FOREWORD: HANNAH FRANK'S PAUSE

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Sometime in 2014, Hannah Frank sent me a draft of a chapter from her dissertation on Hollywood cartoons, which I read with curiosity and pleasure. In her analysis of the processes of cel animation, she discussed her own method of analysis and research. In this context she turned to the writings of Emily Dickinson, especially recent research on the poet that not only returns to the original manuscripts to restore Dickinson's eccentric punctuation and line spacing that early editors tended to tidy up, but investigates Dickinson's materials: the actual slips of paper she wrote on; their sources (wrappers, envelopes, flyleaves from books), shapes, and textures; as well as the various marks that appear on them. I read this with some fascination even as it went on for several pages. I could see the model that this new Dickinson research set for Frank's own investigation of the material basis of Hollywood cartoons. Frank was examining the individual animation cels from which animated cartoons of the studio era were composed, as well as tracing technological shifts in animation processes and how these affected what we watch on the screen. But when I met with her to discuss the chapter, I wondered aloud whether such a digression into Dickinson might pose a problem for readers and publishers, even if she had convinced her dissertation committee of its relevance. Hannah gave me that quiet smile I had come to recognize as a sign of her combination of amusement and confidence—plus a dash of mischief. Demonstrating how all these things were related—technology, history, materials, cinema, literature—was precisely the point of her work. I am delighted that now a publisher and editor have agreed and are making this daringly original and constantly surprising work available to a wide group of readers. The only regret that accompanies this happy event is the fact that Hannah herself could not see it, due to her untimely death at age thirty-three.

Frame by Frame, the published version of Frank's dissertation, then titled "Looking at Cartoons," is one of the most thorough examinations yet written of the animated cartoons of the studio era. Frank undertook in-depth research, scrutinizing the films and the materials underlying them, studying animation technology and its changes. She profited from recent decades of serious research and analysis by historians of animation. But she deliberately went further. She not only practiced close analysis of the cartoons she discussed, but asked how far close such readings could go, and what exactly we should pay attention to. Like recent Dickinson scholars, Frank paid attention to things others might ignore or consider unimportant. She highlighted the mistakes, glitches, and peripheral details that were revealed when she examined cartoons frame by frame. In these pages Frank performs a dizzying tour-de-force, uncovering aspects of cartoons that slip beneath the thresholds of ordinary viewing.

But we might ask, why? Does such a winnowing end up grasping at straws rather than wheat? Does this sort of criticism amount to more than just a demonstration of academic cleverness—like recent critics' uncovering of small errors in Alfred Hitchcock's films, or discovering props in them that seem to reveal possible in-jokes—but little else? No question, Frank is clever, but she is also serious. Her method of scrutiny offers more than a new edition of trivial pursuits. Her method and the discoveries it allows remain firmly grounded in the nature of her subject: the animated cartoon.

Like most brilliant doctoral students, Frank revised the topic of her dissertation a number of times over the years we worked together. At one point she wanted to focus on the actual labor involved in the studio system of animation. Recent research into studio animation has detailed the highly rationalized, industrialized, hierarchical work that lay behind the carnivalesque cavorting of Daffy Duck and Woody Woodpecker. Cartoons depended upon a sort of assembly-line process in which lower-paid workers such as "inkers" and "in-betweeners," often women, completed the details of the images that would appear on the thousands of individual cels that made up a cartoon. Frank's close examination of these cels, then, does not simply search out details invisible to the mass of spectators, but rather uncovers the traces of occluded labor. Rather than recherché cleverness, Frank's task is redemptive, bringing to light the contributions these anonymous and invisible workers made. Her scrutiny, however, is not primarily prosecutorial, but rather empathetic, focused as much on the creativity of the workers as on their exploitation. Even at the level of repetitive work Frank uncovers moments of wit, jokes, and protests against an effaced individuality—as well as signs of fatigue and inattention. At points Frank's discoveries recall the marginal figures, jokes, flourishes of creativity, and even hints at blasphemy that the art historian Michael Camille found medieval scribes left on the edges of manuscripts they were copying.

The hidden traces Frank reveals in this book fulfill the ambition of every critic: to make viewers see things in a work that they did not see before. Beyond

revealing the traces of a production process designed to remain tucked out of sight, Frank makes us look at cartoons differently—no longer as images that flit across the screen, but as documents of human labor that should be scrutinized. Her method of frame-by-frame analysis responds to the very nature and structure of animation. Beginning with the individual animation cel, Frank in effect retraces and reverses the process of animation itself. Animation depends on the rapid succession of still images to create a moving image. When we watch a film or cartoon on the screen, the individual images seem to disappear, absorbed into a perception of motion. But they are still there, underlying and creating that appearance of motion—and lying in wait for the careful attention of a scholar like Frank. If we want to understand animation, we need to rediscover those persistent still images. Frank not only does this, but closely interrogates them in order to make them yield their secrets.

