THE LONG AND THE SHORT OF IT: CENTURIES OF PROJECTING SHADOWS, FROM NATURAL MAGIC TO THE AVANT-GARDE

Tom Gunning

AN OPTICAL EXHIBITION: ILLUSIONS, SPECTERS, AND DEMYSTIFICATION

First, imagine darkness. Although it does not come first, its effect remains primary and overwhelming. That projections mostly take place in a dark environment, or at least in shadow, radically distinguishes it from most Western traditions of theater. Until the end of the nineteenth century, both the stage and the auditorium were brightly lit, since the audience formed as much a part of the spectacle as the performance itself (the plebeian “Gods” in the balcony giving signs of approval or contempt; the aristocrats in their boxes wanting to be seen as much as they wanted to see). Only at the end of the century did the darkened theater appear, first in Wagner’s Bayreuth (with audience sinking into a dream-like obscurity), then in Antoine’s Theatre Libre (a dark auditorium increasing the naturalism of the “fourth wall”), and later in the cinema. In all of these cases, having the audience sit in blackness caused something of a scandal.

Imagine, then, this unaccustomed gloom, its velvety eclipse of space, its obscuring of orientation. As Maurice Merleau-Ponty said of night, “it is pure depth without foreground or background, without surface and without any distance separating it from me. All space for the reflecting mind is sustained by thinking which relates its parts to each other, but in this case, the thinking starts from nowhere.” What happens in the dark? How does light structure and create its own world? Projection indicates a throwing forward, in this case of light, but also of shadow, with a collision occurring between light, shadow, and a surface or screen. There is a space in front of a screen that seems to be canceled out by darkness, the “throw” of the beam of projection. If darkness cancels out this space, the screen or projection surface opens up another space, a space of illusion perhaps, or representation, or simply of the play of light. As Maya Deren described the walls of her apartment when she first projected her film Meshes of the Afternoon:
“The walls are solid except right there, that leads to something, and if I can get it open I can leave here through a different way than I came.”

I want to trace this play of projection back to its most elaborate spectacle—the phantasmagoria as presented by Etienne-Gaspard Robertson (ill. 1) in Paris at the end of the eighteenth century—and use it to think about the nature of shadow and illusion, but most of all about its dual role of canceling out and conjuring up space. To engage space in this way, as a transition between the tangible and the virtual, means to most obviously engage the most basic aspects of human perception and cognition, the données of space, but also of movement, and to play there with our most fundamental categories of world formation and orientation, of belief and confusion, of certainty and play. The screen is only the final destination of Robertson’s spectacle, a point reached after a complex trajectory.

One approached the entrance to Robertson’s phantasmagoria picking one’s way past the crumbling walls of a convent and walking between the gravestones of deceased nuns. After one had moved through the court of Capuchins in the evening twilight and entered the former cloister, one walked down a long corridor, which Robertson, trained as a painter as well as a scientist (and originally ordained as a priest), had decorated with dark and fantastic paintings. At the end of the corridor, one arrived at the first exhibition space, the Salon de Physique (ill. 2), which was set aside for scientific experiments and devices. Here Robertson demonstrated the newly discovered power of electricity, or, as he called it, “galvanism,” causing luminous sparks to leap up before the on-lookers’ eyes. This room’s attractions included optical and aural devices—a variety of distorting mirrors, peepshows that revealed miniature tableaux of familiar landscapes, a ventriloquist who could throw his voice into every corner of the room, and, in

