

# Postmodern Hi-fi vs. Post-Cool Lo-fi: An Epistemological War

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For every narrative cinema challenge there are at least two solutions: one involving costly techniques, and one involving only a single camera. If a contemporary director reads in a synopsis “then our main character is fighting in Austerlitz, among troops of 200,000 men,” she or he can hire armies of 3D compositors and match move artists to design the battle, or find a narrative or visual idea to avoid the screening of the whole battlefield. Let us imagine an ideal situation and take for granted that the choice is not a matter of money but a matter of art, and call the first solution “hi-fi” and the second one “lo-fi.” One already knows “fi” stands for fidelity, but which kind of fidelity? A cartographic fidelity, i.e., a bird-view of the event. Scores of digital designers will authorize large establishing shots of the battlefield, as if we are birds flying over the madness going on below – see the STAR WARS or the LORD OF THE RINGS film series. The hi-fi choice then means an *exocentric* type of encoding environment data. It allows a kind of disembodied experience in order to embrace the wholeness of a scene. All details must be calculated, since the hi-fi choice has to “impartially” show the world “as it is,” not as it is seen.<sup>1</sup> High resolution domestic displays, 48 FPS shooting and 3D glasses, among other technological inventions, run for the same team. On the other hand, the lo-fi choice will probably mean an *egocentric* type of encoding environment data,<sup>2</sup> where we will be thrown at the heart of the battle, briefly seeing three or four other fighters. Smoke, blasts and run-and-gun style<sup>3</sup> will forbid any clear gaze on what happens, while fast cutting and numerous close-up shots will provide disconnected samples of the event.

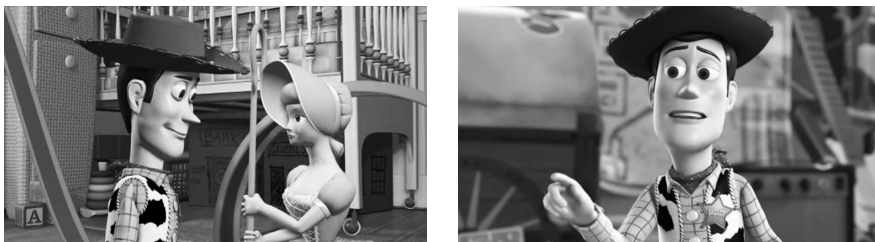
Now we have our two competitors: on the left, hi-fi exocentric computer-generated imagery; on the right, lo-fi egocentric hand-held cameras, both having the same purpose: describing a scene with the most possible accuracy. As suggested by the title of this chapter, this is an epistemological war which gives rise to the question: “How can I know, as a spectator of a fictional narrative, what a Napoleonic battle was like?” Answering this question, i.e., trying to provide some reliable (or at least believable) knowledge, even if the spectator only intends to have fun watching a good movie, supposes at least two antagonistic technologi-

cal means. The aim of this essay is to establish the extent to which these means differ when considering the kind of effects they produce on the spectator.

## Hi-fi: From Keplerian Replicas to Vasarian Substitutes

First of all, the dichotomy “hi-fi vs. lo-fi” reflects a culturally biased terminological pick, coming from the northwestern European tradition. During the 17th century, according to Svetlana Alpers, there were two different ways for a painted image to describe the world: the cartographic eye of the Dutch masters, who provide lens-like Keplerian images as replicas of the world, and the narrativist, self-interpretative way of the Italian masters, who provide window-like Vasarian images as substitutes for the world.<sup>4</sup> Then, for many reasons, the dichotomy “hi-fi vs. lo-fi” appointed the cartographic fidelity of the birdview as a touchstone to the former, while implying that the hand-held shaky camera provided so-called low-fidelity shots, which reflected the wedging of our senses and provided a knowledge which was located to a single point. Now imagine the touchstone no longer entails the disembodied mapping of the event but the embodied feeling to live this event. No human being can fly as an eagle over the battlefield, scanning and storing visual data as a machine, but computer-generated imagery (CGI) sure can make you feel you can. In this new linguistic setup, the computer-generated imagery should be called lo-fi, and the run-and-gun style hi-fi, since it manages to put us onto the battlefield, assuming fear and distress prevent our reason to manage any rational data treatment. Then, the hierarchy associating hi-fi with computer-generated imagery does not value “realism” but “photorealism.” A calculated scene does not “objectively” inscribe itself on the screen: to deserve such a reputation and give all the scientific guarantees of optical truthfulness, it should rather consist in raw data, i.e., columns of numbers and measures. Instead of these numbers which probably could give one a good idea of what “the world as if nobody was here to watch it”<sup>5</sup> is like; what spectators see on the screen looks exactly like a *photograph* or a *shot* of the scene, including the distortions and errors usually induced by an average camera. It is easy to understand this “irrational” preference (irrational from a scientific point of view) when comparing the first and the third installments of the *Toy Story* franchise.