For a long time cartoons were treated as a minor aspect of the history of cinema, marginal "short subjects," mere child's play. But new approaches to moving image technology, perceptual psychology, and even the archaeology of cinema have pushed animation to the center of cinema studies. The leap from the single still frame to the experience of movement in fact constitutes the miracle of all movies. Reversing the traditional hierarchy, we could now approach the "movies"—the feature film—as forming a subclass of animation. Hannah Frank understood that the great secret of cinema lies in its ability not only to animate an image, but to freeze it, to stop and pivot on a single frame. The mechanics of cinema are well known, but also easily forgotten. The filmstrip presents a succession of still images with slight differences between them, depicting the progression of an action or motion. Inserted into an apparatus, these still images can be made to move before our eyes. This process of making pictures move is known as animation, and it can be applied to both photographs and drawings.

If we have taken the process of animation for granted for a long time, the first viewers of cinema were fascinated precisely by this magical transformation from a series of still images to motion pictures. In 1894, when journalists from *Harper's Weekly* first reported on Thomas Edison's Kinetoscope, they stressed that the films were made up of numerous still images. The article actually reprinted each still image that Edison shot to demonstrate his new device, "Kinetoscopic Record of a Sneeze," numbering them one through eighty-one. This proliferation of multiple images seemed to fascinate the journalists as much as the two seconds they recorded of the action of Edison's employee, Fred Ott, sneezing out the snuff he had stuffed up his nose. Cinema was born as the art of animating individual images—in this case, photographs. But what about animation as we usually use the term: cartoons as "drawings brought to life"? Almost two decades later, in 1911, when the movies had become an international form of entertainment, the Vitagraph Company announced another innovation: famous newspaper cartoonist Winsor McCay would make the figures from his comic strip *Little Nemo* move on

the screen. An intertitle for the film announced that McCay would produce "four thousand drawings ready for the Vitagraph Company's moving picture camera" in order to produce one of the first US cartoons. The sheer number of individual drawings formed a major attraction of this new form of entertainment; it was as fascinating as the bringing of images to life.

In its first years, cinema was often referred to as "animated pictures."" To animate means to bring to life, to endow with soul. The first audiences to witness moving pictures thus experienced animation as both a scientific marvel and a magic trick. These animated images came from the confluence of the nineteenth century's scientific research into perception, the industrialization of precision machines, and a broad cultural fascination with visual illusions. But drawings had already been animated for decades by a variety of devices, often known as "philosophical toys." Devices such as the phenakistoscope, the zoetrope, and the praxinoscope were operated by hand, and the children and adults who set them in motion both witnessed *and* caused (with the aid of the apparatus) the dialectical leap in perception from still images to visual motion. It was this perceptual transformation that constituted the attraction and pleasure of the toys.

As motion pictures became an industry and a form of mass entertainment, the production of motion was taken out of people's hands, and the process soon slipped their minds. Moving pictures became a medium, a means of doing other things: telling stories, persuading or educating people, recording performances. The original fascination of generating motion from the single frame faded from consciousness. In the 1970s certain radical film theorists began to decry this suppression of the mechanical work of generating motion as an ideological swindle, a reactionary conspiracy designed to create complacent spectators and conformist citizens out of the masses spellbound before the cinema screen, like the chained prisoners in Plato's cave. The pleasure of the cinema was denounced as a new opium of the masses. The only way to undo its power of fascination, it was claimed, was to insert a tick into the spoke of the wheel of cinema's machinery of motion. But, like the film industry they abhorred, these critics seemingly forgot the knowing astonishment that originally accompanied the leap from still image to motion. Is all cinematic pleasure ideologically complicit?

I would claim that the pivot on the single frame that Hannah Frank makes in this book shows us how to restore that original wonder, while also maintaining skepticism and scrutiny regarding how the trick of animation is carried out. Rather than simply decrying the magical illusions that make up the cinema, Frank takes a more complex and materialistic viewpoint, one that never abandons a sense of humor and delight in what these philosophical toys create. She probes the materials and the processes of animation in order to see how things were done, and sometimes how they were *un*done. Her idea that the animation cels should be understood not only as images, but as documents, is revealing. Think of her dissertation title, "Looking at Cartoons." Most viewers simply

watch cartoons, but Frank examines them, treats them as evidence, reads them like documents.

I am very proud to have had Hannah Frank as my student, although with a brilliant student one never can be sure what one taught them and what one learned from them. To my surprise, Hannah took great interest in my own teacher and dissertation adviser, Jay Leyda. Given her early research into Soviet cinema (one of her early possible dissertation topics was Soviet animated films), her interest in Leyda was not surprising. He was, after all, the translator of the writings of Sergei Eisenstein, having studied under this master filmmaker in the Soviet Union in the 1930s. Leyda had also written the first, and still the primary, history of Russian and Soviet cinema, *Kino*. But Soviet cinema did not form the center of Frank's interest in Leyda; rather it was his literary research, specifically the collections he published of source material and original documents dealing with Herman Melville and Emily Dickinson: *The Melville Log: A Documentary Life of Herman Melville, 1819–1891* (1951) and *The Years and Hours of Emily Dickinson* (1960). It was Leyda's passionate engagement with documents that intrigued Frank and offered her a model for her own method. Leyda had approached *The Melville Log* in particular as a cinematic work, an experiment in montage as a mode of literary history. As opposed to a traditional biography, *The Melville Log* juxtaposes documents and expects the reader to compose from them her own picture of Melville and his era. Leon Howard, whose biography of Melville drew on Leyda's research, described *The Melville Log* as "a sort of cinematic experiment in biography, it was new and exciting." Leyda dedicated *The Melville Log* as a "birthday present for my teacher, Sergei Eisenstein."

