



## Buster Keaton's Climate Change

**Jennifer Fay**

In the spectacular climax of Buster Keaton's *Steamboat Bill, Jr.* (1928), a small Mississippi river town is besieged by a ferocious cyclone.<sup>1</sup> The unrelenting storm brings down piers, boats, and buildings as hapless residents scramble to find shelter. Eventually the camera settles on the local hospital, where the hurricane-strength winds collapse all four of the structure's walls to reveal Will Canfield Jr. (Keaton), sitting upright in bed, startled awake by his sudden exposure to the elements. Buffeted by airborne debris and witness to destruction in every direction, a frightened and confused Will pulls the sheet over his head, only to have the intensifying winds blow his bed across town, discarding our bewildered hero in front of a rickety house. What follows is perhaps the most famous sequence in Keaton's oeuvre. Framed in long shot, Will stands facing the camera with his back to the house when the entire two-story façade breaks free from its structural moorings and falls right on top of him. Will emerges unscathed only because he happens to be standing at the exact position of an open, second-story window through which his body passes in an application of providential geometry. Despite the show-stopping virtuosity of the stunt, Will's survival burlesque continues apace: the storm tosses his body like a ragdoll, heaps detritus on top of him, drags him through the mud of this all-but-disappeared town. When he regains his footing, he leans so far into the brutalizing wind that he seems to defy gravity, a body suspended mid pratfall. Gradually Will turns dimwitted survival into ingenious engineering and brute physical strength. He eventually boards his father's old paddle steamer, the town's

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Fig. 1. Will survives the falling house in Buster Keaton's *Steamboat Bill Jr.* (1928).



Fig. 2. Will leans into Keaton's windstorm. *Steamboat Bill Jr.*

sole place of refuge. Utilizing ropes and eccentric nautical savvy, he rescues the film's three other main characters, including, of course, his soon-to-be bride.

Will Jr. proves himself worthy of modern love when he transforms his bumbling incapacity into a form of accidental aptitude in the face of natural disaster. In the end, Will improbably brings order to people, things, and the environment they traverse. In fact, beyond merely weathering the storm, he turns its destruction to his romantic advantage. Eric Bullot and Molly Stevens explain that the Keatonian transformation “from obvious incompetence to extreme capability” is typically the result of “urgency, necessity, and the virtues of pragmatism that force him to observe, calculate, and predict” unforeseen outcomes under duress.<sup>2</sup> Failures in the social world, Keaton's heroes manage to thrive in extreme and exceptionally dangerous circumstances, despite that his success is often inadvertent and could just as easily lead to failure.<sup>3</sup> Rather they discover that destruction is the engine of narrative reconciliation. This is the catastrophic aesthetic of what Bullot and Stevens refer to as Keaton's singularly “devastating humor.”<sup>4</sup>

This essay views *Steamboat Bill Jr.* as not simply a narrative trajectory of devastation, but a study in environmental design that always and already anticipates its future ruination: in other words, the storm scene described above exposes a manufactured world that is most virtuosic in its unworking. Creating the most expensive comedy to date, Keaton's studio built to scale three full blocks of the fictional River Junction town along the banks of the Sacramento River not far from the state capital.<sup>5</sup> According to the studio press book, thousands of people gathered on the day of Keaton's storm “to witness the synthetic holocaust” that reduced the entire set to rubble.<sup>6</sup> The spectacle of weather design was the central attraction, and the press book explains the engineering behind Keaton's cyclone to his adoring public. Several hoses, cranes, cables, and six wind machines powered by Liberty airplane motors created the fierce drafts and pelting rain.<sup>7</sup> The wind current generated from just one engine was strong enough, recalls Keaton, “to lift a truck right off the road.”<sup>8</sup> *The Los Angeles Times* declared in its review that the “wind machines and other storm-producing devices . . . must have been numerous and effective during the making” of *Steamboat*. “There is no end of a hullabaloo when a tornado breaks loose in this comedy. . . . The cyclonic finish of this film is the best part of its entertainment.”<sup>9</sup>

*Steamboat Bill Jr.* is only the most obvious example of Keaton's climatology. We could also refer to the raging river in *Our Hospitality* (1923), the avalanche of primordial boulders in *Seven Chances* (1925), the abrupt, evicting California storm in *One Week* (1921), and the monsoon-like rains in *The Boat* (1921), to name just a few. Repeatedly, his characters are confronted with erratic and treacherous environments whose unpredictability is incorporated into the gags. Critics rightly discuss Keaton—and slapstick more generally—within the context of urban modernity, machine-culture, and the dizzyingly generative and inherently comical features of mechanical reproducibility.<sup>10</sup> But in these examples it is striking that weather is itself unnatural. As Alan Bilton remarks that the “natural world” in Keaton's southern-themed work, is “another enormous machine, a vast organic engine prone to both overheating and breaking down . . . Nature is simply another primed and waiting booby trap . . . deserving respect

28 for its lethal ingenuity and explosive power.”<sup>11</sup> But Keaton’s films fascinate not only because they *depict* calamitous weather; his shooting itself occasions the *production* of this weather, the direction of its force, and accurate prediction of its effects on real locations, north and south.

These experiments in manufactured weather and climate control were produced during an interwar era that witnessed environmental degradation wrought by industry and war.<sup>12</sup> In the south, for example, coal mining, logging, cash-crop cotton agriculture, and hydrological management had severely disrupted the fragile ecosystem of the Mississippi Delta. In the aftermath of the Great Mississippi Flood of 1927, the most devastating in US history, Americans could not deny that their geo-engineering was a force like nature but one whose long-term consequences were increasingly difficult to calculate. In his 1927 account of the disaster, noted New Orleans journalist Lyle Saxon lambasts the “levees only” policy for flood control that functionally disabled the river’s natural spillways, many of which were already destroyed by riverbank settlements.<sup>13</sup> Saxon appears to endorse an editorial from *The Outlook*, reproduced in the book’s appendix: “The great floods now ravaging the Mississippi Valley are considered by many to be an ‘act of God.’ They are, on the contrary, most distinctly the work of man.”<sup>14</sup> Though the history of the Mississippi is a history of its flooding, Saxon’s account describes the catastrophe as a distinctly modern, anthropogenic event.<sup>15</sup> Indeed many compared it to World War I. *The New Republic* reported that it was “gravest problem” the nation had faced “since the Great War,” and that “the stench from the corpses of drowned animals” decomposing in the floodplain “completes an impression of desolate misery like that of the French devastated regions in the War.”<sup>16</sup> In attempting to control the river through the levee system, humans instead amplified the river’s lethal energy. In his own Mississippi river comedy released just one year after the Great Flood, Keaton plays with cinema’s capacity to structure and thus make legible environmental contingency in the age of such “natural” disasters, and he is attuned to the resolutely modern notion, as Ian Hacking explains with reference to Charles Sanders Pierce, that the universe is “irreducibly stochastic.”<sup>17</sup>

That Keaton actually designs violent weather (rather than inadvertently unleashing its destructiveness) suggests that the mere comparison between wars and floods does not go far enough. *Steamboat’s* “synthetic holocaust” is an aesthetic analog to the militarization of climate science during World War I. Specifically it is an answer to the creation of lethal environments, or what Peter Sloterdijk calls the paradigm of “ecologized war” inaugurated when Germans released poison gas onto the battlefield at Ypres in 1915.<sup>18</sup> With the enemy entrenched and inaccessible to conventional weapons, Germany’s new military strategy targeted not the soldier’s body but his life-sustaining environment through a slow-drifting chlorinated “microclimate.” Ecological warfare intoxicates the enemy’s breathable habitat while keeping one’s own airspace clear. From this point forward, writes Sloterdijk, “atmoterrorist warfare” ushered in wholly new horizon of environmental partition, manipulation, and the concomitant vulnerability of life in times of war and peace. Contra Walter Benjamin, who asserted that after World War I “nothing remained unchanged but the clouds,” Sloterdijk’s study tells us that the clouds, above all, changed everything.<sup>19</sup>

