

Douglas Klahr

The Radically Subversive Narrative of Stereoscopic Photography

Introduction: Defining the Stereoscopic Experience

Stereoscopic photography, often dismissed by scholars as a nineteenth-century curiosity, offers a distinctive process of narration regarding a photographic image, for the viewing process radically differs from those of non-stereoscopic photography and cinema. The narrative begins with the kinesthetic demands of a hand-held stereoscope, a temporary prosthesis that challenges the monocular norm of pictorial depiction by restoring the binocularity of normal human vision. Narration thus becomes profoundly corporeal, involving hands, face and eyes, with the viewer required to merge two slightly different images into one¹. The intense haptic sensation of depth this produces is never static, for the eye moves from one plane to another, constantly changing the narrative. As Mary Jane Appel observed in a 1995 thesis about stereoscopy, the image is “a reality synthesized rather than depicted.”²

This ephemeral characteristic would seem to place stereoscopic photography in an intermediary, transitional zone between the static experience of viewing a non-stereoscopic photograph and the fleeting experience of viewing a film. Yet the reality is more complex, for stereoscopic photography leads to and yet surpasses cinema in some regards, making it truly an outlier or *Sonderfall*. It is proto-cinematic regarding movement and the chronology of its invention and yet it also is über-cinematic, to coin a phrase, for its narrative surpasses that of cinema in terms of temporal fluidity. This outlier quintessence, which defies facile categorization, is what I examine by analyzing the narrative of stereoscopic photography. I commence and conclude this essay with an explanation of the medium, which also is accompanied by a brief, critical exploration concerning the relative dearth of scholarly inquiry about it. At the heart of this essay, however, is a quest to first define what narration means and then

to finally arrive at what the narrative of stereoscopic photography is.

As I shall argue, that narrative is radically subversive to the monocular norm of most visual media in three ways. First, it restores binocularity, a deeply ironic maneuver considering that 150 years after the stereoscope's invention, photography and cinema are still overwhelmingly monocular modes of production, notwithstanding Hollywood's periodic forays into three-dimensional cinema. Second, the exceptionally fluid temporality of stereoscopic photography expands beyond that of the non-stereographic photograph and the serial, sequential temporality of cinema. This occurs because a stereograph's narrative is composed *anew by each viewer with each viewing*. This leads to the third reason why stereoscopy's narrative is subversive to the monocular norm of visual media: the corporeal involvement of the viewer surpasses that of non-stereoscopic photography and cinema, challenging a viewer to accept the use of an apparatus/prosthesis that requires constant contact with one's body. Ellen Strain provides an explanation of what is involved when viewing stereoscopic photographs, noting that this “required the individual to adjust the position of the stereograph in order to bring the set-up of the viewing apparatus into exact accord with the specifics of the spectator's body [...]. [T]he stereoscope, with its links to the mechanics of the stereoscopic camera, simulates the role of transport device as the spectator adopts the position, posture, and lines of sight of the photographer.”³

Using the classic Holmes model, one grasps the stereoscope's handle and lifts the apparatus, bringing the rim of the metal hood up to one's face until it wraps around the forehead, eyes and bridge of the nose, akin to an elaborate mask (Abb. 1). An ambiguity immediately arises, for control seems to vacillate between the viewer and the apparatus. As one presses one's face into the hood, the apparatus does

not mold itself to the body: rather flesh must accommodate itself to the rigidity of the apparatus, molding itself to fit this temporary prosthesis. It is as though the viewer is subsumed to the stereoscope, which now also blocks all peripheral vision. Yet control is brought back to the viewer by engaging one's other hand to pinch the metal flanges of the stereograph holder, moving it back and forth along the horizontal track until the images come into focus.



(Abb. 1) Holmes Stereoscope, um 1900

In a 1982 essay, Rosalind Krauss offered a summary of the stereoscopic experience:

“Organized as a kind of tunnel vision, the experience of deep recession is insistent and inescapable [...]. The apparatus of the stereoscope mechanically focuses all attention on the matter at hand [...]. These micro-muscular efforts are the kinesthetic counterpart to the sheerly optical illusion of the stereograph. They are a kind of enactment, only on a very reduced scale, of what happens when a deep channel of space is opened before one. The actual readjustment of the eyes from plane to plane within the stereoscopic field is the representation by one part of the body of what another part of the body, the feet, would do in passing through real space.”⁴

The visual-kinesthetic connection that Ellen Strauss and Rosalind Krauss noted introduces the outstanding characteristic of stereoscopic photography: a successful stereograph is a haptic experience whose sensation of depth is tactile in its intensity⁵. In her 2007 book, *Atlas of Emotion*, Giuliana Bruno iden-

tified what constitutes the haptic: “As a function of the skin, the haptic – the sense of touch – constitutes the reciprocal contacts between us and the environment, both housing and extending the communicative interface. But the haptic is also related to kinesthesia, the ability of our bodies to sense their own movement in space.”⁶ Two things stand out in Bruno’s definition of the haptic: reciprocity and the role of kinesthesia. She seems to imply that the former is a requisite, while the latter can also occur. Although Bruno did not write about stereoscopy, viewing a stereoscopic photograph that successfully imparts an intense sensation of almost palpable depth involves both factors. The reciprocity is not merely the literal one of bodily contact with the stereoscope. Rather it is also the viewer’s interaction with the image.

Perhaps the most famous quote in the history of stereoscopy – written by Oliver Wendell Holmes in 1859 – best captures reciprocal essence of the medium that I am claiming, along with the kinesthetic connection, makes it a haptic experience. Holmes wrote: “The first effect of looking at a good photograph through the stereoscope is a surprise such as no painting ever produced. The mind feels its way into the very depths of the picture. The scraggy branches of a tree in the foreground run out at us as if they would scratch our eyes out.”⁷ Holmes was describing the reciprocal reaching out by both viewer and subject to which Giuliana Bruno referred 148 years later in her book.

