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Counterfactual Speculation

What if Antonia Dickson Had Invented the Kinetoscope?

ABSTRACT In the second wave of feminism it was enough to say that Antonia Dickson co-wrote *History of The Kinetograph, the Kinetoscope and the Kineto-Phonograph* (1895) with her inventor brother William Kennedy Laurie Dickson. But in a new moment, I utilize Catherine Gallagher's concept of "counterfactual speculation" as a "thought experiment," offering a fuller examination of the time between 1893 and 1896 when Antonia was involved in the experiments around the "projecting" Kinetoscope. "What if Antonia Dickson Had Invented the Kinetoscope?" raises the question of historical outcome, empirical evidence, and causality, offering a way around uncritical reliance on the traditions of historical narrative and testing a new methodology for feminism and film.

KEYWORDS counterfactual mode, feminism, historical narrative, kinetoscope, motion picture history

We can begin with the hypothetical question asked relative to the event that never happened: "*What if* it had?" The question "*What if*?" is sometimes taken to be synonymous with the term "counterfactual." But there is more to be gained from counterfactuality than "*what if*?" when we theorize it as the *mode* in which we shift away from established fact. Before we go too far, however, I'd like to accentuate this inquisitive aspect of the mode, so I'm calling "*What if*?" the *counterfactual question* that signals such a shift. This is the modality in which we wonder to ourselves "*What if* things had turned out differently?" Or, "*What if* it had never happened at all?" And, finally, in the same vein: "*What if* the achievements of one person had been attributed to another?"

So, let's consider: *What if* William Kennedy Laurie Dickson's talented older sister Antonia and *not* her brother, Thomas Edison's assistant, had invented the kinetoscope?[1] We already know Antonia as co-author with her brother of *History of the Kinetoscope, the Kinetograph, and the Kineto-Phonograph* as well as a biography of Thomas Edison.[2] From around the

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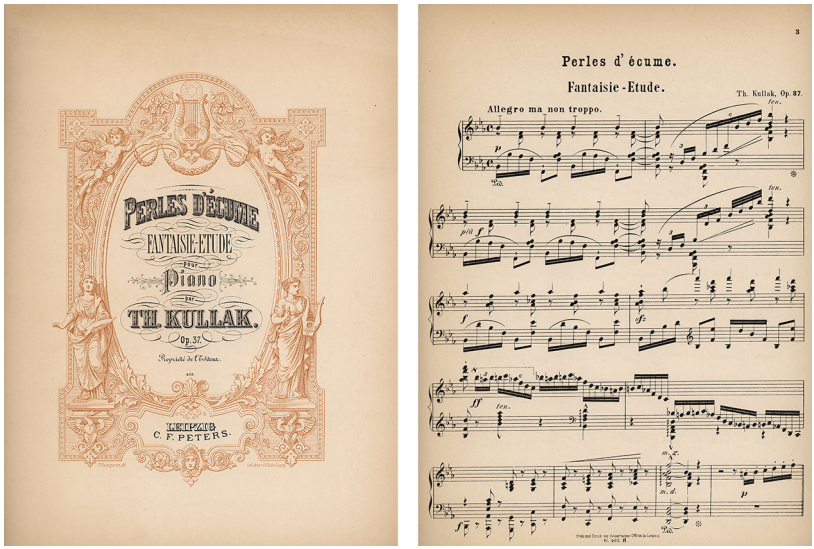

FIGURE 1 AND 2. Sheet music. Kullak's *Les Perles d'Ecume*. Private collection.

same time in her life in Orange, New Jersey, she was known for her "Lecture Recitals on Musical History," suggesting that she was both performing and delivering lectures. Antonia had been a music prodigy, at twelve performing with a German orchestra Theodore Kullak's composition for the piano *Les Perles d'Ecume*, a performance for which she was praised for her "most effective brilliancy of execution" and mastery of "all technical difficulties." After studying at conservatories in Leipzig and Stuttgart, she toured France, and in Scotland appeared in Edinburgh and Glasgow as well as in London at the Crystal Palace. She finished her music education at Trinity College, London, where in 1879 she became an Associate of the Royal College of Organists, only the third woman to achieve this.[3]

THE COUNTERFACTUAL MODE

Let me first define the counterfactual as a mode after which I will take up Antonia Dickson's case as an example, which, in turn, allows me to consider "counterfactual speculation" as part of a toolkit for a feminist theory of history. Here, I'm adhering to Catherine Gallagher's recent analytical overview of the historical uses of the counterfactual over several centuries.[4] Note, however, that what follows is a test of relatively untested methodological tools, especially as applied to a narrative of technological invention. Then, to

add a caveat: Given that the counterfactual mode has been conventionally engaged relative to events or actions, its historical use does not necessarily abandon empirical facts per se since, after all, agreed facts are the starting point. However, as what Gallagher calls a "thought experiment," the counterfactual *may* reach beyond empirical facts and in so doing enter the imaginative realm.[5] As I have discovered in the following test, the counterfactual emphasis on events means that recourse to the empirical may be unavoidable. Let me, in addition, prepare the reader by saying that in testing the counterfactual mode I was surprised to find that the dubious "search for origins" returned by the back door since a definitive "turn of events" invites replacement of these events by another set of events. Further, the counterfactual is a dramatic move that can call one "origin story" into question only to replace it with another that opens the door to yet another. Still, the proliferation of possible origins doesn't guarantee the end of fruitless searches for "firsts."

So, attempting to draw the counterfactual mode away from the exclusively empirical, I propose a new term—the *counterfactual question* ("*What if*"?). The *counterfactual question* has an analytical companion in the hypothesis "if it had not been for. . . . " With this phrase, our attention is drawn to an intervening event that caused the narrative to swerve, a move that can lead to conjecture about *which* narrative event produced one outcome or another. Here, then, is the critical capacity of the counterfactual problematic as it encourages an "estrangement" of what may be perceived as the actuality of events.[6] Such estrangement may unsettle even those historical accounts that have been considered settled for decades, as in our example here, the "history of the invention of motion pictures." Counterfactuality entertains the possibility that under another set of circumstances (or a different set of actors), events might have delivered other outcomes, the consequences of which might have reverberated differently across the centuries. Here, however, I already anticipate a question: Do all historians use counterfactuality to explore "roads not taken"? Answer: No. Traditional historians may be skeptical of a methodology that seems too imaginative and too antithetical to the empirical.[7]

Despite such skepticism, Catherine Gallagher argues for seeing the inevitability of counterfactuality in all historical research and writing that deals with the consequences of historical events. However counterintuitive this may seem, she argues that "all causal statements make counterfactual claims."[8] I would revise this slightly to argue that a causal statement may be *implicitly* counterfactual but that the claim becomes *explicit* retrospectively. Consider

one of the most notorious statements of causality in all of twentieth-century world history: "World War I began on July 25, 1914, as the consequence of the assassination of the Archduke Franz Ferdinand of the Austrian Empire on his visit to Sarajevo, Bosnia." Now think of the *counterfactual question* raised by historians of that international conflict: "*What if* the driver had taken a different route that day?" That World War I historians obsessively return to July 25, 1914, and the Archduke's motorcade ride through the hostile streets of Sarajevo tells us they are entertaining the counterfactual in their retrospective approach to historical causality.[9] Why else would historians stress the coincidence of the mistaken turn in the route that his vehicle took?[10] In the precarious domino effect of catastrophic events we're made to see how one event could set off a chain of explosive atrocities worldwide between 1914 and 1918.