The cinematic technique of montage inspired a number of scholars in the era before World War II. Leyda's works on Melville and Dickinson were self-consciously modeled on his cinematic lessons from Eisenstein. But two other works of this era show (even though they remained unpublished during their authors' lifetimes) a similar ambition to place a collection of materials before the reader and allow her to make connections. Most famous and influential, even before its posthumous publication, is Walter Benjamin's vast *Arcades Project*, which collects a wide range of documents relating to the commercial and architectural innovation of nineteenth-century urban France, the shopping arcade, and a broad sense of its contexts and implications. As in *The Melville Log*, Benjamin wanted his work to consist of juxtaposed original documents: "This work must develop to the highest point the art of citing without citation marks. Its theory connects most closely to that of montage." Less well known (and still only partially published) is the archive of material on the coming of industrial machines entitled *Pandemonium*, assembled by the British filmmaker and social historian Humphrey Jennings. Jennings considered the unedited original documents he gathered as images in an unfolding film, which each reader would synthesize in her own way.

For these scholars the cinema represented a force that, rather than constituting a separate and isolated medium or art form, flowed across borders like a spring thaw. They recognized cinema not simply as a new art that could be studied, but as a model for understanding modern culture in all its dynamic metamorphoses. Establishing cinema as a serious art form worthy of careful consideration often took the form of emphasizing its difference from previous art forms. As important as this work by early film theorists was for charting the possibilities of cinema, it could also obscure the very strong effect cinema had on modern culture—painting, poetry, novels, architecture, dance. For Eisenstein, Benjamin, and Jennings, cinema's influence transformed the way we thought and perceived the world. And it could shape the way we did criticism. Although Frank does more than present a montage of documents, her method of breaking down the cartoon into its individual images—its *documents*, as she explains—extends this pioneering work of applying the method of cinematic montage to literature, history, and technology. Frank reverse engineers animation, breaking it down frame by frame, moving from a process of illusion into a method of investigation. By applying to animation the very procedure of its creation of motion, she also opens the cartoon to broader discussions of the nature of the film image, and its relation to literature and labor history.

Too often film studies poses a false dilemma: either to focus on the formal aspects of cinema, its unique sensual and aesthetic effects, or to dissolve the medium into a discussion of political, social, and ideological concerns. Frank weaves these approaches together, understanding that form has social implications and motivations, and that technology deals not simply with mechanical processes but with human experience as well. Further, one of the great unrecognized achievements of film studies lies in blurring the aesthetic hierarchies so carefully policed in other art forms. Frank exemplifies this in the way her work moves between commercial cartoons and avant-garde practices. Insofar as recent art movements allow a promiscuous interpenetration of high and low, they primarily evoke irony and social critique (as in Pop art, or postmodernist pastiche), expressing a degree of contempt for either kitsch or classics or both. Cinema as the art of the moving image bleeds across such divisions without invoking scare quotes or indulging in kitschy parody. Although she does not theorize this practice, Frank employs it masterfully, moving for instance between the works of experimentalist Robert Breer and industrialist Walt Disney—not with irony, but believing that each demonstrates a unique mastery of the art of the moving image and the practice of animation, and that they illuminate each other, partly through contrast.

Frank renews for us the joy of looking at cartoons, but it is a joy that does not indulge in childish regression or adolescent snickering. It focuses on insight, critique, and analysis. Frank demonstrates that the process of close examination need not lead to ideological disillusionment or a discourse of sobriety. Knowledge, Franks reminds us, can be an adventure, a wild hunt, a detective story in a search

for evidence, uncovering both pervasive crimes of exploitation and flashes of creativity. Frank's delight in her work comes through not only in her discoveries but also in the energy and wit of her prose. This is a book to learn from—and not only about cartoons.

In closing this essay, which mourns the loss of a brilliant young critic and celebrates her achievement and legacy, I want to return to the 1911 Vitagraph film of Winsor McCay and his four thousand drawings of Little Nemo and his friends. After McCay has completed his mass of drawings, they lie on his desk in towering piles, waiting to be animated. A curious office boy (whom McCay had previously shooed away) sneaks back and pokes around the precarious heaps of paper. Sure enough, they topple onto the floor in a messy pile of disordered leaves. Cowering from McCay's outrage, the boy sits among the mounds of paper, apparently trying to put them back in order, but also still examining them one by one and chuckling in delight. For me, Hannah Frank will always recall this mischievous kid, causing havoc in the intended order of images, but also carefully examining them, thinking about how they should be rearranged, and, of course, chuckling.