Likewise, although she did not write about stereoscopy in her 2009 study, I propose that Jennifer Barker’s examination of the haptic component of cinema applies to an even greater extent to stereoscopic photography. Barker writes:

“Exploring cinema’s tactility thus opens up the possibility of cinema as an *intimate* experience and of our relationship with cinema as a *close* connection, rather than as a distant experience of observation, which the notion of cinema as a purely visual medium presumes [...]. Cinematic tactility, then, is a general attitude toward the cinema that the human body enacts in particular ways: haptically, at the tender surface of the body; kinesthetically and muscularly, in the middle dimension of muscles, tendons and bones that reach through cinematic space [...].”⁸

Throughout her book, Barker stretches notions of tactility and the haptic to perhaps newfound extents, but what strikes me in these opening words of her study is what occurs when one replaces some terms with others. In the excerpt above, replace the words “cinema” with “stereoscopic photography” and “cinematic” with “stereoscopic”: what results is a description of the experience viewing stereoscopic photographs. Whereas Barker asks that her reader accepts that a haptic experience can occur across the wide expanse of space between a cinema screen and a viewer, I am suggesting a far more modest and literal manifestation, given the connection between a viewer and a stereoscope. In fact, I shall go one step further and claim that this literalness is perhaps one reason scholars of visual media largely have ignored the stereoscope: it is as though something that commences on a literal level cannot be possibly embody something profoundly subversive. This relative dearth of scholarship – Jonathan Crary’s seminal writings about stereoscopy in the early 1990s notwithstanding – leads me to propose that further two aspects of stereoscopic photography primarily are responsible for the lack of significant scholarly attention this medium continues to receive⁹. They are interconnected with the stereoscopic experience being an outlier that apparently causes scholars some level of discomfort.

First, a stereoscope is required to obtain the impression of depth. I surmise therefore that the *prosthetic* nature of the stereoscope seems to be the major stumbling block. Perhaps the personal nature of the device somehow threatens the ego of the scholar, for it indicates an inability that only is rectified by grasping the apparatus/prosthesis. It seems as though a curiously simplistic, almost atavistic equation within scholars’ minds underscores the dearth of recent scholarship about stereoscopy: *if I succumb to using that prosthesis/gimmick, I will surrender my physical independence and therefore my intellect as well.*

Somehow, using a stereoscope seems to be considered less “natural” than sitting in a cinema to view a film, even though scholars such as Friedrich Kittler take note of the cumbersome requirements of cinema. In his study *Optical Media*, Kittler observes that “film distinguishes itself from photography in that the sender’s finished product – the film in reels – is entirely

useless if a projector with precisely the same specifications is not available on the receiver side. The purchaser of a photograph does not himself need a camera, but the purchaser of a film needs a projection room and a projection device”¹⁰. By this time in his study, Kittler has examined the *camera obscura*, the *laterna magica*, and photography, and he is beginning his analysis of film. He will segue to television and computers, but nowhere does he examine stereoscopy – a curious omission that underscores how resistant scholars continue to studying or even acknowledging this medium.

The second reason for a relative dearth of scholarly research is the inconvenient truth that the stereoscopic experience is differentiated from other media by being the quintessential *individual* visual experience. One can never simultaneously share viewing a stereograph with another person. One can never exclaim “Look at that!” and point. Even recent advances in three-dimensional cinema permit a communal viewing experience, but this is not possible using a stereoscope¹¹. One therefore suspects that the limited discourse possible between persons viewing stereographs has been a major reason for scholars’ reluctance to study the medium. This is puzzling, for it suggests that *a lack of simultaneous viewing/discourse somehow invalidates a medium*, which is a strangely arbitrary boundary for the ostensibly intellectually curious and adventurous to erect. The stereograph is perhaps the ultimate manifestation of visual independence and individuality, for it never merely *depicts* a subject: rather the viewer must *synthesize* the view each time. Yet the atavistic equation that I surmise undergirds scholars’ reluctance to use the apparatus/prosthesis has produced a paradoxical result: the fear of losing one’s independence has blinded scholars to the independence and individuality that characterize the stereoscopic experience.

Therefore I propose that these two major factors noteworthy for their vapid nature – an atavistic fear of the prosthesis and an arbitrary boundary regarding simultaneous discourse – account for continued scholarly avoidance of the topic. Two minor factors of an even more vapid nature also probably have contributed to this state of affairs: the supercilious judgment that a stereoscope is “old-fashioned” and the suspicion that

the massive popularity of the stereoscope with the bourgeoisie during the second half of the nineteenth century somehow makes it ill-suited to be a subject of serious academic inquiry. Scholars of visual media, who often delight in championing whatever is deemed to have broken with bourgeois conformity and convention, appear in this instance mysteriously oblivious to the outlier quintessence of stereoscopic photography. Why I have labeled this medium an outlier will become even clearer in the next section, which is necessary before we can examine the narrative of stereoscopic photography.

Positioning the Stereoscopic Experience as an Outlier

In his noted essay of 1985 entitled “Photography and the Fetish”, Christian Metz identified the difference in lexis between non-stereoscopic photography and cinema as follows: “The lexis is the socialized unit of reading, of reception: in sculpture, the statue; in music, the ‘piece.’ Obviously the photographic lexis, a silent rectangle of paper, is much smaller than the cinematic lexis.”¹² The lexis of stereoscopic photography, therefore, would seem to reside in a zone outside that of non-stereoscopic photography and that of cinema. It is larger than the ‘silent rectangle of paper’ yet it does not embody the mechanized movement of cinema. Victor Burgin noted that in non-stereoscopic photography, the eye “cannot move within the depicted space (which offers itself precisely to such movement), it can only move *across* it to the points where it encounters the frame”¹³. By contrast, the eye moves *between* different planes of depth in stereoscopy: the intense perception of depth is what defines stereoscopy’s lexis.

In an essay in which he examined Christian Metz’s analysis, Ben Singer addressed what he termed are two attitudes:

“I suggest that photography manages to heighten an impression of reality precisely because it combines, or molds together, the two distinct spectatorial attitudes we have been discussing. On the one hand, the spectator is distanced from the picture [...]. The importance of this attitude is that, by standing back, she or he is prompted to recognize the ontology of photography as an *indexical* medium, a medium who-

se existential bond to the real world inscribes every photograph with more or less valid information about the objects whose reflected light is imprinted on the emulsion surface [...]. On the other hand, the spectator adopts an illusionistic attitude toward the photograph and imagines she or he is seeing the visual array firsthand. In this attitude, the spectator ‘steps into’ the image.”¹⁴

Both spectatorial attitudes that Singer describes are heightened in the stereoscopic experience. A viewer is intensely aware of the medium’s ontology, for one’s bodily contact with the stereoscope is a constant reminder of this. A complex, multi-nodal interaction between body and stereoscope emerges: one’s eyes align with a pair of lenses floating in darkness to focus upon dual images that float farther in the distance, while both hands create the possibility for this to occur. Although a viewer of non-stereoscopic photography merely “is prompted to recognize the ontology of photography as an *indexical* medium”, as Ben Singer states, the stereoscopic viewer is past the point of prompting, for one can never escape photography’s ontology due to one’s corporeal involvement with the apparatus.

