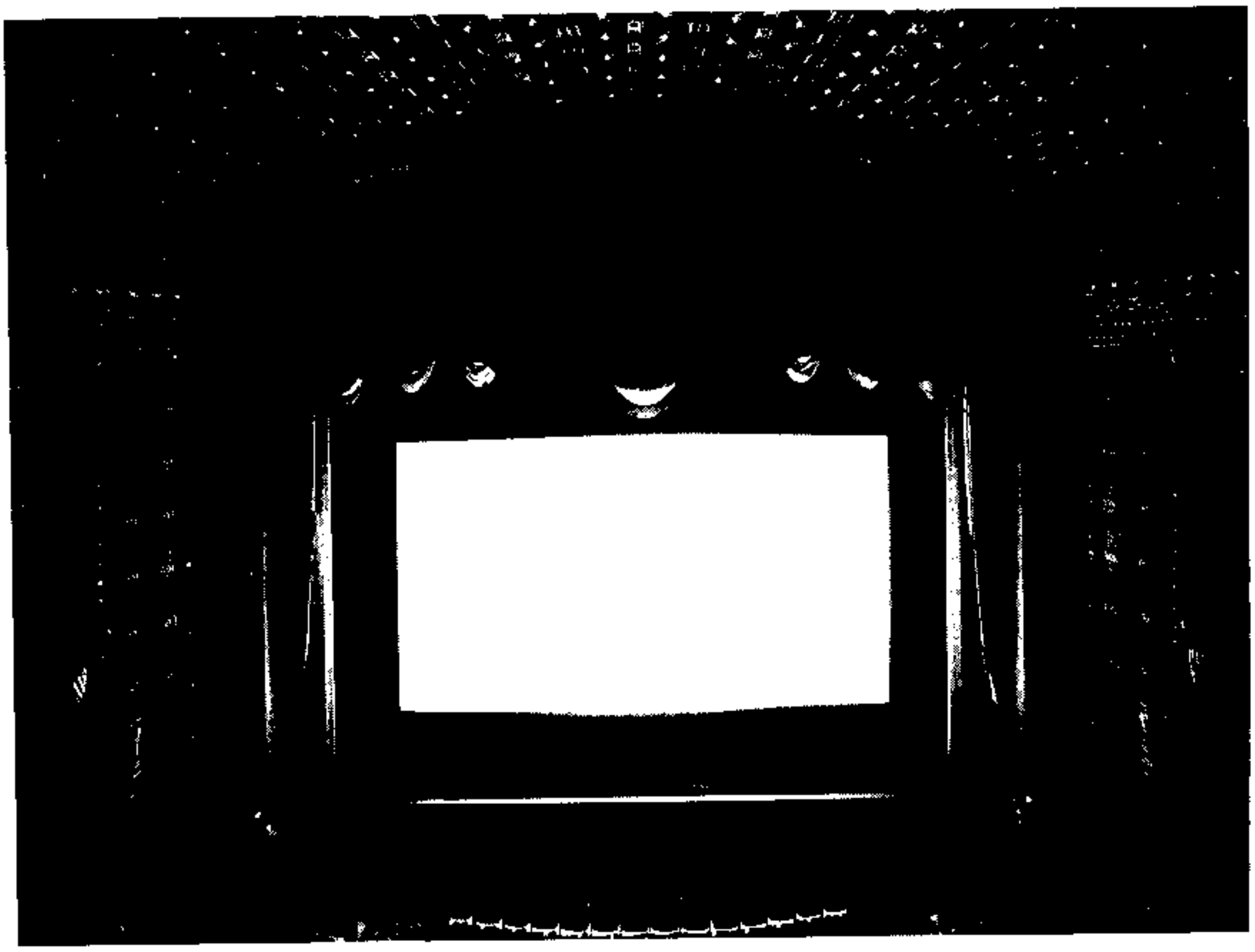
THE SCREEN

Mobile or immobile, everything that occupies space belongs to the domain of architecture.

AUGUSTE PERRET, *CONTRIBUTION TO A THEORY OF ARCHITECTURE*

Going to the cinema results in an immobilization of the body. Not much gets in the way of one's perception. All one can do is look and listen. One forgets where one is sitting. The luminous screen spreads a murky light throughout the darkness. Making a film is one thing, viewing a film another. Impassive, mute, still, the viewer sits. The outside world fades as the eye probes the screen. Does it matter what film one is watching? Perhaps. One thing all films have in common is the power to take perception elsewhere.

ROBERT SMITHSON, "A CINEMATIC UTOPIA"



4.1 Hiroshi Sugimoto, *El Capitan*, 1993. Photo courtesy of Sonnabend Gallery, New York.

4 THE ARCHITECTURE OF SPECTATORSHIP

Architecture is experienced in a complex matrix of space. Using, visiting, inhabiting a building involves movement in, through, up, down, out. But as film spectators, as television viewers, as computer users, we are immobile in front of screens full of images and sounds.[1] Facing a screen, the spectator/viewer/user is caught in a phenomenological tangle—twin paradoxes—of mobility and immobility (the mobility of images; the immobility of the spectator) and of materiality and immateriality (the material space of the theater, domicile, or office and the immateriality of the cinematic, televisual, or computer image). The screen functions as an architectonic element, opening the materiality of built space to virtual apertures in an "architecture of spectatorship."[2]

Prevailing accounts of the relationship between film and architecture have typically held to some basic assumptions about the materiality of architectural space and the immateriality of cinematic space. In the most commonly theorized relation, cinematic space is conceptualized in terms of a pro-filmic "real" (filmed architecture) or a material "built environment" (set design). Hence, recent discussions of set design and the use of architecture within the film frame have focused on an emerging canon of historically disparate films (*The Cabinet of Dr. Caligari, Metropolis, L'inhumaine, Things to Come, The Fountainhead, Play-*

time, Blade Runner, Body Double) that illustrate how a range of architectures are rendered or imagined in cinematic mise-en-scène.[3] Other writers have explored how the fluid topographies built by montage and the moving camera were uniquely able to portray modern urban space and the visual cacophony of the city. The cinema, in these accounts, is a representational system commensurate with the new space and time of modernity.[4] Still others have described how montage and the moving camera had determinant effects on architects and their conception of architectural space.[5] Filmic space is seen, as Anthony Vidler has characterized it, "as a sort of laboratory for the exploration of the built world."[6]

The filmic representation of architectural space and the work of architects on film decor and mise-en-scène have been the predominant manners in which architecture and the cinema have been joined. A theory of spectatorship that describes the shifting views of a spectator engaged in an imaginary and *virtual mobility*, however, relies on a different concept of the space of spectatorship—one that emphasizes the relation between the bodily space inhabited by the spectator and the virtual visuality presented on the space of the screen. Instead of describing the use of architecture *within* the filmic or televisual image, the following account will consider the screen *as* architecture, as an expansion of material built space through the "virtual window" of the film, television, or computer screen.[7] The historical specificity of the cinema screen—and the luminous moving images projected upon it—forms a transitional surface as light becomes a building element in a newly *immaterial* architecture.

LIGHT AS A BUILDING MATERIAL: THE WALL BECOMES A SCREEN

> *Images have become a new form of light.*
>
> —Paul Virilio, interview in *Flash Art* (1988)

In the transfer of three-dimensional outside "sights" to a two-dimensional inside "wall," the camera obscura conducted a transformation from three-dimensional materiality to two-dimensional virtuality. The beams of light that pierced through the camera obscura's aperture carried images that were not static but moving. With the camera obscura, *virtual* movement was viewed by an immobile viewer.[8]

The camera obscura required strong outdoor solar illumination in order to project its image in a dark chamber. Since antiquity, both light and its primordial shadow, darkness, have been imbued with metaphysical properties. In Plato's allegory of the cave, Hans Blumenberg writes, "the *metaphorics* of light already has a *metaphysics* of light implicit in it."[9] As the late-sixteenth- and

seventeenth-century lantern projections of della Porta, Kircher, Huygens, Walgenstein, Sturm, and Zahn began to demonstrate, light could also be harnessed and deployed as an entertainment medium.[10] In the tradition of projected light entertainments, the spectator's liminal confusion between veracity and illusion was both the lure and the rewarding delight.[11]

The metaphysics of light changed as projected light images became an entertainment medium. In his cultural history of the "industrialization" of light in the nineteenth century, Wolfgang Schivelbusch describes the relation of the darkened room to the illuminated images of light-based media: "*The power of artificial light to create its own reality only reveals itself in darkness.* . . . The spectator in the dark is alone with himself and the illuminated image because social connections cease to exist in the dark. Darkness heightens individual perceptions, magnifying them many times. *The darkened auditorium gives the illuminated image an intensity that it would not otherwise possess.* Every lighted image is experienced as the light at the end of the tunnel—the visual tunnel, in this case—and as a liberation from the dark."[12] Light could carry images, light could draw in space. In architectural terms, the window brought light into a darkened interior. But the window left its images outside, framed for the view. As glass began to replace opaque construction materials in the nineteenth century, a new transparency was added to public buildings. Yet the "intensity" of artificial light images was dependent on the dark, windowless space in which they were seen. This new mode of viewing light images in the dark had its own pleasures, demanded its own distinct architecture.