1 | Etienne-Gaspard Robertson, purveyor of the phantasmagoria
later years, the mystery of the "invisible woman" [ill. 3] an apparently disembodied voice that answered the visitors' questions. Galvanism was not presented simply as a physical force, but as a power that ruled a strange new world with visible effects: Robertson advertised it as "a new fluid . . . that temporarily gives movement to dead bodies." One of Robertson’s demonstrations recreated Galvani’s application of electrical shock to the leg of a dead frog, which then twitched uncontrollably. Such demonstrations presented science as a succession of wonders and surprises, while the various optical and acoustical devices scattered throughout the room were designed to confuse and transform the senses, demonstrating the way human beings could be made uncertain whether what they were seeing and hearing was actually what it seemed to be. Thus the phantasmagoria literally took place on the threshold between science and superstition, between the Enlightenment and the Terror. Robertson’s gathering of phantoms took place behind a huge archaic door covered with mysterious hieroglyphics [those ancient Egyptian symbols whose mysterious meaning had not yet been deciphered] that connected the salon de physique to the main auditorium of the phantasmagoria. The scientific demonstration taking place in this anteroom was meant to convince viewers that at the end of the eighteenth century, humankind was about to enter a brave new world and embark on a new path of scientific progress. An aural cue, the unearthly tones of the glass harmonica, signaled the opening of this passage from the rationalistic, if uncanny, Salon de Physique to the reality of the main hall of the phantasmagoria. Nearly forgotten today, the eerie sound of this newly invented musical instrument fascinated composers and audiences alike in the late eighteenth and early nineteenth centuries. A succession of glasses with different tonalities rubbed by fingers dipped in water, the glass harmonica produced music that to many seemed ethereal, possibly angelic. However, music historians commonly attribute the instrument’s gradual loss of popularity to claims that its tones adversely effected the nerves, causing mental deterioration and other severe health problems. The most important association for Robertson most likely lay in the use Franz Anton
Mesmer made of the “celestial harmony”⁵ of the glass harmonica in his cures through animal magnetism. On the other hand, Benjamin Franklin, the master of electricity and exemplar of new scientific discoveries, had invented, or at least perfected, this new instrument, whose novelty therefore recalled the new wonders of sciences as well as echoing the unearthly correspondences of Mesmer’s occult system.

As the audience found their seats in the large hall (ill. 4), obscurity and then silence descended. A single hanging lamp initially dimly lit the room draped in dark curtains, its funereal pall broken only by bleached skulls and ancient masks hanging on the walls. Conversations begun in the adjoining room ceased, as the audience observed what one commentator described as a “religious silence.”⁶ When this one dim light source was extinguished, plunging the audience into darkness, the silence was penetrated by sound effects imitating rainfall and thunder, tolling church bells, and the return of the glass harmonica. The senses, already stimulated and led astray by the illusions in the Salon de Physique, the imagination stroked by the abandoned convent and its associations, were now confronted with a blank canvas, the blackness thickly seeded with expectations and suspense.

The phantasmagoria differed from traditional magic lantern shows primarily in that it concealed the apparatus from the audience’s view. The magic lantern, the mechanism itself, had previously played a visible role. But in the phantasmagoria, the device (Robertson called his lantern a “phantascope”) was not only shrouded by darkness, but those operating it redefined the whole spectacle by placing the lantern behind the screen instead of in front of it, so that viewers saw the projected images but not their source (ill. 5). Furthermore, the screens themselves were concealed, first by curtains that covered them when the room was illuminated, then by the
4 | Robertson's illustration of the phantasmagoria and its audience

5 | The rear-projection technique at the phantasmagoria
darkness of the room, and finally by the lampblack that surrounded the figures on the glass slides, thus eliminating a visible background which could have anchored them in space. The phantasmagoria (like the movie projection system that ultimately derived from it) created its illusions primarily by concealing its means of projection. Thus it modernized the long tradition of magic shows, which created the impression of miraculous events by hiding the real processes from view, through the implementation of new optical effects. As an illusion, it worked directly on the people sitting in the audience, limiting their viewpoint, manipulating their perception either by withholding sensual information or by overstimulating the senses (the combination of limited sight due to the gloomy atmosphere while the ears were assaulted with eerie or unfamiliar sounds).

The "phantoms" of the phantasmagoria consisted of lantern projections cast on screens, but they operated in such a way that the audience was unaware of either screen or lantern. Rather than appearing directly on the screen, the images seemed to suddenly loom out of the darkness. This "looming effect" (ill. 6) was greatly enhanced by the second major innovation in this new form of lantern entertainment—the illusion of motion. The phantascope could be wheeled smoothly toward or away from the screen along polished brass rails. Combined with controls that simplified adjusting the focus, this movement caused the projected image on the screen to either increase or decrease in size. Since this shifting back and forth and adjusting could be carried out both rapidly and invisibly, and since the spectators were enveloped in darkness without any visible spatial reference, the rapidly magnifying image appeared to be charging out at the audience or, if the lantern was rolled backward, withdrawing. This unusual effect truly shook up the spectators, reportedly causing women to faint and men to rise, striking out with their canes against the apparently threatening phantom.