Yet the process of synthesizing a stereoscopic view has yet to occur, and this is where Ben Singer’s second spectatorial attitude – when one “steps into” the image – likewise resonates stronger than it does in non-stereoscopic photography. Singer states that a spectator “imagines she or he is seeing the visual array firsthand”, suggesting that this is possible but not mandatory, as though when it occurs in non-stereoscopic photography it is a pleasant surprise or perhaps an unexpected reward. In contrast, the entire goal of stereoscopy is to successfully step into the dual images by combining them to produce the stereoscopic experience of receding planes of depth. It is a process that requires concentrated and continual effort, a coordination of ocular and hand adjustments. One final observation about Ben Singer’s thoughts: in the stereoscopic experience, the metaphorical manner in which he utilizes the verbs *mold* and *combine* is supplanted by the literal, underscoring the singularity of the medium: the viewer molds one’s face to fit the prosthesis and combines not only images but also ocular and hand movements.

Returning to Christian Metz, he next proceeded in his essay to compare photography and cinema: "What is indexical is the mode of production itself, the principle of the *taking*. And at this point, after all, a film is only a series of photographs [...]. Movement and plurality both imply *time*, as opposed to the timelessness of photography [...]."¹⁵ Stereoscopic photography, however, is neither a single photograph nor merely a mechanical sequence of images: it consists of dual photographs taken precisely at the same moment yet experienced by the viewer through a stereoscope in ever-shifting permutations. Regarding the movement and plurality that Metz assigns to cinema, both of these attributes apply to viewing a stereograph: not only are we dealing with a plurality of images, we also are dealing with a plurality of *planes*. Time therefore is truly the *sine qua non* of stereoscopic photography, a fact that scholars seem stubbornly resistant to acknowledge. Moreover, it is a far more fluid and far less linear expression of time than in the much-celebrated medium of cinema, for the progression of images and planes is determined anew with each viewing.

In her book *The Emergence of Cinematic Time*, Mary Ann Doane examines the temporality of the cinematic experience. Her analysis will serve as a foil for mine regarding the stereoscopic experience. She writes:

"The cinema engages multiple temporalities, and it is helpful, at least temporarily, to disentangle them. There is the temporality of the apparatus itself – linear, irreversible, 'mechanical.' [...] [T]here is the temporality of reception, theoretically distinct but nevertheless a temporality [...]. Everything about the theatrical setting – the placement of the screen in relation to the audience, the darkness of the auditorium and its enclosed space – encourages the spectator to honor the relentless temporality of the apparatus. It is possible to look away or exit momentarily, but in the process something is lost and is felt as such."¹⁶

In the stereoscopic experience, there is no "relentless temporality" of the apparatus, for images are not depicted: they must be synthesized. The merging of dual images into one will vary in duration with each viewing, as will the viewer's sequence of planes upon which to concentrate, since it is not possible to get all the receding planes of the image into focus simulta-

neously. The prosthetic nature of the stereoscope therefore embodies an irony: initially more confining corporeally to a viewer than sitting in a cinema, it paradoxically offers far greater freedom regarding temporality than does film.

Doane also raises an interesting point about cinema with regard to the "real time" that seems to be a hallmark of cinema. She first notes that "no lack or loss of time is visible to the eye or accessible to the spectator." However she then alerts us to the reality of the situation:

"But this temporal continuity is in fact haunted by absence, by the lost time represented by the division between frames. During the projection of a film, the spectator is sitting in an unperceived darkness for almost 40 percent of the running time. Hence, much of the movement or the time allegedly recorded by the camera is simply not there, lost in the interstices between frames. These interstices, crucial to the representation of movement, must themselves remain unacknowledged. The cinema presents us with a simulacrum of time."¹⁷

In contrast, the temporal interstices present when viewing a stereograph result not from a mechanical device, but rather from the ocular adjustments taking place in the viewer's eyes. Once again, when compared with cinema, stereoscopic photography reveals an ironic facet of its nature. The "unnatural" taking up of a prosthetic device yields nothing more than a natural progression of ocular adjustments, whereas the seemingly unencumbered experience of sitting in a cinema masks the simulacrum of time that Mary Ann Doane noted, leaving viewers unaware that they are staring at darkness 40 percent of the time. The apparent fluidity of cinema, replete with the lexicon that scholars have developed to describe a cinematographer's camera movements, is revealed to be far from continuous. Instead, it is punctuated with lacunae of darkness, whereas the temporality of the stereoscopic experience is free from such interruptions.

Stereoscopic photography therefore truly is an outlier medium, residing not along a continuum from non-stereoscopic photography to cinema, but rather stubbornly existing within a realm that defies facile categorization. Having explained this peculiar status, it finally is time to examine its narrative, but in doing

so we need first to establish what constitutes narration. This is crucial, for the interplay of elements that will emerge from this inquiry will become the defining characteristic of stereoscopic photography's narrative once we return to stereoscopy to examine two stereographs in the final part of this essay.