The darkened windowless interiors of nickel theaters and store-front cinemas began to demonstrate the need for a new building type to "house" the projection screen. Virilio notes this transition: "Why have historians focused on the iron and glass architecture of Paxton's 1851 Crystal Palace, ignoring the architecture of light of the darkrooms of the same period? On the one hand, the development of transparence was established as a result of the materiality of large surfaces of glass, held up by an impressing array of metal scaffolding. On the other hand, *transparence entered secretly in the unnoticed architectonic mutation of a wall-screen.*"[13] This "architectonic mutation of a wall-screen" takes us back to that end-of-century crossroad in 1895 when the individual viewing of moving images ceded its popularity to the collective viewing of projected images on a screen. Light was a building material as dark rooms were transformed by a screen-filled wall of light. Manonni writes of these "11th hour" transformations which would lead from individual viewers to projection: "1895 was the year when one of the oldest dreams of humanity was finally realized. *The human being and its chronophotographic alter ego found themselves face to face, one sitting in a seat in a*

darkened room, the other moving on a screen, albeit in silence. It was as though an eye whose lids had been lifting, slowly across the centuries, now opened completely to the world. It was a very sharp eye, not only capable of capturing the slightest details of life, which Marey and Edison had known to do for some time, *but above all able to project that life onto a screen.*"[14] With an image of dramatic historiography—an eyelid opening slowly across centuries—Manonni describes this "face to face" moment in the dark when illuminated images were projected onto a screen by the brothers named Lumière. As the viewing of moving images switched from individual viewing devices like the kinetoscope to projection devices like the Cinématographe, Vitascope, and Bioskop, an important architectural and bodily shift occurred—a radical shift in the viewer's position, now seated in front of a screen. Film historian Douglas Gomery has announced this switch to a determinative visual practice with assured force: "By the year 1896 the movies were permanently on the screen."[15]

"ARCHITECTURE-IN-MOTION"

Early film theorists offered differing accounts of the relation between architecture and film and the spectatorial paradoxes of materiality and immateriality, mobility and immobility. Writing in 1915, poet and painter Vachel Lindsay devoted one chapter of his book *The Art of the Moving Picture* to the concept of "Architecture-in-Motion." Lindsay's book has the emphatic tone of a manifesto, a declaration of utopian goals for the future of the photoplay: "America is in the state of mind where *she* must visualize herself again," he writes, and "*architects, above all, are the men* to advance the work in the ultracreative photoplay."[16] Clearly, Lindsay feminized an America to be retooled by the masculine builder-architect. Architects were "crusaders" who should "appropriate the photoplay as *his* means of propaganda." Lindsay was an ardent partisan of the new "art" of the moving picture, and yet his enthusiasm for architectural transformations were limited to set design and models. He gave little thought to the architectural context of spectatorship. In a discussion of the thirty differences between photoplays and the stage, he notes that, unlike the stage audience where a late-comer is glared at, "In the motion picture art gallery . . . the audience is around two hundred, and these are not a unit, and the only crime is to obstruct the line of vision."[17]

On the other hand, in his 1916 book *Film: A Psychological Study of the Photoplay,* Hugo Münsterberg notes the spectatorial tension between the two-dimensional surface of the screen and three-dimensional "impression of depth." Münsterberg's study of the "means by which the photoplay influences the mind of the spectator" begins with his account of why "the surroundings appear to the

mind plastic and the moving pictures flat." "To begin at the beginning," Münsterberg writes, "the photoplay consists of a series of flat pictures in contrast to the plastic objects of the real world which surround us." He continues: "Of course, when we are sitting in the picture palace we know that we see a flat screen and that the object which we see has only two dimensions, right-left, and up-down, but not the third dimension of depth, of distance toward us or away from us."[18] And yet, he remarked: "We have no right whatever to say that the scenes which we see on the screen appear to us as flat pictures." Münsterberg's perceptual explanation of this effect takes a detour through an explanation of stereoscopy and binocularity of vision, concluding that the "psychological causes" for the perception of depth are due to "differences of apparent size, the perspective relations, the shadows and actions performed in space."[19] Münsterberg poses an oddly Albertian experiment to explain the impression of surface and depth of the film screen: "Yet we need only to imagine that a large glass plate is put in the place of the curtain covering the whole stage. . . . This is exactly the case of the screen. If the pictures are well taken and the projection is sharp and we sit at the right distance from the picture, we must have the same impression as if we looked through a glass plate into a real space."[20] Münsterberg does not argue that this "same impression" is an impression of reality. "*Nevertheless,*" he writes in italics, "*we are never deceived; we are fully conscious of the depth and yet we do not take it for real depth.*"[21] He describes this impression of both depth and movement in terms of the "mental mechanism" that supplies what is not actually there: "the motion which he see appears to be a true motion, and yet it is created by his own mind." While he doesn't use the term "virtual" to describe this "suggestion of depth" and "suggestion of movement," Münsterberg underlines the ontological paradox of virtuality: "*They are present and yet they are not in the things.*"[22]

In *Film as Art* (*Film als Kunst*, 1932), Rudolf Arnheim makes the argument that the specific limitations of filmic representation—the projection of solids onto a plane surface, the reduction of depth, lighting and the absence of color, the limitations of the frame, the absence of the space-time continuum, and the absence of the nonvisual world of the senses—are the very qualities that make film an art. Arnheim was a champion of film's departure from direct mimesis, its absence of a "strong spatial impression." "If film photographs gave a very strong spatial impression," he argues, "montage probably would be impossible. It is the partial unreality of the film picture that makes it possible."[23] Film, according to Arnheim, is "neither absolutely two-dimensional nor absolutely three-dimensional, but something between."[24] Contemporary theorist Gertrud Koch reads this passage from Arnheim as directly descriptive of the viewer's

perspectival positioning. Film reception is "governed precisely," Koch has written, "by the laws of one-point perspective, since the spectator, unlike the camera, cannot change the angle from which he or she sees the two-dimensional picture. Any such attempt would only trap the spectator in the most uncomfortable parts of the screening room—too near the screen, let's say, or in some corner that stretches the angle in a bizarre way."[25] Koch imagines the Arnheimian spectator in a fixed seat, facing a two-dimensional screen, positioned by its perspectival view. The screen may contain shifting camera angles, a montage of spaces and times, but the spectator does not move. Arnheim measured the film's dimensionality as a liminal mode of virtual space, "something between."

PARADOX 1: MATERIALITY OF THE THEATER, VIRTUALITY OF THE IMAGE

In order to examine how these tensions between materiality and immateriality, mobility and immobility were first negotiated, it will be instructive to revisit one of the key myths of cinema's spectatorial origin and recast it in architectural terms. The question of whether spectators really fled in terror and panic at the projected image of an approaching train—the "train effect"—has been at the center of historiographical and theoretical debate about early film spectatorship. As the Lumières' train approached the station at La Ciotat or as Edison's Black Diamond Express rounded the bend, did unsophisticated spectators confuse the image of a speeding locomotive with a real train barreling into the projection hall? Historians and theorists alike have invoked this apocryphal reaction in order to underscore the spectator's confusion between reality and the uncanny realism of its representation. Whether the "train effect" was a historically specific response of the first spectators of projected films or whether it was symptomatic of the disavowals of spectatorship itself, the projected two-dimensional moving image of a moving train poses an exacting instance of the twin paradoxes of spectatorship.[26]

In "An Aesthetic of Astonishment" (1989), film historian Tom Gunning challenges readings of this "primal scene" as a reaction to the realism of screened images, or a misrecognition of the imaginary as real: "Rather than mistaking the image for reality, the spectator is astonished by its transformation through the new illusion of projected motion. . . . The astonishment derives from a magical metamorphosis rather than a seamless reproduction of reality."[27] Gunning indicates that early projectionists were aware of the tension between stasis and movement as a dramatic component of this new entertainment, and often began with a frozen still image of the train in order to increase the drama of its lurch into movement. In Gunning's account, the practice of accentuating the switch between the photographic still image and the moving image convinc-

ingly contradicts the myth that spectators believed that the train was real enough to hurtle into the hall. His argument eloquently turns away from the myth of a panicked audience to an account of a spectator in the astonished thrall of a contrived illusion: "The movement from still to moving images accented the unbelievable and extraordinary nature of the apparatus itself. But in doing so, it also undid any naïve belief in the reality of the image."[28] Hence, the "train effect" was less an indication of the "reality effect" of moving images than it was a kind of "movement effect" resulting from the shock of movement itself.

The moving image of a moving train is perhaps an overdetermined example. The size and speed of a powerful machine hurtling across the screen toward the audience and off the edges of the frame had its own perceptual force. In *Film as Art*, Arnheim suggests that the boundary of the frame itself participates in the magnification of movement within it: "The nearer the engine comes the larger it appears, the dark mass on the screen spreads in every direction at a tremendous pace (a dynamic dilation toward the margins of the screen), and the actual objective movement of the engine is strengthened by this dilation."[29]

In a single-shot film, as the train approached the station, for example, or as workers left the Lumière factory, as a congress of photographers stepped toward and past the Cinématographe camera, the frame functioned as a limit for all movement within it and to its edges. Arnheim describes the "delimitation" of the image as one of the markers of film's representational separation from reality. ("The pictured space is visible to a certain extent, but then comes the edge which cuts off what lies beyond.")[30] Other film theorists have variously described this "off-frame" or "offscreen" space as either a confirmation of the inherent realism of film, or as an indication of its sutured illusionism. In the realist ontology of André Bazin, for example, the screen is a "mask which allows only a part of the action to be seen." The spectator's concept of a contiguous real space just offscreen allows Bazin to make a succinct distinction between the space of the theater and the space of the screen: "There are no wings to the screen."[31]

For historians of continuity editing and for theorists of "suture," when movement off the edge of one shot is met by the movement into the frame of the next, the spectator is effectively "cut" out of cinematic space while, at the same time, being sutured into it.[32] As filmmakers began to negotiate the spatial and temporal relations between shots, the perspectival frame and the fixed positionality of its viewers were radically undermined. The photographic camera's mechanical capture of objects in depth may have followed some axioms of perspectival positioning, but, as I argued in chapter 2, the movement of objects within the frame, to its edges and off-frame, suggests its contradiction.[33]

Here it might be instructive to turn again to Erwin Panofsky's account of the "motion picture," a description that prefigures Gunning's coinage of an "aesthetic of astonishment" and a "cinema of attractions."[34] Panofsky describes the relation between the moving image and the static spectator who takes "sheer delight in the fact that things seemed to move, no matter what things were."[35] "The spectator," Panofsky writes,

> *occupies a fixed seat, but only physically,* not as the subject of an aesthetic experience. Aesthetically, he is in permanent motion as his eye identifies itself with the lens of the camera, which permanently shifts in distance and direction. *And as movable as the spectator is, as movable is, for the same reason, the space presented to him. Not only bodies move in space, but space itself does, approaching, receding, turning, dissolving and re-crystallizing as it appears through the controlled locomotion* and focusing of the camera and through the cutting and editing of various shots—not to mention such special effects as visions, transformations, disappearances, slow-motion and fast-motion shots, reversals and trick films. This opens up a work of possibilities of which the stage can never dream.[36]

Here Panofsky is writing, of course, about a much later moment in cinema history than the first one-shot images of trains arriving in stations. His discussion of the "motion picture" emphasizes the relation between the "controlled locomotion" of the image and the spectator in a "fixed seat." His description of the "movable" spectator does not address the frame or the screen.[37]

From its first instances, the visual logic of the projected moving image presented its spectator (and subsequent theorists of spectatorship) with a simultaneously mystifying and demystifying set of pleasures. The frame of the screen marks a separation—an "ontological cut"—between the material surface of the wall and the view contained within the frame's aperture.[38] We might consider how the "train effect" operates along the lines of another set of tensions—not just between the mobility of the image and the immobility of the spectator, but also between the materiality of the theater and the virtuality of the moving image when spectators, either credulous or incredulous, witnessed the massive machine of iron and steam as a two-dimensional shadow.