Keaton himself knew a thing or two about the risk horizon of violent storms and war. His early childhood in Piqua, Kansas gives *Steamboat* a decidedly autobiographical touch. In his memoir, Keaton tells us that shortly after his birth, the town was “blown away during a cyclone” in 1895. As a toddler, a few years later, he awoke to “the noise of a Kansas twister. Getting up I went to the open window to investigate the swishing noise. I didn’t fall out of the window, I was sucked out by the circling winds of the cyclone and whirled away down the road.” It was, he deadpans, “a pretty strenuous day . . . [B]ut superb conditioning for my career as ‘The Human Mop.’”<sup>20</sup> Honing his survival skills in tornado alley also prepared him for his service as a foot soldier in France during World War I. Where he expected to encounter bombs and enemy fire, “in that war, we saw little but rain and mud.”<sup>21</sup> In this respect, Keaton’s war was a bit like his childhood in inclement Kansas; conversely, we may productively think of *Steamboat Bill Jr.* with its rain, mud, and shelterless town, as Keaton’s combat film, his “World War I along the Mississippi.”

Creating microclimates for his film-aesthetic practice, Keaton reprises his childhood brush with tornados in Kansas, but he also reflects the weather-mindedness of World War I, even as he anticipates the unnatural weather (the violent storms, the rising sea, the warming planet) of our contemporary moment. From the unwitting, reactive calamity along the Mississippi to the witting and strategic production of a atmospheric weaponry in Europe, Keaton’s cinema foregrounds anthropogenic environmental change and modern—at times tragic—modes of inhospitable world-making. Thus his environmental comedy enables us to glimpse both modern meteorology and what I will describe as “modernist weather” in the making.

## I. Keaton’s Environmental Design

It was not at all uncommon in the silent era for studios to create special weather effects for their films. D.W. Griffith, Keaton’s contemporary, was the master of verisimilar weather whose patterns of sunshine and precipitation nonetheless supplemented human feeling.<sup>22</sup> Against this normative pathetic fallacy, *Steamboat Bill Jr.* rather uniquely thematizes weather simulation within the diegesis itself. One of the many winks to the audience, on this score, comes with the first of two weather reports. Following a shot of Will in sunny skies, an insert of the local newspaper gently warns: “Weather Conditions: Unsettled—wet and cloudy.” We then cut back to Will slogging through strong winds and a massive downpour. Moments later we have an update from the same printed source: “Storm clouds in the offing.” In the shot that follows we find the town dealing with a full-fledged cyclone. Using comic understatement, the sequence highlights the familiar disparity between the techniques of presumably high-tech weather prediction and local experience (or, more accurately perhaps, local weather prediction and Keaton’s high-tech experience), while mocking the adequacy of modern technology, sciences, and infrastructures—e.g. River Junction’s bank, new hotel, modern rival steamboat, and twentieth-century meteorology—in the face of a good old fashioned storm.



Fig. 3. River Junction besieged by the cyclone. *Steamboat Bill Jr.*

Keaton's weather reflexivity continues when Will scrambles into the community theater seeking shelter. A medium shot shows us the stage door. When Will arrives, Keaton cuts to a long shot and we discover that this door frame is free standing because the rest of the wall to which it was once attached has been blown away. Soon, in slapstick fashion, this door too collapses over Will as he passes through the threshold—a small-scale version of the house-falling gag. Behind him we see piles of debris: bed frames, decimated furniture, bits of roof and scaffolding, and broken trunks full of clothes or costumes. Tearing down the first as well as the fourth wall, the storm promiscuously mingles art and life, whereby theater props are indistinguishable from the scattering of River Junction's real-life furnishings such as props presumably replicate.<sup>23</sup> But the scene continues to confound artifice and on-location realism: the next camera position juxtaposes storm rubble in the foreground against a bucolic river landscape that mirrors the film's opening image of the tranquil shoreline of River Junction. At first glance the shot seems a continuity error or a violation of temporal sequencing, until we realize that this idyll is a painted backdrop hung from the theater's one remaining wall, and thus an unwitting memento of an unruined town. The momentary disruption of the illusion of the total storm is a matter of perceptual organization, one that coyly cites cinema's theatrical inheritance while also sensitizing the viewer to the suspensions of disbelief required to achieve weather semblance. Keaton then literalizes this altered consciousness (and momentary suspension) when he cuts to reveal the theater's fly loft and the obligatory sandbag that will fall on Will's already bruised head: disoriented from



Fig. 4. Will enters the local theater where real and diegetic props mingle. *Steamboat Bill Jr.*



Fig. 5. The theater's painted backdrop of calm weather. *Steamboat Bill Jr.*



Fig. 6. A scene of the tranquil riverbank before the storm. *Steamboat Bill Jr.*

yet another blow, Will attempts to leap to safety in the still waters of theater's still life, only to crash to earth. When the theater's last wall gives way, Will is once again exposed to the cinematic world and Keaton's storm surge. This series of gags seems to perform the obsolescence of theater's two-dimensional effects in the face of cinema's on-location realism. Though nineteenth and early twentieth century sensational melodrama created within the theater's space spectacular effects such as conflagrations, floods, avalanches, and tornadoes, Keaton enacts here the transition from the shallow space of theater and painted backdrops to the unbounded dimensions and world-making capacity of the immersive cinematic environment, whose "naturalism" is always in doubt.<sup>24</sup>

The slapstick misrecognition on the community stage does more than literally and figuratively turn theater and artifice inside-out, for it functions as a *mise en abyme* that captures the technical achievement of manufactured weather. Gags such as the falling house require near perfect environmental control, or as Keaton explains:

We had to make sure that we were getting our foreground and background wind effect, but that no current ever hit the front of that building when it started to fall, because if the wind warps her she's not going to fall where we want her, and I'm standing right out in front . . . it's a one-take scene . . . you don't do those things twice.<sup>25</sup>

With only a two-inch margin for error on all sides, the real weather conditions must be perfectly stable if Keaton is to survive this stunt. In fact, in many of the shots in



which rain and wind pummel people and things, we see sharp shadows cast on the ground, suggesting that *Steamboat* was shot almost entirely under sunny skies (for example, see figure 2). We may surmise then that this painted backdrop in the theater sequence mimics the actual weather conditions—clear and calm—on the day that Keaton obliterated River Junction. In other words, to produce the perfect storm one needs perfect environmental conditions, just as Keaton's doomed river town must be built according to the most precise specifications so as to fall apart safely. He may even have invented a new form of disaster architecture, designed to succumb to the elements rather than endure their force. That Keaton reflexively reveals and riffs on the distinction between real and artificial weather means that any weather "pattern" is itself discontinuous, fragmentary, and, at times for these reasons, rather funny. One striking feature of Keaton's work is the constant shuttling between, and thus drawing attention to, these spontaneous incongruities of climatic simulation. After Miriam Hansen's famous formulation, we might call Keaton's weather a "reflexive modernist ecology" that foregrounds artificiality and the techniques of environmental design.<sup>26</sup>

The reflexivity of Keaton's gag-structure, moreover, puts engineering on display such that we apprehend a distinction between the character's predicament and the *metteur-en-scène's* arrangement of and intervention into the diegetic world.<sup>27</sup> Will, for example, survives the house-falling sequence only because Keaton carefully placed his character in the exact position of the open window and then cut power to the wind machines. Within the film, Will's survival is merely dumb luck. We are thus ever mindful when watching a Keaton film of the director's intelligent design and technological savvy that pushes the character's adaptability to new limits, a point to which I'll return later in the essay.

