

# Phantasmagoria and the Manufacturing of Illusions and Wonder: Towards a Cultural Optics of the Cinematic Apparatus

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## 1. Cultural Optics and the History of the Representation of Vision

More than fifteen years ago, in a paper delivered to the colloquium on film history at Cerisy, André Gaudreault and I borrowed a phrase from literary critic Hans Robert Jauss and promoted “Early Cinema as a Challenge to Film History.”<sup>1</sup> Introducing the term “the cinema of attractions,” we theorized that the spectator, the area of preoccupation of much of film theory in the seventies and eighties, needed to be rethought historically, with the acknowledgment that different regimes of spectatorship could be isolated within cinema history, with the attractions directly addressing the viewer in early cinema providing perhaps the most cogent case of a spectatorship different from the one addressed by so-called Classical cinema. In many ways, in the last decades of film study, historical research projects have dislodged some of the grand claims and the preeminence of film theory in our field. But perhaps the central issue we hoped to raise was not whether the focus of our field should move from theory to history, but whether history and theory could inform each other; and this remains an under-explored issue. One of the most brilliant advocates and practitioners of film history and theory, David Bordwell, has pronounced historical research of limited value in determining the nature of film spectatorship, which he maintains could be better understood using a non-historical method based in a description of cognitive constants that witness little change over millennia.<sup>2</sup> On the other hand, using similar assumptions about the centrality of human cognition to the understanding of film spectatorship, Ben Singer’s recent work has questioned whether such tasks as following a narrative or responding to film images may not

be greatly influenced by historical contexts.<sup>3</sup> Whatever method is pursued, I believe that the historical investigation of film spectatorship, while avoiding excessive claims of major differences, will certainly proceed fruitfully.

But the Grand Theory of the Seventies, exemplified particularly by the work of Jean-Louis Baudry and the late work of Christian Metz,<sup>4</sup> functioned less as a theory of the spectator than as a theory of the cinematic apparatus, a concept both technological and institutional, in which the spectator found a predetermined place. If we want to continue the challenge film history poses to film theory, we must not only research the film spectator, but the actual cinematic apparatus, and interrogate the meaning and implications of its history. The technical history of the cinema has always found a number of obsessive collectors, *bricoleurs* and generally fine scholars who have preserved and investigated the apparatuses and practices of cinema and its related realms of optical demonstration and entertainment. I would like to note the important recent scholarly work of Laurent Mannoni in providing a synoptic view of the Grand Art of Light and Shadow, as well as the investigations of Deac Rossell, David Robinson and Carlo Alberto Zotti Minici, and the recent convert from new media to old, Erkki Huhtamo.<sup>5</sup> But the material presented by these scholars and their predecessors has not yet inspired corresponding new theoretical approaches to the issue of the cinematic apparatus.

This may partly be because, for all the originality and sophistication of these new works, they still conceive of their research in terms of a story whose ending we already know: the invention of the cinema. While Mannoni brilliantly recreates the magic lantern culture that preceded the rise of the cinema and Rossell intriguingly speculates on different paths the cinematic apparatus might have taken, the predetermined goal and already known climax remains fixed. I do not intend to criticize these works, which I find peerless, but rather offer a proposal to further develop their findings along a theoretical axis. Once we break with the teleology of the archeology and origins of the cinema, our field might expand in a dramatic manner, as it will not only enrich our understanding of broader cultural history but, paradoxically, will also generate new ways of thinking about cinema specifically. Aspects of this expansion are already anticipated by the recent exhibition at the Getty Museum of Art curated by Barbara Stafford and Francis Terpak, "Devices of Wonder," which avoids industrial or ideological teleology in order to open into a broad celebration of the devices of visual entertainment.<sup>6</sup>

The expansive energy of this visual culture is not a new discovery, and has already enriched previous studies without changing their perspective. Reading Mannoni's work, I think, one can only be disheartened by the narrowing of focus that the story of the emergence of the cinema

entails. From a vast series of visual devices, and a vibrant range of projection practices, cinema emerged almost through a process of elimination rather than efflorescence. If instead of moving relentlessly toward the *défilé* of the cinema, we think more broadly about optical devices and the wonder they aspire to create, we do not necessarily need to replace previous historical models, but we can rather supplement them with new perspectives that open onto new theoretical possibilities.