The main proof of the exocentric quality of a computer-generated visual scene is the freedom for the artist to choose the point of view *after* the modelization is achieved by the machine. Here we have the opportunity to bridge the gap between painting and sculpture: imagine Leonardo storing all the visual data concerning Mona Lisa, including her back and her legs, then deciding at the last minute: “Let’s capture her with a simple classical medium close-up, and store the complete data, in case the audience asks for a sequel.” To fight the methodical calculating side of this attitude toward representation, directors make extensive use of hypnotic and vertiginous crane moves, mainly track-in shots



*Fig. 1. Left: TOY STORY (John Lasseter, 1995). Behind Woody, all background details are in sharp focus in the depth of field. Each white bar of the bed is clear-cut, for example, even the ones far off. Right: TOY STORY 3 (Lee Unkrich, 2010). Behind Woody, this time, background details are blurred, due to the shallow focus. In 1995 the address to the spectator was: “Hey, look at how we calculated every single detail as is!”; fifteen years later, it became “Please concentrate on what Woody has in mind (and remember that shallow focus suggests psychological introspection, since a character appears oblivious to the world around her/him”<sup>1</sup>).*

associated with wide-angle lenses, allowing to do what the human body cannot (such as soaring or flying). These fluid movements “enroll” the spectator in spite of the fact the screen in front of him/her shows no strong epistemological boundaries between diegesis-related pixels and production-related pixels.<sup>6</sup> The editing is in line with the use of this technique, providing numerous action-match cuts without continuity – a characteristic trait of music video effects: the movement of a figure in shot A will be completed by that of another figure in shot B (classical cinema mostly refused this type of practice which, by underlining the plastic qualities of the figures onscreen, ran the risk of preventing the spectator from seeing them as traces, which would have endangered the reality effect so dear to classical cinema). Synaesthetic music video effects, which have a direct influence on the body – based on binary metronome beat music, rich in low frequencies and, if possible, broadcast very loudly – eventually bring some help. Here the soundtrack has the upper hand on the visuals, imposing its law on picture editing (whereas in classic cinema the very opposite happened – as in circuses where the orchestra has to adapt to what was happening on stage, the music had to conform to the picture).

In this aesthetic and technological frame of the music video effect, “communication” (as the conveying of descriptive information) is substituted by “communion” (as harmony and attunement with the data).<sup>7</sup> Audiovisual fluency rocks and rolls us into a pleasant state of mind, even when the time comes to make moral evaluations on what happens in the diegesis – “high fluency is associated with positive affect and results in more favorable evaluations.”<sup>8</sup> Maybe it even equips us to cope with the representation of harsh events on the screen. “Tradi-

tionally, psychologists studying evaluations viewed them as resulting from the slow and careful consideration and integration of relevant stimulus attributes. In contrast, recent psychological research suggests that evaluative judgments are often formed without such considerations, for example, by consulting one's apparent affective response to the stimulus."<sup>9</sup> Therefore the role technology plays in ethics, when considering CGI "cool" exocentric and fluent representations, is to induce a Nietzschean or dandy moral point of view, centered on the aesthetic apprehension of the spectacle. Compare for instance two versions of this tragically narrative episode: a young man fails to come back home in time to prevent his aunt and uncle, who raised him since his infancy, being savagely murdered by barbarians. This scenario takes place in *THE SEARCHERS* (John Ford, 1956) as well as in *STAR WARS* (George Lucas, 1977). In the former, neither the desperate journey home nor the hideously wounded and burned corpses of the boy's relatives are shown, and Max Steiner uses dissonant chords to score the scene. In the latter, we follow the boy driving his speeder (this machine glides over the ground: perfect for fluency, not to mention Lucas is fond of wipes – transition effects which give the editing work more fluency), then watch him discover the bodies while the pleasurable chords of John Williams's score accompany the scene.

## Lo-fi: Justifying the Alterations

On the so-called lo-fi side things are quite different. A reflexive device seems to have been borrowed from literature: the false document. From Miguel de Cervantes's *Don Quixote* to Jean-Paul Sartre's *La Nausée*, not to mention *Robinson Crusoe* or *Dracula*, thousands of novels used it, usually asserting in their first pages that the author "found" (instead of "wrote") the very text we are about to read. *THE BLAIR WITCH PROJECT* (Eduardo Sánchez & Daniel Myrick, 1999) remains a famous example of how a lo-fi movie can benefit from using the false document device. What appears on the screen when the narrative begins is presented as "all that remains" of the footage shot by three student filmmakers who disappeared while filming a documentary in Maryland about a local legend known as "Blair Witch." As soon as we take this "truth" for granted, we indulge in the poor non-broadcast quality of the images because that is all we have. We even welcome technical mistakes, since if (1) "to err is human" and if (2) a real human being is supposed to have made these images, then (1+2) these images must display errors. Indeed the capacity to be believed, "far from being undermined, is much rather confirmed by the reader's customary expectation that self-representation always involves a measure of misrepresentation."<sup>10</sup> This kind of lo-fi apparatus adds a second apparatus to the hi-fi one: we are not supposed to believe the (unmediated) presented world, but rather the (mediated) presented world to be part of a real world. Home-movie film look, mobile phone-recorded shots, single