Here it is useful to differentiate Keaton's engineering from the techniques of the self-reflexive musical, slapstick's generic close cousin. Jane Feuer explains that the heroes of musicals are marked as such by their spontaneous reappropriation of found objects and environments for use in their unrehearsed performances. This bricolage produces the effect of inventive spontaneity by concealing engineering or "technological knowhow" of successful numbers.<sup>28</sup> Let us consider what Feuer calls the "nature of this illusion" as exemplified in the well-known title number of *Singin' in the Rain* (1952), conveniently a number about the weather in a story that selectively reveals the techniques of Hollywood's behind-the-scenes artifice. When Don Lockwood (Gene Kelly) erupts into song and dance while walking home in a serendipitous downpour, the apparent simplicity of the mise-en-scene and choreography conceal the number's high-tech production and Kelly's virtuosic technique. This concealment also relegates to the background the manufactured environment, despite that earlier numbers show Don manipulating fans, filtered lights, and fog machines to transform a dark sound stage into an idealized romantic setting. So that audiences would perceive Kelly's carefully rehearsed tapping as Don's mere, spontaneous splashing, M-G-M had to pipe in "rain," calibrate water pressure and pattern, and hollow out precise spaces for puddles to form.<sup>29</sup> Within the diegesis, however, it is Don Lockwood who transforms a given space into a place of performance through his romantic burst of energy. To rephrase

34 Feuer, this feat of engineering pivots on a vision of “nature” as convincing illusion against which the performance itself is naturalized. It is virtuous characters and not an off-screen director who order the world by imaginatively manipulating its elements.

Feuer also tell us that the production of this uncharacteristic rainstorm in *Singin' in the Rain*'s fictional Hollywood was threatened by an actual (and far more characteristic) Los Angeles drought. M-G-M competed for water and water pressure with the residents of Culver City who were sprinkling their parched lawns after work. With these extra-cinematic environmental conditions in mind, we may read the following exchange between Don and his girlfriend Cathy (Debbie Reynolds) before the famous song as more than just romantic banter. At night, they stand at the entrance to her apartment building kissing goodbye under an umbrella as the rain pours down.

**Cathy:** Take care of that throat. You're a big singing star now. Remember? This California dew is just a little bit heavier than usual tonight.

**Don:** Really? From where I'm standing the sun is shining all over the place.

Love mentally transforms rain at night into sunny skies, to be sure. In the case of this scene, shot over two sunny days in the midst of a drought, a steady downpour in Hollywood was wishful thinking: the sun really was shining all over the place.

More to the point, however, Keaton's films stand out because the director's will overshadows the character's abilities. Writing of the extended cannonball-train gag in *The General*, Lisa Trahair claims that what we see is not the character's successful manipulation of the materials at hand, but the work of the director who stages and times the “perfect contingency” on which the sequence rests. The “instrumental malfunctioning of the Keaton character gives way to the ordering forth of the director who orchestrates the *mise-en-scène* to rescue [his character]... from the consequences of his ineptitude.”<sup>30</sup> Because we know that Keaton's character is subject to the director's manipulation, we apprehend as an illusion the idea that man is master of his world. It was this feature of slapstick's agnostic fortuitousness that fascinated Siegfried Kracauer. He remarks that the character's triumph is a result of chance. “Accidents superseded destiny; unpredictable circumstances now foreshadowed doom, now jelled into propitious constellations for no visible reason.” A character is beholden to “a random combination of external and completely incoherent events which, without being intended to come to his help, dovetailed so perfectly” that he has no choice but to survive deathly falls.<sup>31</sup> Whereas Don Lockwood is in control of his environment, Will (along with Keaton's other characters) is beholden to a non-diegetic force to which he can only react. “Keaton's meditation,” concludes Trahair, “is a lucid articulation of what becomes of subjectivity in a world where film doubles reality (and *vis-versa*).”<sup>32</sup> The modern subject finds himself in ever-diminished control over his simulated world and, at the same time, discovers new features of his ecological dependency—a form of knowledge that, for Sloderdijk, is the signature of 20<sup>th</sup> century aesthetics and environmental experience.

## II. Manufactured Climates and the Ecologies of War

The “originality” of the 20<sup>th</sup> century, argues Sloterdijk, is the confluence of terrorism, product design, and environmental thinking. The chlorine gas cloud over Ypres in 1915 was the century’s founding event, a climatological fabrication that “sheds light on modernity as a process of atmosphere-explication” inseparable from techniques of terrorist warfare.<sup>33</sup> By gassing the troops and using their respiratory reflexes against them, the Germans explicated features of a habitable environment that were previously taken for granted or were, in the Heideggerian sense, the background givens of our world. Gasping for air, the Canadian soldiers were confronted with their dependency on an oxygenated, non-chlorinated environment. The new reign of terror targets “the enemy’s primary, ecologically dependent vital functions: respiration, central nervous regulation, and sustainable temperature and radiation conditions.” And thus did this war give rise to a “discovery of the environment.”<sup>34</sup>

Aprons of Keaton’s layered mise-en-scene in which artificial weather foregrounds the fact that there is no “natural” weather in his film, atmospheric explication is both a revealing and simultaneous concealing of atmospheric conditions. For example, chlorine gas discloses the non-acidity of what had passed for normal non-chlorinated air. In concealing with chlorine the properties of Ypres’ typical air, the German explicated its now-compromised quality. Under such circumstances, “the living organism’s immersion in a breathable milieu arrives at the level of formal representation bringing the climatic and atmospheric conditions pertaining to human life to a new level of explication.”<sup>35</sup> In this respect, explication corresponds to Martin Heidegger’s notion of unconcealment whereby poison gas (in this case) makes available conceptual and then practical knowledge of atmospheric givens. Unconcealment names the event in which things that have always been present become known because they are now deemed useful or meaningful to our lives according to our orientation in the world.<sup>36</sup> The perversity of Sloterdijk’s formulation is that whereas unconcealment leads to a new orientation to and understanding of things as they are, explication produces an epistemology that is also a terrifying human ontology. That is, knowing atmospheric explication is indivisible from being vulnerable to its lethal purpose. The “formal representation” of the atmosphere intimates how the designs for war and designs for art comeingle in our perception of the modern world, such that we understand air, climate, and atmosphere as manipulable “media of existence” (50) whose now-explicated life-sustaining properties are no longer assured.<sup>37</sup>

The correspondence between climatic weaponry and artistry (or the “art of terrorist warfare”) is essential to Sloterdijk’s historical argument. Poison gas, “had all the feature of an act of design, one according to which ‘within the rules of art’ human beings produce and design more or less precisely delimitable microclimata of death for other human beings.”<sup>38</sup> Likewise, modernist aesthetics make explicit previously latent processes and backgrounds of artistic creation. Sloterdijk finds parallels between atmospheric war and the combative practices of both Kazimir Malevich’s suprematist compositions and Salvador Dali’s paranoid criticism. In *Black Square* (1913), for example, Malev-

36 ich foregrounds and takes as his subject what was previously the background of the painting: “[T]he background as such is meticulously painted and thus turned into the explicit figure of figure-bearing.”<sup>39</sup> Dali makes explicit the unconscious processes—the dreamwork, the automatic writing, the sublimated desires, and willed madness—that modern artists channel. Admittedly these aesthetic reprioritizations are a far cry from poison gas. But they share with this war the principle of objectifying what were once the unperceivable facets of artistic expression and thus are of a piece with modernity’s explicating regime. While no one is physically harmed by viewing *Black Square*, the artwork itself is a form of aesthetic hostage-taking. The suprematist ambition provokes “the terror of purification,” where the negative composition “demands the unconditional surrender of viewer perception to its real presence.”<sup>40</sup>