Recent calls for histories of visibility and visual culture have already posed ways we could rethink the history of the film apparatus. But if I am proposing rethinking the teleology of cinema as the end point of optical devices, I do not think we should let the history of cinema simply become absorbed into the almost boundless topic of visual culture. I fear losing the very specificity offered by the investigation of cinema's derivation from the broader visual culture. The history of cinema provides us with a center to our investigations, one that allows other orbits and intersections, but which should not be simply lost in the night Hegel describes in which all cows are black. I believe we can follow very specific pathways of both detailed historical research and theoretical speculation, diverging from and returning to our center in film history, thereby avoiding dissolution into a topos without definition.

I propose we speak of cinema not simply within visual culture, but within the more specific domain of optics, by which I mean an investigation of specific optical devices and the discourses that surround them, although our method would involve a phenomenological description of optical experiences rather than the mathematical calculations of traditional optics. As a somewhat humble sketch of the way these issues could be raised both historically and theoretically, I offer a brief consideration of one device and its implications, the Phantasmagoria, less in terms of its detailed history (which Mannoni has presented quite elegantly) than in terms of the speculation and metaphors it has generated not only within film history but within the broader domain I would call cultural optics.

The Phantasmagoria, to briefly recap Mannoni's account,<sup>7</sup> appeared as a form of elaborate magic lantern entertainment at the end of the eighteenth century. It exploited associations between projected images and specters of the dead – linkages that seem to have existed since the origin of lantern projections (and which draw on even older associations with shadows generally). The Phantasmagoria however, especially in its most complex and widely seen form presented by Robertson in Paris in the 1790s, added or elaborated a number of other aspects. First, the projections were marked by their combination of site (an abandoned monastery), context (the spectator entered the projection room through a darkened hall decked out with mysterious symbols and decorations), and a variety of sensual effects (especially music and sound, including the otherworldly

tones of the glass harmonica and the rumble of thunder, as well as the lecturer's spiel) which were orchestrated with the visual effects. All these highly theatrical effects were specifically designed to create a suspenseful expectation of the unusual and an atmosphere of the uncanny for the spectator.

Secondly, and especially important for its novelty of effect, the actual devices of the lantern were concealed, and the show was presented through what today we would call back projection, the projectors mounted behind the screens. Thus in contrast to most earlier lantern shows, in which the lantern itself was the focus of some attention and even wonder, the lanterns of the Phantasmagoria were hidden from view, evident only in their effects. Thirdly, the projections were given effects of movement, not only through trick slides that performed transformations, but through novel projection devices, such as the moving forward or backward of the lanterns from the screen. This could give the effect (since the lantern's actual movement was concealed) of either enlarging (or shrinking) the image, or of its sudden movement towards (or away from) the viewer. These novelties of movement and transformation were especially identified with the Phantasmagoria. In addition, wavering projections on smoke created strange unsteady images. The increased spectral nature of the projections, and the atmosphere of visual uncertainty created a sense, as one announcement put it, that the specters appeared on the air itself, immaterially.<sup>8</sup> Finally, as I have discussed elsewhere,<sup>9</sup> the Phantasmagoria was deliberately presented in the zone of tension between credulity (certain audience members who actually believed the show they witnessed contained actual revenants), and the announced demystification of the show by the lecturer as an optical novelty fully explainable in terms of scientific principles – in other words as an avowed illusion.

The combined effect of what we could call the concealment of the devices and the total immersion of the spectator typify the aspects of the Phantasmagoria which Theodore Adorno would understand as a major impulse of 19th century art, the triumph of illusion through, the "effacing of the traces of their production," the reinforcement "of the being-in-itself of art works through technological means."<sup>10</sup> Indeed the total immersion techniques of the Phantasmagoria including its use of sound and light (and darkness) anticipate the *Gesamtkunstwerk* of Wagner's Bayreuth. In many ways the Phantasmagoria operates precisely like Jean Louis Baudry's analysis of the cinematic apparatus. The spectator is positioned, the illusion's mechanism is concealed, and the effect of total sensual illusion may be claimed to be absolute.