6 | Nineteenth-century illustration of the phantasmagoria with the "looming effect"
Robertson varied both the themes and the format of his program. Certain slides emphasized the effects of movement into the audience. The Bleeding Nun (a character from Mathew Lewis’s Gothic novel The Monk, which exemplified the horrific aspect of the old religion) was portrayed by means of two slides that the projector could seamlessly alternate: one a front view for her “approach” to the audience, the second a back view for her “retreat.” Other slides showed images of those who had recently died, including not only protagonists of the Revolution, such as Danton, Marat, or Robespierre, but also the inventor of the glass harmonica, Benjamin Franklin, and—occasionally and controversially—Louis XVI (thanks to trick slides, the latter two figures metamorphosed into skeletons before the viewers’ eyes). Other images acted out brief scenarios, as in the images of the poet Young attempting to bury his daughter at midnight, taken from Night Thoughts. Some of the revenants appeared as images projected onto smoke being emitted by a burning brazier (ill. 7), an effect that had been introduced a few years prior to that by German lanternists. The wavering appearance of these phantoms, which seemed to “freely originate upon the air” (as the phantasmagoria showman in London, Paul de Philipstahl, advertised), dematerialized the nature of these illusions, further disorienting audiences. Where did they take place? Such immaterial visions seemed to fulfill Shakespeare’s description of spirits “melted into air, into thin air / Like the baseless fabric of this vision.”

I have claimed the phantasmagoria worked in the space between the Enlightenment and superstition, seemingly summoning the phantoms of “the dead or absent” into the auditorium while displaying the triumphs of the new sciences in the anteroom to this spectacle. Purveyors of phantasmagoria show not only acknowledged this tension between enlightened science and ancient superstition, they used it to attract the public to their shows. Thus Philip Palidor, who first introduced the phantasmagoria in Paris in 1793 (during the height of the Terror), started his spectacular off with this demystifying preamble:

7 | An image of Danton projected onto smoke at the phantasmagoria
I will not show you ghosts, because there are no such things; but I will produce before you enactments and images, which are imagined to be ghosts, in the dreams of the imagination or in the falsehoods of charlatans. I am neither priest nor magician. I do not wish to deceive you; but I will astonish you. Thus the spectator of the phantasmagoria displayed a divided consciousness that was singularly modern. A sophisticated Parisian described the effect it had on him as follows:

It is certain the illusion is complete. The total darkness of the place, the choice of images, the astonishing magic of their truly terrifying growth, the conjuring which accompanies them, everything combines to strike your imagination and to seize exclusively all your observational senses. Reason has told you well that these things are mere phantoms, catoptric tricks devised with artistry, carried out with skill, presented with intelligence, your weakened brain can only believe what it is made to see, and we believe ourselves to be transported into another world and another century.

The effect, then, involves overcoming what “reason has told you,” which is only possible in an age of reason. The phantasmagoria did not manufacture belief or faith, but rather generated entertaining confusion.

GHOSTS OF IDEOLOGY, APPARATUSES OF THE SENSES

The radical possibilities of the phantasmagoria might be summarized by describing it as an art of total illusion that also contained its own critique. This startling experience in the darkened room denied its own reality even as it was being presented, simultaneously overwhelming and calling the senses into question. One could think about avant-garde art of the ensuing century and a half as moving between these two poles—a direct and overwhelming appeal to the senses on the one hand, and the critique of illusion on the other. The critique seems to carry on the Enlightenment project, while the sensual approach often questions the powers of the rational mind and circumvents rather than demonstrates its powers.