If the gassing of troops at Ypres is the founding event of atmoterrorism, Dali’s presentation at the 1936 *International Surrealist Exhibition* intimates its slapstick counterpart. Sloterdijk recounts how Dali addressed the London crowd in a scuba-suit so as to announce his radical otherworldliness and his submergence in a kind of liquid unconscious. His speech was cut short, however, because he failed to provide himself with an oxygen source. “But” writes Dali of this unscripted horror, “my facial expressions fascinated the audience. Soon they saw me open-mouthed, apoplectic, then turning blue, my eyes revulsed.”<sup>41</sup> The crowd applauded enthusiastically unable to differentiate Dali’s performance of the unconscious from its near actualization. For Sloterdijk, this anecdote speaks to both the amateurism of Surrealism, whose proponents misuse and confuse the objects of science for art, while showcasing Dali’s participation in atmospheric design attained, in this instance, through unbidden anoxia. The hostile environment is also the bedrock of Keaton’s comedy, of which the Surrealists were ardent fans. A similar stunt closes *The Navigator* (1924). Rollo Treadway (Keaton) is dallying on sea floor in a scuba suit trying to repair the eponymous ocean liner when cannibals cut his air-supply. Treadway begins comically to asphyxiate, and like Dali after him, struggles in vain to release himself from the suit or detach his helmet. Thanks to Keaton’s real-world competency, however, Treadway manages to complete a spectacular underwater sequence, wherein he battles an octopus and then walks to shore, frightening the cannibals with his aquatic attire. In the film’s final moments, Treadway and his girlfriend flee the scene of near anthropophagy when a submarine unexpectedly emerges from the ocean depths and whisks them to safety.

Sloterdijk explains that the solution to Dali’s suffocation is to pry off the helmet and breathe the external air. Today such a response is almost pointless since the majority of us respire in contained and air-conditioned environments more often than not and the air, outside, is hardly uncontaminated. Is it thus fitting that in *The Navigator*, Treadway is rescued from the cannibals when a submarine provides the escape hatch. Exchanging one synthetic breathing system (the scuba gear) with a larger-scale version (the submarine), Keaton’s dénouement testifies to Sloterdijk’s claim that “the process of atmospheric explication bars all return to once taken-for-granted implicit conditions.”<sup>42</sup> As humans manufacture ever-expanding environments of death, we aggressively condition for climates of life. Bereft of concealed places to hide, we have rendered

ourselves homeless. Re-reading Heidegger, Sloterdijk explains homelessness “in the sense of the human being’s banishment from its natural air-envelope and re-settlement in climate-controlled spaces; more radically still, the discourse of homelessness can be read as symbolizing the change of epoch implied by the exodus out of all the remaining protective niches.”<sup>43</sup>

Quite apart from poison gas, the militarization of the weather has a long history because modern meteorology has always been a martial science. It was in the 1870s that Ulysses S. Grant established the U.S. Weather Bureau housed within the Department of War by which time the language of “storm fronts” and descriptions of lightning’s sulfurous odor, akin to the smell of exploded gunpowder, were already firmly entrenched.<sup>44</sup> Mary Favret remarks of the military and Romantic metaphoric: “The vehicle for understanding the weather is war—not vice versa: war is apparently familiar enough to explain the otherwise inexplicable or unknown. Destructive, volatile, and unpredictable in outcome, war and its gunpowder somehow humanizes the weather—or at least keep it grounded.”<sup>45</sup> Indeed, as she argues, the model of a global weather system was, in Britain, the meteorological response to the Napoleonic wars. The changing British skies encrypted news of distant battles, and weather, like war, was understood as part of a threatening global system. Before the late eighteenth century, weather was conceived as a local, edaphic phenomenon that erupted from the earth below and very often defined or naturalized the political spirit of a circumscribed place.

It was during World War I that meteorology became a truly predictive science. Battling on multiple fronts and bombing from above, all participating nations soon came to realize that air currents and rain, cold fronts and storms, were not only the remnants of the weather and war that had rained on other people (as was the case during the Napoleonic wars). Now the clouds and air currents could be read for the conditions of weather and visibility to come. Essential to geo-military strategy, weather prediction, explains Robert Marc Friedman, underwent a “conceptual change” from a “two-dimensional geometrical model...based on kinematics of the wind flow” to “three dimensional models of physical weather-carrying systems in the atmosphere” that could account precisely for the movement of storm fronts and air currents for flight and gunnery as well as small-scale atmospheric patterns closer to the ground for gas attacks.<sup>46</sup> Where other sciences such as chemistry applied directly to munitions, modern meteorology rationalized world war by mapping weather in space and time and, in the process, codifying and regularizing the experience of weather (or the description of that experience) across regional and cultural differences.<sup>47</sup> If Romantic war symptomatizes and humanizes weather, modern weather systematizes and increasingly depersonalizes global war.

The poison gas attacks exemplify the new meteorological sensibility. The Germans were able to kill and impair the enemy from a safe distance by possessing reliable foreknowledge of the air currents at Ypres. Too much wind would dissipate the fog to ineffectual levels of air saturation. A change in wind direction and the Germans would be asphyxiating themselves. Atmoterrorist attacks require mastery of large weather systems, while, at the same time, the microclimates *re-localize* the atmosphere as a

38 manufactured and topographical phenomenon. Keaton's climatic antics are similarly local, delimited, but only possible when the forecast for the day's shoot is predictably calm. In fact, because *Steamboat* anchors its stunts in carefully produced wind and rain, "fair weather" becomes, in this film, a meteorological event and not simply a non-remarkable default that the storm interrupts. That is, there is no "background" or "given" weather in this film, unless it is literally a painted backdrop. All wind and rain, sun and calm need to be read as specifically produced. Modernist weather in the age of its mechanical reproducibility dispenses with norms, or it suggests that fabricated unpredictability is itself "the new normal."

It is worth noting that slapstick came into its own around 1915 when it evolved from pie-in-the-face burlesque theater to ever elaborate large studio stunts and what I will call *plein air comedy* in such films as Ambrose's *Nasty Temper* (1915) and *Fatty and Mabel Adrift* (1916). As Rob King points out, though these early films have nothing narratively to do with war, their stunts were inspired by military technology including airships, scuba technology, and submarines (all of which, we should note, presume forms of air-design) and the creation of sets and later locations large and controlled enough to accommodate cinematic world-making and unmaking. Audiences became as interested in the spectacle of the stunts as they were in the techniques of their productions. Fatty Arbuckle, Keaton's mentor, made his name at Keystone production where slapstick magic was guarded as top-secret information. A 1917 *Photoplay* cartoon represents the studio as a heavily fortified citadel, armed against the spies from lesser film producers: "Keystone's tricks, "writes King, "are equivalent to state secrets in a time of war."<sup>48</sup> It is no coincidence that Keaton describes his soldiering in France during World War I as a series of gags and funny mishaps in foul weather that began when he was issued a uniform and shoes several sizes too big: "I was not amused to find slapstick flowing over into my new life in the Army."<sup>49</sup> Fortunately, his misadventures on the vaudeville stage and later on the film set were far more dangerous than war. His only field wounds were temporary hearing loss and a nasty sinus infection contracted while spending night after night on the draughty floors of French mills and stables. For Keaton, World War I had none of the airborne threats of bombs or poison gas. His Great War was the effortful routine of sleeping in barns and slogging through France's sodden countryside in clown-size shoes. An almost too poetic touch, his infantry was nicknamed "The Sunshine Division."<sup>50</sup>

### III. Funny Weather and Environmental Comedy

Tyrus Miller explains that late modernist laughter exploded from the trenches of World War I as a prophylactic affect that stiffened the subject "against danger, marking that minimal spatial difference between conscious life and the pure extensivity of dead nature: a difference that preserves the subject, however diminished, in situations of adversity."<sup>51</sup> Laughter automatically and defensively (and sometimes against a subject's will) erupts when encountering another body riddled with shrapnel or deformed by poison gas. It also describes a deadening response to the imperiled self. Hardened

laughter thus is a form of playing dead in order to survive. Or as Miller, quoting Adorno and Horkheimer, remarks, “by adaptation to death, life pays the toll of its continued existence.”<sup>52</sup> This is not a “sense of humor,” as Miller later explains, but an anesthetic response to modern desubjectification that the Great War presaged. The “dead nature” to which Miller refers is the mute inanimate death-world that encases the etiolated, but still vital subject of war. In Keaton’s work “dead nature” resonates more as the simulated environment that forms both the background and foreground of his admittedly deadpan and entirely exteriorized performance. But what it is so funny about Keaton’s weather? What are the features of modernist weather that elicit modernist laughter?