But I would claim we need to explore this experience more historically and more dialectically. Let me focus on the effect of enlargement/motion created by the mobile projectors, which for contemporary

viewers constituted perhaps the most frequently commented on novelty of the show. The impression of rapid motion through enlargement created a powerful sensation, but a contradictory one. While Stephen Bottomore is undoubtedly right that part of its immediate power came from triggering what perceptual psychologists call the "looming response," an instantaneous defensive reaction when a large object suddenly enters our perceptual field, a response shared by animals and humans, I would also stress that viewers in the cinema and the Phantasmagoria soon realize through simple reality testing that no predator or object is actually about to threaten them.<sup>11</sup> Thus the looming response may be triggered, but playfully, with a response generally of amusement at the false alarm triggered by a mistaken perception. The image does not truly approach the viewer, yet it appears to do so. Seated in a darkened hall with spatial orientation undermined, the sudden enlargement of the images produces an immediate effect of confrontation, even of invasion of personal space. Yet the distance between the viewer and the screen on which the image is projected does not change. Thus a contradictory kinesthetic and emotional effect is produced by marshaling certain cues of motion, but a rapid reality test reveals there is no actual danger and allows the viewer to realize that what appeared to be motion was, after all, only a trick.

With this illusion of motion, the Phantasmagoria introduces, I would maintain, a basic visual effect which will be constantly repeated in early cinema: the sensation of direct confrontation, a contradictory sense of emergence from the screen toward the viewer that is evoked and then disavowed. This looming effect proliferates through early cinema with effects ranging from the overtly catastrophic (*How it Feels to Be Run Over*), to the sensation of rapid approach (the movement of the camera/rocket toward the moon face in Méliès *Trip to the Moon*), to the more implicit confrontations of the pistol shot aimed at the camera/viewer of the outlaw Barnes in the emblematic shot of *The Great Train Robbery*, or the charging locomotives of numerous films of trains aimed obliquely at the camera in the famous films of the 1890s produced by the Lumière, Edison and Biograph companies.

I have claimed that this sort of direct address characterized the cinema of attractions and addressed a rather different spectator from that imagined by classical film narrative.<sup>12</sup> Likewise in focusing on the apparatus itself, I would also claim the "illusion" or perhaps better, the sensation, of the Phantasmagoria performed something more complex than either the simple effacing of the labor of illusion or the ideological positioning of a docile spectator. Rather, reflecting the ideological and historical contradiction of the subject matter of the Phantasmagoria (ghosts haunting the Age of Reason, staged within a dethroned Church), this illusion drew its full effect from the contradiction between cueing certain physical sen-

sations of motion and emotional reactions, while also revealing their unreal nature. A divided and vertiginous spectator, physically and emotionally affected but rationally aware of the unreality of these sensations, appears in this breach.

In other words, I am claiming that rather than delivering a mimesis of a familiar experience, a simulacrum that interpellates and positions a unified spectator in a predictable and seemingly coherent scenario, the Phantasmagoria created, through technology, a new experience of motion whose very contradictory novelty attracted and fascinated the viewer and whose very uncanny nature could then serve as a signifier for an impossible perception (that of ghostly beings). To emphasize the manner in which this illusion of disembodied motion could be profoundly disorientating I want to cite some fascinating testimony uncovered by Stephen Bottomore. An account of witnessing the new Manchester railway in 1830 strives to describe the new perceptual effects of unaccustomed speed and motion in terms of cultural optics:

In the rapid motion of these engines, there is an optical deception worth noticing. A spectator observing their approach, when at extreme speed, can scarcely divest himself of the idea that they are not enlarging and increasing in size rather than moving. I know not how to explain my meaning better, than by referring to the enlargement of objects in a Phantasmagoria. At first the image is barely discernible, but as it advances from the focal point, it seems to increase beyond all limit. Thus an engine, as it draws near, appears to become rapidly magnified, as if it would fill up the entire space between the banks, and absorb everything within its vortex.<sup>13</sup>

A number of early film historians, including myself, have claimed that the devices of early cinema might be approached as responses to new sensory demands of a modern environment, providing a context in which speed and immediate transitions, the shocks of modernity such as railway travel, might be mediated and represented by the direct confrontations characterizing many cinematic attractions<sup>14</sup> – such as the onrushing trains and motorcars or pistols shot at close range mentioned earlier. In this eyewitness account we seem to encounter, as Bottomore observed in a slightly different manner, a reversal: a new sensory experience, the unaccustomed speed of an onrushing locomotive, could be initially processed in terms of the uncanny visual effect of the Phantasmagoria. The intensity of this new experience of mechanized speed and the disorientation it sowed in its wake should not be underestimated. The shocks of modernity were not simply metaphorical, as demonstrated by a tragic event in 1830 that occurred during the opening of the railway into Manchester, which was marked by an elaborate ceremony with the Duke of Wellington in attendance. The train stopped en route to Manchester to take on water, and one of Britain's leading financiers, a Mr. Huskinson, crossed over the

tracks to greet the Duke. But when the famous locomotive, the Rocket, came bearing down upon him, Huskinsson became disoriented as he tried to cross the tracks. Rather than getting out of the way he remained “like a man bewildered, ... alarmed and agitated” in the path of the speeding locomotive and became the first railway fatality, as one commentator put it, a sort of propitiatory sacrifice to the new technology.<sup>15</sup>