Defining What Constitutes Narration

I begin this section by once again referring to Mary Ann Doane's work, for her observations about contingency will serve as a springboard to address the matter of narration specifically with regard to the transient, ever-shifting nature of the stereoscopic experience. First, she crucially differentiates between description and narration by noting that contingency – “the ability to seize the ephemeral” – was a hallmark of photography, cinema, and of modernity itself. She writes: “Contingency proffers to the subject the appearance of absolute freedom, immediacy, directness. Time becomes heterogeneous and unpredictable and harbors the possibility of perpetual newness, difference, the marks of modernity itself. Accident and chance become productive”.¹⁸ Doane then notes that too much contingency – in the sense of offering information devoid of any hierarchical parameters – can be “threatening”, and her caution brings to mind the non-hierarchical capturing of minute detail upon the advent of photography that disrupted pictorial conventions, especially those in painting. Having established the dual nature of contingency, she is now ready to differentiate between description and narration:

“Contingency introduces the element of life and the concrete, but *too much* contingency threatens the crucial representational concept of totality, wholeness. Description is a capitulation to the vast and uncontrollable, and ultimately meaningless, realm of the contingent. It is allied with the visual (a ‘picture’) and with the contemporaneous [...] Narration, on the other hand, has an intimate relation with the past (it ‘recounts’) and is therefore able to testify to necessity and inevitability. The present moment, contingency, and temporality as indeterminate are hazardous to sense.”¹⁹

Mary Ann Doane's differentiation between description and narration brings to mind Martin Seel's slightly

earlier study, *Aesthetics of Appearing*, which was originally published in German in 2000 and translated into English in 2005. Seel focused upon the difference between „sensuous being-so” and „aesthetic appearing”. The first category of perception for Seel dealt primarily with the presence of a subject – or representation of a subject – that one detects through one's sensory abilities; noticing individual aspects of that subject in a rather perfunctory manner. Seel uses the example of seeing a leather soccer ball lying on a green lawn, and the list of the ball's features that he provides within the “sensuous being-so” category could be, I propose, a corollary to describing a snapshot taken of the ball: an image captured in a perfunctory manner. He then explains how “aesthetic appearing” regarding the ball would be different, and it is worth quoting him at length:

“Here it is not a matter of grasping the individual qualities of an object, but of their *interplay* here and now [...]. Important for this reflection are the contrasts, interferences, and transitions [...]. The reflection of light on the surface of the ball and the brightness of the light on the tips of the blades of grass – blowing lightly in the wind – more or less stand out against each other, more or less harmonize with each other, are in a more or less noticeably tense relation to each other. In this way, the aesthetically perceived object shows itself in a constantly transitory state. In this condition, nothing is simply just what it is; everything appears in the light of relations that, for their part, change with every change in individual appearances.”²⁰

Two corollaries seem to exist between Mary Ann Doane's differentiation between description and narration and Martin Seel's differentiation between “sensuous being-so” and “aesthetic appearing”. First is the one I already noted: description is another way of expressing sensuous being-so, akin to a snapshot being an example of contingency that did indeed seize the ephemeral. The non-hierarchical manner in which the ball's features are captured in a description precludes a representation of its totality. The second corollary is between the interplay that Seel posits as crucial to aesthetic appearing and narration's “intimate relation with the past” that Doane puts forth, *for the recounting that she feels is crucial to narration is a*

form of interplay. Interplay will be the defining characteristic the stereoscopic photography's narrative, but before I discuss this, we need to delve a bit deeper into what Doane and Seel have examined.

A paradox seems to exist: if, according to Seel, "the aesthetically perceived object shows itself in a constantly transitory state", wouldn't this qualify as contingency unbridled, thereby threatening perception of the object in its totality as Doane cautioned? The answer is "no", for the interplay between aspects that Seel describes is different from an anarchic state of too much contingency. A constantly transitory state is not synonymous with an indeterminate one, for the interplay in the former gives it structure and form that can be called narration. Both Mary Ann Doane and Martin Seel are attempting to explain how a certain type of *controlled fluidity* is necessary to perceive the totality and wholeness of an object or subject. Seel offers another elucidation regarding how interplay is connected with a transitory state:

"This interaction is to be understood as a 'play' of qualities that are perceivable in an object from a particular perspective and at a particular point in time. The term *play* calls attention to a simultaneity and momentariness of the givenness of qualities whose co-occurrence and interrelationship elude any conceptually determining perception. This play is given as the ease of access to a multitude of an object's sensuously distinguishable aspects; it can be perceptually followed, but it cannot be epistemically fixed."²¹

The fact that these circumstances "elude any conceptually determining perception" is not the same as the indeterminate state against which Mary Ann Doane cautions, for once again, the interplay provides a structural framework in which the interrelationships that Seel describes can occur. Seel provides a beautifully succinct sentence about what this interplay achieves: "Aesthetic lingering *lets something be in its repleteness*."²²

A generation before Doane offered her analysis of the differentiation between description and narration, Claude Duverville interviewed the French novelist and Nobel Laureate Claude Simon. Simon mused about description versus narration: „You know it's really getting harder for me to distinguish between narration and description (which should not be confused with

summing-up, as so often happens). Narration, once it stops being a mere summary, is *the description of an action*."²³ For Simon, therefore, description was rescued from being mere summation and elevated into the realm of narration when it described an action, and the centrality of action returns me to the controlled fluidity – interplay – that I feel is the common ground between Doane and Seel.

Yet a more intriguing parallel exists between Simon and Seel. Simon expounds upon several lines from William Faulkner's *The Sound and the Fury*: "A man in a dirty apron came to the door and emptied a pan of dishwasher with a broad gesture, the sunlight glinting on the metal belly of the pan, then entered the car again."²⁴ Simon notes that there are two ways of reading that passage. The first is as a description of an action but essentially in a non-hierarchical, indeterminate manner without understanding the interplay between each element. Without being simplistic, one might align this with Martin Seel's "sensuous being-so". Simon then proceeds to explain a higher level of perception.

"The second way to read these lines is to say that what really mattered to Faulkner *above all* was to write this gleam of sunlight; and when we say this, everything changes, because in order to make this burst of sun we must have the man, the pan, the gesture, this micro-action which suddenly becomes necessary, justified, *generated by the description*. Note that in the last [part of the] sentence the conjunction then plays an important role, proving that the primary event is the burst of sunlight, around which the whole micro-action was arranged. Once it's *said*, the man can get back in the car; we don't need him anymore."²⁵

Claude Simon was describing interplay, the interrelationships between elements that Martin Seel claimed is necessary for the level of perception he labels „aesthetic appearing". Simon even notes the importance of the conjunction *then*, in essence positioning it as a lynchpin. What he offered was a beautiful evocation of the interplay that Seel a generation later wrote about. Simon's emphasis upon "generated" reinforces the centrality of interaction that seems to characterize narration and aesthetic perception. Once again, Seel's sentence comes to mind, especially regarding Simon's second reading of Faulkner's lines:

“Aesthetic lingering *lets something be in its repleteness*.” Faulkner had the reader linger over the details of the man, apron, door, pan, dishwasher, gesture, and car to bring forth the repleteness of that glint of sunlight. The interplay of these factors is what Seel described in his example of the soccer ball lying on the lawn, which finally brings us back to stereoscopic photography.