The image of the phantasmagoria remains very much a part of critical tradition. In his posthumously published collection Pensieri, the great Italian poet and philosopher of modern skepticism and pessimism, Giacomo Leopardi, recounted an event he said took place in Florence in 1831. A terrified crowd had gathered in front of a ground-floor window crying, “The phantom, the phantom!” A shadow cast on the wall, visible from the street, resembled a woman flailing her arms in a mysterious fashion. A friend of Leopardi offered to look into the room if a policeman would boost him up to a higher vantage point. From there he saw that the phantom was nothing but a woman’s smock that had been dropped over a chair, its arms stirred by the wind while a distaff behind the chair projected a shadow resembling a head. Leopardi commented ironically that “in the nineteenth century, in the very heart of Florence, which is the most learned city in Italy and whose inhabitants are particularly discerning and sophisticated, people still see ghosts that they believe to be spirits—ghosts that are distaffs.” The modernity of Leopardi’s story comes not simply from the uncovering of suspicion still lurking within a supposedly sophisticated metropolis, but in the explanation of the ghosts as a visual phenomenon. Thus almost a century after Leopardi’s Florentine phantom, Bertolt Brecht restaged the event in one version of his great drama about science at war with authoritarian doctrine and superstition, The Life of Galileo. In the final scene, after his surrender to the Church, Galileo’s disciple Andrea smuggles a book across the border in which the scientist has recorded his continued research. As Andrea steals past the custom inspectors, a group ofurchins claim that a witch lives in a nearby house, pointing to a shadow cast on a window that resembles a witch stirring
her cauldron. The witch, one child claims, rides a broomstick and casts spells on the coachman’s horses. When Andrea casts doubt on this, the boy asks if he is denying Marina is a witch.

ANDREA: No, I can’t say she isn’t a witch. I haven’t looked into it. A man can’t know about a thing he hasn’t looked into, can he?

BOY: No. — But THAT! [He points to the shadow] She is stirring hell broth.

ANDREA: Let’s see. Do you want to take a look? I can lift you up.

BOY: You lift me to the window mister! [He takes a slingshot out of his pocket] I can really bash her from there.

ANDREA: Hadn’t we better make sure she is a witch before we shoot? I’ll hold that.

(The Boy puts the milk jug down and follows him reluctantly to the window. Andrea lifts the boy up so that he can look in.)

ANDREA: What do you see?

BOY: [Slowly] Just an old girl cooking porridge.

ANDREA: Oh! Nothing to it then. Now look at her shadow, Paolo.

(The Boy looks over his shoulder and back and compares reality and the shadow)

BOY: The big thing is a soup ladle.

ANDREA: Ah, a ladle! You see, I would have taken it for a broomstick, but I haven’t looked into the matter as you have.¹³

Ironically, even after acknowledging that the old woman was stirring porridge, the boy still affirms Marina is a witch. Ironically, this production was staged in Hollywood shortly before the House Un-American Activities Commission witch-hunt and Hollywood blacklist that drove Brecht (and film director Joseph Losey, who directed this production of Galileo) from the United States. This little shadow play (not included in other versions of the play) brings together the themes of projected shadows, superstition, and perspective essential to a critique of the phantasmagoria.

If Brecht was familiar with Leopardi’s text, he filtered it through Karl Marx’s frequent use of visual metaphors to describe the process of false consciousness under capitalism. The most famous of these was Marx’s use of the image of the camera obscura in The German Ideology. The basis of the modern photographic camera, the camera obscura, works on the principle that within a dark chamber (as small as a box or as large as room), if a small aperture is made in one wall or partition, allowing the rays of the sun to enter, an image of the outside world will appear on the opposite wall or surface, albeit upside down. Exploited by both scientists and artists such as Leonardo, the camera obscura served both as a tool in aiding artists to sketch from life and a form of visual entertainment. In his sixteenth-century book Natural Magic, Giovanni Battista della Porta described elaborate pantomimes and dramas that could be staged outside an auditorium and then projected “live” onto the wall (in effect, an early anticipation of television) by means of a camera obscura.¹⁴ Cameras obscura eventually employed lenses, both to make the image clearer and brighter and to project it right side up.

For Marx, this optical device with its upturned image provided a metaphor for distorted experience and ideology under capitalism, in particular the reversal in which ideas rather than material and social circumstances apparently determine the nature of things: “If in all ideology men and their circumstances appear upside down as in a camera obscura, this phenomenon arises just as much from their physical life processes as the inverted objects on the retina do from their physical life processes.”¹⁵ The camera obscura metaphor not only imagined the reversal of values and cause and effect apparent in capitalist ideology, but indicated
that this distortion, like an optical effect, was fully explainable and operated according to set laws—just as Robertson and Philidor had indicated that their illusions were products of science and technology, not supernatural forces.