As I will continue to emphasize, the virtuality of this two-dimensional framed cinema screen was as much the locus of spectatorial fascination as was its movement. Let's examine an early instance of these tensions as pictured in the familiar 1902 Edwin S. Porter and Thomas Edison film *Uncle Josh at the*

Moving Picture Show, an opportunistic remake of R. W. Paul's 1901 film *The Countryman and the Cinematograph*.[39] Both of these early films have a spectator enacting the shock and recoiling awe of the "train effect."

UNCLE JOSH AT THE MOVING PICTURE SHOW (1902)

This short film, often cited as exemplary of the spectator's confusion between offscreen and on-screen reality, also illustrates some originary tension between the *material* space of the theater and the *virtual* space on the screen.[40] The movie-goer Uncle Josh stands in his "box," an ornately framed loge at an oblique angle to the left of a film screen. The frame is almost exactly halved—on its left side, painted cardboard scenery denotes the proscenium surrounds of the stage and screen; on the right side, an inset film screen with the title "Edison Projecting Kinetoscope" announces itself reflexively.[41]

4.2, 4.3 Frame enlargements from *Uncle Josh at the Moving Picture Show*, directed by Edwin S. Porter, 1902.

The compositional logic of *Uncle Josh* illustrates the differential between the material space of the theater and the virtual space of the screen. As a tableau-style shot, taken from a camera set in the position of a good theater seat facing the stage, the mise-en-scène of the shot posits a *mise en abyme* of frames and screens. The three-dimensional material surrounds of the theater are represented by the flimsiest of painted sets. By contrast, the two-dimensional surface of the screen seems uncannily realistic compared to the false cardboard of Josh's loge and the painted proscenium curtains. From his box vantage, Uncle Josh telegraphs his spectatorial reactions by broad gesticulation. He looks in two directions—first toward the screen and then upward and away from the screen, as if he is looking for the source of the image, or perhaps to us, the other spectators of the same image.

As the first short film, *Parisian Danger*, commences, a woman enters the frame of the inset screen and begins to lift her skirts, revealing her legs with high kicks. Uncle Josh applauds and then quickly jumps out of his loge seat, shaking the flimsy boards of the theater set that frames him. As the woman dances in the space of screen, Josh remains on stage in the narrow space between his now-abandoned framed loge and the frame of the projection screen. The moving bodies of Josh and his female screen "other" are matched in scale as he mirrors her movements in a complex parody of transgendered identification and blatant

gender difference. The dancer faces Uncle Josh and an imagined audience. But the two spaces are linked in a matched continuity because the floor of the theater and the floor where the dancer performs extend the material space of the theater into the virtual space of the screen. (Of course, to the viewer of *Uncle Josh*, both spaces appear as two-dimensional surfaces.)

Josh shows some surprise when *Parisian Danger* abruptly ends and the next film, *Black Diamond Express* (itself an Edison film from 1896), begins. His jolt of reaction enacts the loss of spatial orientation in the sudden discontinuity of shot-to-shot editing. Josh becomes a diegetic surrogate for the spectator of a multiple-shot "moving picture show," even while the spectators of *Uncle Josh* view the short film as an unedited shot in tableau style.

As he watches the approach of the locomotive, Uncle Josh stands slightly in front of the screen and—for a brief moment—his body becomes oddly transparent when he crosses the boundary of the frame and steps in front of the moving-picture screen. As a spectator, he is now permeated by the moving image, as if this moment of transparency—the overlap of two layers of moving images—indicates the spectator-effect of being in two places at once. When the train approaches him, he jumps back into his loge box for safety. The "train effect" may have been the intended comedy here, but the off-register "mistake" that turns Josh briefly into a spectral figure seems a more accurate portrait of the paradoxical spatiality of spectatorship. Josh is doubly exposed: he is projecting his presence into a remote location, a prescient illustration of the subjectivities suggested by telepresence.

When the last film, *The Country Couple*, begins, Josh jumps out of his loge again. This time he takes off his jacket, rolls up his sleeves, and attempts to battle with a similarly attired but slightly larger-scale male. His reaction to this film suggests that it posed a different, more potent threat than the cosmopolitan female in *Parisian Danger*. *The Country Couple* evokes a rivalry with Josh's own identity—a "country" man—now represented on screen in mirror fashion as a competitive other.[47]

4.4, 4.5, 4.6 Frame enlargements from *Uncle Josh at the Moving Picture Show*, directed by Edwin S. Porter, 1902.

Even without a psychoanalytic reading of Josh's intent, his attempt to interact with the couple leads to his unveiling the mechanism and ending the illusion of their screen world. As he shadow-punches toward the image, he pulls the screen down to reveal its surface, the projectionist, and the apparatus behind it. This sudden unmasking, revealing the projecting mechanism behind the screen, engages in a knowing historical anachrony. Rear-screen projection was a common exhibition practice for concealing the projection apparatus in phantasmagoria spectacles in the eighteenth and nineteenth centuries, but much less common as an exhibition practice in 1902. The logic behind this must have been that, in order to expose the projecting mechanism, it would need to be visible on the screen—and not in the unseen 180-degree reverse position of the Edison Projecting Kinetoscope used to project *Uncle Josh at the Moving Picture Show*.[43] The final comic gag in *Uncle Josh* is about the screen surface and the realization that it is a material surface after all. The gesticulating Uncle Josh tugs so hard at the screen that it falls down, exposing its artifice, the empty materiality of its two dimensions, and the virtuality of its three-dimensional mobility. Unlike the painting or the photograph, the projected image has no materiality. Josh can attack the screen but the image remains untouched.

Many nineteenth-century exhibition devices strove to deliver the sensations of mobility, but in virtual terms.[44] As I've argued, the cinema provided a virtual mobility—the illusion of transport to other places and times for its spectators—but as the conventions of moving-picture exhibition settled on theatrical projection and display, another key representational paradigm emerged: movement was captured but at the same time confined.

Early panoramic films illustrate how the visual system of the panorama—the large-scale representational painting designed to be viewed by a spectator

4.7 Frame stills from *Panorama of Moving Boardwalk*, filmed by James Henry White for the Thomas Edison Company, July 1900.

placed in the center, turning one's head—became reduced to framed images recorded by a moving ("panning") camera.[45] The filmed records of the Paris Universal Exposition of 1900 provide remarkable visual evidence of this effect. In July 1900, Thomas Edison sent one of his producers, James Henry White, to visit and film the Paris Exposition.[46] (Edison himself had visited the 1889 Exposition, but without a movie camera.) White was equipped with the then-new panning-head tripod, and many of the films that he recorded are remarkable panoramic records.

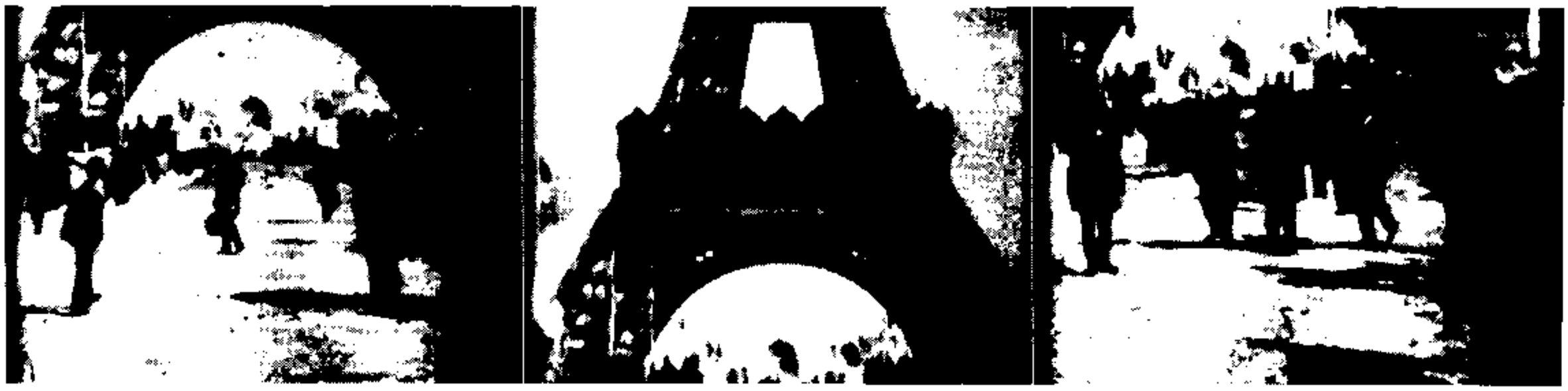
White's panoramic film *Panorama of Moving Boardwalk* uses the movement of the boardwalk to produce its "panning" movement. As described in the Edison catalog:

> This picture was taken from the stationary platform, showing the rapidly moving board walk on the outer edge, which has a speed of five miles per hour; also shows the middle platform moving two and a-half miles per hour, the third platform being stationary. At intervals there are upright posts to steady passengers passing from one platform to the other. By watching these uprights passing by the camera and passing each other, a good idea of the speed is obtained. The structure is crowded with passengers, some gliding by, standing still, others walking and running and stepping from one platform to the other.[47]

The still frames here provide some anticipation of the actual mobility that fairgoers had, measuring their steps against their stillness and the movement of the pavement itself. The catalog description emphasizes the relative movements of "passengers" moving toward the camera and away from it.

Another companion panorama, *Panorama from the Moving Boardwalk*, was taken *from* the walkway. In this short film, the camera is static again but the

4.8 Frame stills from *Panorama from the Moving Boardwalk*, filmed by James Henry White for the Thomas Edison Company, July 1900.



4.9 Frame stills from *Panorama of Eiffel Tower*, filmed by James Henry White for the Thomas Edison Company, July 1900.

"Platform Mobile" becomes a vehicle for a "tracking shot"—a glissando through the space of the exposition. White filmed the moving boardwalk from a stationary position, recording its movement, and from a mobilized position, recording its mechanization of the view. Similarly, White's two films of the Eiffel Tower, *Panorama of Eiffel Tower* (which panned up the tower in perhaps the first vertical pan) and *Elevator Ascending Eiffel Tower* (which placed the camera on the tower's elevator as it rose above the roofs and skylights of the buildings below), illustrated his fascination with the relativity of movement.