Thus the Phantasmagoria and later visual and optical devices such as the cinema could stand not only as models but even as premonitions of unheralded modern visual experiences. From the fact that these perceptual novelties were not only unfamiliar but potentially deadly, we can see that the fascination offered by the uncanny optics may stand at antipodes to the centering and reassuring individualizing interpellation that apparatus theorists claimed to form the basis of the power of cinema. While I do not want to substitute one totalizing model for another, and therefore would not deny that the cinema may in some circumstances play this sort of ideological role, or that it can in fact serve a disciplining function within modernity, nonetheless it seems to me such ideological reassurance can not be declared to be inherent in the apparatus itself. A historical investigation of the apparatuses of the cinema provides at least a counter-history to the ahistorical idealist myth of a complicit apparatus manufacturing complicit spectators and citizens, as proposed by seventies film theory.

## 2. The Uses of Illusion

Any sophisticated reader of seventies film theory recognized that the critique of cinematic vision offered by apparatus theory was rooted in a broader late twentieth century critique of the ocularcentrism and the hegemony of vision, articulated in a variety of ways from Heidegger and Sartre to Foucault and Debord (or if such recognition was not immediate, Martin Jay’s masterful explication of this modern suspicion of the visual in *Downcast Eyes* could supply it).<sup>16</sup> But, as Jay reminds us, a particular reified sort of vision, the rationalized, aggressive, knowledge-and-mastery-seeking vision associated with Western metaphysics formed the target of this critique. Recent work by theorists such as Jonathan Crary have focused new attention on the history rather than the theory of vision, on the transformations which took place within both theories and practices of vision. Crary has described the appearance of the conception of an embodied sight in the nineteenth century, which displaced the disembodied panoptic eye of earlier metaphysics.<sup>17</sup> While Crary clearly outlines the disciplinary role this new understanding of vision could usher in, I would claim that in investigating this embodied vision, the cinema, as representative of a long tradition of popular visual devices, may offer

practices of vision other than disciplinary ones, rather than simply being identified with the bad object of dominant visual objectification and what Martin Heidegger has called "the age of the world picture."<sup>18</sup> While it is much too simple to merely invert the terms of the denigration of vision (and risk losing the important critical insights these critics have made) nonetheless, a dialectical model seems to be in order.

While apparatus theory proclaimed an attack on the "realism" of the cinematic image, and called for a radical undermining of the metaphysics of identity and coherence, it frequently described these targets as illusion or deceptions, as if a hidden card of apodictic truth remained up someone's sleeve. Traditionally the science of optics has a strong association with the Enlightenment, one of whose major tropes consists in the dispelling of illusion. While proclaiming materialist inspiration, Baudry more or less directly announced his ambitions to deliver us from our absorption in the shadows passing on the wall of Plato's subterranean screening room, leading us out of the realm of shadows into the effulgence of the truth.<sup>19</sup> Baudry and apparatus theory thus embraced the foundational myth of Western Idealism and identified the cinematic apparatus with the shadowy illusions of Plato's cave. Rather than overturning or even questioning the dichotomy between perception and reality that broods over Western metaphysics, the ideological critique of the apparatus claimed the heritage of dispelling illusion and liberation from enthrallment, which this myth made foundational. In this it allied itself with the Enlightenment aspect of much of Marxist thought which also posed optical devices, whether the camera obscura or the Phantasmagoria, as emblems of the misrecognition of reality through the acceptance of a manipulated illusion for the real state of things.