The phantasmagoria also appears in the famous passage in volume one of Karl Marx’s *Capital: A Critique of Political Economy* with respect to the commodity fetish. In the process of becoming a commodity, an object for sale, a product of human labor (Marx’s example is a table) ceases to exist simply as either the result of human labor or as an object with a specific purpose. Instead, when it enters the market, it acquires a different value, which Marx refers to as “exchange value.” In place of a primary relation between human beings, the exchange value—in effect the price tag on the object—asserts a relation between commodities. Marx describes this value as “phantasmagoric.” As with the camera obscura, Marx is describing a false perception in which the actual forces operate in hiding or appear as something they are not. “There is a definite social relation between men, that assumes in their eyes the fantastic form of a relation between things.” In German, the phrase translated here as “fantastic form” is “dies phantasmagorische Form.”

By focusing on the technology of the device and not simply its fantastic effect, Marx emphasizes ideology’s central task: to transfer agency from the effective causes (in the phantasmagoria, the operator and the magic lantern behind the screen; in the case of the commodity fetish, the social labor of human beings, which creates the commodity) to the actual inert effects (images on the glass that appear to be alive; commodities which seem to take on power). The phantasmagoria’s confusion of point of view and orientation created by its hidden lantern and screen and an environment of enveloping darkness may provide the most important aspect of Marx’s reference. The phantasmagoria not only conceals the human agent and the technical process involved, but directly affects human perception. Within this critical tradition, the phantasmagoria manifests not only as a visual phenomenon, but has powerful spectatorial impact. The consumer under capitalism preeminently becomes part of an audience at a spectacle—a spectator.

As I move my phantascape from illuminating the shadows of ideology to shedding light on the creation of works of art, let me focus this transformation through one of Walter Benjamin’s richest insights: that in the nineteenth century, the work of art took on the form of a commodity (and hence potentially, a phantasmagoria). Paradoxically, the lyric poetry of Baudelaire, Benjamin claimed, derived precisely from ‘the devaluation of the human environment by the commodity economy.’ But a dialectical opposition also asserts itself in Baudelaire’s and the Symbolist’s inherent resistance to this commodification through a redefinition of the artwork as a sensual experience rather than a material object.

From the demystifying point of view, the phantasmagoria asserted the ultimate truth of the rational and the fallibility of the senses. But from the point of view of showmanship, audience pleasure, and aesthetics (particularly if we take the term from its Greek root *aisthetikos*, “of or pertaining to things perceptible by the senses”), the novelty of the phantasmagoria lay in its manipulation of the senses—not to foster credulity, but simply to produce startling effects. Rather than seeing the phantasmagoria exclusively as either an ideological machine sustaining illusions or a process of demystification, it might be worth pursuing it as a new model for the manipulation of the senses. For a group of poets, critics, painters, and dramatists, the phantasmagoria did not simply signify an illusion, but a new paradigm for works of art.

Thus Arthur Rimbaud, who described himself in *Season in Hell* as a “master of phantasmagorias,” also announced a new art based in “a long, gigantic, and rational *derangement* of all the senses.” To accomplish this, Rimbaud announced he was inventing a new, universal language.
“accessible someday to all the senses.” Baudelaire had already articulated the experience of synaesthesia as the ideal of Symbolist art: artworks that not only addressed all the senses, but blended and transformed each sense into the others. Baudelaire in part conceived of this new model when he listened to Wagner’s music for the first time. This aural experience filled him with a sense of space and light, “an immense horizon and a wide diffusion of light; an immensity with no décor but itself.”

A few decades later, the Symbolist journal which inscribed the source of its inspiration in its title, La Revue wagnerienne, championed Wagner’s Gesamtkunstwerk as initiating a new approach to art that recognized its basis in sensation. Although it embraced the experience of transcendence the Symbolists found in Wagner, Teodor Wyszewa’s manifesto for the journal rooted transcendence in sensual experience: “In the beginning, our soul experiences sensations. . . . These consist of the diverse colors, resistances, smells or sonorities. . . . At a later stage, our sensations become linked. . . . The sensations become thought; the soul thinks after having felt.”

Situating the artist’s power in his or her ability to manipulate sensations through form, texture, and color, tone and rhythm, or movement in order to create a direct route to emotions and thoughts, this new conception opened the way to an art no longer conceived as the imitation of either appearances or ideal models.