If Gallagher is right and the counterfactual as a mode of historical thinking is more common than we may admit, consider how often we silently ask ourselves the *counterfactual question* "*What if*?" However implicit the mode, counterfactual historical writing has pronounced conventions. Such conventions explore an alternate course of events and posit consequences that might have followed had events taken another turn at a key point—the "nexus." Gallagher explains the "nexus" as the "instant" where the imagined events diverge from the established events.[11] In turn, the "nexus" convention depends upon another, that of two diverging timelines: the established timeline, termed "Our Timeline" or OT, and the "Alternate Timeline" that is the AT. The two timelines split at a "Y," a kind of "fork in the road," if we can call it that. But most importantly, to add, the counterfactual modality depends on heavy investment in a timeline that is "ours," the endpoint of which is a well-established historical outcome. Or, to emphasize causality again, the new consequences laid out in the AT are events that, as a result of an intervening event, *might have happened*, or *might not have*.[12] In sum, counterfactual conventions effect a diversion from the known timeline into another timeline, one that delivers a different outcome of events. To illustrate, below I will offer an example of an OT and AT to fit the invention of the kinetoscope—but not yet as I do not want to give away my plot.

Of special relevance to our topic is the gender specific *counterfactual question*: "*What if* a woman had done it?" Actually, we have already been using what I call *feminist counterfactuality* for decades. Think, for example, of how we shift into the counterfactual mode every time we wonder "*What if she* had . . . " and ask ourselves what *would* as well as what *would not* have

happened if a woman had been the artist or the scientist or the writer. I would go so far as to say that such a "what if" is implicit in much of feminist film historiography as well as the literature on silent era Chinese as well as African American film which posits other makers, other films that might have been produced instead of those made by white men in Hollywood.[13] Clearly, the great advantage for feminism is the limitlessness of the "counterfactual imagination," a flight from fact constrained only by the factuality from which it takes off.[14] Such an imagination offers the feminist theorist the license to posit gender inversion and power redistribution and even to envision historical "wrongs" triumphally "righted." In this tradition of *feminist counterfactuality*, then, the reader is invited to imagine "*what if*" Antonia Isabella Eugénie Dickson had invented the kinetoscope.[15]

The substitution of Antonia for her brother W.K.L., known as Laurie, is not completely an abstract exercise since it has foundation, as I noted, in their co-authorship of *History of the Kinetoscope, the Kinetograph, and the Kineto-Phonograph* as well as *The Life and Inventions of Thomas Alva Edison*, in addition to other articles.[16] After some years of speculation about the authorship of the kinetoscope history, the most recent conclusion is that it was "evidently written by Dickson's sister," an assessment based on the unusual literary flourish of the writing style.[17] Yet no historical analysis of this unprecedented co-authorship of early technological history has taken the next logical step—Antonia would have to have understood the principles of electrical engineering, photographic chemistry, and phonology used in the invention of late-nineteenth-century communications technologies in order to describe their workings.[18] My point is that given this expertise, as I will demonstrate, it is not such a great leap to imagine that it was *she* who invented the kinetoscope. Imagining Antonia Dickson as the inventor of the kinetoscope is a dramatic exemplification of what Gallagher calls "counterfactual speculation." Such speculation, she thinks, can be an analytical tool for exploring "unrealized" possibilities in the rearrangement of events.[19] If this is the case, the method looks toward the more contingent historiography that many have called for in recent years. My preference, however, would be to stir up some trouble by proposing the counterfactual mode of historical thinking as a corrective to the construction of historical narratives based on empirical research and its basic building block: *the statement of fact*. In other words, what is said to be "the history" is not the final word.

COUNTERFACTUAL SPECULATION

I wonder what we mean when we use the term "speculation" in reference to what it is that the historian does with established facts relative to missing details or gaps in available evidence, especially when she takes up the task of narrativizing past events. It may be that this is what Michel Foucault meant when he said that he never wrote anything but fictions although he was quick to stipulate that he did not mean that there was no "truth" to what he wrote: "One 'fictions' history on the basis of a political reality that makes it true, one 'fictions' a politics not yet in existence on the basis of historical truth."[20] Let's pause here to acknowledge new directions in the philosophy of history and the implications for film and media historiography where *counterfactual speculation* could be one more tool at our disposal.[21]

From the standpoint of theories of history as well as Foucauldian-informed media archaeology, "counterfactual speculation" is not such a philosophical stretch. However, we first need to distinguish "counterfactual speculation" from conjecture without counterfactuality. After all, isn't conjecture what every historian does in answer to the question about the outcome of events in the past: "What happened?" Since in the present, distant as it is from past events, *any* answer to this question must involve speculation, one wonders if "speculative history" should be distinguished from historical accounts in general, especially if it pertains to the construction of narrative history. So "speculative" as opposed to what? Factual? The term "speculative" may then be misleading if it suggests a method significantly different from traditional historiography. Why, again? This is because, as I would argue, *all historical narratives are to some degree based on speculation.* Narrative histories, after all, are imaginative reconstructions of past events, usually descriptions of actions designed in such a way as to convince readers that the historian has privileged access to those events by virtue of exhaustive research.[22] But, you ask, doesn't the historian's conceit of privileged access deceive the reader of historical narratives? In answer to this charge, it could be said that the writer has no choice but to dissemble given that access to the past is *no longer possible*. Access to past time is not possible because by definition historical events and figures *no longer exist*.[23] Even more problematic, events in the past are not only beyond our temporal reach but often beyond our contemporary comprehension. To put this somewhat differently: *all interpretation of historical evidence involves speculation.* If, following Gallather's hypothesis that counterfactuality inevitably follows from cause-and-effect statements, the

counterfactual question would figure in all historical research, especially given a high degree of cultural investment in the outcome of past events—environmental disasters, declarations of war, and any "turn of events" which threatens reversal of the "going story." Note, finally, that in her overview Gallagher at no point refers to "speculative history," but, as I said, she *does* use the term "counterfactual speculation," by which she broadly means engaging in the imaginative work of thinking that counters an established fact-based narrative.[24]

Yet we may need "speculative history" as a large umbrella concept. Under that, more precisely, we might engage in historical "thought experiment" exercises in "counterfactual speculation."[25] For example, thinking of Antonia Dickson, in the "what if" mode, "counterfactual speculation" can deliver her to our moment as the inventor of the kinetoscope. The imagination of an alternate timeline (AT) might then effect a "gendering" of the historical narrative such that "if" a woman had invented the moving picture device that became the prototype for a century of motion picture film production and exhibition, all outcomes might have been different. Brought into sharp relief are events that *did happen*, events that *did not* happen, and events that *might have* happened. Counterfactually, then, let's speculate that as a consequence of a woman inventing the kinetoscope more women would have made film fictions which would increase the chances that even more women would have had the experience of "seeing themselves" on screen over the last century. Remarkably, however, feminism's premise that female artists would make "women-centered" works and female leaders would have or will yet bring about a better world still goes virtually unchallenged, all the while underwriting much of feminist historiographic work, to reiterate my earlier point. If nothing else, feminist scholars would not have produced so many studies of "forgotten" figures if they had imagined while also cueing their readers to wonder "*what if*. . . "?[26] Going hand in hand with the female-leaders-would-produce-a-better-world hypothesis is the excavation and nomination of overlooked "geniuses." In this tradition, a feminist reparative strategy would promote Antonia—promoter of the "genius" of Thomas Edison—as a "genius" in her own right, prodigy that she was. However, just to be clear, I don't advocate repeating the *feminist counterfactual* strategy in which feminism's favorite figures who disproved the rule as to who could be political leaders, artists, inventors, or scientists, were then called geniuses on a par with men.[27] Rather, from Cleopatra to Madame Curie, these figures might better be termed *counterfactual prototypes*. Here, then, is the advantage

of such a strategy: As a *counterfactual prototype* we don't have to *prove* that Antonia Dickson was a genius (although this doesn't preclude mentioning that she was a music prodigy).[28] Considering her talents in combination with her advantages, as we will see, we merely need ask "*What if*. . . ?"