Fig. 2: *[REC]* (Jaume Balagueró & Paco Plaza, 2007) displays the same kind of apparatus as in *BLAIR WITCH*. Television reporter Ángela and her cameraman Pablo are following firemen and policemen in Barcelona, until everybody is locked up in a deadly building full of infected demonic creatures. Left: Ángela asks Pablo to “tape everything”; meanwhile, her face, blurred due to the motion induced by the shaky cam, looks like some Francis Bacon painting. But we understand this technical failure as a proof of humanness. Right: The diegetized operator interferes with the main action, “testifying” to the validity of his images: “Get out of the way!” yells the fireman to him, i.e., to us.

microphone poor sound, etc., are all the more true because in the real world we are accustomed to link their presence to truth, from Rodney King’s beating to the 9/11 attacks. To bring back memories from his honeymoon, Shrek, the eponymous character of *SHREK 2* (Andrew Adamson, 2004), films the event with a Super-8 camera, the very same tool with which Abraham Zapruder recorded the assassination of JFK: how could we refuse, at least in the first place, to “believe” the validity of the clumsy and scratched shots of him and Princess Fiona?

The lo-fi apparatus is not limited to the “false document” taped by a diegetized operator. Numerous movies, especially when it comes down to action sequences, allow the operator to become a visible and unblinking witness in order to express her/his emotions by moving the camera in a non-broadcast way. Maybe the starting point of such a habit was given by the universal success of a device that turned into a cliché; the shaking of the camera caused by the T-rex when he brushes past “us” in Steven Spielberg’s *JURASSIC PARK* (1993). Indeed he is supposed to be so heavy the earth trembles – this lo-fi device can be seen as the desire of the CGI crew to give some weight to their hi-fi but immaterial creation (the T-rex weighs nothing, since he is made from 0 and 1s). Nowadays, neither car chase nor fighting sequence comes without its lo-fi shaky shots, even if the sequence is not presented as found footage or live broadcasting. This lo-fi device can even be found in films that depict a time when the camera was not yet invented. From *DANCES WITH WOLVES*’s buffalo-hunting Dutch-angle shots (Kevin Kostner, 1990) to *ROBIN HOOD*’s run-and-gun style fights (Ridley Scott, 2010), numerous examples can be found. But do not forget that these alterations must be diegetically justified, except for when the audience is looking for a

modernist Brechtian movie. For instance, spectators who only went to see *RACHEL GETTING MARRIED* in 2008 because it had been directed by Jonathan Demme, and expected the same mainstream narrative and forms as his well-known success *SILENCE OF THE LAMBS* (1991) offered, were definitely thrown off balance by the use of its lo-fi apparatus, which they failed to link to either the operator or the characters in the film. In this respect, casting a glance over a single page of IMDb user reviews of this film will be clarifying:

A great performance by Anne Hathaway and a good story gets lost inside a horribly shot and edited film. Way too many “why did they do this” questions, way too many overly long scenes, and quite possibly the worst use of hand held camera technology in recent memory. (*Rachel Gets Married, Audience Gets Headache*, 11 Oct. 2008, by Ira Sez from the United States)

When I was an engineer and again as a programmer, we had a saying, “Just because you can do something doesn’t mean you have to do it.” Last week I saw *W.* and had the same comment about it. The hand held, shaky, up your actor’s nose close-ups all distract from what could be an interesting story. How I miss the carefully plotted camera work of people like Gregg Toland (*THE GRAPES OF WRATH* and had the same comment about it. The hand held, shaky, up your actor’s nose close-ups all distract from what could be an interesting story. How I miss the carefully plotted camera work of people like Gregg Toland (*THE GRAPES OF WRATH* and *CITIZEN KANE*). (*An Old Curmudgeon’s View*, 25 Oct. 2008, by Al Weiss from the United States)

Ten minutes into watching this movie I was thinking: how much longer will this last? This film sort of reminded me of the time my neighbor brought their daughter’s wedding video over and, to my wife’s embarrassment, I fast forwarded thru the ceremony, in front of them. (*Calling a Spade a Spade*, 30 Nov. 2008, by mrblimp from the United States)<sup>11</sup>

These IMDb reviewers convey their inability to enter the diegetic world in spite of a true desire to be absorbed. They were unable to worry or to feel happy for characters – which obviously for them is the common way of “using” film narratives – because the lo-fi apparatus puts some inappropriate distance between the two sides. Only an audience well-versed in the *Verfremdungseffekt* could feel comfortable with it.