Let me deepen the historical context of this argument by introducing the cultural optics of which I spoke earlier. Cinema, understood as part of the centuries old "great art of light and shadow," displays a truly dialectical and perhaps even contradictory relation to the project of Enlightenment. As an optical device, cinema and its visual ancestors derive from the new science of optics that fascinated Descartes and other Enlightenment figures, including Christian Huygens, the most likely inventor of the magic lantern. However, as Barbara Stafford has shown in her study of eighteenth century visual devices, *Artful Science*, such devices were designed for two rather contrary, yet dialectically related, purposes. The first was scientific and enlightening. By demonstrating the visual logic behind an optical illusion the *savant* or *philosophe* could make scientific demonstration triumphant, dissolving a wondrous illusion into its generative and explicable logic. However, in the hands of a mountebank, these illusions might create nothing but wonder, or, worse yet, might engender superstitious beliefs, especially when presented before a gullible audience.<sup>20</sup>



To a nineteenth century audience, cinema appeared within a tradition of visual magic that had become part of popular entertainment at least since the Enlightenment, reaching a technological climax at the end of the nineteenth century.<sup>21</sup> Rarely claiming supernatural powers (except, of course, in the fascinating and ambiguous case of the Spiritualist performers, such as the Davenport brothers) nineteenth century magicians more frequently operated within a realm of demystification. Frequently parodying and mocking their Spiritualist counterparts, such magicians claimed no extra-human aid, yet fervently concealed the secrets behind their illusions. They provoked curiosity and astonishment by producing illusions that entertained by denying supernatural revelation or miracles, but also by avoiding a fully explicated demonstration of their mysterious processes. The pleasure such illusions offered lay in making the audience attend to their own sensuous experience, and asking them to doubt their very eyes, even as they experienced an uncanny sort of seeing.

But this offer of pure illusion as a form of entertainment sharply contrasts with the use of visual illusion within discourses of authority. For in investigating the use of tricks and visual illusions, we find that tricks are almost always inducted into an ideological context, of either demystification or allegory. The de-mystifying critique of ideology sought to reveal the trick or illusion as nothing other than illusion – as not revealing any supernatural powers. Thus the true target of suspicion would seem to be not the puzzle that the trick occasioned, but its possible deception of a viewer about true cause and effect. Magic tricks operated like commodity capitalism though an occluding of labor, concealing the actual effective gesture and seeming to produce things “by magic.” A trick acknowledged as a trick might cause no deception and appear as harmless and entertaining as the Chinese conjurer in Vertov’s *The Man with the Movie Camera* when it is fully explained and its surplus value of wonder liquidated. Tricks that undo themselves are thus essential to an enlightenment system that seeks to separate visual illusion from scientific certainty.

The enlightenment interest in “philosophical toys” included visual devices that demonstrated illusions and the manner in which they were produced (including the various motion devices such as the thaumatrope or phenakistoscope to which the origins of the cinema are frequently traced). These were designed, as Barbara Stafford has shown, primarily for the education of the elite young.<sup>22</sup> Science, while rendered entertaining, nonetheless carried the essential lesson that these illusions were explainable. Thus they also inoculated the young against the spectacles of superstition that the philosophes associated especially with the Catholic Church. But, in fact, optical devices had also been used by the Jesuits during the Counter Reformation as visual allegories, not simply

to convince the ignorant of the powers of God and his Church, but to reveal to the learned as well the conditional nature of knowledge and perception in the fallen world of creation. Thus an anamorphic landscape painting, which could appear either as a craggy mountain or as the face of an old man, bore the caption "Your attempts to view me are vain/If you perceive me, you will not see me anymore."<sup>23</sup> Similarly, the extraordinary devices and illusions manufactured by Jesuit theologian Athanasius Kircher through "Natural Magic" served less to demonstrate scientific principles than to reveal the wondrous and mysterious nature of God's creation.<sup>24</sup> Such visual demonstrations and illusions called perception and knowledge into question. Thus, both rational demystifying demonstration and religiously mystic enigmas used optical illusions as means to cause the viewer to reflect on the limited and fragile nature of human perception, rather than to deceive. Science or Faith could, however, dispel these uncertainties.

We could therefore specify three different receptions, practices and understandings surrounding visual illusions in the post-Enlightenment era. The first, pedagogical and enlightened, would explain, for instance, the superimposed images of a Thaumatrope as illustrating the physiological optics of the eye. The confusion of the images does not exist in reality, but is merely the product of persistence of vision. Thus the illusion itself is dissolved in favor of its explanatory function about the nature of perception. On the other hand, within a tradition dedicated to Faith and Authority, visual illusion could demonstrate not so much the working of perception as their inherent fallibility, the untrustworthy nature of human senses and consciousness in need of a transcendent faith to make sense of the world. But our third option, that of the magician-illusionist, invokes neither faith nor science, but entertainment. The magician would announce that the illusion was not dependent on supernatural forces, and could be explained in terms of natural forces. However, unlike the Enlightenment pedagogue, the magician withholds the explanation, and delivers no debunking demonstration. Instead, he or she leaves the spectator suspended in their uncertainty, doubting what they have just seen yet unable to deny or thoroughly explain it. In this suspense dwells the entertaining pleasure of uncertainty and ambiguity.