By 1900, many of the films that were projected onto screens demonstrated this propensity for recording pure movement. As these two panoramas illustrate, movement took on two distinct modalities—either recorded by static camera or provided by placing the camera on a mobile apparatus. Tom Gunning's descriptions of this early fascination with movement as a fascination with spectacle and sensation—an "aesthetic of astonishment," a "cinema of attractions."[48]—can be reframed if we think about the virtuality and relativity of such movement. The spectator is not really moving—his or her head and body remain relatively immobile.[49] The visuality here is compensatory, along the lines of the paradox I've emphasized elsewhere: as the mobilized gaze became more virtual, it grew to involve less physical mobility, and became located within the confines of a frame.[50]

WINDOWLESS ARCHITECTURE: THE THEATER AS BUILDING TYPE, SPECTATORS IN FRONT OF SCREENS

The word "theater," as many theorists remind us, has the same root as the word "theory" (*theoria*); both emphasize the importance of vision, speculation, looking with great attentiveness.[51] In the architecture of the classical Greek amphitheater, the audience was arrayed in concentric tiers of elevated seating to insure a clear view of the stage for performance. The Greek theater at Epidauros (designed by Polycleitus, 4th century BC) was built into a hillside so that the

4.10 Frame stills from *Elevator Ascending Eiffel Tower,* filmed by James Henry White for the Thomas Edison Company, July 1900.

seating for spectators (the *theatron*) would be at an elevated angle for the view. The proscenium space of theatrical action was separate from its audience. The Roman Coliseum (AD 70–82) had tiers of seating for fifty thousand spectators around a central elliptical arena; the seating was raised by concrete vaulting, with corridors and stairs beneath.[52] These outdoor auditoria were built for multitudes of spectators, beholders with multiple vantage points onto a spectacle in the center below. In the Renaissance, theatrical performance was moved indoors and the stage was raised above the audience. Although the Renaissance theater spectator was not seated with the single-point positioning of Renaissance perspective, theatrical architecture began to favor a frontal view toward the proscenium frame. As theatrical architecture developed, the proscenium "arch" served to frame the space of action. Restoration theaters were rectangular with a stage at one end and rows of seats facing the proscenium. While the depth of action in the proscenium did not depend on a fixed point of view, the viewpoint of the spectators became more and more frontal and framed.[53]

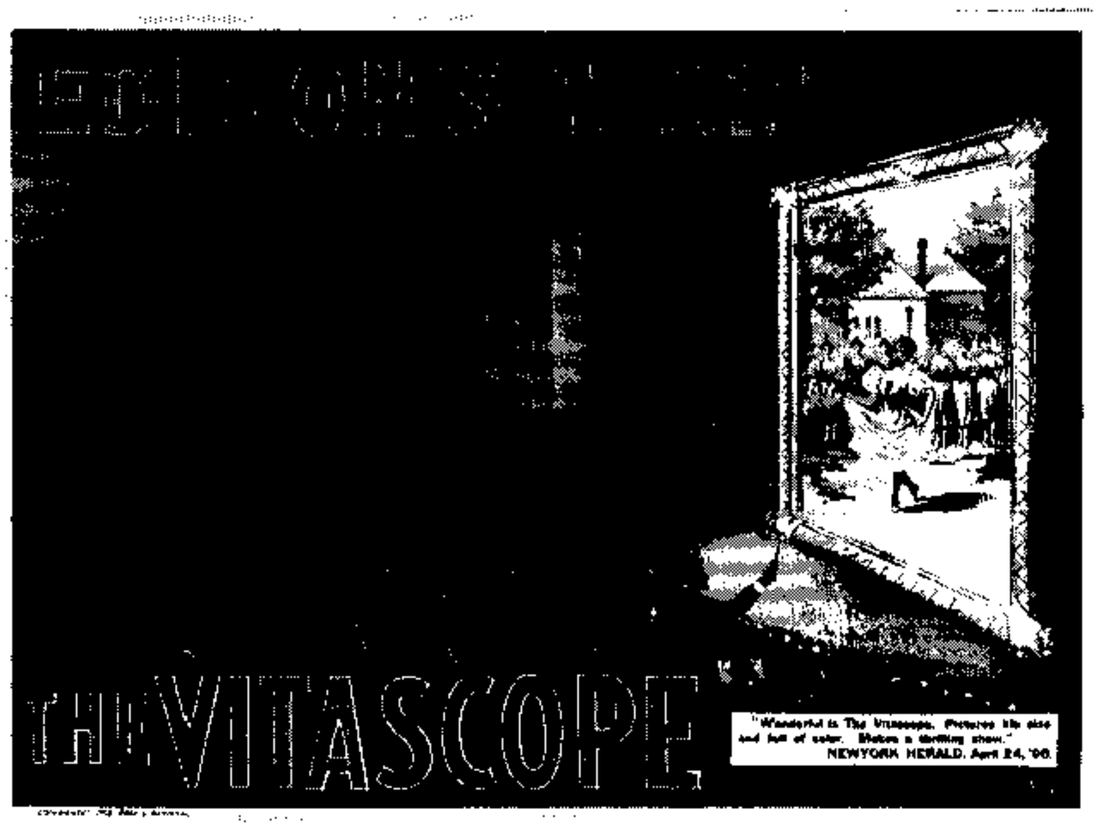
Theaters for live performance (opera, concert, dramatic theater) developed according to their differing requirements for acoustics, stage size, seating, orchestral space, and backstage needs. The basic building type was a skeletal frame with cantilevers and trussed girders to support balconies for the audience. As outdoor amphitheaters switched to indoor architectural spaces, and as the angle of view from the audience switched from in-the-round to frontal, the illuminated stage and spectators in the dark became a prevailing convention to separate the audience from the proscenium world. Curtains covered and revealed the stage opening with a ritual deliberateness that signaled the beginning and ending of performance. The theatrical stage had depth and a frame for the live movement of dramatic action and was viewed by a seated audience of rapt and immobile viewers.[54]

The architectural requirements for viewing moving images on individually oriented devices like the kinetoscope were quite different from those for the col-

lective viewing of projected images on a screen. (The kinetoscope—from the Greek *kineto*, "movement," and *scopos*, "to watch"—was the viewing mechanism for Edison's patented moving-image camera, the kinetograph.) Thomas Edison's initial business plan for his moving-image device was based on the business model for the phonograph as an individually oriented apparatus. Edison first installed his kinetoscope viewers in storefront phonograph "parlors"—spaces already designated for public "rental" of a mechanically reproduced experience—where customers would pay a nickel to listen privately to a variety of recordings on earphones. Dedicated kinetoscope parlors had rows of machines arranged so that the viewer could move sequentially from one machine to the next, watching separate or sometimes serially sequenced short films.[55]

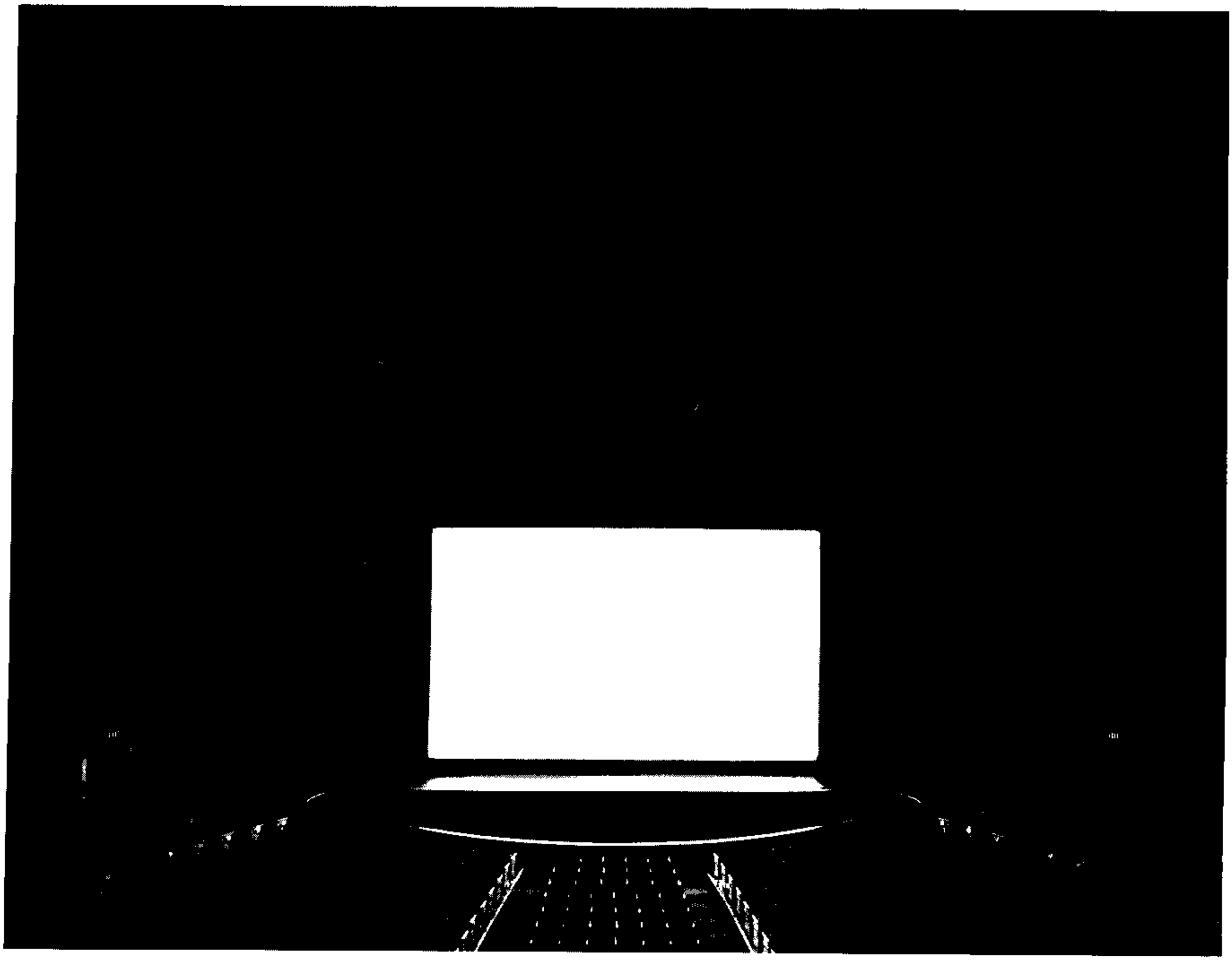
The first venues for projected moving images were converted spaces—town halls, churches, lodges, schools, storefronts, courthouses, vaudeville theaters—rather than buildings dedicated for the showing of film.[56] Films were shown by itinerant exhibitors who would rent available local spaces, often adding folding chairs as seating.[57] Fixed-site cinemas emerged only when the economic logic of film distribution (rental or sale by film exchanges) began to take hold. As the new international commerce in moving images and patented devices began, film production was commonly autonomous from its distribution and its exhibition. Producers, distributors, and exhibitors were locked into an ongoing struggle for industrial control.[58]

Nevertheless, once projection devices were deployed to cast moving images onto framed flat surfaces, onto screens hung in darkened (windowless) halls, storefronts, or vaudeville theaters, the architectural paradigm for cinema spectatorship implied an increasingly fixed bodily position for the viewer to allow for new habits of engagement with the virtual image.