## From Absorption to Experience

Aside from these communication problems – these IMDb reviewers of *RACHEL GETTING MARRIED* should ideally have been warned or should have been look-

ing for further information about the film’s style – the intermedial import of the lo-fi apparatus into the mainstream style nonetheless is a hit. For the sake of argument, let us put the extensive use of the shaky camera as part of what one could call the *post-cool* style, since it is a testament to the desire to *believe again* as opposed to keeping an ironic “dandy” gaze on what is shown on the screen,<sup>12</sup> while the extensive use of CGI remains as part of the original postmodern style. The table below summarizes a few characteristics of these styles by basically comparing it to both the Hollywood Golden Age “classical” style and the European “modern” cinema of the 1960s. Of course these four categories are just convenient labels used nowadays to signify the collective presence of formal figures, the seeds of which were already mostly present in films dating back to the early years of cinema.<sup>13</sup>

		CLASSICAL	MODERN	POSTMODERN	POSTCOOL
Ethics and ideology	Overall project	Lesson	Criticism	Cool moment	Lively moment
	Requested kind of spectatorship	Absorption	Distance	Enrolment	Experience
	Expected use	(Distracted) learning	Critical reflection allowed by ostranenie	Resonance and vibration	Self-conscious commitment
Technology	Relation of images to the world	Images as mirrors or lenses	Images as images	Images of images (quotations or photorealistic CGI)	Images of images as mirrors (feigned found-footage)
	Typical shots	Basic classical “grammar” of the so-called “transparency”	Zoom and telephoto shots, “caméra-épaule”*	Vertiginous track-in, technocrane and Steadicam shots	Shaky cam, run and gun

\* “Caméra-épaule,” used by documentarists, Free Cinema and Nouvelle Vague operators, is technically the ancestor of the run-and-gun style but should not be confused with the shaky cam as we actually know it. The visual culture of the 1950s is not the one of the 2010s, and a shaky shot does not always mean the same thing.

Post-cool egocentric cinema goes together well with fictional autobiography, which, like “false document” movies, is “the deliberate artificial simulation of a discourse that refers to the past of a real speaker,”<sup>14</sup> and displays “feigned reality statements.”<sup>15</sup> Does that mean that postmodern exocentric cinema excludes any subjectivity in order to warm up to its representations? Not at all. We already noted how, from *JURASSIC PARK* to *TOY STORY 3*, directors allow imperfections to voluntarily waste the “objectivity” of their computerized worlds, and how these imperfections are not only tolerated but valued by the audience when they can be linked to humanity on both sides of the screen (the fear of the operator to

be wounded, the feelings of the character made “readable” by some technical alteration, etc.). But a lot more CGI effects can be related to this thawing.

## **What Happens, What I Saw, What I Remember**

See for examples two recently released features teeming with CGI: *LIFE OF PI* (Ang Lee, 2012) and *THE GREAT GATSBY* (Baz Luhrmann, 2013). In the former, a sad and tragic story is seen as a fairytale by a boy and narrated as such. All that we see onscreen is untrue considering the “real” world, but true considering Pi’s heart and mind. In the latter, another sad and tragic story is seen as an epic by a writer who narrates the story. All we see on the screen (and what we hear on the soundtrack) is untrue considering the “real” world, but true considering Nick Carraway’s heart and mind. Neither *Pi* nor *Gatsby* are true cases of “autobiographical pacts”:<sup>16</sup> *Pi* is half himself, half Ang Lee and his crew; and Nick Carraway is even more so the offspring of several instances – he stands for both Fitzgerald (since he is writing a novel called *The Great Gatsby*) and Luhrmann’s alter egos. But the point is not to find “who speaks.” It is to see the world through somebody else’s eyes. When a writer recalls a memory, she or he distorts it, and “these encodings and re-encodings of experience necessarily become increasingly subjective. Memoir, then is less about relating the past than editing it.”<sup>17</sup> The task of CGI, in both *Pi* and *GATSBY* is to display this “editing” work. In both cases, every pixel, every composition, every bigger-than-life match move effect is not intended to deliver the cold exocentric calculation of a world, but to permit our journey into the character’s imagination and sensibility. This mark is not hit by imperfections, this time, but is hit by overstatement: to use a common psychological dichotomy, CGI does not display bottom-up perception of the world, but top-down cognition. For instance, Fitzgerald writes in his novel:

A breeze blew through the room, blew curtains in at one end and out the other like pale flags, twisting them up toward the frosted wedding cake of the ceiling – and then rippled over the wine-colored rug, making a shadow on it as wind does on the sea. The only completely stationary object in the room was an enormous couch on which two young women were buoyed up as though upon an anchored balloon. They were both in white and their dresses were rippling and fluttering as if they had just been blown back in after a short flight around the house. I must have stood for a few moments listening to the whip and snap of the curtains and the groan of a picture on the wall.<sup>18</sup>