The publicity for *Steamboat Bill Jr.* pitches the comic and high entertainment value of the storm’s destructive force: “Gales of Laughter! What spectacular tornado action—dynamic and awesome one moment, laugh-echoing the next! What a wow!”<sup>53</sup> The alternation between awe and laughter, comedy and horror is more funny than melodramatic because, as one promotional feature explains, the weather bears no cosmological grudge and destroys with no particular purpose beyond amusement. “River Junction perished not because it was wicked, but because the world must be entertained, and in this case the entertainment is a tornado as funny as it is awesome.”<sup>54</sup> This causality is in contrast to the conventions of the disaster film, such as John Ford’s 1934 *The Hurricane* in which weather—impressively manufactured—becomes a force of natural justice against the hubris of human law and ambition. Keaton’s tornado is funny in part because it is random and unexpected, survivable and spectacular. And while it is obviously anthropogenic, it is certainly not anthropocentric. Gilberto Perez writes that in Keaton’s cosmology, “the universe was not set up to accommodate him.” It acts “as both his adversary and as his ally” so that survival comes down to “exceedingly precarious maneuver” not charismatic intervention.<sup>55</sup>

Keaton originally wrote *Steamboat* as a flood comedy to debut only months after the waters of the Great Mississippi Flood had finally receded. The publicity department at Joseph Schenck’s studio claimed that the floods were too frequent and deadly for laughs. “That’s funny” said Keaton, “since it seems to me that Chaplin during World War I made a picture called *Shoulder Arms*, which was the biggest money-maker he’d made at that time. You can’t get a bigger disaster than that, and yet he made his biggest laughing picture out of it.”<sup>56</sup> Following from Keaton’s analogy, the comedy of war is a precedent for the catastrophe of weather even as weather’s destruction is made intelligible by comparison to war. And, of course, *Shoulder Arms* features a grimly funny flood scene in the trenches. Unable to persuade the studio and its sense of actuarial entertainments, Keaton decided to simulate a cyclone. The studio agreed to the revised calamity despite that cyclones and hurricanes killed four times more people in the U.S. than floods, as Keaton later pointed out. In 1926, two years before *Steamboat’s* release, Southern California was hit by a mega-storm that, over the course of two days, generated five hugely destructive tornadoes, several mini cyclones, and deadly lightning strikes. Tornadoes demolished communities up and down the coast while winds and unruly water currents sent fishing barges violently onto shore. Lightning struck the Union Oil tank farm in San Luis Obispo, igniting the largest and hottest oil



Fig. 7. The flooded trenches in Charlie Chaplin's *Shoulder Arms* (1918).

fire in U.S. history up to that time.<sup>57</sup> Mike Davis explains in his book on Los Angeles disasters (in a chapter appropriately titled, “Our Secret Kansas”) that Californians are more bemused than frightened by tornados, celebrating them “as not only the most violent but also the quirkiest windstorms in nature. Their capricious behavior—taking the cradle but leaving the baby safe—constitutes an entire genre of American folklore.”<sup>58</sup> Perhaps for this reason, California’s tornado epidemic (Los Angeles is hit by tornados twice as often as Oklahoma City) remains “culturally invisible,” or latent and concealed.<sup>59</sup> Sounding this cultural disposition, the publicity materials for Ford’s *The Hurricane* (which boasts a very impressive manufactured storm of its own) declare that the tropical hurricane, utterly lacking in humor, is “a complete villain” due to its relentless and lethal power. A cyclone—described in this same feature article as the hurricane’s “inland cousin”—is “a comedian, more noted for its freakish pranks than for the amount of damage which it inflicts.”<sup>60</sup>

Humorless weather, like world war, is totalizing and complete, both in its destruction and, in film, as apprehended through special effects. Funny weather—freakish, mischievous, and unpredictable—is also partial. In its cinematic simulation, it reveals the gaps between pro-filmic and fictional conditions and thus has something in common with comic acting. James Naremore writes that the comic actor “disrupts coherence at every level of the performance, deriving laughter not only from the foolish inconsistency of the characters but from a split between actor and role.”<sup>61</sup> When executing gags, Keaton is simultaneously the character he plays as well as the deadpan comedian stunt man, and often, the director of the fictional action. What Naremore refers to



as an “alienated style” of comic performance pushes slapstick to the brink of “radical deconstruction”:

By its very nature, comedy undermines our involvement with the characters, barely maintaining a dramatic illusion. It might depict violent or deadly action, but it does so in a way that invites us to observe plot machinery *as* machinery. Every comic actor is therefore something of a deconstructionist, calling attention to the way we manufacture our socialized selves.<sup>62</sup>

Similarly, comic weather barely maintains its illusion. This is de-totalizing artificiality in the service of undermining the givenness of the environment. The effect is comic and climatic alienation.

This formulation begins to explain our response to other forms of simulation. Alfred Hitchcock's *Spellbound* (1945), for example, loses its suspenseful momentum when Gregory Peck and Ingrid Bergman ski down a mountain slope that is obviously rear projected. Long shots of stunt doubles flying down a snowy run are intercut with medium shots of our actors who calmly knee bend in front of a wind machine while the background flies by. We note the incongruity of depth cues in these closer views and the disparity between background speed and foregrounded bodily status. Bergman's horror at the deathly precipice at the end of the run is incommensurate with her obvious safety in a rear-projected world. This is an example of climatic camp, a moment of “failed seriousness” as Susan Sontag would call it, which occurs when the artifice of melodramatic weather breaks.<sup>63</sup> Bergman is fearful of a non-present danger because she inhabits what Laura Mulvey calls the uncertain space of rear-projection's “clumsy sublime.”<sup>64</sup> Keaton's character, by contrast, is imperiled when he is forced to respond to very real, physically proximate danger from which he, by slapstick convention, will safely emerge. Keaton achieves comedy and not camp because, in placing himself within a dangerous micro-environment and framed by authenticating long shots, he demonstrates that the effects of the weather are real even if they are simulated at their source and purposefully inconsistent in their manifestations. Indeed *because* it does not ask us to take the threat or its consequences too seriously—because it not does court failed seriousness—Keaton's film better conveys the real horror of his climate change in way that gives us some confidence in our own adaptability.<sup>65</sup>

Slapstick may thus be the appropriate antidote to cable television's perpetual environmental sensationalism to which we turn in inclement moments. Martia Sturken writes that our contemporary storm fetishism and fixation on forecasts explain the success of the Weather Channel: “In the story of the weather and survival of dramatic natural disasters, the viewers of weather media are asked to reassure themselves that they can survive the everyday difficulties of life as they know it,” even as they witness the failure of others from the safety of home. With melodramatic rapture, we helplessly watch other people's weather, which arrives so suddenly, forcefully, and lethally that we shudder at the frailty of human life and our powerlessness over violent storms. But there is a difference and differently registered purpose in laughing at survival in what *Steamboat's* publicity materials earlier called a “synthetic holocaust.”<sup>66</sup>

42 For many critics, Keaton's laughter is of a Bergsonian variety; it is a corrective response to a mechanical encrustation on human life, to the automatism and inelasticity that renders the human artificial and thing-like.<sup>67</sup> The effect, writes Bergson, is that the rigid body appears "immersed and absorbed in the materiality of some mechanical occupation instead of ceaselessly reviewing its vitality by keeping in touch with a living ideal."<sup>68</sup> In a similar formulation, Noël Carroll argues that Keaton's gags are structured by inattention, in which characters are either too preoccupied or narrowly focused to register and appropriately respond to changes in their surroundings.<sup>69</sup> Comedy occurs in the interval between situational change and the character's belated response. As a result of "deferred attention," the character finds himself "out of synchronization with his environment."<sup>70</sup> Carroll is adamant that this asynchrony is not a contest between man and the natural world: "The environment is not chaotic: it is rule-bound and law-like in Keaton. If it were not, his success would be impossible. He can adapt because the environment is ordered. His failure at adaptation results because characters . . . employ defective habits."<sup>71</sup> As we have seen, however, the diegetic environment in many of Keaton's film is the source of chaos. Unordered and unpredictable, natural forces push standard cognitive habits to new and sometimes impossible limits, and the film, in turn, tutors bodies to respond to unexpected weather.