Optical illusions form a complex figure, whose power may not lie primarily in the ability to fool someone into taking them for "reality." Rather they confound habitual attitudes towards perception, indeed sowing doubts about the nature of reality. These doubts could play a pedagogic role in either rational systems (perception is not to be trusted, but must be buttressed by knowledge of scientific causes and the demonstration which the scientific method calls for) or transcendent systems of belief (mere perception is fallible; only faith in transcendence can make sense

of creation). But short of their appropriation by larger pedagogical systems, such illusions primarily spawn wonder, astonishment and curiosity. Rather than buttressing the power of vision, they may call it into question, the essential claim of the conjurer being that “the hand is quicker than the eye.” Thus the magician, at least since the age of Enlightenment, avoids claims of supernatural power, but also refuses to reveal the basis of his trick. The magician’s vow (admittedly often violated, but what vows are not?) to never reveal the trick does more than preserve a guild or a professional secret. It maintains an attitude of uncertainty and wonder on the part of the spectator who must always wrestle with what she saw and what she thinks she saw, with both the uncertainty and the power of perception.

Thus, the danger presented by visual illusion may not lie in its claims to spurious systems of cause and effects such as the ability to make the dead manifest. I would claim instead that apparatus theory, as a new form of Puritanism, essentially set itself against the visual pleasure and playfulness offered by the cinematic illusion, placing itself within a long tradition of Western metaphysics which distrusts appearances and uncertainty. While we have seen that trickery can be rendered inoffensive, even pedagogical, this taming of illusion depends on either a demystifying rational explanation of tricks, or an allegorization of them as indicative of the need for transcendent authority. But if the trick served neither as demystifying demonstration nor as allegory, as buttress neither to the explanations of science nor the mysteries of the Faith, then trick and visual illusion might maintain a dangerous anarchic force, a questioning of authority itself in favor of the pure play of sensation.

Curiously, within a traditional cultural optics the conjurer and the juggler compose a single figure, both equally condemned as untrustworthy and potentially evil. Before the nineteenth century, legal, religious and even philosophic institutions condemned the juggler as passionately as the conjurer; sleight of hand generated as much anxiety as (false?) claims of supernatural power. As Stafford points out, manual facility even in the arts was often viewed with suspicion, often seen as a tool of deception.<sup>25</sup> I think that within the suspicion of the cinematic apparatus we find a similar anxiety about the nature of an art of vision that is also, as a mechanical art, quicker than the eye, able to make us see things we know aren’t there. Linking the cinema with the juggler, we might linger over one venerable trick which predates, but I think anticipates, the Phantasmagoria: the combination of manual dexterity and visual illusion which master magician and historian Ricky Jay terms “blow books,” but which I prefer, for reasons that will be obvious, to call by another of their traditional names, “flick books.”<sup>26</sup> Flick books employed notched pages and carefully arranged visual illustrations which a mountebank could manipu-

late to make images seem to appear, disappear or undergo transformations magically. Reginald Scott's sixteenth century *The Discoverie of Witchcraft* described flick books this way: "Ye hab they saie a booke, wherof he would make you think first that every leafe was clean white paper: then by virtue of words he would shew your everie leaf to be painted with birds, then with beasts, then with serpents, then with angels etc."

Scott found it nearly impossible to describe this book – its manipulation and effects – in words, saying, "Best because you will hardlie conceive hereof by this description, you shall (if you be disposed) see or buie for a small value the like booke," giving an address of a book shop where it could be purchased "for your further instruction."<sup>27</sup>

The term "flick book" proleptically evokes early cinema, the "flickers" or, in contemporary vernacular, "flicks." The derivation of the term bifurcates in an interesting manner. Our conjurer's flick book refers to the deft and rapid movement of the hand, the "flick of a wrist." The cinema gained its name through an analogously rapid motion of light, originally describing the behavior of flames or mirror reflections "flickering." The term thus unites the two aspects of optical trickery, the manual skill of juggling and the rapidity of light itself, accenting light's ability not only to reveal, illuminate and enlighten, but to conceal, cast shadows, create illusions. The history of early cinema's imbrication with stage magic is well known; stage magicians like Felicien Trewey, John Stuart Blackton or Georges Méliès adopted the cinema as the latest conjuring device, one more nineteenth century example of the precision machine replacing the skilled hand.