In order to visualize this description of Nick’s environment, from the “frosted wedding cake of the ceiling” to the impression the girls give of having made “a short flight around the house,” Luhrmann and his CGI crew spare no costs: ceilings as high as in a cathedral, never-ending curtains moving in slow motion are

“stroking” us when we watch with our 3D glasses on, not to mention smooth waves of low-frequency sounds. No place on earth has such ceilings, curtains, and sofas, and certainly not Tom Buchanan’s house – but we do not see Tom Buchanan’s house, we see it *re-encoded* by the memories of a Yale graduate and World War I veteran from the Midwest named Nick Carraway. In this respect, we could say *we* also (through the intervention of totally unnatural CGI effects) are astonished by Tom Buchanan’s house as it appeared in the summer of 1922 – In fact, it was Hemingway who wrote:

All good books [for us: all good movies] are alike in that they are truer than if they had really happened and after you are finished reading one you will feel that all that happened to you and afterwards it all belongs to you; the good and the bad, the ecstasy, the remorse and sorrow, the people and the places and how the weather was.<sup>19</sup>

But of course, the audience is made of “perverse spectators,”<sup>20</sup> and as was the case for *RACHEL GETTING MARRIED*, such a commitment does not automatically happen. A modernist audience, for example, considering getting absorbed in the diegesis is a regressive childish pleasure, would resist the audiovisual excesses or feel uncomfortable with it. That explains, in France, why the daily newspaper *Le Monde* – which remains one of the cornerstones of the orthodox modernist cinephilia<sup>21</sup> – regularly despises this kind of movie. Unsurprisingly, they declared *GATSBY* a poor movie, full of “these dreadful digital track-ins which transform any narrative situation into a videogame trial [...]”<sup>22</sup> Another danger, in terms of harmony between audience and aesthetic features, lies in the ageing of technology. When Jack Clayton directed his own adaptation of *THE GREAT GATSBY*, in 1974, he could not of course use CGI, but he resorted to the then up-to-date technology, mainly zoom-in associated with telephoto lenses. This device was supposed to give a representation of Nick Carraway’s gaze, since Nick (I am here referring to the same scene) is astonished by Tom Buchanan’s house but at the same time feels far from the ethical way of life it accommodates (to see something through a telephoto lens means to be able to study details without being physically close). But nowadays – think of Quentin Tarantino and other postmodern directors who quote such devices just for fun – a zoom-in associated with telephoto lenses “means” above all else the beginning of the 1970s era. It lost its evocative power in aid of becoming an outmoded signal in the history of film style. And one day the 3D CGI and hip-hop music of Luhrmann’s *GATSBY* will suffer the same fate.

However, CGI and other large-scale cinematic technological displays keep an ultimate card up their sleeves. It is the ability, on both sides of the screen, to take pride in a job well done. The photorealistic precision of an average blockbuster, as suggested by the hundreds of names lined-up under the heading of “CGI effects,”

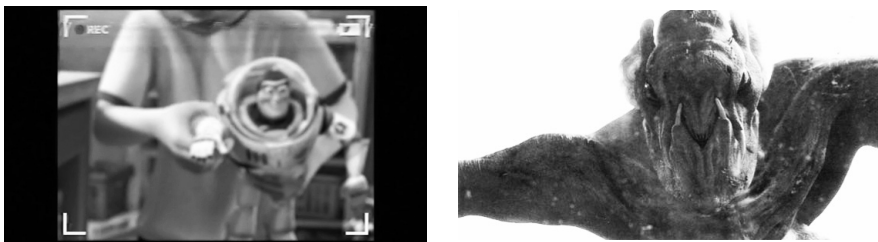


Fig. 3: Two cases of remediation. Left: In *Toy Story 3*, the hi-fi apparatus appropriates the lo-fi one. The aspect ratio falls from 1:1,66 to 1:1,33, leaving two vertical black stripes; the REC signal and the four white frame marks are clearly visible, complete with the battery signal; the entire image is blurred because the autofocus system takes a long time to move on; the upper horizontal part of the image is deformed due to the tape's wow and flutter. All these "deficient" characteristics are feigned by a technically perfect high-tech system. Right: In *Cloverfield* (Matt Reeves, 2008), the lo-fi apparatus appropriates the hi-fi one. The hideous alien comes from CGI disembodied hi-fi representations of reality, while the little pale stains between him and us signaling "reality" is mediated by a simple handy cam whose lens is dirty because it fell on the grass a few seconds before.

is achieved by several months of hard labor and armies of experts. Most spectators, even if they are not convinced by the story or by the aesthetic biases of the movie, at the end acknowledge it was "technically well done." A sociological inquiry, in this respect, showed a few years ago why numerous French communist steel workers of the 1950s were overly fond of Hollywood Golden Age movies: the ideology displayed by these movies was of course not their cup of tea, but they did not care about ideology. The point was: they saw jobs well done, i.e., jobs done (mainly by actors and actresses) with as much dignity and sense of responsibility as they themselves put into their factory work.<sup>23</sup> And when on the screen the RMS Titanic sinks or when Manhattan is destroyed by alien invaders, the amount of work is undeniable. Behind the amount of work, at last, lies the fascination for larger-than-life spectacles, in which John Dewey, building the basis of a pragmatist aesthetic, saw the roots of the human tendency to be moved by artworks:

