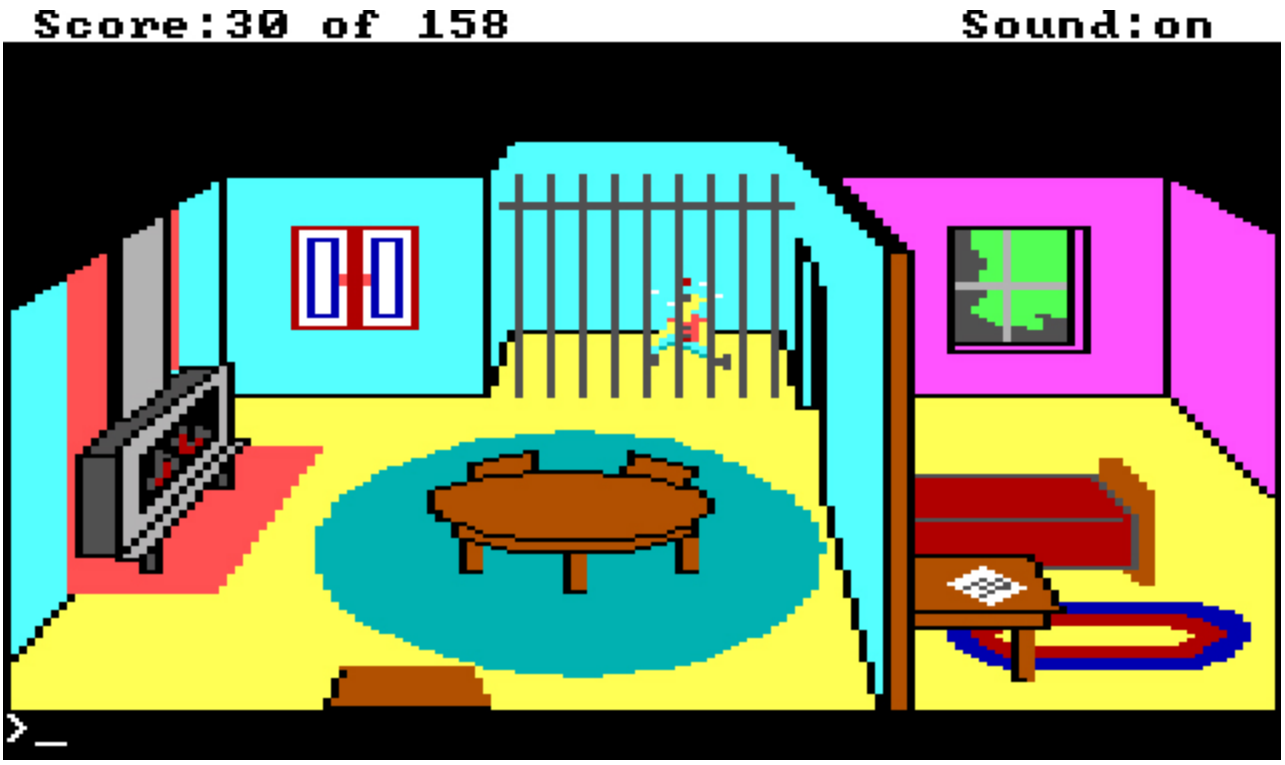

Figure 5.3: Trapped inside the cage in the witch's gingerbread house. Screenshot from *King's Quest: Quest for the Crown*, 16 color. Played in emulation on DOSBox, from GOG.com.

Figure 6.1: *Mystery House*, viewing house through telescope, at top of tree. On-Line Systems, 1980. Public Domain. Image cropped from contemporary web-based Apple II emulation software. Image dimensions do not reflect Apple II monitor dimensions.

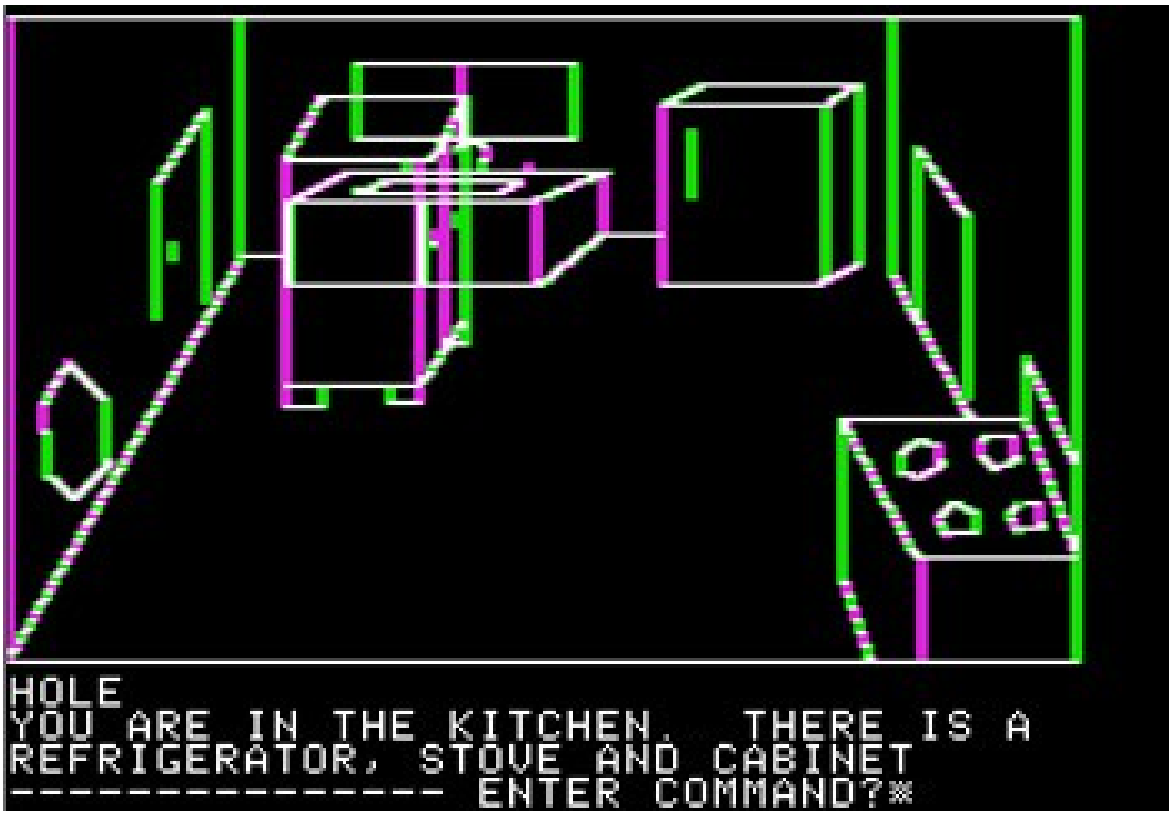

Figure 6.2: *Mystery House*, kitchen with cabinet moved On-Line Systems, 1980. Public Domain. Image cropped from contemporary web-based Apple II emulation software. Image dimensions do not reflect Apple II monitor dimensions.

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