There are several examples in Keaton's work, but two films are especially apposite. In *Seven Chances* (1925), Keaton's Jimmy Shannon is fleeing a swarm of tenacious brides who chase him beyond the boundaries of town and out into a series of decidedly rural dangers. Jimmy manages to throw the brides off his trail when he ascends a spectacular sand dune. The abrupt change comes when Jimmy's acrobatic somersaults down the sand bank trigger a landslide. A trickle of rather benign rocks rapidly gives way to an avalanche of enormous boulders that appear out of nowhere. In extreme long shot, Jimmy races down the steep slope dodging massive careening rocks twice his size. He takes refuge in a tree, only to be knocked down. He then finds shelter behind a boulder lodged in the earth, only for it to give way. Reaching the bottom of the hill, Jimmy once again faces the bridal horde what awaits him. Momentarily caught between the rocks and the brides, Jimmy decides to escape back up the hill and face the disaster. Ascending, he now sidesteps rocks that proceed to scatter or, in some cases, squash the brides below—a marvelous feat of geo-choreography. Contra Carroll's reading, Jimmy's quick-witted adaptation in response to environmental pandemonium is rewarded when he is reunited with his true love before his marriage deadline expires.

It so happens that the landslide sequence was not in the original script. Keaton recounts that the first time they shot the scenes at the dunes outside of Los Angeles, his bustle dislodged a few rocks that pursued him down the hill. The audience at the test screening was delighted with what Keaton refers to as a fortuitous "accident," but then sat in frustrated expectation of a more elaborate boulder gag. Turning erosion into environmental comedy, Keaton ordered fifteen hundred fabricated rocks, some up to eight-feet in diameter, to be delivered to the top of a High Sierra slope for the re-shoot.<sup>72</sup> The unpredictability of on-location shooting was thus harnessed, tamed, and artificially amplified to satisfy audience demand. Like his early cinema forebears such



Fig. 8. Keaton triggers a landslide in Keaton's *Seven Chances* (1925).

as Georges Méliès who turned accidental stop-motion animation into a platform for cinematic magic, so in Keaton's film, "a chance event is transformed into an innovation, and from there, into a system."<sup>73</sup> The final run begins in the dunes with real rocks and shifts to the mountainous terrain with synthetic boulders. The rolling rocks, Jimmy, and the persistence of gravity provide the continuity from one location to the next.<sup>74</sup>

The system of creative geography and the manufactured environment in this scene from *Seven Chances* are anticipated in the famous montage sequence from *Sherlock Jr.* (1924). The eponymous character is an aspiring detective who works as a film projectionist. After being falsely accused of theft, Sherlock falls asleep at the projector and dreams that he enters the world of the parlor mystery-film he is watching. The well-known sequence comes just after Sherlock enters the projected world of the "film within the film." Eight shots of approximately twenty seconds in length place Sherlock, through the shock of montage, in seven distinct and surprising environments. First, he is shown sitting on a garden bench. In the next shot he continues to sit, but the sudden shift to a bustling city street without a corresponding bench means that he falls into oncoming traffic. Scrambling to safety in the city, he is transported by a cut to a craggy mountain precipice from which he nearly tumbles. Having just regained his footing on the rocks, he is vaulted into a jungle between two formidable lions. He tiptoes away from the beasts and into the path of a hurtling train, and then another cuts places him on a rock outcropping above a rough sea. When he dives into the water, a match-on-

44 action has him land deep in the snow of the next locale. Leaning against a tree in the wintry wilderness, Sherlock finds himself back in the garden. With no tree to support him, he falls down right where his environmental odyssey began.

For Carroll this sequence critiques, in Bergsonian fashion, mal-adaptation and automatism, “summarizing as it does, in almost allegorical fashion, Keaton’s whole concern with unadaptability.”<sup>75</sup> Yet, not only is Sherlock quick to adapt in these short shots, the sudden shifts all occur at just the moment he gathers himself and finds security.<sup>76</sup> Because we watch the body (which is perfectly matched from shot to shot) more closely than the surroundings, even we are slow to register the new location and each new set of environmental hazards. Moreover, as others have pointed out, this sequence as a whole has no narrative connection to the rest of the film-within-the-film. Thus rather than dwelling in narrative, this series of shots produces an aesthetic of suddenness that defies cognitive habit or causal prediction. The gag revolves around cinema’s capacity to place the same human in different habitats in chaotic succession, or what we could read as an adventure in phantasmagoric climate change. We laugh not at the character’s inability to adjust, but his uncanny capacity to survive in radically different environments. In fact, for Bergson, the artificial world and the “disguise of nature” is itself a source for humor. He notes the hilarity of the idea taken from a passage in Alphonse Daudet’s *Tartarin Sur Les Alpes* that Switzerland is actually an elaborate opera set run by stagehands who, working machines below the country’s surface, produce “waterfalls, glaciers and artificial crevasses.” “In ‘a nature that is mechanically tampered with’ we possess a thoroughly comic theme.”<sup>77</sup>

#### IV. Conclusion: *Deadpan/Dead Calm*

The stakes of environmental adaptability determine the threshold between the situation comedy and what Lauren Berlant calls “the situation tragedy”:

In a situation comedy, the subject whose world is not *too* destabilized by a ‘situation’ that arises performs a slapstick maladjustment that turns out absurdly and laughably, without destroying very much. In the situation tragedy, the subject’s world is fragile beyond repair, one gesture away from losing all access to sustaining its fantasies: the situation threatens utter, abject unraveling. In the artwork or in response to other scenes, when an apprehending sensorium senses a potentially significant threat to the ordinary’s ongoing atmosphere, it sparks the rhythms of situation tragedy, with its menacing new realism.<sup>78</sup>

Characterizing threat as a disturbance in the normal atmosphere, Berlant opposes slapstick resilience to the “precarity” of post-Fordist desperation, a desperation that Berlant figures temporally as “survival time,” and significantly as “the time of struggling, drowning, holding onto the ledge, treading water.”<sup>79</sup> While Keaton’s genre is resolutely slapstick, his world flirts with his character’s “abject unraveling” in the environmental conditions of a world “too destabilized.” In his films humorous play gives way to risk with all of its “life-denting consequences.”<sup>80</sup>