THE COUNTERFACTUAL ACCIDENT

But back to the special conventions of counterfactual writing. Strangely, the counterfactual mode of historical engagement works most effectively if counter events follow from a "chance" event such as an accident or an assassination, to recall our example of the origins of World War I. It is as though the sharp swerve in direction triggers the imagination as to what "could have been" when an event is unexpectedly interrupted, and, as a consequence, the hope for the future is suddenly dashed. But a tragedy for the historical moment may become an opportunity for the counterfactual imagination. We might ask "*What if* Pakistani Prime Minister Benazir Bhutto had not been assassinated in 2007, or before her Indian Prime Minister Indira Ghandi in 1984? In answer to the *counterfactual question*, we could argue that if these women had not been assassinated, peace in the region might have been fostered, which, of course, would be speculation. Nevertheless, feminist history is full of possibilities for "*What if*?" "counterfactual speculation" as when our thinking is jolted by the sudden death or demise of the historical figure. We ask: *What if* Virginia Woolf had not drowned herself? Counterfactually, if she hadn't drowned, she would have finished *The Hours* and gone on to write more novels. Feminist media history invites similar "thought experiments." *What if* executive producer June Mathis had not died of the heart attack that she suffered during a Broadway performance in 1927? In the counterfactual mode, if she hadn't died so suddenly she would have produced more films on par with *The Horseman of the Apocalypse* (1921).[29] It may be the suddenness of the accidental "turn of events" as well as the irresolution of a life's narrative that ended too soon which encourages this variation on the *counterfactual question*—"*What if* she hadn't?"

Let's not forget the most common of accidents—the "accident of birth." This is the accident resulting in a child historically assigned one gender or the other, that biological "chance" occurrence which, if nothing else, also points to the critical potential of *gender indeterminacy*. Here is where our case of brother and sister—Laurie and Antonia Dickson—is illustrative. Antonia might have been "Laurie" and William Kennedy Laurie might have

been "Antonia" if "she" had been "he" or "he" had been "she." Then, since the counterfactual approach to historical experience imagines what *would* or *would not* have happened if conditions had been different, our first challenge is to decide which conditions to change in our "thought experiment." But here is the difficult question: To what degree do we follow or abandon the probable or likely, especially given the historical situation of women in the late nineteenth century? We need not be "constrained by plausibility," as Gallager argues. But plausibility is one thing, likelihood is another. We're concerned with plausibility to the degree that we want to avoid the charge that our historical experiment "strains credulity." What may give us license to experiment, however, is Gallagher's argument relative to the construction of historical characters, given that, as she says, ascribing "character" as a "sum of traits" is always a "highly probabilistic and speculative activity."[30] The counterfactual hypothesis, such that it is, she goes on, may bring out latent potential in a historical figure by means of a different set of circumstances and these may be entirely hypothetical. But it would also seem that the experiment is most effective, as above, given a chance unexpected event that can work as a "nexus," the instant marking divergence.

Gallagher allows that the counterfactual imagination might posit circumstances in which norms or habits might have broken down and things consequently developed "otherwise." But she does wonder what "range of improbability" we want to allow and suggests that there may even be a "wavering" or "indeterminacy" relative to "actual and alternative destinies."[31] Such "wavering" may describe the position we take relative to whether or not Alice Guy, later Alice Guy Blaché, shot the first fiction film as early as 1896. While many feminist scholars have wanted to prove our early film history credentials by arguing that it was not technologically possible for Alice to have done this as early as April 1896, we're still torn. We also want to make the case that *she did just that*.[32] My own preference here is to take any route that gets around making a statement of fact. So of Guy Blaché I would ask: "*What if* she had made *La Fée aux choux* in 1896?" Similarly, of Antonia Dickson, let's ask "Why not?" After all, even if Antonia could not have invented the kinetoscope given that "women didn't do such things" in the years 1889 to 1895, we can still *ask* "*What if* she had invented the kinetoscope?" Here is where Gallagher's term "plausible" clarifies what we want from counterfactual exercises: "No matter how distant the resulting creations seem from ours, they are meaningful primarily as plausible offshoots

of some phase of our world, some version of what it nearly became . . . "[33] While Gallagher is referring primarily to fictionalized worlds here, what I find relevant is, as I said, the term "plausible offshoots," for the more scholars have learned about Alice Guy Blaché the more plausible the idea that she made the first fiction film has become. Similarly, the more we learn about W.K.L. Dickson's sister, *the closer we come to the plausibility of the idea that she invented the kinetoscope*.

To repeat. The more we know, the more plausible our "thought experiment" becomes. Antonia never married and lived her adult life with Laurie and his wife Lucie who were childless. "Counterfactual speculation" can even take flight to imagine a lesbian relationship between Antonia and Lucie.[34] And even if female attachments, however passionate in the Victorian era, lent support to heterosexual culture while stopping just short of "queering" it, the Dickson family was a social and cultural exception.[35] The Dicksons' home was a center of musical performance in Orange, New Jersey, where on March 6, 1894, Antonia played to entertain muscleman Eugen Sandow after Laurie "kinetoed" him in the Black Maria studio.[36] Both Laurie and Antonia were talented musicians, she on the piano and he on the violin; one was a science writer and the other a scientist; they were fluent in German and French; both were writers, although Antonia was more gifted as a stylist than her brother. One only need compare the turgidness of Laurie's technical prose in his 1933 history with the stylistic flourish his sister's 1895 one.[37] As significantly, such a comparison also leads to the conclusion that Antonia wrote the majority of *The History of the Kinetoscope, The Kinetograph, and the Kineto-Phonograph* as well as *The Life and Inventions of Thomas Alva Edison*.[38] This makes Antonia Dickson the first historian of motion picture film, and with this established, we inch closer to the plausibility of our hypothesis: Antonia had acquired the requisite technological knowledge needed in order to have invented the kinetoscope.

WHO *DID* INVENT THE KINETOSCOPE?

Remarkably, as a contender for the title of inventor, Antonia is not alone, and this goes to my point about the *counterfactual question* as critique of the finality of origin stories. Since in the first decade after 1895, the question as to who to credit for the invention of motion pictures was a fraught one and more than one inventor has been nominated. While the French were early to claim the *cinématographe* for the Lumières, they were not as early as Louis