4.11 Thomas Edison, Vitascope ad, 1896.

The spaces that would house projected light images had definitive requirements: (1) they must be dark enough to allow for the projection of light from a mechanism at one end to a screen surface at the other; (2) they must have room to accommodate a collective number of immobile (preferably seated) viewers; and (3) the view of the screen must be clear of pillars and posts. In spaces designed for projection onto a screen, the size and depth of the stage was not important, neither was it necessary to have backstage space for dressing rooms or props, or catwalks of scaffolding for lighting or stage equipment.



4.12 Hiroshi Sugimoto, *Metropolitan*, 1993. Photo courtesy of Sonnabend Gallery, New York.

THE MATERIALITY OF THE SCREEN

When we look at a painting or a photograph, we usually see the frame in a well-lit space. Its edges are as significant as its center. For the film spectator, the frame of the screen forms a tableau-like proscenium, forcing our vision to center its gaze, while implying a continuum of space lingering just offscreen/off-frame. The darkness that surrounds the luminous screen both minimizes its borders and calls us to play upon its boundaries. The darkened room and the screen "bordered with black like a letter of condolence," Baudry has written, "already present privileged conditions of effectiveness—no exchange, no circulation, no communication with any outside."[59]

Hiroshi Sugimoto's photographs, each of a blank and yet luminous cinema screen, help us to visualize the role of the screen itself. To capture the screen in its luminous emptiness, Sugimoto used an extended exposure time, holding his aperture open so long that the screened images vanish, leaving only the projec-

tion light on an empty white screen to cast its eerie glow on the surrounding architecture of the theater. Sugimoto's screens *expose* time: the length of each exposure was the length of a feature-film projection. Over time, projected moving images produce an abstract frame of light, an image that we cannot see in the time frame of our spectatorial vision, as if—to extend Dziga Vertov's claim for the "Kino-eye"—it is not just the camera but also the projector that is "more perfect than the human eye."[60] Sugimoto's photographs manage to capture the elusive absent presence of an intangible "imaginary signifier."

But what remains here, despite the ephemeral instability of the cinematic image, is the materiality of the theater. Sugimoto photographed a series of theaters—in New York, New Jersey, Pennsylvania, Ohio, Indiana, Florida, California (San Diego, Orange, San Francisco, Oakland, Los Angeles), and in Auckland, Tokyo, Sydney, Milan, and Paris. Hans Belting describes the "interiors" in Sugimoto's photographs as being "reintroduced as metaphors." The "screen is empty," he writes, "and thus qualifies either as the everything of all possible images or else as their nothingness as vehicles of illusion."[61] The photographs, when seen together in the diachrony of a series, reveal a structural similarity: each theater is a synchronic exemplar of the constants in the architecture of spectatorship. Sugimoto's photographs return us to the tension between the bodily stasis of the cinematic spectator and the virtual mobilities presented on the screen.

The film screen is a surface, a picture plane caught in a cone of light, dark and empty until projected images are caught on its veneer. Despite variations in theater architecture and films projected, what remains—constant and haunting—is the screen.[62]

THE THEATER OF "ATTRACTIONS"

During the "Nickelodeon era" (1905–1914), the common venues for the exhibition of moving images were dark spaces with poor ventilation and poorly planned exits.[63] The illicit connotation of public darkness only amplified the concerns for safety. But as new patterns of exhibition began to emerge, so did new styles of filmmaking. Tom Gunning has pinpointed 1906 to 1907 as the years when the "cinema of attractions"—a filmmaking style that relied on performative exhibitionism and the spectacle of pure movement—began to cede its hold to a "cinema of narrative integration."[64]

Between 1914 and 1922, four thousand new theaters opened in the United States. Many of these newly constructed "palaces" were attractions themselves. The grand architecture for spectatorship provided, as Douglas Gomery and others have shown, material evidence of the industrial and economic forces that shaped cinema-going.[65] The movie "palace" was the architectural embod-

iment of the shifting taste and class distinctions accorded to the moving image. (No wonder Panofsky so easily compared the production of a film to that of a medieval cathedral.) In the prevailing theater architecture of the 1920s and 1930s, the movie-goer entered a regal surround, an ornately appointed space in the guise of an opulent elsewhere—an Egyptian tomb, a Mayan temple, a Chinese palace. The newly narrativized format of the feature film was viewed in a theatrical space of pure exhibitionism, architectural hyperboles designed for the spectacle of pure visibility.[66] As the American movie exhibitor Marcus Loew quipped in the 1920s: "we sell tickets to theaters, not to movies." The lost "cinema of attractions" was replaced by newly built *theaters of attractions.*[67]

The architectural and urban context to these screens—the relation to the city, the sidewalk, pedestrian *flânerie*—forms an important phenomenological prologue and postlogue to the spectatorial moment.[68] As the title of Maggie Valentine's book about movie theater architect S. Charles Lee states, *The Show Starts on the Sidewalk.* The relation between the urban exterior and the theatrical interior was negotiated by the facade, marquee, and signage. In Roland Barthes's description, the cinema screen becomes the endpoint of an urban itinerary, a final destination or restful respite for the footsore *flâneur.* Barthes describes the acts of entering or exiting the movie theater in his short piece "En sortant du cinéma" (Leaving the Cinema). Entering, the subject is drawn from street to street, poster to poster, to "abandon himself into an anonymous, indifferent cube of darkness."[69] Once inside, the body of the spectator is seated, fixed, confined, facing a frame, a screen, a flat surface for projection.

"ELEGANT SURFACE SPLENDOR" AND THE PLAY OF LIGHT (*LICHTSPIEL*)

While Panofsky was writing about the sense of space (*Raumgefühl*) of perspective in his 1924 essay "Perspective as Symbolic Form," his German contemporaries deployed spatial images *(Raumbilder)* to write about the space of modernity. Material spaces were both metaphors and analytic instruments—for Adorno (*intérieur*), Benjamin (*passage*), and Kracauer (*Hotelhalle*). "Spatial images [*Raumbilder*]," German theorist Siegfried Kracauer wrote, "are the dreams of society. Wherever the hieroglyphs of any spatial image are deciphered, there the basis of social reality presents itself."[70]

In his now-well-known 1926 *Frankfurter Zeitung* article "The Cult of Distraction," Kracauer turned to the inherent spatial tensions between the two-dimensionality of the screen and the opulent three-dimensional architecture of the "picture palaces" (*Lichtspielhäuser*) of Berlin. (The English translation "picture palace" neglects the architecture designed for the "play" [*Spiel*] of "light" [*Licht*].) For Kracauer, the "cult of distraction" was equally a cult of surfaces. He

describes the "elegant surface splendor" *(Prunk der Oberfläche)* of the theater, the "surface glamour of the stars" (*Oberflächenglanz der Stars*), the "white surface" (*weisse Fläche*) of the screen:

> until finally the white surface descends and the events of the three-dimensional stage imperceptibly blend into two-dimensional illusions.[71]
>
> *bis zuletzt die weisse Fläche herabsinkt und die Ereignisse der Raumbühne unmerklich in die zweidimensionalen Illusionen übergehen.*[72]