This is the narrative that is possible with the stereoscopic experience: because the viewer cannot focus simultaneously upon all the receding planes in a stereograph, lingering is necessary, and as one lingers, the subject does emerge in its repleteness. We can now pull together all the strands of the argument I have been presenting in this section to define what constitutes a stereoscopic narrative. It is a narrative characterized by interplay on several levels: interplay between the viewer’s body and the apparatus/prosthesis; interplay between the viewer’s two eyes; interplay between the materiality of the dual images; and interplay between the receding planes; interplay between moments attempting to focus and moments in focus. Further interplays emerge: between the naturalness of binocular vision and the unnaturalness of using an apparatus/prosthesis to regain that; between hand and eye coordination when using a stereoscope; and between the closing off of peripheral vision when using a Holmes stereoscope and the extra dimension gained through the tunnel-like experience that Rosalind Krauss identified. These multimodal interactions create the stereoscopic narrative. The narrative is radically subversive because it defies categorization, residing neither in the realm of non-stereoscopic photography nor film. With this in mind, it is time finally to examine some stereographs. Two will suffice, for they are of exceptional quality, and therefore will illustrate the full potential of this medium.

Two Exceptional Stereographs and Their Narratives

Although the most popular medium in which stereographs were produced was the dual cardboard-mounted photograph, two other media were used to a far more limited extent: glass and tissue paper, both French specialties. Both forms are characterized by their fragility in comparison with the cardboard-moun-

ted variety: glass was prone to cracking and breaking, while the multiple layers of tissue paper were easily damaged by liquids, tears, punctures, spotting and foxing. Although it became possible for amateur photographers to have small-scale stereoscopic film developed into small-scale glass stereographs in the decade preceding the First World War, large-scale glass stereographs remained exclusive to professional practitioners, as did tissue stereographs. The finest glass stereographs were produced by the firm Ferrier et Soulier from around 1860 to 1880, whereas the most notable tissue stereograph firm was G.A.F. One Ferrier et Soulier glass stereograph and one G.A.F. tissue example will demonstrate the rich narratives possible in stereoscopy. Within these rarified echelons of stereoscopy, the buildings that usually were selected as subjects often were opulent statements of political, social and economic power, as are these two²⁶.

Ferrier et Soulier’s glass stereograph of the Weißer Saal in the Berliner Schloss admittedly presents a scene that would offer a viewer a plethora of detail in whatever visual medium it was depicted (Abb. 2). Seen in this image is the room’s mid-nineteenth century incarnation before it was completely altered by Kaiser Wilhelm II in the 1890s. The largest room in the palace, it was justly famous for the forest of chandeliers that floated above visitors, and even though two of these are slightly out of focus, the dazzling experience still is palpable. However it is the ability to gaze deeply into all the spaces that constitutes the main narrative of this stereograph: when it is viewed through a stereoscope, the crispness of details is astounding. Moreover, for this scholar, whose doctoral dissertation a decade ago focused upon this room, the level of discovery is exhilarating, revealing textures and details not visible in archival photographs.

Beginning on the left of the image, the sunlight streaming through the two windows has a presence – that is the only word that will suffice – so lifelike that one can almost see specks of dust as they float within the still air of this room. Reflections of sunlight commence with the glass doors in the arcade that separates the Weißer Saal from its stair hall behind. Within that first arch on the left, a portion of the staircase is seen once one’s eyes travel beyond the glass door²⁷.

As our eyes climb the stairs, we notice that the treads are illuminated, as are the upper surfaces of the elaborate bannister that we encounter once we make a ninety-degree turn and begin climbing the portion of staircase visible through the second arched opening from the left. Not only is the bannister illuminated from on high, but so is the rear wall of the staircase. To discover the source of light, our gaze has to travel diagonally upward to the right, passing into the upper level above the third arched opening. It is there that we glimpse the skylight, but beneath it at the right edge of this upper arched opening is where sunlight makes its presence felt the strongest.

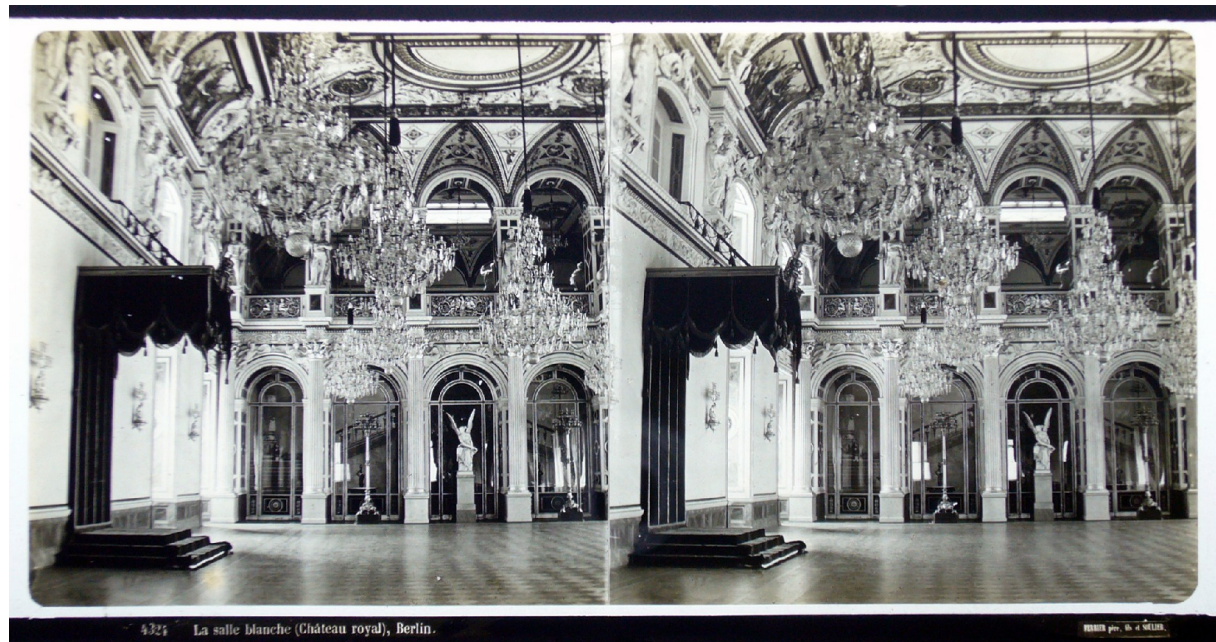
Softly gleaming in the sunlight, the nude torso of a male statue reaches his left arm rearward toward the stair hall. He is facing away from us, and the sunlight illuminates the contours of his muscles; enough of his back is visible to communicate his power and strength. Only a small portion of his head and neck are visible, yet because the sunlight has illuminated the crown of his head, we can tell that it is slightly turned to the right, as though he was conversing with another statue, unfortunately not in focus, in the fourth arched area. We have spent time traveling not through the Weißer Saal but through its stair hall behind it, gaining a haptic sense of light, details, and textures that surpasses that of non-stereoscopic photography. We have passed through boundaries and floated through space. Passage back to the Weißer Saal can occur through one of the gallery's openings, through the elaborate grill beneath the statue, or back down either side of the staircase and through the glass doors.