In order to understand the esthetic in its ultimate and approved forms, one must begin with it in the raw; in the events and scenes that hold the attentive eye and ear of a man; arousing his interest and affording him enjoyment as he looks and listens: the sights that hold the crowd – the fire-engine rushing by; the machines excavating enormous holes in the earth; the human-fly climbing the steeple-side; the men perched high in the air on girders, throwing and catching red-hot bolts.<sup>24</sup>



Fig. 4. Left: *STAGECOACH* (John Ford, 1939). The fixed camera on the ground is level, and the aim is to increase our fear about the plight of one of the main characters who (voluntarily or not) falls out of the coach – he or she will irremediably get trampled. Right: Seventy years later, in a mainstream Disney cartoon (*TANGLED*, Byron Howard and Nathan Greno, 2010), the staging is both close to and far from its ancestor. The camera is not level anymore – it is a Dutch-angle shot – and it uses a wide angle “lens” (quotation marks since this is CGI, which means no real camera nor real lenses were used). The feelings that are evoked changed too: in this little medieval fairytale town, there is an operator trying his best to tape what suddenly happens. He has no time to level his camera. We understand how astonishing the event is – Flynn escaped death and he ran away! – because this shot is not technically perfect. The mediation produces a direct effect on us more than the narrative episode itself, especially as a *JURASSIC PARK*-style shaking effect has been added at the very moment the horse reaches the ground with its front hoofs.

Nobody would deny CGI the power to represent convincing fire engines or “enormous holes in the earth” (see the caving in of a football field in *THE DARK KNIGHT RISES*, Christopher Nolan, 2012).

## Cinema as a Situation

To finish, one must not overstate the opposition between CGI hi-fi scenes and shaky camera lo-fi scenes, since nowadays they come mixed. Every side finally understood how useful the weapons of the other side could be, and appropriations go both ways.

As a result, and all problems of ethical ambition and artistic achievement aside, experiencing movies probably is now more “vivid” than ever, thanks to the combination of hi-fi and lo-fi devices. Let us have a final example and compare two cinematic solutions to a single aesthetic and narrative problem: how to scare a spectator by showing him how vulnerable he would be if he were in danger to be trampled by a stampede of unleashed war horses.

In this chapter, we have seen that the CGI hi-fi apparatus and lo-fi shots are engaged in a war whose trophy is truth. Which one is telling it? The hi-fi side, claiming CGI is apt to model the “real” world? or the lo-fi side, claiming that high-tech devices build post-human cold calculations of a world that never existed and will never exist, while lo-fi includes the observer in the observation in order to improve the sharing of the experience? In such an epistemological dichotomy, technology appears itself as a condition which permits or forbids the access to a useful knowledge of the world. But it is a (bad) formalist way to think. As we have seen too, not only hi-fi and lo-fi technologies are more and more intermingled in each new release, but we have to think of cinema as a situation, and not as a technologically built text, in order to understand how some truth can be found in it. To sum up, a situation is a collective agreement between individuals about the different ways to appropriately react and adapt to a given socially situated interaction, as interactionist sociologists, from W.I. Thomas to Erving Goffman, stated. As soon as 1933, Herbert Blumer – himself an interactionist sociologist – already asserted,

[M]ovies do not come merely as a film that is thrown on a screen; their witnessing is an experience which is undergone in a very complex setting, [as they] serve as a source for considerable imitation. Forms of beautification, mannerisms, poses, ways of courtship, and ways of love-making, especially, are copied.<sup>25</sup>

What was acknowledged two years later in the academic anthropological field by Marcel Mauss and his conference paper “The Techniques of the Body,” in which he underlined the fact that cinema is a kinesthetic form of imagery ever since he saw girls walking in a particular manner both in Paris and in New York – a manner they had seen in the movies and imitated.<sup>26</sup>

Once one considers cinema as a sociohistorical succession of situations, it becomes difficult to assign a particular technology to a particular effect.<sup>27</sup> The way we read technological effects varies through time and depends on cinephile communities – everybody knows a given aesthetic device, which moves us to tears, can appear as unbearably kitsch to the spectator seated next to us in the theater; and the other way round. Nevertheless this variability does not keep both filmmakers and spectators from studying preferences for the so-called lo-fi or hi-fi ways of making images, and the categories of arguments they may use to justify these preferences.