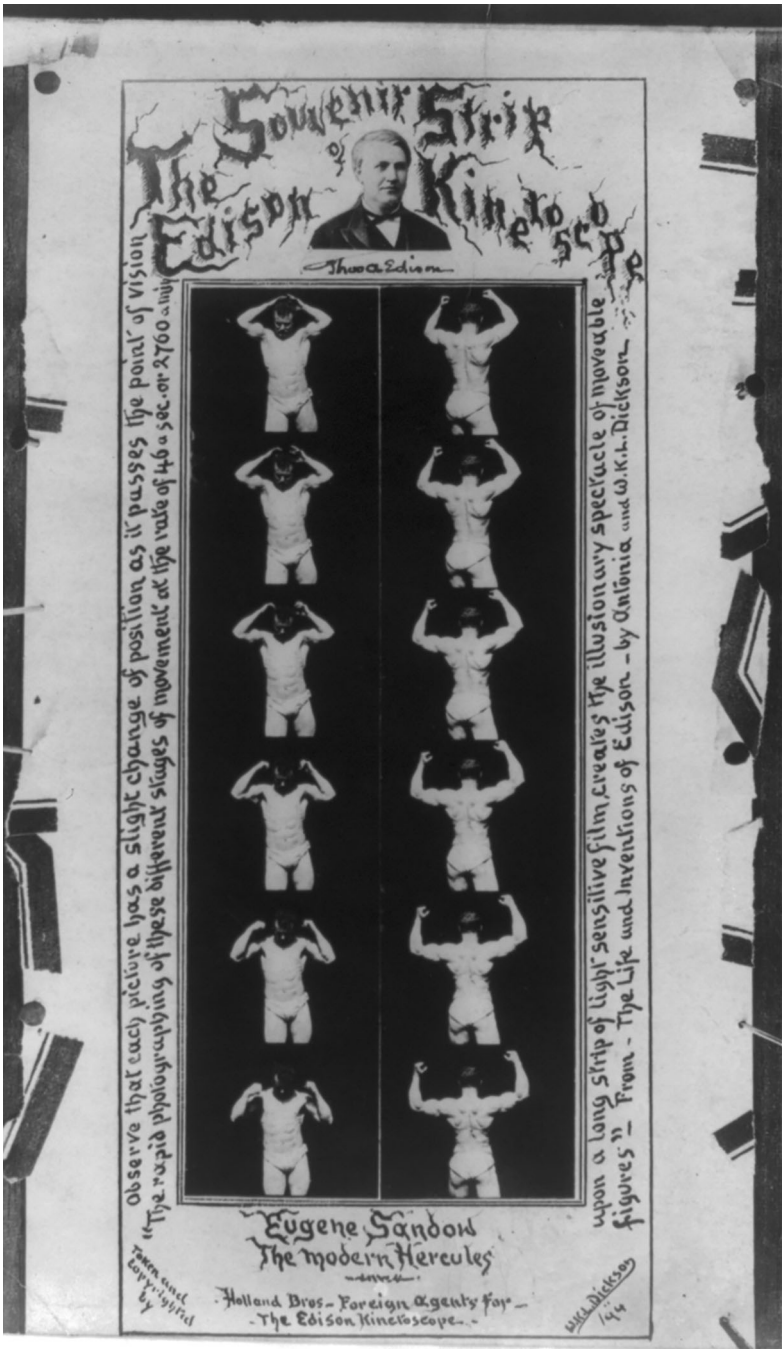

FIGURE 3. Souvenir card advertising, Edison Kinetoscope, featuring Eugene Sandow (1894). Courtesy U.S. Library of Congress, Washington, D.C.

Aimé Augustin Le Prince. Not to be outdone by the French, the British claimed that Wordsworth Donisthorpe and William Friese-Greene were conducting experiments as early as 1889–1890.[39] Eerily, the question of William Kennedy Laurie Dickson's own claim was never satisfactorily resolved from his point of view in his lifetime. In Dickson's mind, Thomas Edison could not claim complete credit for the invention, and he wrote to his former employer on April 3, 1914: "Who therefore is the pioneer of practical moving photography. . . ."[40] In recent years, however, Dickson has emerged as having been unjustly denied the credit he deserved.[41] Today, thanks to new research by historians of technology we no longer ask: "What if William Kennedy Laurie Dickson had invented motion pictures?" Rather, a consequential backstory has emerged in which photography expert Dickson's experiments with motion are the determining breakthrough, underwriting a new statement of fact: "William Kennedy Laurie Dickson invented motion pictures." And yet, following Gallagher, if the counterfactual is implicit in consequential assertions of fact, we should not be surprised if more contenders are nominated.[42]

For the dubious reader, I offer one more example in support of Gallaher's premise that the counterfactual lurks in statements of historical cause and effect. The invention of motion pictures origin story has already been subject to "counterfactual speculation" due to the fact that one of the contenders actually did disappear. According to historian Richard Howells, on September 16, 1890, Louis Aimé Augustin Le Prince boarded the train to Paris from Dijon, France. He was never seen again and neither has his body been found. Howells, apparently unaware that he has shifted into the counterfactual mode, writes of Le Prince that "Had he not vanished, he would have beaten both the Lumière brothers and Thomas Edison to cinematic and international fame by at least seven years."[43] Indeed, the fact of Le Prince's abrupt and mysterious disappearance here cues "counterfactual speculation" in which, consequence of his having been "first," alternative counter-fact outcomes are posited.[44] In the Le Prince counterfactual invention story, the Lumières and Edison come in second.

WHAT WE KNOW ABOUT ANTONIA KENNEDY-LAURIE DICKSON

What very few facts we have about Antonia Dickson stimulate the "counterfactual imagination." In the counterfactual mode, as we learn from Gallagher, facts have a different role to play as they may inspire hypotheses

based on "latent potentialities" in historical figures and even stir us to imagine an alternate course of events.[45] In the counterfactual mode, then, facts do not always function to confirm established events. Rather, facts can be used to *suggest* other narratives of invention. Let's take fact number one: Her given name was Antonia Isabella Eugenie, but in 1893 she signed her correspondence Antonia K.L. Dickson.[46] By taking her mother's maiden name and hyphenating it as Antonia Kennedy-Laurie Dickson she took a name to match the historical achievement of her brother William Kennedy Laurie, or W.K.L. Dickson, the name he used to register copyright in the photographs and moving picture films he took as well as his drawings. The name further kept alive the family legacy on which her brother insisted—that they descended from the Lauries of Maxwelltown, her mother's maiden name having been Elizabeth Kennedy-Laurie.[47] The obituary quotes biographical detail Antonia shared with a friend in 1895, the only source of this information which included reference to her grandmother having been presented at the court of King George III, and via the Earls of Cassilis she was connected to the Stuart line to the British throne.[48] What if Antonia had taken a name commensurate with the importance of the invention on which she was working?

Now let's combine suggestive facts clustered around the name Antonia Kennedy-Laurie Dickson with another set grouped around her talent and education. Fact number two: Antonia's August 1903 obituary confirms that she was a child prodigy, beginning at ten years old when she played the "Moonlight Sonata" in London for the English composer Osborne Williams. It was Williams who advised her to study in Leipzig and Stuttgart where her family may have moved during this time.[49] What, after all, is more suggestive than precocious talent? While today we may be critical of artistocratic entitledness kept alive in a name, however, this legacy gives Antonia a probabilistic edge, coupled as such privilege would have been with the advantages of education, formally in Stuttgart and Leipzig, Germany, seat of advanced learning in late-nineteenth-century Europe. Her obituary biography also says that her parents "encouraged her to write," and her first contribution to the journal which published her obituary was at seventeen, suggesting how early her writing aspirations had been encouraged. Her obituary ends with a quote from a contemporary friend: "She was a charming writer, a thorough student of art, literature, and music, and a brilliant conversationalist. Her mind was a rich storehouse of knowledge, of which she gave generously to the world through the magazines and the press."[50] If not the evidence that she invented

the kinetoscope, here is "latent potential" that plants the seeds of possibility for another course of events that encourages our questions "*What if*?" and "Why not?"

Now to add to what her obituary tells us about Antonia's talent and opportunities let's see what facts can be confirmed with archival documents now part of the Thomas A. Edison Papers held in the Edison National Historic Site.[51] How Antonia researched is indicated by surviving correspondence she had with two Edison employees during the February through April 1893 period when Laurie was recovering from illness in Florida.[52] She was facing deadlines for the series of articles on Edison for *Cassier's Magazine Engineering Ilustrated* which ran in fourteen installments from November 1892 to December 1893, published in September 1894 as *The Life and Inventions of Thomas Alva Edison*. She wrote to Edison employee Thomas Macguire in February 1893, citing the help she needed given her brother's absence.[53] Macguire in response wrote that he was sending pamphlets on the phonograph as well as descriptions and instructions for its operation and a copy of *The Electrical Engineer* (June 17, 1891). Finally, he refers Antonia to Virginia McRae, editor of the journal *Phonogram*, who he says he assumes she knows.[54] In March 1863 Alfred Ord Tate, Edison's private secretary, wrote that he was sending her a copy of *Electricity*.[55] So we have evidence that Antonia Dickson was reading popular science journals as background for the *Cassier's* series, and that this research was conducted independent of her brother. Here we are cued to imagine Antonia consulting with a circle of experts and availing herself of the literature in the field as the serious science writer she was becoming, working on the Remington typewriter Tate had loaned the Dicksons who were writing the Edison story for publication.[56]