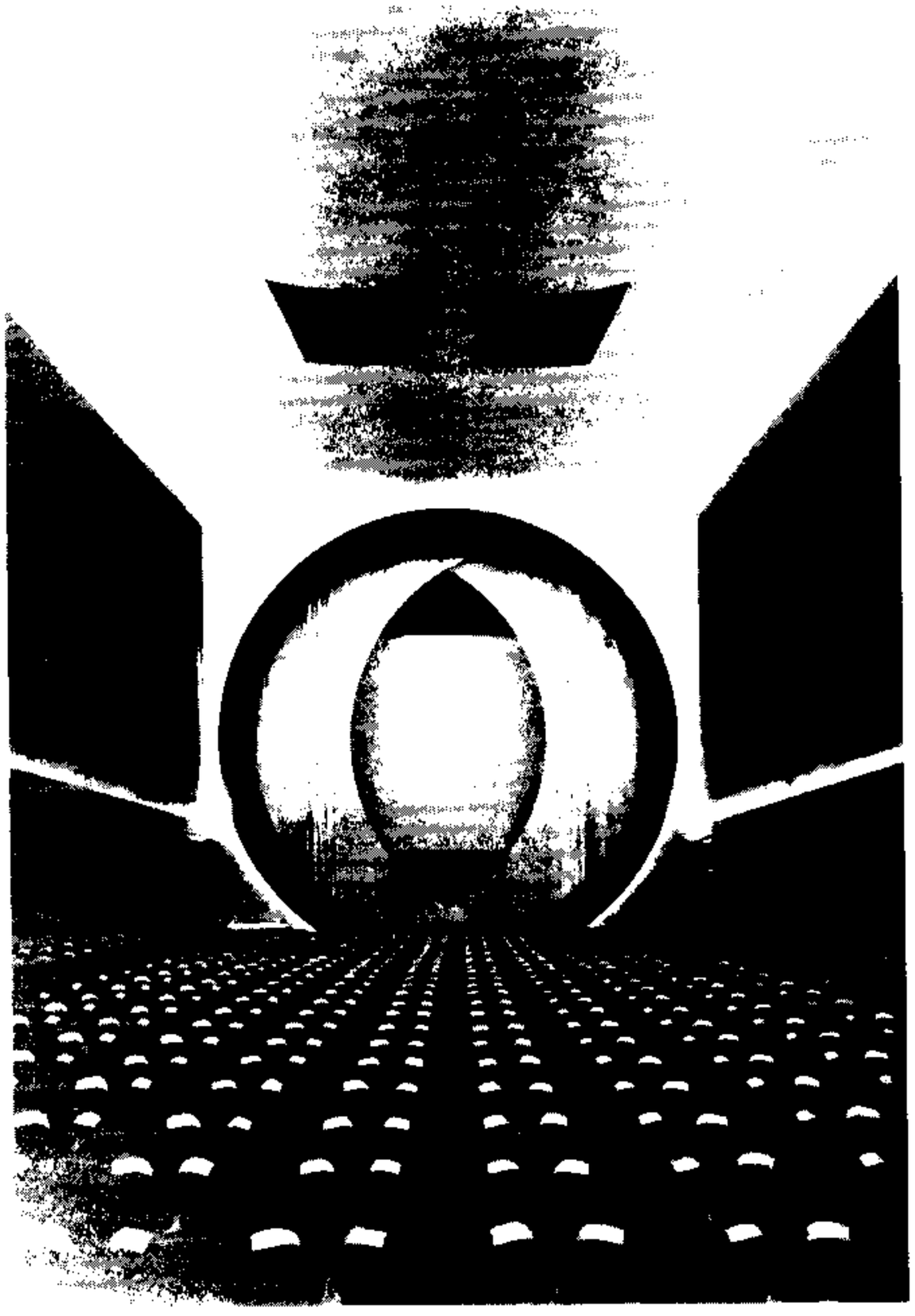
The architectural context of the film screen in these "optical fairylands" (*optischen Feenlokale*) undermined the potential power of the film itself. "The interior design of the movie theater serves one sole purpose," Kracauer contends, "to rivet the audience's attention to the peripheral so that they will not sink into the abyss."[73] The screen should suffice as the locus of spectator attention: "The two-dimensionality of film produces the illusion of the physical world without any need for supplementation."[74] Instead of conveying the disorder of society on the streets of Berlin, the film's "motley sequences of externalities" (*die bunte Reihe der Ausserlichkeiten*) are drawn into a unity, a *Gesamtkunstwerk* of surface splendor. Kracauer decrees that the movie theater—if it is to "fulfill" its "vocation"—should be free of all trappings that "deprive film of its rights |to| a kind of distraction which exposes disintegration [*Zerfall*] instead of masking it."[75] In Kracauer's critique, movie theater architecture is not about the screen, but about everything else.

As Heide Schlüpmann pointed out upon its first translation in 1987, Kracauer's essay moved his critique of film toward an "aesthetic of reception," but it also stalled at the "external layers" of film itself—the picture palaces, the UFA studios.[76] In retrospect, Kracauer's tirades against artifice and his distrust of surfaces (*Oberfläche*), his complaints about the "calico-world" of UFA city—film sets where "the old and the new, copies and originals . . . piled up in a disorganized heap like bones in catacombs"—seem now to have acted out an anxiety about the impending shift to the virtual, nonmaterial realities of the two-dimensional screen. Kracauer's complaint about the jumbled heap of "the old and the new, copies and originals" prefigured our current cohabitation with the virtual on our screens and in our lives. In fact, as CGI replaces the materialities of set design in contemporary filmmaking, the "derealization" of film's synthetic space-time has reached an ever more resisted, ever more compelling virtuality.

While Kracauer's cranky reaction to the ornate decor of the movie palace may have been at odds with a movie-going public (in the 1920s and 1930s) that

took as much comfort from architectural hyperbole as from screen spectacle, his critique *was* consistent with the modern architectural urge for functionalism as found in the work of architects like Viennese-born Frederick Kiesler. For Kiesler, the movie theater required new designs. "Present day cinema or motion picture houses," he wrote in 1928, "are not cinemas, but merely imitations of old European theatres into which a screen was hung." Previous theater architecture (and Poelzig was a prime example) was, to Kiesler, "stuck fast in decoration."[77]

Kiesler's 1928 design for the Film Guild Theatre in New York was "designed solely for the projection of the cinema": "The most important quality of the auditorium is, on the one hand, its power of suggesting concentration of attention. Even more important is its power of destroying the sensation of confinement which may be involved in the focal concentration of the spectator on the screen. I mean that the reflex which the film creates in the psyche of the spectator must make it possible for him to lose himself in imaginary, endless space, to feel himself alone in universal space, even though the projection surface, the screen, implies the opposite: all for one point, the SCREEN."[78] And Kiesler, as if in dialogue with Kracauer, argues in a 1929 manifesto, "Building a Cinema Theatre": "The first radical step toward the creation of an ideal cinema is the abolition of the proscenium and all other stage platforms' resemblance to the theatre. . . . My invention, the screen-o-scope, takes the place of these theatrical elements and supplies a new method of opening the screen which eliminates curtains. The interior lines of the theatre must focalize to the screen compelling unbroken attention on the spectator."[79] Kiesler's design called for still and moving pictures to be shown on the walls and ceiling as well as on the main screen, which could be adjusted in size and shape. The theater's walls and ceiling sloped toward the front screen and were covered with black projection screens. (Kiesler had designed special machines to project onto a black surface.) Kiesler's plan—never fully realized—was for a theater that surrounded the spectator with filmed images—an imaginary, *endless space.*



4.13 Frederick Kiesler, Film Guild Theatre, New York, 1928.

Kiesler was not the only architect to argue against the distracting ornamentation of the movie palace and for the immersion of the spectator. In 1933, A. V. Pilichowski wrote in the pages of *Close Up:*

> What seems required for a cinema to be truly cinematic is a more immediate contact between the screen and the audience. My suggestion is for *a panoramic screen;* the idea being that the screen should encircle the audience and thus make it part of a complete system. Mobile multiple projectors would throw pictures on the screen, the action being started at one end and terminated at the other. Visibility would not be required to be perfect from every seat at the same time, a certain element of interest being aroused by hiding, revealing, and hiding again the picture as it sweeps around the screen.[80]

These plans—whether with multiple mobile projectors and a spectator encircled by the screen, or a theater with walls, ceiling, and an adjustable main screen as projection surfaces—were designed to abolish the proscenium frame and allow the spectator to be lost in the imaginary space of the screen: not in distraction but immersion.

The difference between the "perspective" of the camera view and the spectator position in relation to the screen was also a topic of debate for motion-picture camera operators in late 1920s. In a 1928 article for the Society of Motion Picture Engineers, "Perspective Considerations in Taking and Projecting Motion Pictures" (1928), the authors describe the importance of the position of the viewer in the theater: "If he occupies a seat for which the perspective is correct, he will imagine himself viewing the scene from the position occupied by the camera when the exposure was made. . . . In other words, *the screen might be likened to a plate-glass window through which the observer looks with one eye at the actual scene.* From any other point in the theater, the perspective is distorted and the observer makes an erroneous estimate of his apparent distance from the objects in the picture area."[81]

PARADOX 2 REDUX: MOBILITY OF IMAGES, IMMOBILITY OF THE SPECTATOR

To return to a discussion of the paradox between the mobility of images and the stasis of the spectator, we might revisit Beatriz Colomina's analogy between Le Corbusier's architecture and the movie camera. Le Corbusier's horizontal window implied an expanded panoramic vista for the architectural spectator; his plan for a *promenade architecturale* addressed the architectural

spectator's peripatetic vision. But the experience of Le Corbusier's buildings—moving through three-dimensional space—is not the same as the movie spectator's view of space confined to the frame.

Sigfried Giedion wrote of the difficulty representing "new architecture" in the limited fixed frame of still photography: "Still photography does not capture them [buildings] clearly. One would have to accompany the eye as it moves: only film can make the new architecture intelligible."[82] Pierre Chenal's film of Le Corbusier's Villa Savoye, *Architecture d'aujourd'hui* (1930–1931), used tracking camera movements and montage to approximate the experience of the mobile approach to and movement through the villa. But while Chenal's camera may have been able to "accompany the eye as it moves" and to capture a more dynamic and mobile record than a still photograph could, the implicit analogy between the architectural spectator and the mobile space of the moving image is complicated by a crucial component of the architecture of spectatorship: moving images are framed by the camera and seen from the *immobile* position of a spectator facing the frame of a screen.

Soviet filmmaker and theorist Sergei Eisenstein reenters our discussion here as a key interlocutor in the theorization of filmic and architectural space. In a 1937 essay, Eisenstein succinctly described the paradox between the "point of view of the moving spectator"—"that which is dispersed in reality, unseizable to a single gaze, scattered about"—and the fixed frame of the screen. Eisenstein quotes a description of the Athenian Acropolis by nineteenth-century architectural historian Auguste Choisy, and, using Choisy's notes, he draws the analogy between the arrangement of buildings in the Acropolis ("an architectural ensemble") and cinematic montage:

> We just presented in detail the issue of montage computation within an architectural ensemble. The Acropolis of Athens was at stake. The notes Choisy devoted to it give a magnificent picture of the construction and the computation of such a montage from *the point of view of the moving spectator. But if the spectator cannot move, he has to gather in one unique point the elements of that which is dispersed in reality, unseizable to a single gaze, scattered about*, but which the author must absolutely juxtapose, for it is in taking in all these elements that the spectator will obtain an impression of the object or—moreover—the impression which the author wishes to induce in transforming the relationships of reality, that which he wants to inscribe for the perception. *Cinematographic montage is, too, a means to "link" in one point—the screen—various elements (frag-*

ments) of a phenomenon filmed in diverse dimensions, from diverse points of view and sides.[83]

This discussion of the moving spectator's "point of view" in architectural space versus the diverse points of view on the screen faced by the immobile spectator is embedded as an aside in an essay on the painter El Greco. Eisenstein describes the peripatetic movement through the architectural space of the Acropolis in further detail in his 1938 essay "Montage and Architecture."[84] As Yve-Alain Bois points out in his insightful analysis of this text, Eisenstein's writing was full of oxymorons, paradoxes, and oppositions with "heuristic potential."[85] Given his attraction to polemical pairings, Eisenstein was naturally drawn to the paradoxical relation between the mobility of the architectural spectator and immobility of the cinematic viewer.