In *The Boat* (1921), for example, Keaton's character constructs a houseboat in the basement of his own abode. To extract the boat, he destroys the house only to find that the vessel, initially, will not float. The film ends when Keaton's small family is stranded in the Pacific during a sudden raging storm. The father's efforts to plug leaks in the hull produce even bigger, unstoppable breaches until the family is forced to take refuge in the lifeboat (a tub salvaged from their home-wreck). But even this refuse gathers water and sinks. Though this short film is full of maritime gags of inattention (many of which play tricks of weather simulation), the final moments take a different affective tack, interrupting slapstick fantasy with what seems like desperate realism. Huddled in a sinking bathtub in the middle of the Pacific in the dead of night the storm now past, the family members kiss each other goodbye and prepare to drown... until they discover that they are in shallow water. Leaving the tub, they trudge to a nearby, uninhabited strip of land and walk hand-in-hand into an abyssal darkness. Beginning the film as middle class, the family is now, not even a day later, homeless, destitute, and adrift. Whereas *Steamboat* at least leaves the main characters with an old boat (and a surviving priest to marry the young lovers), in this earlier film the storm decimates the only shelter remaining. The "joke," if we may call it that, is that the family does not die by drowning. But we may well ask: How will they live?<sup>81</sup> The image of humans floating while desperately clinging to the post-storm remains of domesticity is all-too-familiar to spectators of present-day hurricanes, floods, and tsunamis, just as it was in the nineteen-teens to those who lived along the shore of the ever flooding Mississippi. We find then that Keaton's narratives touch on the situation tragedy, where the explication of weather's latency threatens total destruction. And still we laugh.<sup>82</sup>

The precariousness intimated in Keaton's comedy is front and center in Steve McQueen's contemporary video installation *Deadpan* (1997), which silently restages the house-falling gag from *Steamboat* with all mortal seriousness and in the dead calm of a windless afternoon. With his back to the farmhouse, McQueen stands facing the camera not in bemused confusion, like Keaton, but rather, with an unflinching composure in almost defiant resignation of the pratfall that awaits him. Sure enough, the façade detaches and, pivoting on its base, falls over McQueen who survives thanks to the well placed open window. What is fortuitous in the narrative sequencing of *Steamboat* (the storm just happens to damage the house whose falling façade just happens to not kill Will) is, in *Deadpan*, arbitrary but inevitable. McQueen just stands there waiting for the fall. Using several cameras to capture the singular event, McQueen edits the footage so that we see the stunt several times from different angles over the course of nearly four and a half minutes: as an installation, the entire sequence plays on a loop in its exhibition setting. As one critic observes, McQueen remakes Keaton's gag into a "compulsive" and "compelling study of purgatory."<sup>83</sup> One wonders if this willing exposure to "accidental" death—a suicide that is also a survival—distills the risks of living in modernist climates by absenting their sensational features.

Modernist weather in Keaton's films is itself both the sign and symptom of human self-destruction that began in the trenches at Ypres. Keaton, however, is not hardened by war—his deadpan is not "dead nature," in Miller's sense. He is made supple by war's

- 46 other name, weather. His body is not a stiff shell, but flexible, lively, and organic matter that bends with the wind, floats in the water, and whirls in the cyclone, always emerging ready for the next act, poised physically and intelligently to respond to the simulated world over and over again. If melodrama is the tearful response to other people's storms, then modernist laughter at slapstick's environmental comedy acknowledges both our vulnerability to, and agency over, the climates of our own making.

## Notes

1. For their feedback and helpful suggestions on this essay, I thank Scott J. Juengel, Justus Nieland, Paul Young, Dan Morgan and the anonymous reader for *Modernism/Modernity*.
2. Erik Bullot and Molly Stevens, "Keaton and Snow" *October* 114 (Autumn, 2005): 20, 23.
3. Lisa Trahair, *The Comedy of Philosophy: Sense and Nonsense in Early Cinematic Slapstick* (Albany: State University of New York Press, 2007): 78. In dialogue with Deleuze's five laws of the action-image, Trahair argues convincingly that the Keatonian character does not meet narrative challenges through "self-transcendence" and transformation. Even after rescuing the survivors from the storm, Will has yet to master the basic sailor's knot.
4. Bullot & Stevens, 23.
5. John Bengtson, *Silent Echoes: Discovering Early Hollywood Through the Films of Buster Keaton* (Santa Monica: Santa Monica Press, 2000), 212.
6. "Windstorm Filmed in Keaton Comedy" in *Steamboat Will Jr.* press book (1928), *Cinema Press Books from the Original Studio Collection* from the Wisconsin Center for Film and Theater Research (Woodbury, CT: Research Publications 1988), microform, Part Two, Section B, Reel 35. *Steamboat* press book hereafter.
7. *Ibid.*
8. Buster Keaton, "Keaton at Venice," Interview with John Gilett and James Blue in *Buster Keaton Interviews*, ed. Kevin W. Sweeney (Jackson: University of Mississippi Press, 2007), 227.
9. Edwin Schallert, "'Steamboat Bill' Stormy Fun Special," *Los Angeles Times*, June 8, 1928: A11.
10. For examples of slapstick's urban-industrial thesis, see Miriam Hansen, "The Mass Production of the Senses: Classical Cinema as Vernacular Modernism" *Modernism/Modernity* 6.2 (1999): 69; Tom Gunning, "Mechanisms of Laughter: The Devices of Slapstick," in *Slapstick Comedy*, ed. Tom Paulus and Rob King (New York & London: Routledge, 2010), 141; Michael North, *Machine-Age Comedy* (New York: Oxford University Press, 2007), 37.
11. Alan Bilton, "Buster Keaton and the South: The First Things and the Last," *Journal of American Studies* 40, no. 3 (December, 2006): 493.
12. Already in the 1920s there were signs of "The Anthropocene," the geological term that has been adopted to describe the human-caused changes to the environment since in the industrial revolution that have acted like a force of nature on the planet. Will Steffen, Paul J. Crutzen, John R. McNeill, "The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature." *AMBIO: A Journal of the Human Environment*, 36, no. 8 (2007): 614–621.
13. Lyle Saxon, *Father Mississippi* (New York & London: The Century Co., 1927), 312.
14. T.G. Winter letter published in *The Outlook*. Reproduced in Saxon, 399.
15. For a discussion of Saxon's book and its influence on William Faulkner's environmental thought and poetics, see Susan Scott Parrish, "Faulkner and the Outer Weather of 1927" *American Literary History* 24, no. 1 (Spring 2012), 34–58. Her observation on Saxon's book, p. 44.
16. "After the Flood," (Editorial). *New Republic*, July 20, 1927, 216–217.
17. Ian Hacking, *The Taming of Chance* (Cambridge, UK: Cambridge University Press, 1990), 201. See also Mary Ann Doane's discussion of contingency and cinema in *The Emergence of Cinematic Time: Modernity, Contingency, and Archive* (Cambridge, MA: Harvard University Press, 2002), 10, 19.
18. Peter Sloterdijk, *Terror from the Air*, trans. Amy Patton and Steve Corcoran (Los Angeles: Semiotext(e), 2009). For his discussion of Ypres, see p. 9–17. The phrase "ecologized war" comes from p. 20.

19. Walter Benjamin, "The Storyteller" [1936] in *Illuminations: Essays and Reflections*, ed. Hannah Arendt, trans. Harry Zohn (New York: Schocken Books), 84.

20. Buster Keaton with Charles Samuels, *My Wonderful World of Slapstick* (Cambridge, MA: Da Capo, 1982), 20–21.

21. *Ibid.*, 100.

22. His famous historical epic, *Orphans of the Storm* (1921), for example, finds Henrietta (Lillian Gish) weeping at the memory of her blind abducted sister Louise (Dorothy Gish). In the next scene, her teardrops are transfigured as the snow and bitter cold that chills Louise as she begs outside of Notre Dame. A Duchess, so moved by this pitiable sight, offers Louise charity and a gentle caress. By the end of the film, Louise's vision is restored, the sisters are blissfully reunited, and the radiant sun is a sign of and supplement to the sisters' unbounded joy. Throughout the film, Griffith manufactures a Romantic climate in which the surplus of human feeling becomes airborne.

23. We find a similar series of gags in Keaton's 1921 short *The Playhouse*. In a bedroom, a thuggish man attempts to evict the Keaton character from what we assume is his apartment. When the walls of the room are taken away, we realize that Keaton's hero is a stagehand. He's not being evicted from his apartment, but reprimanded for sleeping on a set designed to replicate an apartment.