Once back in the room, the haptic intensity of details is noteworthy. The capital of the second column from the left, for instance, is vivid not only regarding its gilding, but also the dark recesses within, whereas a different set of modalities operates in the white-on-white relief and sculptures that flank it. Above this leftmost doorway, more human musculature is illuminated by sunlight: the glinting muscles of the small figures in the gilded grill contrast with the creamy, smooth legs of the male figure flanking the window. Standing in a contrapposto position, his left leg would appear bifurcated in a non-stereoscopic photo by the line transitioning from light to shadow, but viewed

through a stereoscope, the contours of his thigh and calf are full and fleshy.

A tissue stereograph by G.A.F. of the Salon et Statue de la Paix in the Tuileries initially seems to offer a viewer a similar experience to that of the Weißer Saal: an opulent palace interior that has plenty of architectural details upon which to linger (Abb. 3)²⁸. It likewise offers opportunities to travel through different spaces due to the enfilade visible at the left, which gives us not only a glimpse of the adjoining Salle des Maréchaux, but also of the painting "Napoleon in his Study at the Tuileries" by Jacques Louis David²⁹. A mirror in the center serves to dematerialize space in the same way that the glass doorways and a mirror in the Weißer Saal did, blurring and dissolving spatial boundaries. However tissue stereographs – when expertly produced – had two capabilities that no other stereoscopic medium possessed: the ability to shift from black-and-white to color and the ability simulate the process of illuminating a space or building. These two properties not only create a new level of narrative possibilities, but also imbue stereoscopic photography with a fluid temporality that challenges – and indeed surpasses – that of cinema.

Both processes are entirely in control of the viewer and merely depend upon the angle of light with regard to the stereoscope. One can begin at any stage in the process, but for the sake of clarity, let us begin when the image is black-and-white. As I turn my head slowly, initial pale traces of color will begin to appear and the lights in the chandeliers and sconces will slowly turn on. I can pause with the lights barely beginning to gleam, as though I was operating them with an electric dimmer, or I can continue until they are at their brightest and the colors have become slightly more saturated. The statue is a subtle mélange of gold and copper tones, its base is the green of *verde di mare*, and both items are flanked by smooth columns of gray marble, beneath which are gilded benches with magenta cushions (Abb. 4). Above is a gilded Doric frieze of triglyphs and metopes, but most intriguing is the reflected view in the mirror. Here we see not only a complete curved coffer of the ceiling, not visible in the un-reflected portion of the scene, but also a partial reflection of the chandelier.



(Abb. 2) Ferrier et Soulier, *La salle blanche (Château royal), Berlin*



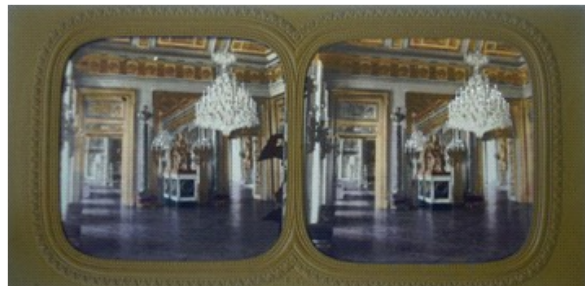
(Abb. 3) G.A.F., *Salon et Statue de la Paix, Tuileries, Paris*

The appearance and fading of these features at will is due to the two layers of tissue paper that comprise this type of stereograph. After the black-and-white photographs were printed on the dual rectos of the front layer, colors were then hand-applied on the dual versos of this layer. The skill of the artisans varied quite widely with regard to saturation and precise placement of the colors, which ideally should not differ between the left and right views. Less skilled workers often used over-saturated colors and did not apply them with preciseness, giving the scene an unnatural appearance. The most skilled technicians applied colors that when viewed either in daylight or artificial light imparted a sense of naturalness to the scene, devoid of over-saturation. Even under today's bright electric indoor lighting, which certainly differed from the gas lighting used during the first decades of stereograph production, the top-notch stereograph of the Salon et Statue de la Paix in the Tuileries never appears over-saturated in terms of color: figure 4 is a simulation of how it looks under these conditions. The only time this stereograph will appear over-saturated is when it is placed on top of a light box and photographed to artificially increase color saturation (Abb. 5)³⁰.

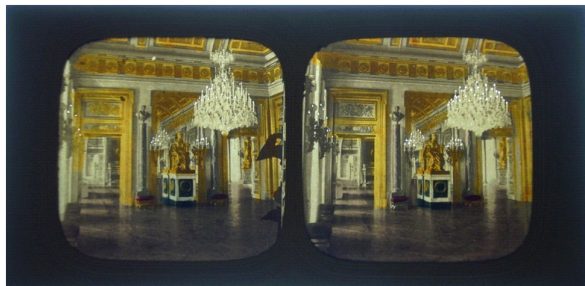
The second layer of tissue paper was left blank if no simulacrum of illumination was needed. If illumination was desired, this layer was pricked by hand to mimic either points of light or, in the case of tiny slits, to impart subtle glints on either glass objects or gold leafed surfaces. As is the case with color application, the best technicians precisely matched pin pricks and slits in the left and right views. Thus each layer of tissue paper played role in producing the range of effects possible in this type of stereograph. Production of a top-quality example therefore required a sharply focused, correctly exposed photograph and appropriate saturation and placement of color on the first layer, with precise placement of pin pricks and/or slits on the second.