For Eisenstein, the Acropolis provides "the perfect example of one of the most ancient films."[86] "It is hard to imagine a montage sequence for an architectural ensemble more subtly composed, shot by shot," Eisenstein writes, "than the one that our legs create by walking among the buildings of the Acropolis."[87] Eisenstein, who continually sought out analogies for cinematic montage—from the Chinese ideogram to Sharaku masks, haiku, Kabuki theater, and the Hegelian dialectic—found nascent montage in ancient architecture. Legs moving, shot-by-shot, through the Acropolis, the peripatetic body is a movie camera following a "montage plan." Looking at literature, painting, and theater through the lens of cinema, Eisenstein superimposes film montage onto architecture.

"In the past," he writes, "the spectator moved between a [series of] carefully disposed phenomenon which he absorbed sequentially with his visual sense."[88] But that was "in the past." "Nowadays," he writes, "it is the imaginary path followed by the eye and the varying perceptions of an object that depend on how it appears to the eye. Nowadays it may also be the path followed by the mind across a multiplicity of phenomena, far apart in time and space, gathered in a certain sequence into a single meaningful concept; and these diverse impressions pass in front of an immobile spectator."[89] The unacknowledged historical undertow to Eisenstein's distinction between "the past" and "nowadays" (which for him was 1938) is the assumption that modern visuality is implicitly cinematic. In the past, a walking spectator "absorbed sequentially," and the "spectator moved," whereas "nowadays . . . diverse impressions pass in front of an immobile spectator." The analogy between the architectural spectator on foot and the film spectator seated in the cinema theater is premised on a particular form of filmic construction—one, of course, seen and theorized by Eisenstein

himself: montage. The full force of this analogy suggests that the very nature of filmic construction—camera movement and the sequentiality of editing (what Eisenstein refers to as the "imaginary path followed by the eye")—guides the spectator to witness a uniquely constructed ordering of the world as "the multiplicity of phenomena far apart in time and space."[90]

Here it should be pointed out that montage technique—readable in some "architectural ensembles" (like the Acropolis)—is not present in every piece of architecture, nor should the architectural ensemble be considered coterminous with itinerant movement through urban space. Historic attempts to the contrary, the city is not a planned *promenade architecturale.* Rather, as every situationist will attest, the city is a prime site for a more fluid itinerary, a *dérive,* which includes a key element that makes the city-walker unlike the cinema spectator: chance. Chance is a key experiential element as the body moves through the city, but it is not a factor in (conventional) cinematic spectatorship. (Exceptions prove the rule: surrealist interventions and recent interactive movies challenge the otherwise legislated convention of cinematic form—where each film is repeatable in identical fashion, a metonymy of repeated sameness.)

As we draw Eisenstein into our discussion of the material and mobile paradoxes of spectatorship, let us note that he targets the fixity of the screen. ("Cinematographic montage is, too, a means to 'link' in one point—the screen—various elements (fragments) of a phenomenon filmed in diverse dimensions, from diverse points of view and sides.") Hence, in order to establish a parallel between the peripatetics of the viewer of architecture and (*virtual*) peripatetics of the film spectator, two key elements must be disavowed: (1) the reduction of movement—of camera, of editing shot-to-shot, of sequence—to the fixed confines of a screen; and (2) the shifted temporalities of film viewing, where the implicit time travel of spectatorship means that everything seen is from "the past" as the film's virtuality invents a new form of temporal monumentality.[91] For the architectural spectator, the materiality of architecture meets the mobility of its viewer; for the film spectator, the immateriality of the film experience meets the immobility of its viewer. Hence, the bodily, haptic, phenomenological perception of an itinerant and peripatetic viewer operates as an entirely different visual system once the itinerary becomes framed, an optical "imaginary path" with boundary and limit.

It was this quality of the filmic that Soviet filmmaker Lev Kuleshov explored with his famous "experiments" of "creative geography" and "creative anatomy." When Kuleshov followed a shot of a street in Moscow with a shot of the White House in Washington, his example not only sutured an imaginary geopolitical

space, but illustrated how the film image, in its framed immateriality, could produce an improbable "creative" geography, anatomy, or architecture.[92]

Fast-forward fifty years from the architectural and montage work of Le Corbusier and Eisenstein: in *L'espace critique* (1984; translated as *Lost Dimension*, 1991), Paul Virilio also addresses "this sudden confusion between the reception of images from a film projector and the perception of architectonic forms."[93] As Virilio describes the dimensional transfer that is performed: "three dimensions of constructed space are translated into the two dimensions of a screen, or better of an interface."[94] In evaluating the consequences of this transfer, Virilio conducts a subtractive arithmetic of space: as the materiality of three-dimensional space is "translated" into the two-dimensional space of the screen, the "lost dimension" brings us, Virilio proclaimed, to the "zero degree of architecture."[95] But here, instead of emphasizing the paradoxical transfer from the mobility of the architectural spectator to the immobility of the film spectator, Virilio's analysis emphasizes the second paradox—the transfer from the materiality of architectural space to the immateriality of the filmic image. (I explore Virilio's discussion of the screen as the locus of lost dimensions of space and technological transformations of time in "Lens IV: Virilio's Screen.")

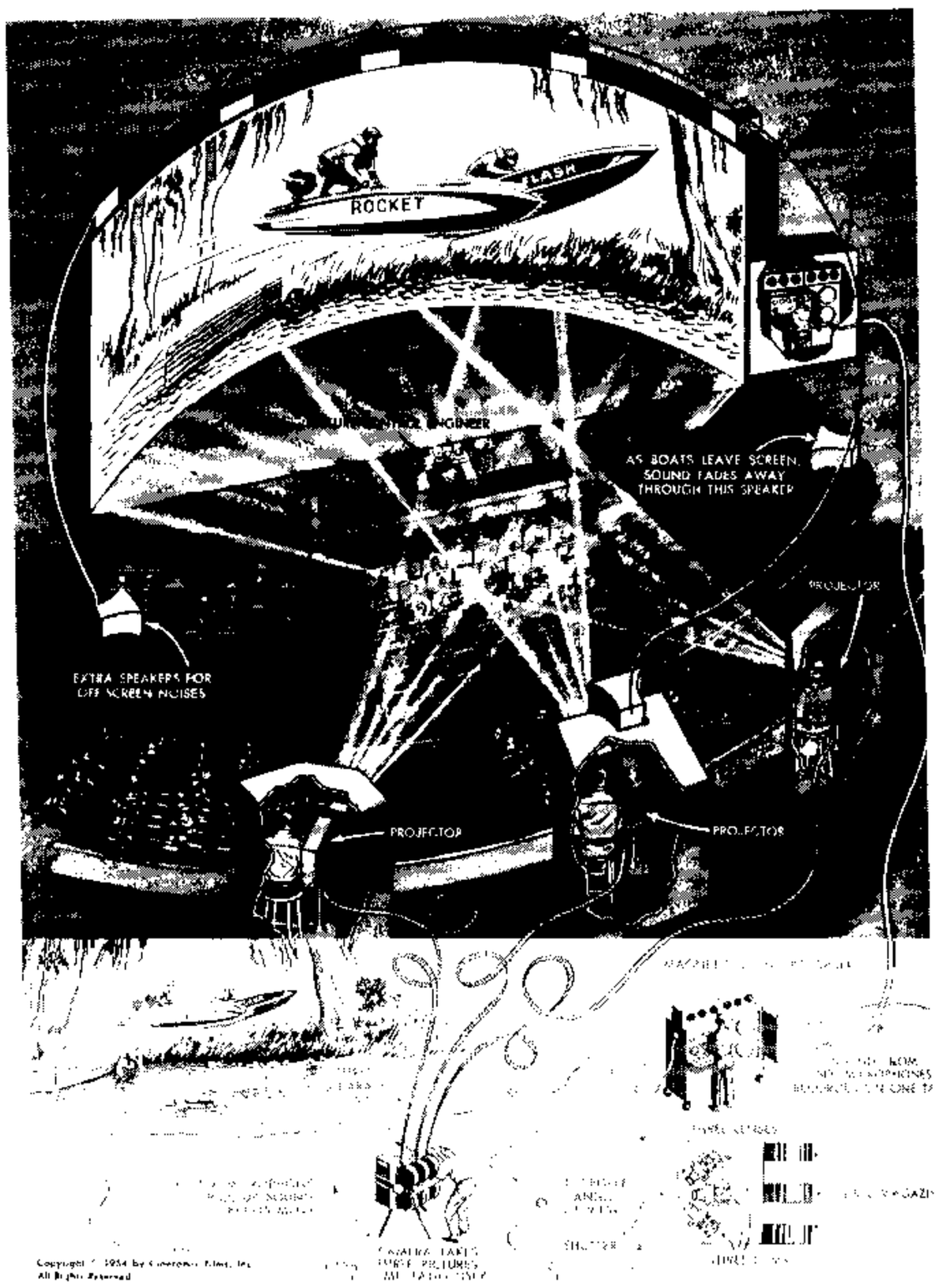
In Virilio's writing, architecture dematerializes, and dimensions are lost; there is an "aesthetics of disappearance" as "telematics replaces the doorway"[96] and the "pixel replaces the bolt."[97] Virilio began to diagnosis the architectonic consequences of the immaterial "opto-electronic" "interface" of computer terminals and video monitors in the early 1980s, describing video as an architectonic element: "It's the new window," he proclaimed, a "cathode window."[98] In Virilio's metaphor, the window is the television screen, a media-specific figure for the opening to "technological space-time."[99] Virilio is particularly astute about the temporal implications of this telematically mediated view: "These viewpoints are simultaneously time-points in the tele-topological continuum of long-distance projection and reception."[100]

Virilio's early 1980s discourse of architectonic "disappearance" recirculates in his writing of the 1990s with the addition of the term "virtual." Architectural materiality dissolves, as the title of a 1993 interview indicates, into "the Age of Its Virtual Disappearance":[101] "Architecture will 'take place' in the literal sense of the word, in both domains: in real space (the materiality of architecture) and virtual space (the transmission of electromagnetic signs). The real space of the house will have to take into account the real time of transmission."[102] Echoing the writing of Giedion and Kepes on the dematerialization of glass, Virilio's discourse of dematerialization and disappearance foretold a new logic to the visible, to the immaterialities and immobilities of a visuality, framed and virtual.