- vision: The Social Construction and Deconstruction of New and Old Media,” *Popular Communication* 10, no. 4 (2012): 253-268.
70. Hartmut Winkler, *Docuverse. Zur Medientheorie der Computer* (Regensburg: Boer, 1997), 55-64.
  71. Lisa Parks, *Cultures in Orbit: Satellites and the Televisual* (Durham, NC: Duke University Press, 2005), 169.

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1. One can remember this artistic choice did not wait for the CGI revolution to arise: see battlefields staged by D.W. Griffith or C.B. DeMille in order to allow large-scale shots. Technologies of real crowds management or real pyrotechnics are still technologies.
2. On our polar type of encoding data, see Alain Berthoz, *The Brain's Sense of Movement: Perspectives in Cognitive Neuroscience* (Cambridge, MA: Harvard University Press, 2002), 99-100. On further links between this encoding and movies, see Laurent Jullier, “Should I See What I Believe? Audiovisual Ostranenie and Evolutionary-Cognitive Film Theory,” in *Ostranenie*, ed. Annie van den Oever (Amsterdam: Amsterdam University Press, 2010): 119-140.
3. This style defines itself by hand-held cameras making blurred pans. See David Bordwell, “Unsteadicam Chronicles,” August 17, 2007, available at <http://www.davidbordwell.net/blog/2007/08/17/unsteadicam-chronicles>.
4. Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago: University of Chicago Press, 1983): 45, 69. Adjectives derive from German astronomer Johannes Kepler (1571-1630), inventor of a refracting telescope, and Italian humanist Leon Battista Alberti (1404-1472), whose treatise *Della pittura* describes perspective.
5. French philosopher Maurice Merleau-Ponty thought that the paintings of Paul Cézanne could achieve this way of representing things. These paintings of course do not display columns of numbers, nonetheless they stay far from photorealism.
6. The sound categories tend to be blurred too: for instance THX sound system replaces classical semantic boundaries between words, music and noise, by technical-physiological boundaries between low, medium and high frequencies.
7. Roger Odin, “Du spectateur fictionnalisant au nouveau spectateur: approche sémiopragmatique,” *Iris* 8 (2nd semester 1988): 121-138.
8. P. Winkielman, N. Schwarz, T. Fazendeiro, and R. Reber, “The Hedonic Marking of Processing Fluency: Implications for Evaluative Judgment,” in *The Psychology of Evaluation: Affective Processes in Cognition and Emotion*, ed. J. Musch and K.C. Klauer (Mahwah, NJ: Erlbaum, 2003): 190.
9. P. Winkielman, N. Schwarz, and A. Nowak, “Affect and Processing Dynamics: Perceptual Fluency Enhances Evaluations,” in *Emotional Cognition: From Brain to Behaviour*, ed. S. Moore and M. Oaksford (Amsterdam: John Benjamins, 2002): 111.
10. Philippe Lejeune, *On Autobiography*, Vol. 52 of *Theory and History of Literature*, ed. and with a foreword by Paul John Eakin, trans. Katherine Leary (Minneapolis: Univer-

- sity of Minnesota Press, 1989): 23 – I transpose to cinema an assertion made for literature (as with notes #15 to #19).
11. Available at <http://www.imdb.com/title/tt1084950/reviews>.
  12. The “post-cool” label includes gore and so-called *gorno* movies. When interviewing gore fans and asking them how they could stay in front of the screen and deal with the disgusting horrors it displayed (I certainly could not), I expected to meet post-modern skeptical dandies, unable to be moved by what they ultimately knew to be pixels. But to my surprise I met people who on the contrary engaged themselves into the diegesis enough to feel shocked and turned down. They valued such a particular “technique of the body” (see this notion later in this essay) in order to know their own connections between flesh and mind better. In France they call themselves “viandards,” a slang term for people who enjoy eating meat.
  13. On this question, see (in French) Laurent Jullier, “Une rétro-ingénierie du regard. L'exemple des voyages de Scrooge,” in *Cinématismes*, ed. J. Nacache and J.-L. Bourget (Berne: Peter Lang, 2012): 73-90.
  14. Dorrit Cohn, *The Distinction of Fiction* (Baltimore: Johns Hopkins University Press, 1999): 30.
  15. Käte Hamburger, *The Logic of Literature*, trans. Marilynn J. Rose, 2nd ed. (Bloomington: Indiana University Press, 1993): 313.
  16. An autobiographical text establishes a pact that “supposes there is identity of name between the author, the narrator of the story and the character who is being talked about” (Philippe Lejeune, *On Autobiography*, 12).
  17. Verna Kale, “‘A Moveable Feast’ or ‘a Miserable Time Actually’? Ernest Hemingway, Kay Boyle, and Modernist Memoir,” in *Ernest Hemingway and the Geography of Memory*, ed. M. Cirino and M.P. Ott (Kent, OH: Kent University Press, 2010): 131.
  18. F. Scott Fitzgerald, *The Great Gatsby* (New York: Charles Scribner’s Sons, 1925).
  19. Ernest Hemingway, “Old Newsman Writes: A Letter from Cuba,” in *By-Line Ernest Hemingway*, ed. W. White (New York: Charles Scribner’s Sons, 1967): 184. Originally published in *Esquire* (December 1934).
  20. Janet Staiger, *Perverse Spectators: The Practices of Film Reception* (New York: New York University Press, 2000).
  21. Laurent Jullier and Jean-Marc Leveratto, “Cinephilia in the Digital Age,” in *Audiences*, ed. Ian Christie (Amsterdam: Amsterdam University Press, 2012), 143-154.
  22. Thomas Sotinel, “Le clinquant de Gatsby pour ouvrir le bal,” *Le Monde*, May 13, 2013.
  23. Fabrice Montebello, “Joseph Staline et Humphrey Bogart: l’hommage des ouvriers,” *Politix* 24 (December 1993): 115-133.
  24. John Dewey, *Art as Experience* [1934] (New York: The Berkeley Publishing Group, 2005), 3.
  25. Herbert Blumer [Conclusion of] *Movies and Conduct* (New York: Macmillan & Company, 1933), 200, available at <http://www.brocku.ca/MeadProject>.
  26. Marcel Mauss, *Techniques, Technologies and Civilisation* [1935] (New York & Oxford: Durkheim Press/Bergham Books, 2006), 80. For further inquiries, see Laurent Jullier, “Specificity,” in *The Routledge Encyclopedia of Film Theory*, ed. W. Buckland and E. Branigan (New York: Routledge, 2013, in press).