But the reader will object. Antonia is too far from the scene of invention, and the technological challenges that Edison and Dickson faced entailed not only scientific knowledge but engineering experience and access to a working laboratory. This would be the kind of experience that could only be obtained in the factory during the long hours that Edison employees worked. Furthermore, Antonia could not enter the locked Room 5 in the three-story brick laboratory building completed in 1886. Nor could she enter any other part of the exclusive homosocial realm of the laboratory—her brother Laurie's world. Yet there is strong evidence that Antonia was familiar with not only the laboratory building but with the interior of the new photographic rooms in the 1893 outbuilding later named the Black Maria studio.[57] The evidence that she toured the Edison factory facilities is in her singular style description

FIGURE 4. W.K.L. Dickson, Thomas A. Edison and Assistants. Courtesy Thomas A. Edison Papers. Rutgers University, New Brunswick, NJ.

published first in the October 1893 installment of *Cassier's*. She intricately describes the dynamo room, the laboratory store-room, the "Precision department," the "lamp test room" and the "mangled remains" of old equipment.[58] Eerily, the interior of the Black Maria is "steeped in Stygian darkness enhanced by somber drapery . . . " and compared with "inquisitorial dungeons," a description that resonates for those familiar with the *History of the Kinetoscope, Kinetograph, and Kineto-Phonograph*.[59] Although I have elsewhere raised the question of the morbidity of Antonia's prose, another explanation as to why the Edison laboratory works are described as so foreboding is this: She could only have seen them under the cover of night when her brother secretly let her into the facilities.

Let me now propose "Thought Experiment # 1: What if Antonia Had?" as an exercise in "counterfactual speculation," prefaced by "What Antonia Dickson Knew" which establishes Antonia's science background based on the second of two single-authored articles that she wrote during this period.[60] This article—"Wonders of the Kinetoscope"—published in February 1895, is significant for its mix of her own formulations with those of Edison and possibly her brother. Thought Experiment #1, however, while it may benefit from this background, need not be constrained by the plausibility established

by Antonia's science writing. Being an experiment, after all, it is free to imagine what might have happened "if" Antonia had stepped in for Laurie after the crucial date of April 2, 1895, when he resigned from the Edison Company. For our purposes, April 2, 1895, will function as the "nexus." Remembering that the "nexus" is a key point selected for a conceptual experiment in re-arranging events established in Our Timeline (OT), I'd add that W.K.L. Dickson's resignation is perhaps atypical in this regard.[61] Dickson's resignation is significantly unlike counterfactuality's preferred cataclysmic event such as the assassination of a ruler that triggered World War I. Yet for scholars of American motion picture history, W.K.L. Dickson's abrupt resignation after rashly asking Edison to choose between himself and his nemesis, manager William Gilmore, is yet similar in some respects. First, it is similar in that the event turns on an instant, qualifying it as a "nexus." But second, this is where possible ramifications dramatically arise, that is, in retrospective consideration when consequential events are seen to follow. Crucially, these key events that followed led to the perfection of moving picture *projection* to the point of commercial viability. Thus, in retrospect, field scholars may make a cause-and-effect connection between W.K.L.'s angry outburst and the Edison company's failure to develop the "projecting Kinetoscope." His resignation, after all, was triggered by Gilmore's accusation that the inventor, in secretly collaborating with the Latham family on an apparatus to *project* moving images, was "disloyal" to his employer Edison who was not yet convinced that projection was an answer to flagging public interest in the Kinetoscope parlor.[62] Following Gallagher's theory of the counterfactual claim that arises with the causal statement, now consider this one: As the consequence of Dickson's heated resignation, the Edison company was not the first to premiere projected motion pictures.

PREFACE TO THOUGHT EXPERIMENT # 1: "WHAT ANTONIA DICKSON KNEW" AND THE "PROJECTING KINETOSCOPE"

Thus timing our counterfactual *after* the kinetoscope cabinet viewer but *before* any success with the machine internally referred to as the "projecting Kinetoscope," we give fresh attention to both Antonia and the long-forgotten project. To lay the groundwork for the question of technical knowledge, I want to begin with scientific basics. What Antonia Dickson knew was photochemical science as evidenced in the article "Wonders of the Kinetoscope" where she describes Priestley's attempts to produce the "first

sun print" by coating a glass bottle with silver chloride, followed by Daguerre and Niepce who succeeded with the "capture" of a photographic image on a "highly polished plate coated with iodized silver," finally fixed by immersion in a solution of hyposulphite soda.[63] She knew that in order to succeed, the kinetoscopic experiments needed to use a "band of highly sensitive film," only possible after Richard Leach Maddox's improved gelatin dry plate photography. Furthermore she is clear that the two most difficult challenges were the sensitiveness of the material she refers to as "film," as well as what she calls the effectiveness of the "stopping-and-starting device," a reference to the problem of intermittent motion. Where Antonia is most impressive, however, is where she explains the theoretical problem of the production of continuity as it relates to realism and both of these as "effects." She articulates what the inventors understood as the challenge of creating a successful illusion, here by means of "simulated movement," or movement that produced the "effect of continuity" on the eye. In her original theorization here we find the phrase "approximate the desired realism of effect" which tips us off that she isn't fooled, for she knows that each microscopic photo is separate from the next.[64] In her own formulation, the problem the inventors faced in their attempt to produce smoothness were the very increments of movement. Quite originally, she then explains that the "gaps between the fractions of attitude militated hopelessly against continuity and realism." Further, as she describes the working of the "nickel and slot" Kinetoscope, the fifty-foot-long strip "semented" at the ends formed a loop, and illuminated by a lamp, was "interrupted forty-six times a second."[65] Here she evidences knowledge of the function of the mechanism inside the viewing cabinet that premiered April 14, 1894, at Holland Brothers Kinetoscope Parlor in New York.

But finally, and most importantly, "Wonders of the Kinetoscope" comes to the question of the difference between viewing these subjects in the Kinetoscope cabinet and *projecting* them on a screen. Unmistakably, Antonia's commitment to projection is here in this article in her reference to the limitations of the peepshow images, "more diminutive than when projected on a screen."[66] In contrast with the cabinet view that miniaturizes the image, in the Kinetographic Theatre that Antonia describes, these enlarged figures "project themselves," and are seen "dancing, singing, gesturing, talking, swinging hammers, or weaving the dangerous intricacies of swordsmanship . . . " There is a circle of light, "emanating from the screen," and a projector is "concealed behind a curtain with a peephole for the lens."[67] Our hypothesis, given the need for a degree of plausibility, can advance to this: Even before

FIGURE 5. Holland Brothers Kinetoscope parlor 155 Broadway, New York. Courtesy Thomas Edison National Historical Park. National Park Services, West Orange, NJ.

1894, Antonia was party to the technical difficulties arising from experiments in the Kinetographic Theatre located inside the Black Maria studio. At home, likely before April 2, 1895, Antonia was thinking about the theoretical problem of what the Edison experimenters referred to as the "projecting Kinetoscope." This puts her at the center of the efforts to develop such a functioning device.