As Symbolist drama came into its own with the production of the plays by Maurice Maeterlinck, the atmosphere of evocation moved towards a deliberate invocation of unreality. Maeterlinck even argued for the elimination of living actors from the stage: “Will the human being be replaced by a shadow? A reflection? A projection of symbolic forms, or a being who would appear to live without being alive? . . . . It also seems that any being apparently alive but deprived of life elicits extraordinary powers. . . . A review of a Parisian Maeterlinck production complained, in fact, that the actors seemed like “a succession of images projected by a magic lantern.”
Adorno might have perhaps dismissed such attempts to found a new art on the uncertainty of the senses as part of the cultural deception he critiqued in one of their main inspirations, Richard Wagner, and which he termed “phantasmagoria.” But we might wonder if another alternative is not laid out here: a deeply sensual art, certainly evocative of dreams and illusions, but which does not attempt to found a new religion or uphold an old mythology. Simultaneously popular in its address and yet often abstract in its forms, it plays with its audience, causing sensations that resolve themselves into both fear and laughter. Unlike canonical high modernist art, this art is not overly concerned with objecthood or even the materiality of the artwork. Rather, its manufactures and devices for shaping light and darkness, constantly aware that its true material consists less in its projections than in the sensual experience of the viewer. It seems to me to be a model that continues to have an uncanny hold on life.

**EPILOGUE: CONTEMPORARY PHANTS, FUTURE PROJECTIONS**

Today, with another fin de siècle under our belts, can the complex history and implications of the phantasmagoria still haunt us? In an era of media saturation, suffused with hyper and virtual reality, can this antiquarian medium (necro-techno, to coin a phrase) inspire anything other than vague nostalgia? Without serving as an apologist for my profession as a media historian, I actually believe the answer is yes. A new generation of artists is exploring the possibilities of image projection from film, video, or computer sources outside the usual contexts of experimental film and video, thus dealing less with the established formal paradigms of frame and screen and audience, and playing with ambiguities of space, motion, and ontology.

In many ways, this recent work operates in opposition to the media saturation of Hollywood, television, and the Internet, seeking to fashion a critical space for its practice strongly influenced by the Marxist or critical tradition. This ambition to use the medium in itself as a critical tool could be seen as continuing Robertson’s and Philidor’s dialectical and demystifying showmanship. Contemporary artist Judith Barry claims her work tries “to make technology in its many guises visibly part of a larger ideological context.” Barry’s variety of projection surfaces (including public buildings) not only makes technology visible, but redefines public spaces and familiar shapes, as images challenge spectators to reorient themselves in positions other than the traditional audience-screen configurations. Curiously, the uncanny aspect of the phantasmagoria persists in some of these recent works as well, such as in Zoe Beloff’s invocations of spiritualist photography and séances. Unlike the spiritualists of the late nineteenth century, she does not present her images as evidence of a supernatural presence, but rather as a simulacrum of an untenable belief whose spectacular fascination nonetheless remains unquestionable. In this respect, Beloff’s work is reminiscent of the late-nineteenth-century performances by magicians such Maskelyne and Méliès, who recreated spiritualist séances but introduced them, as Robertson and Philidor did with the phantasmagoria, with the announcement that all miraculous manifestations were achieved without spirit aid, offering them to audiences as avowed tricks and a lot of fun.

Ultimately, I believe that as diverse as it is in its effects, technology, and aims, this new work marks a fundamental change of emphasis within the modernist paradigm, one closer perhaps to Rimbaud and the Symbolist model of works of art as the overwhelming of the senses than to the canons and concepts of modernist art established after World War II. While the high-modernist theories of self-referentiality led to self-contained and eminently marketable luxury commodities and signs of distinction, one wonders if the immateriality of this technology-driven new art continues aspirations of alternative cultures or simply supplies the new succession in the phantasmagoria of novelty.


3. Levine 1990 (see note 1), p. 79.


5. The phrase “Un’armonia celeste” occurs in the mad scene in Donizetti’s opera Lucia di Lammermoor, which is scored for a glass harmonica. Mesmer’s theories also involved a cosmology of celestial harmonies. See the description of the mesmeric treatment, including the glass harmonica, and its relation to the society of pre-Revolutionary France in Robert Dornton, Mesmerism and the End of the Enlightenment in France (New York, 1970), esp. p. 8.


14. Mannoni 2000 (see note 1) discusses the camera obscura on pp. 3–27; della Porta’s spectacle with this device is described on p. 9.