In these two stereographs, boundaries in narration have been crossed that non-stereoscopic photography and cinema cannot approach. Stereoscopy's restoration of binocular vision reveals its full potential in these images, for it provides sensations of depth and tactility that are distinctive in their intensity. This

is partially due to corporeal involvement of the viewer, which is especially demanding with regard to the Weißer Saal stereograph: one must intensely focus and refocus in order to achieve the sensation of depth, but when it occurs, it is powerful and – to depart from a detached academic tone – unforgettable. The gleaming white torso high in the Weißer Saal stair hall, lifting his arm into the daylight streaming in through the skylight, is akin to the glint of sunlight that Claude Simon spoke about in William Faulkner's passage. It is a moment obtained only through lingering that let the Weißer Saal be in its repleteness.



(Abb. 4) G.A.F., *Salon et Statue de la Paix, Tuileries, Paris*



(Abb. 5) G.A.F., *Salon et Statue de la Paix, Tuileries, Paris*

Thus two of the ways that a stereoscopic narrative is radically subversive – binocularly and corporeal involvement – are intertwined, but the interplay and lingering that I have defined as constituting a narrative acquire their ultimate richness when the third factor of subversiveness enters the picture: the exceptionally fluid temporality of the viewing process. This is where stereoscopy as the quintessential *individual* visual experience comes to the fore, giving the viewer extraordinary freedom and control within the paradoxical constraints of the apparatus/prosthesis. Imagine a cinematic tour of the Weißer Saal, even in the hands of a director as skilled as Max Ophüls. Akin to the masterly way he framed scenes through windows and mirrors in *The Earrings of Madame de...*, he would have delighted a viewer as his camera floated through

the spaces of the Weißer Saal and its stair hall. Yet the sequential imagery of cinema still would not have provided the viewer with the freedom that the stereograph did. Likewise, a cinematic change from black-and-white to color in the Salon de la Paix would proceed only at a set speed, denying a viewer the opportunity to proceed not only at one's own pace, but also reversing course whenever one desired.

The narrative of stereoscopic photography therefore is both proto-cinematic and also über-cinematic. It is proto-cinematic because movement – ocular and kinesthetic – is a necessary component to produce a stereoscopic experience, prefiguring the movement of a series of images that constitutes the essence of cinema. Yet the narrative also is über-cinematic, for it surpasses that of cinema regarding temporal fluidity. Seemingly constrained by the apparatus/prosthesis, the stereoscopic viewer is not only free to create a new sequence with each viewing, she/he *must* do so. There is no “rewind and view again” option in the stereoscopic experience; likewise there is no guarantee that one will focus and combine the dual images as successfully as one might have done during a previous viewing. This returns us to the core of stereoscopy: one never merely *views* a depicted image but rather must *synthesize* a new one by combining two similar but not identical images. This primary level of interplay establishes the bedrock upon which the multitude of interplays that characterize the stereoscopic narrative arises.

In summation, this narrative is a stealthy outlier that defies facile categorization, and it is radically subversive in three ways, all further levels of interplay. One level restores binocularity in a still largely monocular world of visual media, another permits exceptional temporal fluidity, and a final level demands corporeal involvement of a viewer that surpasses that of most visual media. What is still regarded by most scholars as a quaint, nineteenth-century novelty therefore conceals a radically subversive narrative, the final irony of this story.

Endnoten

1. The terms “stereograph” and “stereoview” are used interchangeably by scholars, whereas “stereoview” tends to be the term favored by collectors and auction houses. Both terms can refer to any form of the medium, whether cardboard-mounted photographs, photographs printed on glass plates, or scenes composed of multiple layers of tissue paper. The term “stereocard” usually is reserved for cardboard versions, which were by far the most popular form of the medium. Regardless of the final form, cameras in which dual lenses were positioned at approximately the human inter-ocular distance were used to record dual images that mimicked human vision. Once developed and processed into its final form, the stereograph was then inserted into whatever stereoscope corresponded to the final product's format, for sizes varied. The viewer first adjusted the distance of the stereograph from the apparatus' dual lenses until the images came into focus. The next step was to merge the two images into one to obtain the sensation of depth, accomplishing this through a series of ocular adjustments. This is an exercise that approximately four out of ten persons have difficulty mastering, a deeply ironic circumstance considering that all one is trying to do is to restore our normal binocular vision.
2. Mary Jane Appel, *Re-Imagining the World. The Historical Implications of the Stereograph*, Albuquerque 1995, pp. 48-49
3. Ellen Strain, *Public Places, Private Journeys. Ethnography, Entertainment, and the Tourist Gaze*, New Brunswick 2003, p. 75
4. Rosalind Krauss, *Photography's Discursive Spaces: Landscape/View*, in: *Art Journal* 42(4), Winter 1982, p. 314
5. Many scholars hesitate to state whether an example of a particular medium is “successful”, due to a Postmodernist reluctance to make such judgments and/or a fear of being accused of delving into what used to be known as connoisseurship. I resolutely do not flinch from making such judgments if I feel that the criteria upon which I am basing my assessments are quantifiable. In the case of stereoscopic photography, the factors of exposure, focus, vantage point, and composition all come into play, the specifics of which are too lengthy to discuss in this essay. Since stereoscopic photography was invented to simulate binocular vision and the sensation of depth it produces, I maintain that it is a valid scholarly endeavor to discuss when this goal was achieved and to what degree, therefore establishing the parameters of what was successful and what was not.
6. Giuliana Bruno, *Atlas of Emotion. Journeys in Art, Architecture, and Film*, New York 2007, p. 6
7. Oliver Wendell Holmes, *The Stereoscope and the Stereography*, in: *The Atlantic Monthly* 3(2), 1859, p. 148. In 1861, Holmes invented the so-called Holmes stereoscope, which made viewing easier and more economical for users than prior models of the 1840s and 1850s. Holmes, a great enthusiast of stereoscopy, deliberately did not patent his design, which became the most popular model in the history of stereoscopy.
8. Jennifer Barker, *The Tactile Eye: Touch and the Cinematic Experience*, Berkeley 2009, pp. 2-3
9. Jonathan Crary's 1990 book *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* examines the stereoscope within the context of other optical devices of the period.
10. Friedrich Kittler, *Optical Media*, Anthony Enns (Trans.); Malden 2010, p. 146
11. Likewise, it is not possible to lecture about stereographs unless one converts them to anaglyphs and supplies members of the audience with the red-green eyeglasses necessary to experience depth. This is not an optimal solution, for viewing an anaglyph differs from seeing a stereograph in several ways, not the least of which is the blocking of peripheral vision that a Holmes stereoscope offers but anaglyph-viewing eyeglasses do not. Writing about stereographs in book format also has its challenges, for unless one includes some sort of dual lens apparatus with the book, the reader is left solely to imagine what the writer is describing. Such devices recently have appeared in mass trade books marketed toward the general public that usually focus upon stereoscopic views of a particular city.
12. Christian Metz, *Photography and Fetish*, in: *October* 34, 1985, p. 81
13. Victor Burgin, *Looking at Photographs*, in: Liz Wells (Hg.), *The Photography Reader*, London 2002, p. 136
14. Singer 1988, *Film, Photography and Fetish*, p. 19
15. Metz 1985, *Photography and Fetish*, pp. 82-83