THOUGHT EXPERIMENT # 1: "WHAT IF" ANTONIA DICKSON HAD . . . : 166 CLEVELAND STREET, ORANGE, NEW JERSEY

Motion Picture historians have agonized over the timeline in the invention of the kinetoscope, and often use the term "mystery" in reference to key events that became crucial to the establishment of patent claims, beginning with litigation around 1910.[68] Some of this shroudedness can be attributed to W.K.L. himself, given his tendency to change dates and to make exaggerated claims in recalling earlier events.[69]

As part of our "thought experiment," let's now shift our attention to the Dickson home, 166 Cleveland Street in Orange, New Jersey, where Laurie lived with his wife and sister Antonia in the crucial 1889 to 1895 invention period. Our "counterfactual imagination" relative to Antonia's role is stirred by reference to six letters about the development of celluloid film written to

George Eastman dating from before September 1, 1889, such letters likely sent from that address.[70] Did Antonia handle W.K.L.'s correspondence, we wonder? The evidence again points to the Dickson home as a later scene of invention, this time in the phase Thomas Edison was reluctant to pursue—motion picture projection. With W.K.L. after April 1894, assigned by Edison's new manager William Gilmore to photographing films for the Kinetoscope machines, Antonia's brother was effectively shut out of the Edison laboratory.[71]

What, however, if Antonia had continued the projection experiments at 166 Cleveland Street? She might have carried on just as she continued work on the Edison biography during Laurie's recovery in Florida in 1893. Further consider that the controversy over Dickson's relationship to Woodville Latham and his sons Otway and Gray looks somewhat different when viewed from 166 Cleveland Street where the Lathams were invited to dinner in Fall 1894 at which the topic of projection came up.[72] In wide circulation since 1925 has been Dickson's account of a dinner in October 1894 at 166 Cleveland Street in which Woodville and his sons heard him describe the Kinetoscope projection tests he planned to undertake at Columbia College with Professor Riborg Mann to which Professor Latham asked to be invited.[73] The social meetings with the Lathams occurred before Dickson visited their workshop on 35 Franklin St., Manhattan, in late November 1894.[74] According to Paul Spehr, Woodville later testified that Dickson told him that he had continued to work on the projector at home and that he had a working model.[75] Treating this information from Latham's testimony as suggestive fact, we can imagine the Dicksons' experiments with projection as ongoing at Antonia's home in Orange, New Jersey.

The narrative in Our Timeline is well known to historians of moving pictures, for which see below. Now recall that in the counterfactual mode the goal is critical analysis rather than a revisionist narrative based on factual sources, or, it's *not* to piece together "what happened" in 1893 to 1895, but to *counter* the established with speculation as to what *would have* happened if conditions or persons had been different. In our "thought experiment," Dickson *does not resign* from the Edison Company but neither can he continue work on projection because Gilmore had taken him off the project.

In the Alternate Timeline, "What if Antonia Had . . . ," Dickson's sister continued work on the projection system at 166 Cleveland Street. Beginning March and April 1894 after shooting Sandow and Carmencita, W.K.L. would have continued making the fifty-foot strips for "nickel and slot"

Kinetoscope machines, work assigned to him by Gilmore.[76] More importantly, Laurie *would not have* resigned on April 2, 1895, because there would have been no basis for Gilmore's accusation that he had worked with the Lathams. After all, Dickson had no need to work with them on their competing project because of progress Antonia was making on the projecting Kinetoscope at home. In April 1895, Thomas Edison would have embraced the idea, even before he was pressured to for the sake of profit by Kinetoscope exhibitors Raff and Gammon. Why? Because W.K.L. Dickson *would have* produced the working model of the new Edison machine on which Antonia had labored at home.

Remember that the "counterfactual speculation" bonus is in the informed conjecture about events that *would* as well as *would not have happened*, a historical "do over" if you will. In our "instant" of divergence, or "nexus," W.K.L. Dickson *would not have* rashly resigned in a fit of temper just before success in the development of a projecting Kinetoscope. The Jenkins-Armat Phantoscope the Edison Company licensed and renamed the Vitascope *would not have* premiered at Koster and Bial's Music Hall on April 23, 1896.[77] The Vitascope machine *would not have* existed because an Edison Company projecting Kinetoscope *would have* premiered instead. The Kinetoscope *would have* premiered in November 1895, a month before the Lumière *cinématographe* on December 28, 1895. Consequently, the first public projection of moving pictures *would not have* taken place in Paris but *would have* triumphally occurred in New York City.

CONCLUSION

"*What if*" experiments as critical thought about past events now destined for the present inject new vitality into feminist media historiography. Such experiments revitalize if we insist on the distinction between the ever elusive "whatever happened" and the multiple versions of what is claimed to have "happened." Yet the vain hope that empirical proof can confirm that "this" as opposed to "that" happened still underwrites the "search for origins." Ahead, we should expect more theoretical work on *counterfactual speculation* and the conventions that signal the shift in modality for the reader. Here, I've introduced the concepts of *counterfactual question*, *counterfactual prototype*, and *feminist counterfactuality* to foster encounters between empirical certainty and speculative wonderment.

As a methodology in the spirit of Foucault's paradox of discontinuity—the counterfactual interrupts the "already known" with the to-be-imagined.[78] The shift in tone and mode where factual "givens" yields to imaginative speculation is where Our Timeline (OT) comes into question. There will be doubts. After all, the OT from which counterfactuality diverges is underwritten by the factuality in which entire fields of knowledge are deeply invested. And thus one can expect resistance to *counterfactual speculation* as it continues on without support from archival document or confirming source. For in this mode it does not matter if little or no evidence can be found to support such statements of fact: "Antonia Kennedy-Laurie Dickson invented the kinetoscope." However, this statement, if I am right, can inspire the theoretical possibilities of *counterfactual speculation*—hat is, if we pose the *counterfactual question* "*What if* she had?"

OUR TIMELINE (OT): 1893–1896

January 1893 – Black Maria studio completed
February to April 1893 – WKL Florida trip to recover from illness; Antonia continues work on Edison biography
September 1894 – *The Life and Inventions of Thomas Alva Edison*
April 1894 – Holland Brothers Kinetoscope parlor opens, New York
March 1894 – Sandow kinetoed in Black Maria, dinner at Dickson home
April 1894 – William Gibson hired as manager; W.K.L. assigned to making films for the Kinetoscope and shut out of kinetoscope experiments
October 1894 – Lathams invited to dinner, projection discussed
November 1894 – Dickson visits Latham workshop, 35 Franklin St., Manhattan
February 1895 – Antonia publishes "Wonders of the Kinetoscope"
_____ 1895 – *Kinetograph, Kinetoscope, and Kineto-Phonograph* published
April 2, 1895 – W.K.L. accused by Gilmore of disloyalty, resigns from Edison Co.
December 28, 1895 – Lumière premiere *cinématographe*, Café Indien, Paris
April 23, 1896 – Vitascope premiere, Koster & Bial's Music Hall, New York

ALTERNATE TIMELINE (AT): APRIL 1894 TO NOVEMBER 1895

April 1894 – Antonia and W.K.L. begin "kinetographic experiments" at home

April 2, 1895 – W.K.L. argues with Gilmore and Edison but does not resign
September 1895 – Antonia produces working model of the projecting Kinetoscope
November 1895 – the projecting Kinetoscope premieres, New York ■

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NOTES

To Paul Spehr for crediting Antonia. Special thanks to Ally Field and Jennifer Bean.

1. This idea has been inspired by new light shed on the relationship between brother and sister. See Paul Spehr, *The Man Who Made Movies: W.K.L. Dickson* (New Barnet: John Libbey, 2008).

2. W.K.L. Dickson and Antonia Dickson, *History of the Kinetograph, Kinetoscope and Kineto-Phonograph*. (New York: Albert Bunn, 1895); William Kennedy Laurie Dickson and Antonia Dickson, *The Life and Inventions of Thomas Alva Edison* (New York and Boston: Thomas Crowell & Co, 1894), based on the fourteen installments by A. and W.K.L.Dickson, "The Life and Inventions of Thomas Alva Edison," *Cassier's Magazine Engineering Illustrated* (November 1892 – December 1893). The earliest account of the invention of the kinetoscope is Antonia Dickson and W.K.L. Dickson, "Edison's Invention of the Kineto-Phonograph," *The Century Illustrated Magazine* Vol. XLVIII, no. 2 (June 1894): 206–214.

3. Antonia Kennedy-Laurie Dickson. Obituary. *Chamber's Journal* (September 1903): 56.

4. Catherine Gallagher, *Telling It Like It Wasn't: The Counterfactual Imagination in History and Fiction* (Chicago: University of Chicago Press, 2018), 3.

5. Gallagher, *Telling It Like It Wasn't*, 1.

6. Gallagher, *Telling It Like It Wasn't,* says that critique may amount to an "estrangement" of our "perceptions of actuality," 14. More work needs to be done to consider the counterfactual mode relative to current developments that sometimes go by the name of "deconstructive history," in contrast with the "new historicism" with which Gallagher has been associated.