Much of Western metaphysics derives from reflection upon the fallibility of the senses or human perception. Descartes' meditations institute a process of systematic doubt which leads to the apparently apodictic truth of the fact of consciousness, beginning in the First Meditation on First Philosophy by imagining a conjurer of cosmic proportions, the evil demon who can create a world of endless deception. The ultimate lesson of Descartes' imagined trip to a cosmic magic show is not only to doubt the evidence of the senses, but to found the assurance of knowledge more deeply in both the fact of consciousness and the existence of a God whose goodness guarantees the impossibility of a cosmos of deception. Descartes' philosophical sleight of hand consists in invoking the divine reassurance of consciousness after demonstrating the possibility of deception via the senses. Consciousness which leads to knowledge for Descartes takes a different road than perception. Thus Descartes provides, like the Enlightenment pedagogues or the Jesuit theologians, the assurance of explaining away the trick which the mountebank refuses to offer.<sup>28</sup> The fascination of the trick itself, its contradictory rather than self-

founding nature, opens a delight in, perhaps even an unprincipled passion for, an illusion whose very nature would seem to undermine the metaphysics of reassuring certainty.

Thus the power of cinema (or one of them; why must its power be single?) may lie precisely in its lack of certainty, the confusion it sows, its maintenance of a realm of playful rather than total illusion, an uncanny questioning of perception (did I really see that?) rather than religious revelation or scientific certainty. While a historical investigation of the cinematic apparatus and its relation to a cultural optics must not seek an essential determining nature of the apparatus, we can see in cinema's genealogy, its early history, its recurring devices and (if we wanted to extend this discussion beyond the period of early cinema) in its genres and special effects, a recurring if not always dominant fascination with the visually uncertain and uncanny, with flickering illusion.

## NOTES

<sup>1</sup> André Gaudreault and Tom Gunning, "Le cinéma des premiers temps, un défi à l'histoire du cinéma?," in J. Aumont, A. Gaudreault and M. Marie (eds.), *Histoire du cinéma. Nouvelles approches*, Paris, Publications de la Sorbonne, 1989. The Jauss essay referenced here is "Literary History as a Challenge to Literary Theory," in Hans Robert Jauss, *Towards an Aesthetic of Reception*, Minneapolis, University of Minnesota Press, 1983.

<sup>2</sup> See David Bordwell, *On the History of Film Style*, Cambridge, Harvard University Press, 1997, especially pp. 142-147.

<sup>3</sup> Ben Singer, *Melodrama and Modernity Early Sensational Cinema and Its Contexts*, New York, University of Columbia Press, 2001, especially pp. 101-130.

<sup>4</sup> Jean-Louis Baudry, "Ideological Effects of the Basic Cinematographic Apparatus" and "The Apparatus: Metapsychological Approaches to the Impression of Reality in the Cinema," in Philip Rosen (ed.), *Narrative, Apparatus, Ideology*, New York, Columbia University Press, 1986; Christian Metz, *The Imaginary Signifier: Psychoanalysis and the Cinema*, Bloomington, Indiana University Press, 1982.

<sup>5</sup> Laurent Mannoni, *The Great Art of Light and Shadow: Archaeology of the Cinema*, Exeter, University of Exeter Press, 2000 [*Le grand art de la lumière et de l'ombre, archéologie du cinéma*, Paris, Nathan, 1994]; Deac Rossell, *Living Pictures: The Origins of the Movies*, Albany, SUNY Press, 1998; Laurent Mannoni, Donata Pesenti Campagnoni and David Robinson, *Light and Movement: Incunabula of the Motion Picture, 1420-1896*, Gemona, Giornate del cinema muto, 1995; Carlo Alberio Zotti Minici, *Dispositivi ottici alle origini del cinema*, Bologna, CLUEB, 1998; Erkki Huhtamo, "From Kaleidoscomaniac to Cybernerd: Towards an Archeology of the Media," in Minna Tarkka (ed.), *ISEA '94 Catalogue*, Helsinki, The University of Art and Design, 1994, pp. 130-135.

<sup>6</sup> Barbara Maria Stafford and Frances Terpak, *Devices of Wonder from the World in a Box to Images on the Screen*, Los Angeles, Getty Research Institute, 2001.