Whatever its other technical qualities (including color and 3-D which will one day be available), the television picture will always retain its mediocre legibility, it will also remain a product essentially consumed in the family circle, and as such, it will continue to be limited to a small screen.

—André Bazin, "Will CinemaScope Save the Film Industry?"

Much of the early competition between film and television centered around screen size, since the ten-to-twelve-inch television screen was tailored to the domestic scale of the home. Movie producers and exhibitors competed by differentiating their offerings with color, 3-D, and wider screen formats. Drive-in "roofless" theaters, or "ozoners," catered to the mobility and domestic encapsulation of the automotive spectator; "four-walled" or "hardtop" theaters introduced Widescreen and Cinerama formats to supply what the small black-and-white screens of television could not.[103] As the editor of the "Better Theaters" section of *Motion Picture Herald* declared after the 1952 preview of *This Is Cinerama!:* "Cinerama is an expansion of the theatre's motion picture, as televised films are a contraction of it."[104]



4.14 *This Is Cinerama!* promotional brochure, 1954.

Cinerama was only one of several subsequent and more successful screen formats—CinemaScope (1953), Todd-AO (1954), and VistaVision (1955)—designed to present an immersive illusion of depth through screens wide enough to fill peripheral vision.[105] In the opening credit sequence for the 1956 CinemaScope *The Girl Can't Help It* (dir. Frank Tashlin, 1956), Tom Ewell addresses the audience in a frame that snugly fits him in 1.33:1—and then, realizing that the image is not in the "grandeur" of CinemaScope, he "extends" the frame to stretch the image to 2.55:1 aspect ratio. A year later in another Tashlin film, *Will Success Spoil Rock Hunter?* (dir. Frank Tashlin, 1957), Tony Randall "breaks the frame" by directly addressing the audience and then, in a sequence often remarked upon as paradigmatic of the frame-size competition between theatrically exhibited movies and domestically

ensconced television, the CinemaScope frame shrinks to a 4:3 aspect ratio, and goes from Technicolor to scratchy black and white, as Randall describes the remarkable invention of television. Both of Tashlin's films luxuriate in the sumptuous embellishments of CinemaScope and Technicolor.

The movie industry's mid-1950s campaign to counter the threat of television is exemplified by a 1957 advertising campaign mounted by a Los Angeles-based publicity company, Hallmark of Hollywood, to contrast the discomforts of television stay-at-home viewing with the compensations of "going out" to the movies. Ads extolled the virtues of screen size ("the gigantism of 330 times!") and the "fresh air" respite of leaving the domestic confinement of "4 walls." (This rhetorical strategy was laced with irony, because the very theaters that represented leaving the "4 walls" of home for "fresh air" were referred to in the trades as "4 wallers" in contrast to the outdoor drive-in theaters, which were known as "ozoners.")[106]

4.15 "Shrink 'Em" ad campaign.

The image here relies on the horizontal sprawl of Joanne Woodward (with Lee J. Cobb lurking behind) in a still from the 1957 CinemaScope (2.35:1 formatted) *Three Faces of Eve.* A tiny TV set contains the same image pitifully cropped, with a small "21 inch" arrow measuring its size. The TV seems to radiate a haze of benday dots: a barking dog, some fighting children, a crawling baby, a woman clutching bills, and an armchair-ridden man—all bespectacled (including the dog), no doubt due to eyestrain—become the cartoon of the suffering that the shrunken screen produces. The ad copy boasts:

> The NEW SHOW SEASON is here! They're widescreen and mostly in glorious natural color. These wonderful shows can never be *de-colorized* and *shrunk* to fill the gaps between *screamin commercials* on *little pea-shaped TV screens.*
>
> Hallmark of Hollywood will pay $50,000 to "the genius" who can squeeze any one of these new, Big Hits down to TV size without ruining this fine entertainment.
>
> NO ONE CAN SQUEEZE IT 330 TIMES![107]

John Belton argues that the "*shape* of the screen in this period can be said to be less significant in terms of the subsequent development of widescreen cinema than the *size* of the screen."[108] The commercial introduction of television in 1948 produced what was called, in the popular press, "the Lost Audience." In the years between 1947 and 1957, movie attendance had dropped by one half, while 90 percent of the American population acquired a television.[109] And although much of the early competition between film and television centered around screen size,[110] the dominant use of expanded screen real-estate was, as I will argue in the next chapter, to extend the frame and not to multiply the images or perspectives within it.

Despite the many debates about the size, shape, and format of screen size—from Sergei Eisenstein's call for a "Dinamic Square" in 1930 to widescreen, Cinerama, and CinemaScope in the 1940s and 1950s—the architectural arrangement for the proscenium of the framed image remained the same.[111] The cinema screen emerged as a piece of newly *immaterial* architecture in nickelodeons, palaces, and multiplexes.

Sounding very much like André Bazin in 1953 ("The television picture will always retain its mediocre legibility"), in 1975 Raymond Williams described television as an "inferior kind of cinema."[112] When Williams imagined the "developing technology" of television from his 1975 vantage, he forecast that "the major development of the late seventies may well be the large screen receiver: first the screen of four-by-six feet which is already in development; then the flat-wall receiver."[113] Williams's analysis incisively targeted the concept of televisual "flow" to explain television's liquid continuousness, its ever-present presence as an aspect of its spatial and social role. His account foretold what subsequent television scholars would regard as standard markers of the television's screenic role: "liveness" and "presence."[114]

And as Lynn Spigel's writing on the television "set" and its place in the postwar American home demonstrates, the television screen played a key role in the transformation of domestic architectural space in the 1950s. Spigel situates the TV "set" amid the picture windows and sliding glass doors that became the domestic vernacular of the suburban home.[115] Contrary to this welcoming discourse that gleefully pictured the television as a "window on the world," Lee Friedlander's series of black-and-white photographs of television sets (1961–1963) casts the TV as an ominous surveillant look back into the home, more of a claustrophobic closed circuit than a ventilating aperture.[116]

While to some (from the theater-owners campaigning to reclaim lost viewers to the film theorists like Bazin to early television theorists like Raymond

Williams), television may have seemed an "inferior cinema screen," it nevertheless functioned as a virtual window. No longer dependent on the projective features of the camera obscura, the screens of television and the computer are light-emanating surfaces, always already full of light. Recently Microsoft has expanded the reach of Windows to the Microsoft XP Media Center. This convergent "home entertainment system" converts TV to computer, allows the user/viewer to rewind and control "live" TV, record multiple programs at once, burn DVDs of recorded TV, archive and sort by title and date. As the television screen has changed its aperture—from a broadcast receiver to cable- and VCR-enabled to the more recent satellite and DVR exponents and wired connections codependent on the computer screen—the cinema screen may soon be seen as an inferior television, an inert computer display.[117] The very term "spectatorship" has lost its theoretical pinions—as screens have changed, so have our relations to them.[118]

PARADOX 1 REDUX: MATERIAL SPACE MEETS VIRTUAL SPACE

Another way of thinking about this tension between the material and immaterial is by means of a question often asked in spectator theory: "*Where* are we?" or "*When* are we when we watch film or television or sit at the computer?" Theorists have answered this in a variety of ways. The answer might be something like: *in a subjective elsewhere, in a virtual space, a virtual time.* If we adopt a psychoanalytic approach (as apparatus theorists Metz, Baudry, and others have), we would say we are in the "imaginary," a place of psychic regression produced by cinema's apparatical effect:

> The arrangement of different elements—projector, darkened hall, screen—in addition to reproducing in a striking way the *mise-en-scène* of Plato's cave (prototypical set for all transcendence and the topological model of idealism) reconstructs the situation necessary to the release of the "mirror stage" discovered by Lacan.[119]

If we choose a phenomenological approach (as Vivian Sobchack, Steven Shaviro, and Laura Marks have), we might describe how

> The experience of watching a film remains stubbornly concrete, immanent, and pre-reflective: it is devoid of depth and interiority. Sitting in the dark, watching the play of images across a screen, any detachment from "raw phemonena," from the immediacy of sensation or from the speeds and delays of temporal duration, is radically impossible. Cinema invites me, or forces me, to stay within the orbit of the senses.[120]

If we adopt a *Kulturkritik* approach, as some of the German critical theorists have, we might describe the spectator's sense of space (*Raumgefühl*). In Siegfried Kracauer's writing, the terms "space" (*Raum*) and "surface" (*Oberfläche*) are consistent indications of his interest in the spatial tensions between surface and depth. In "Cult of Distraction" (1926), he pits the two-dimensionality of the film screen against its three-dimensional material surrounds.[121] Another Berlin-based journalist, Herman G. Scheffauer, writing at a moment when the "true art form for the film had not yet been invented or evolved," excitedly noted how the "sixth sense of man, his feeling for space or room—his *Raumgefühl*—has been awakened and given a new incentive":

> Space—hitherto treated as something dead and static, a mere inert screen or frame, often of no more significance than the painted balustrade-background at the village photographer's—has been smitten into life, into movement and conscious expression. A fourth dimension has begun to evolve out of this photographic cosmos.[122]

If we adopt a more literal architectural approach, we could describe the space of the movie theater and its material and technical specifications as Frederick Kiesler did:

> The most important quality of the auditorium is, on the one hand, its power of suggesting concentration of attention. Even more important is its power of destroying the sensation of confinement which may be involved in the focal concentration of the spectator upon the screen. I mean that the Reflex which the film creates in the psyche of the spectator must make it possible for him to lose himself in imaginary, endless space, to feel himself alone in universal space, even though the projection surface, the screen, implies the opposite.[123]

Whether large and wide or small and narrow, black-and-white or bright color, projected light or the electronic light of the cathode-ray tube or plasma screen—the space of the screen is a virtual space, an elsewhere that occupies a new dimension. In the next chapter, we will consider the computer display, and trace how it has followed television's lead from CRT to LCD and plasma: ever thinner, flatter, and even mountable on a wall.

The changing technologies of "delivery" alter the effect of moving images in "display." As the advertisement in figure 4.16 declares: "He loves 19th century works. I prefer 20th. We agreed on a piece from the next century." Whatever

form a "piece from the next century" will take, we still need to ask questions about the altered and altering effects of screens that are mobile and fixed, that bring images and sounds in varied sizes and shapes, that permeate our spaces public and private, that sit on our desktops, in our living rooms, on our laps, or are hand-held, accompanying us on airplanes, in automobiles, to desert islands—with us here, there, everywhere.

4.16 Philips ad for flat-screen TV, 1999.