7. Gallagher, *Telling It Like It Wasn't*, 9, says that academic historians are critical of what they see as "distortion," and see the difference between "what happened" and what "might have happened" as susceptible to value judgment.

8. Gallagher, *Telling It Like It Wasn't*, 4–5. There is also what has been called "conjunctural thought," or the "speculative mode" of future history exemplified by Elizabeth Kolbert, *The Sixth Extinction* (New York: Henry Holt, 2014), or Timothy Morton, *Dark Ecology* (New York: Columbia University Press, 2016). See Frank

Palmeri, "In Praise of Speculative History," *The Chronicle of Higher Education* (July 10, 2016).

9. Simon Schama, "And What If . . . ," *Talk* (December 1999), 2: "If only the Austrian Archduke Franz Ferdinand's driver had met a well-meaning man in the Sarajevo street in June 1914 . . . no First World War, no Hitler, no Stalin, no nuclear weapons, no Sarajevo crisis (1990s)." Martin Arnold, "Making Books: The 'What ifs' That Fascinate," *New York Times* (December 12, 2000), thinks that the difference between fiction and nonfiction doesn't matter in the case of examples he gives of speculative history, all of which raise the "What if" question. He doesn't use the term counterfactual.

10. G.J. Meyer, *A World Undone: The Story of the Great War, 1914–1918* (New York: Dell, 2006), 8, describes: "By a coincidence that has reverberated down the decades, he had stopped less than five feet from Gavrilo Princip, nineteen years old, the one remaining member of the assassination gang and its leader. Princip pulled out his revolver, pointed it at the stopped car, and fired twice."

11. Gallagher, *Telling It Like It Wasn't*, 52.

12. See Gallagher, *Telling It Like It Wasn't*, 12. In the counterfactual AT, or Alternate Timeline, the Vietnam as well as the first and second Iraq wars *would not have happened* if JFK had not been assassinated in November of 1963, the "nexus." She also references "alternative histories" that take the form of "long counterfactual narrative" that uses the historical record to fictionalize entire worlds (3).

13. For instance, see Guiliana Bruno, *Streetwalking on a Ruined Map*: *Cultural Theory and the City Films of Elvira Notari* (Princeton, NJ: Princeton University Press, 1993); Zhen Zhang, *An Amorous History of the Silver Screen: Shanghai Cinema, 1896–1937* (Chicago: University of Chicago Press, 2005); Mark Cooper, *Universal Women: A Case of Institutional Change* (Urbana: University of Illinois Press, 2010); Tami Williams, *Germaine Dulac: A Cinema of Sensation* (Urbana: University of Illinois, 2014); Shelley Stamp, *Lois Weber in Early Hollywood* (Berkeley: University of California Press, 2015); Allyson Nadia Field, *Uplift Cinema: The Emergence of African American Film and the Possibility of Black Modernity* (Durham: Duke University Press, 2015), to list only a very few examples.

14. Gallagher, *Telling It Like It Wasn't*, 2.

15. Spehr, *The Man Who Made Movies: W.K.L. Dickson*, 10, calculates dates of birth from an 1861 British Census showing Antonia born in 1854 and William Kennedy Laurie in 1860.

16. See Note # 2.

17. Edmund Morris. *Edison* (New York: Random House, 2019), 326; Paul Spehr, *The Man Who Made Movies: W.K.L. Dickson* (New Barnet: John Libbey, 2008), 289; Gordon Hendricks, *The Edison Motion Picture Myth* (Berkeley: University of California Press, 1961), 8.

18. For a close analysis of Antonia's writing on nineteenth-century technologies see Jane M. Gaines, "Antonia Dickson: The Kineto-Phonograph and the Telephony of the Future," in *Early Popular Visual Culture*, forthcoming.

19. Gallagher, *Telling It Like It Wasn't*, 3.

20. Michel Foucault, *Power/Knowledge: Selected Interviews & Other Writings, 1972–1977*, ed. Colin Gordon, trans. Colin Gordon, Leo Marshall, John Mepham, and Kate Soper (New York: Pantheon Books, 1980), 193.

21. See Jane M. Gaines, "What Happened to the Philosophy of Film History?" *Film History* 25, nos. 1–2 (2013): 70–80, for a critique of the "historical turn" in the field and the call to engage with theories of history.

22. See Philip Rosen, *Change Mummified: Cinema, Historicity, Theory* (Minneapolis: University of Minnesota Press, 2001), for this argument about the traditional narrative historian. Also see Hayden White, *The Content of the Form: Narrative Discourse and Historical Representation* (Baltimore: Johns Hopkins University Press, 1987), Chs. 1 and 2 for the critique of narrative history.

23. I come closer to the philosophy of history here than Gallagher does and recommend starting with the *locus classicus*, Martin Heidegger, *Being and Time*, particularly on the relevance of the question of existence to any theory of history.

24. Gallagher, *Telling It Like It Wasn't*, 4–5.

25. See Gaines, "What Happened to the Philosophy of Film History?" I am not inclined to use the term "counterfactual history," especially since the term doesn't call attention to the double meaning of the term *history* as both historical events and their narrativization, and the modifier "counterfactual" does not automatically rectify this problem.

26. This is implied in the famous feminist question for which see Linda Nochlin, "Why Have There Been No Great Women Artists?" in *Art and Sexual Politics: Why Have There Been No Great Women Artists?*, edited by Thomas B. Hess and Elizabeth C. Baker (New York: Collier, 1973), 1–43.

27. One reason would be Nochlin's challenge to the very idea of "greatness." For, as she argues: "... studies of exceptional women and Blacks, really no different from nominating any forgotten figure, do nothing to challenge the assumptions behind the question as to why women are not considered "great." Really challenging the exclusion of women from "greatness" would require questioning the very idea of how the "greatness" of the few relegated so many others to obscurity.

28. See Note # 3.

29. "June Mathis Heart Victim," *New York Times* (28 July 1927): 19. Virginia Wright Wexman, "June Mathis," in *Women Film Pioneers Project*, edited by Jane Gaines, Radha Vatsal, and Monica Dall'Asta (New York: Columbia University Libraries, 2013). Mathis might have experienced a complete career comeback after Louis B. Mayer fired her in 1925. https://wfpp.columbia.edu/pioneer/ccp-june-mathis/.

30. Gallagher, *Telling It Like It Wasn't*, 12.

31. Gallagher, *Telling It Like It Wasn't*, 13.

32. Jane M. Gaines, *Pink-Slipped: What Happened to Women in the Silent Film Industries?* (Urbana: University of Illinois Press, 2018), Ch. 3; Kiki Loveday, "Do You Believe in Fairies: Cabbages, Victorian Memes, and the Birth of Cinema: Seeing Sapphic Sexuality in the Silent Era," Women Film Pioneers Project Projections: https://wfpp.columbia.edu/2019/10/17/do-you-believe-in-fairies-cabbages-victorian-memes-and-the-birth-of-cinema-seeing-sapphic-sexuality-in-the-silent-era/.

33. Gallagher, *Telling It Like It Wasn't*, 14.

34. Spehr, *The Man Who Made Movies*, 53, refers to such speculation, but offers no citation.

35. Sharon Marcus, *Between Women: Friendship, Desire, and Marriage in Victorian England* (Princeton, NJ: Princeton University Press, 2007).

36. Spehr, *The Man Who Made Movies*, 328; *New York World* (18 March 1894).

37. W.K.L. Dickson, "A Brief History of the Kinetograph, the Kinetoscope and the Kineto-Phonograph," *Journal of the Society of Motion Picture Engineers* (1933): 9–13.

38. See Note # 18.

39. Spehr, *The Man Who Made Movies*, 106, says that in June 1889, just as Edison and Dickson were beginning to work on the Kineto, Wordsworth Donisthorpe, William Friese-Greene, and Louis Aimé Augustin Le Prince were all closer to reproducing movement.