27. Noël Carroll reaches the same conclusions (by using different paradigms) when he dismisses what he calls technological essentialism in his *Philosophy of Mass Art* (Oxford: Clarendon Press, 1998).

## Marey's Gun: Apparatuses of Capture and the Operational Image

1. On the biopolitics-concept, see Michel Foucault, *The History of Sexuality*, vol. 1: *The Will to Knowledge*, trans. Robert Hurley (London: Penguin, 1998), 135-145.
2. Nadar [Félix Tournachon], "Le nouveau président de la Société Française de Photographie," *Paris-Photographe* 4 (1894): 4, quoted in Marta Braun, *Picturing Time: The Work of Etienne-Jules Marey (1830-1904)* (Chicago: University of Chicago Press, 1992), 5.
3. Étienne-Jules Marey, "Natural History of Organized Bodies," trans. C.A. Alexander, *Annual Report of the Board of Regents of the Smithsonian Institution for 1867* (Washington: Government Printing Office, 1868), 278-304.
4. Étienne-Jules Marey, *Animal Mechanism: A Treatise on Terrestrial and Aerial Locomotion*, 2nd ed. (New York: D. Appleton and Co., 1879), 4.
5. Braun, *Picturing Time*, 16.
6. *Ibid.*, 32-35.
7. Étienne-Jules Marey, "Le fusil photographique," *La Nature* (22 April 1882): 326-330.
8. Jules Janssen, "Présentation du revolver photographique et épreuves obtenues avec cet instrument," *BSFP* 22 (April 1876): 104, quoted in Braun, *Picturing Time*, 55.
9. On the latter, see Georges Didi-Huberman and Laurent Mannoni, *Mouvements de l'air: Etienne-Jules Marey, photographe des fluids* (Paris: Gallimard, 2004).
10. Braun, *Picturing Time*, 136.
11. Marey, *Animal Mechanism*, 27.
12. Roland Barthes, *Camera Lucida: Reflections on Photography*, trans. Richard Howard (New York: Hill and Wang, 1981).
13. Gilles Deleuze and Félix Guattari, *Mille plateaux: Capitalisme et schizophrénie* 2 (Paris: Les Editions de Minuit, 1980), 545-560.
14. On Marey and Taylorism, see Braun, *Picturing Time*, 320-348.
15. Michel Foucault, "The Confessions of the Flesh," in *Power/Knowledge: Selected Interviews and Other Writings, 1972-77*, ed. Colin Gordon, trans. Colin Gordon et al. (New York: Pantheon Books, 1980), 194-228.
16. Foucault, "Confessions," 194.
17. Giorgio Agamben, "What Is an Apparatus?," in *What Is an Apparatus? and Other Essays*, trans. David Kishik and Stefan Pedatella (Stanford: Stanford University Press, 2009), 1-24, quotation on p. 14.
18. See Jean-Louis Baudry, "Le dispositif: Approches métapsychologiques de l'impression de réalité," *Communications* 23 (1975): 56-72. For a recent reinterpretation of the concept of *dispositif* in the context of the study of film history, see Frank Kessler, "The Cinema of Attractions as Dispositif," in *The Cinema of Attractions Reloaded*, ed. Wanda Strauven (Amsterdam: Amsterdam University Press, 2006), 57-69. Recently, François Albera and Maria Tortajada have developed the notion of "dispositif," inspired by Foucault's apparatus-concept, in relation to the analysis of view-