24. Ben Singer, *Melodrama and Modernity: Early Sensational Cinema and its Contexts* (New York: Columbia University Press, 2001), 152–163. Singer notes that early cinema and the Nickelodeon craze severely curtailed demand for sensational stage melodrama.

25. Keaton, "Keaton at Venice," 227.

26. Miriam Hansen writes that Hollywood cinema's "vernacular modernism" produced a "sensory-reflexive horizon of experience of modernization and modernity" that was legible to audiences all over the world. We could make a similar, though far more specific, argument about Keaton's climatology. "Fallen Women, Rising Stars, New Horizons: Shanghai Silent Film as Vernacular Modernism," *Film Quarterly* 54:1 (Autumn, 200): 10.

27. Noël Carroll, *Comedy Incarnate: Buster Keaton, Physical Humor and Bodily Coping* (Oxford: Wiley-Blackwell, 2009), 11. Carroll argues that Keaton tutors perception through what he calls the "engineer's-eye viewpoint." Because Keaton's techniques exceed the demands of comedy and the hermetic world of the narrative, spectator's marvel at the way things (including Keaton's own body) fall into place.

28. Jane Feuer, *The Hollywood Musical* (London: BFI/Macmillan, 1982), 4.

29. Jane Feuer, "Singin' in the Rain" in *Film Analysis: A Norton Reader*, ed. Jeffrey Geiger and R.L. Rusky (New York & London: W.W. Norton & Company, 2005), 450.

30. Lisa Trahair, "Ghost in the Machine: The Comedy of Technology in the Cinema of Buster Keaton," *South Atlantic Quarterly* 101, no. 3 (Summer 2002): 584.

31. Siegfried Kracauer, *Theory of Film: The Redemption of Physical Reality* (1960), Intro Miriam Bratu Hansen (Princeton: Princeton University Press, 1997), 62.

32. Trahair, "Ghost in the Machine," 583.

33. Sloterdijk, *Terror from the Air*, 47.

34. *Ibid.*, 16–18.

35. *Ibid.*, 23.

36. For an elaboration of this term, see Mark A. Wrathall, *Heidegger and Unconcealment: Truth, Language and History* (Cambridge, UK: Cambridge University Press, 2011), 11–34.

37. Sloterdijk, *Terror from the Air*, 50.

38. *Ibid.*, 47.

39. *Ibid.*, 81.

40. *Ibid.*, 81.

41. Dali quoted in *Ibid.*, 73.

42. *Ibid.*, 84.

43. *Ibid.*, 60.

44. Andrew Ross, *Strange Weather: Culture, Science, and Technology in the Age of Limits* (London & New York: Verso, 1991), 226.

45. Mary A. Favret, *War at a Distance: Romanticism and the Making of Modern Wartime* (Princeton: Princeton University Press, 2010), 129.
46. Robert Marc Friedman, *Appropriating the Weather: Vilhelm Bjerknes and the Construction of Modern Meteorology* (Ithaca and London: Cornell University Press, 1989), 158, 106.
47. Ross, *Strange Weather*, 214–221. Ross discusses local methods of forecasting in tension with the US National Weather service and the emerging global weather culture.
48. Rob King, *The Fun Factory: The Keystone Film Company and the Emergence of Mass Culture* (Berkeley: University of California Press, 2009), 186.
49. Buster Keaton with Charles Samuels, 97.
50. For Keaton's account of his war experiences, see *Ibid.*, p. 96–104.
51. Tyrus Miller, *Late Modernism: Politics, Fiction, and the Arts between the World Wars* (Berkeley: University of California Press, 1999), 51.
52. Adorno and Horkheimer quoted in *Ibid.*, 51.
53. Poster copy, *Steamboat* press book.
54. "River Junction Passed Away Like Babylon," *Steamboat* press book.
55. Gilberto Perez, *The Material Ghost: Film and Their Medium* (Baltimore: The Johns Hopkins University Press, 1998), 103.
56. Keaton, "Keaton at Venice," 226.
57. Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Vintage Books, 1998), 161–165.
58. *Ibid.*, 161.
59. *Ibid.*, 159.
60. "Hurricane over Hollywood" *The Hurricane* press book (1939) *Cinema Press Books from the Original Studio Collection* from the Wisconsin Center for Film and Theater Research (Woodbury, CT: Research Publications 1988), microform, Part Two, Section B, Reel 30.
61. James Naremore, *Acting in The Cinema* (Berkeley: University of California Press, 1988), 76–77; see also Trahair, *Comedy of Philosophy*, 90–91.
62. Naremore, 114.
63. Susan Sontag, *Against Interpretation and Other Essays* (New York: Farrar, Straus and Giroux, 1996), 287.
64. Laura Mulvey, "Clumsy Sublime," *Film Quarterly*, 60, no.3 (Spring 2007): 3. This is Mulvey's term describing the layered temporality and confusing spatiality of rear-screen projection.
65. Ken Feil argues that the intentional camp and parodic elements in such films as *Twister* (1995) undercut the narrative's attempts at "normative sincerity." The paradox is that the sincerity and not the intentional parody is read by critics as camp. *Dying for A Laugh: Disaster Movies and the Camp Imagination* (Middleton, CT: Wesleyan University Press, 2005), 64–65.
66. "Windstorm Filmed in Keaton Comedy," *Steamboat* press book.
67. Henri Bergson, *Laughter: An Essay on the Meaning of the Comic* trans. Cloudesley Brereton and Fred Rothwell (Rockville: Arc Manor, 2008), 17.
68. *Ibid.*, 21.
69. Carroll, *Comedy Incarnate*, 34.
70. *Ibid.*, 50.
71. *Ibid.*, 63.
72. Keaton, "Keaton at Venice," 224.
73. Doane, *The Emergence of Cinematic Time*, 137.
74. For a discussion of Keaton's exploitation of Los Angeles' varied topography and history of urban development, see Charles Wolfe, "California Slapstick Revisited" in Tom Paulus and Rob King eds. *Slapstick Comedy* (London & New York: Routledge for the AFI Film Readers Series, 2010), 169–189.
75. Carroll, *Comedy Incarnate*, 49.
76. Lisa Trahair offers a similar reading of this dream sequence in which Keaton's character adapts only to be brutally undercut by the shot change. Reading Keaton through Heidegger's essay "The Question Concerning Technology," Trahair argues that this sequence plays with the tension between diegetic reality and diegetic fiction as well as a "more serious pondering of the existential crises ex-



perienced when a human is reduced to a component part of a technological apparatus he no longer controls." "The Comedy of Technology in the Cinema of Buster Keaton," 583.

77. Bergson, *Laughter*, 26–27.

78. Lauren Berlant, *Cruel Optimism* (Durham: Duke University Press, 2011), 6. Italics in original.

79. *Ibid.*, 169. The figure of drowning recurs throughout her discussion of a situation tragedy. See also 178, 180.

80. *Ibid.*, 170.

81. The trope of the home destroyed by the storm is repeated in Keaton's short *One Week* (1921). A newlywed couple builds a house from a kit, but they are tricked into constructing it in the incorrect sequence. During a house-warming party, a storm develops and strong winds spin the wobbly house like a merry-go-round, evicting the people into the mud and leaving only ramshackle remains. In the storm's aftermath, Keaton's character beholds his broken house and reflexively declares, "I guess it's not use to this climate."

82. Other critics have noted Keaton's melodramatic side that seems to occur when Keaton's character leaves behind urban modernity and ventures into the less hospitable regions of the unsettled West and less-developed South. See Charles Wolfe, "Western Unsettlement."

83. Andrew Gellatly, "Steve McQueen," *Frieze Magazine* 46, May 1999, [http://www.frieze.com/issue/review/steve\\_mcqueen/](http://www.frieze.com/issue/review/steve_mcqueen/).

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