<sup>7</sup> Mannoni deals with the Phantasmagoria in *The Great Art...*, *op. cit.*, pp. 136-175. Additional fine treatments of the Phantasmagoria appear in Francois Levie, *Étienne-Gaspard Robertson: la vie d'un fantasmagore*, Longueuil, Le Préambule, 1990; X. Theodore Barber, "Phantasmagorical Wonders: The Magic Lantern Ghost Show in 19th Century

America," *Film History*, Vol. 3, no. 2, 1989; and on Philipstahl, the predecessor of Robertson and putative inventor of the Phantasmagoria, Mervyn Heard, "Paul Philipstahl and the Phantasmagoria in England, Scotland and Ireland, Part One: They Seek Him Here They Seek Him There," *New Magic Lantern Journal*, Vol. 8, no. 1, 1996; and "Part Two: Shoo!," *New Magic Lantern Journal*, Vol. 8, no. 2, 1996.

<sup>8</sup> See the announcement of Philipstahl's Phantasmagoria in the Strand in London 1802, reproduced in Barber, *op. cit.*, p. 79.

<sup>9</sup> Tom Gunning, "'Animated Pictures': Tales of Cinema's Forgotten Future after 100 Years of Films," in Christine Geldhill and Linda Williams (eds.), *Re-Inventing Film Studies*, London, Arnold Press, 2000, pp. 320-321.

<sup>10</sup> Theodore Adorno, *Aesthetic Theory*, London, Routledge and Keagan Paul, 1984, pp. 150-151.

<sup>11</sup> Stephen Bottomore, "The Panicking Audience? Early Cinema and the Train Effect," *Historical Journal of Film Radio and Television*, Vol. 19, no. 2, 1999, pp. 189-190.

<sup>12</sup> Tom Gunning, "The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde," in Thomas Elsaesser and Adam Barker (eds.), *Early Film*, London, British Film Institute, 1989.

<sup>13</sup> Bottomore, *op. cit.*, p. 191.

<sup>14</sup> Tom Gunning, "The Whole Town's Gawking: Early Cinema and the Visual Experience of Modernity," *Yale Journal of Criticism*, Vol. 7, no. 2, 1994; Ben Singer, *Melodrama and Modernity*, New York, Columbia University Press, 2001; Lynne Kirby, *Parallel Tracks: The Railroad in Silent Cinema*, Durham, Duke University Press, 1997.

<sup>15</sup> "Opening of the Railway," *Mechanics Magazine*, September 25 1830, in Humphrey Jennings, *Pandoemonium: The Coming of the Machine as Seen by Contemporary Observers*, London, Papermac, 1995, pp. 177-179.

<sup>16</sup> Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth Century French Thought*, Berkeley, University of California Press, 1994.

<sup>17</sup> Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Twentieth Century*, Cambridge, MIT Press, 1990; *Suspension of Attention, Spectacle, and Modern Culture*, Cambridge, MIT Press, 1999.

<sup>18</sup> Martin Heidegger, "The Age of the World Picture," in *The Question Concerning Technology and Other Essays*, New York, Harper and Row, 1977.

<sup>19</sup> Baudry, *op. cit.*

<sup>20</sup> Barbara Maria Stafford, *Artful Science: Enlightenment Entertainment and the Eclipse of Visual Education*, Cambridge, MIT Press, 1994, especially pp. 29-103.

<sup>21</sup> See Erik Barnouw, *The Magician and the Cinema*, New York, Oxford University Press, 1981; Matthew Paul Solomon, *Stage Magic and the Silent Cinema: Méliès, Houdini, Browning*, Ph.D. Dissertation, UCLA, 2001.

<sup>22</sup> Stafford, *op. cit.*, pp. 58-89.

<sup>23</sup> Stafford and Terpak, *op. cit.*, pp. 250-251.

<sup>24</sup> On Kircher and the purposes of Natural Magic, see Thomas L. Hankins and Robert J. Silverman, *Instruments and the Imagination*, Princeton, Princeton University Press, 1995, pp. 32-36.

<sup>25</sup> Stafford, *op. cit.*, pp. 79-85.

<sup>26</sup> *Ibid.*, pp. 69-70; Stafford and Terpak, *op. cit.*, pp. 252-255.

<sup>27</sup> Stafford and Terpak, *op. cit.*, pp. 252-253.

<sup>28</sup> René Descartes, "Meditations on First Philosophy," in *The Philosophical Writings of Descartes*, Vol. II, Cambridge, Cambridge University Press, 1985.