40. As quoted in Spehr, *The Man Who Made Movies*, 631.

41. See Spehr, *The Man Who Made Movies*, Ch. 34, "The Grandad of Us All." Before him, Hendricks, *The Edison Motion Picture Myth*, began to advance Dickson as more than a co-inventor, a position that has evolved from that of Terry Ramsaye, *A Million and One Nights: A History of the Motion Picture Through 1925* (New York: Simon and Schuster, 1986), 70, who saw Dickson as conflicted, loyal to Edison, and yet wanting to both confirm to himself and appear to others as the inventor.

42. See "Remapping Early British Cinema: A Symposium," May 26–27, 2021, organized by Ian Christie and Malcolm Cook, sponsored by Birkbeck College, London, as indicating an interest in re-affirming the British part in the "invention" phase of the early 1890s.

43. Richard Howells, "Louis Le Prince: The Body of Evidence," *Screen* 47, no. 2 (July 2006): 179.

44. Morris, *Edison*, 330, dramatically proclaims Le Prince the "precursor of them all." Such proclamations are based on extant footage shot October 1888, in Le Prince's garden: https://www.youtube.com/watch?v=nR2r__ZgO5g. See Howells, "Louis Le Prince," 179–200; Spehr, *The Man Who Made Movies,* 114.

45. Gallagher, *Telling It Like It Wasn't*, "latent potentialities."

46. Letter from Antonia K.L. Dickson to Thomas Macquire. 15 February 1893. Thomas A. Edison Papers Digital Edition.

47. Spehr, *The Man Who Made Movies*, 13–15.

48. Antonia Kennedy-Laurie Dickson, Obituary, 55.

49. In Germany, she studied under Moscheles, Johann Zschoeher, Sisimund, Lebert, and court pianists Würtemberg, Prüchner, and Wilhelm Kruger. Antonia Kennedy-Laurie Dickson, Obituary, 56.

50. Antonia Kennedy-Laurie Dickson, Obituary, 56.

51. Edison National Historic Site (U.S. Department of the Interior, National Park Service, West Orange, NJ) See also the Thomas A. Edison Papers Digital Edition, edited by Rutgers University: http://edison.rutgers.edu/digital.

52. Spehr, *The Man Who Made Movies*, 270, says that this was a "hint that job stress had caught up with him."

53. Letter from Antonia K.L. Dickson to Thomas Macquire. 15 February 1893. Thomas A. Edison Papers Digital Edition.

54. Letter from Thomas Macquire to Antonia K.L. Dickson. 15 February 1893. Thomas A. Edison Papers Digital Edition.

55. Letter from Alfred Ord Tate to Antonia K.L. Dickson. 6 March 1893. Thomas A. Edison Papers Digital Edition.

56. Spehr, *The Man Who Made Movies*, 391.

57. A. and W.K.L. Dickson, "The Life and Inventions of Thomas Alva Edison," *Cassier's Magazine Engineering Illustrated*, Twelfth Paper (October 1893), 457. Spehr, *The Man Who Made Movies*, 265–267, says that the laboratory staff gave the building the name "Black Maria" after the police wagons it resembled. It was completed in January 1893.

58. A. and W.K.L. Dickson, "The Life and Inventions," 451, 453.

59. A. and W.K.L. Dickson, "The Life and Inventions," 457–458; Antonia's imaginative description of the photographic rooms from the twelfth *Cassier's* installment was largely carried over into Dickson and Dickson, *History of the Kinetoscope, Kinetograph, and the Kineto-Phonograph*, 19–22. See Gaines, "Antonia Dickson: The Kineto-Phonograph and the Telephony of the Future," for more on Antonia's morbid references as well as her chronic illness.

60. The first of the two articles was Miss A. Dickson, "Nine Hundred and Fifty Miles by Telephone." *Cassier's Magazine Engineering Illustrated* Vol. III, no. 13 (November 1892): 71–74.

61. See Note # 11.

62. On the resignation see Spehr, *The Man Who Made Movies*, 371. On page 376 he explains how Kinetoscope Company exhibitors Raff and Gammon were instrumental in convincing Edison to manufacture Thomas Armat's Phantoscope as the Edison projecting machine named the Vitascope. See also Charles Musser, *The Emergence of Cinema: The American Screen to 1907* (Berkeley: University of California Press, 1990), Ch. 4, "The Vitascope."

63. Antonia Dickson, "Wonders of the Kinetoscope." *Leslie's Monthly* (February 1895): 246. http://edison.rutgers.edu/digital/document/SC95005a.

64. Dickson, "Wonders of the Kinetoscope," 247.

65. Dickson, "Wonders of the Kinetoscope," 248.

66. Dickson, "Wonders of the Kinetoscope," 249.

67. Dickson, "Wonders of the Kinetoscope," 250.

68. See testimony in *Motion Picture Patents v. Imp* (1911) by Dickson as well as Woodville Latham. Edison Historical Society legal files. See Spehr, *The Man Who Made Movies*, 357, for interpretation of Woodville Latham's testimony.

69. See Spehr, *The Man Who Made Movies*, Ch. 33, "A Peculiar Memory for Details," especially 631–634. The phrase "peculiar memory for details" is Dickson's own description of himself (as quoted in Spehr, 618).

70. Dickson, "Wonders of the Kinetoscope," 249, Spehr speculates that Dickson wrote to George Eastman from home since although Eastman produced copies of the correspondence in a 1910 deposition, none were found in the Edison Papers.

71. Spehr, *The Man Who Made Movies*, 310, 321.

72. Spehr, *The Man Who Made Movies*, 357. About this very series of events Spehr, 651, says that "Despite plentiful testimony and reams of documentation, the record is inconclusive and we are forced to speculate."

73. Ramsaye, *A Million and One Nights*, 118–119, says that the technical information about the test as well as the dinner at the Dicksons' home—the circumstances under which Woodville Latham learned about it—were in a letter Dickson wrote to him dated May 30, 1924, just before the first publication of his history of moving pictures. About the degree to which Dickson contributed to the design of the Latham projector and camera, Spehr, *The Man Who Made Movies*, 651, says that "Despite plentiful testimony and reams of documentation, the record is inconclusive and we are forced to speculate."

74. Spehr, *The Man Who Made Movies*, 366.

75. Spehr, *The Man Who Made Movies*, 357.

76. Charles Musser, *Edison Motion Pictures, 1890–1900* (Washington, D.C.: Smithsonian Institution Press, 1997), 658–660, lists the titles W.K.L. Dickson shot between April 1894 and January 1895. Many titles were shot after April 1, 1894, when his motion picture work was "shifted" out of the laboratory and William Gilmore was hired as vice-president and general manager of the Edison Manufacturing Company. Among the most important shot in 1894: *The Boxing Cats* (June) *Annabelle Serpentine Dance, Annabelle Butterfly Dance* (July), *Corbett and Courtney Before the Kinetograph* (September), *Buffalo Bill, Sioux Ghost Dance* (September), *Annie Oakley, Band Drill* (November). In January 1895, some duplicates had to be shot because negatives were ruined in printing, among which were *New Blacksmith Shop, Annabelle Serpentine Dance, no. 2*, *Annabelle Butterfly Dance, no. 2*. Strangely, Musser lists no titles shot by Dickson between February 1895 and April 2, 1895, when he resigns from the Edison Company.

77. Spehr, *The Man Who Made Movies*, 376.

78. Michel Foucault, *The Archaeology of Knowledge*, translated by A.M. French (New York: Pantheon Books, 1972), 8–9, refers to discontinuity as the "stigma of temporal dislocation" that the traditional historian had to remove. But he also sees the notion of discontinuity as "paradoxical" because it is both an "instrument and an object of research." Discontinuity may no longer get in the way for the historian but becomes a "working concept."