16. Mary Ann Doane, *The Emergence of Cinematic Time: Modernity, Contingency, The Archive*, Cambridge 2002, pp. 30
17. Doane 2002, *The Emergence of Cinematic Time*, p. 172
18. Doane 2002, *The Emergence of Cinematic Time*, pp. 10-11
19. Doane 2002, *The Emergence of Cinematic Time*, p. 12
20. Martin Seel, *Aesthetics of Appearing*, John Farrel (Trans.), Stanford 2005, pp. 27-28
21. Ibid.
22. Martin Seel, *Aesthetics of Appearing*, John Farrel (Trans.), Stanford 2005, p. 47
23. Claude Duverville, Claude Simon u. J. Rodgers, *Interview: Claude Simon: The Crossing of the Image*, in: *Diacritics*, 7 (4), 1977, p. 55
24. William Faulkner, *The Sound and the Fury*, New York 1946, p. 324
25. Duverville 1977, *Interview*, p. 56
26. Unlike some scholars who dismiss study of such buildings and objects as less preferable to expounding upon the everyday and vernacular, I make no such judgment.
27. There were five arched entranceways between the Weißer Saal and its stair hall during this incarnation of the spaces, but only the leftmost four are visible in the stereograph. The middle one – third from the left – featured mirrors instead of clear glass in order to reflect the statue in front of it. Reflections of daylight in this arched opening and the two flanking it are of windows along the north side of the Weißer Saal facing the Lustgarten.
28. The reader will notice some damage along the right edge of the left image, a manifestation of the fragility of this medium. Despite this damage, it is a tissue stereograph of superb quality, for it has been spared the spotting, tearing, and foxing that often are present in this medium. Likewise, the hand coloring and pin pricks are extremely fine.
29. According to Karine Huguenaud, David created two originals of this painting in 1812. The first original was for a wealthy Scot, Alexander, Marquis of Douglas, while the second original remained in the artist's atelier until 1860, when it was purchased by the Ministère de la Maison de l'Empereur for the Salle des Maréchaux.
http://www.napoleon.org/en/essential_napoleon/key_painting/files/tuil_stud_david.asp, 03.11.12
30. Since the majority of tissue stereographs are sold and purchased today through online vendors such as Ebay, it is difficult for a buyer to discern whether the over-saturated photographs that usually accompany an item listed for sale would be present when actually viewing the stereograph (due to low item quality) or whether the exposure when photographing the stereograph on a light box was deliberately adjusted to produce an over-saturated result that never is achievable when the item is viewed in either daylight or normal interior illumination. The three versions of the Salon et Statue de la Paix in the Tuileries that accompany this essay all were produced using a light box but carefully controlling the exposure to simulate the three different conditions: normal black-and-white view, normal color view, and an over-saturated view on achievable through exposure adjustment, at least for this top-quality example.

Abbildungen

- Abb. 1 Holmes Stereoscope, um 1900, Sammlung des Autors
- Abb. 2 Ferrier et Soulier, *La salle blanche (Château royal)*, Berlin, vor 1893, Stereofoto, Glas, 17,0 x 8,5 cm Sammlung des Autors
- Abb. 3 G.A.F., *Salon et Statue de la Paix, Tuileries, Paris*, vor 1871, Stereofoto, Tissuepapier, 17,4 x 8,6 cm, Nachbildung des Bildbetrachtungsergebnisses für Schwarz-Weiß im Tageslicht oder in der üblichen Innenbeleuchtung, Sammlung des Autors
- Abb. 4 G.A.F., *Salon et Statue de la Paix, Tuileries, Paris*, vor 1871, Stereofoto, Tissuepapier, 17,4 x 8,6 cm, Nachbildung des Bildbetrachtungsergebnisses für Farben im Tageslicht oder in der üblichen Innenbeleuchtung, Sammlung des Autors
- Abb. 5 G.A.F., *Salon et Statue de la Paix, Tuileries, Paris*, vor 1871, Stereofoto, Tissuepapier, 17,4 x 8,6 cm, Nachbildung des Bildbetrachtungsergebnisses für Farben mit einem Lichtkasten, Sammlung des Autors

Zusammenfassung

Stereoscopic photography, often dismissed by scholars as a nineteenth-century curiosity, offers a distinctive set of boundaries regarding narration of an image, for the viewing process radically differs from those of non-stereoscopic photography and cinema. The narrative begins with the kinesthetic demands of a hand-held stereoscope, a temporary prosthesis that challenges the monocular norm of pictorial depiction by restoring the binocularity of normal human vision. Narration thus becomes profoundly corporeal, involving hands, face and eyes, with the viewer required to merge two slightly different images into one, an ocular exercise that four out of ten people find difficult to master. The intense haptic sensation of depth this produces is never static, for the eye moves from one plane to another, constantly changing the narrative. A stereoscopic view therefore is not depicted, but rather synthesized. Its ephemeral quintessence makes it truly an outlier medium, blurring the boundaries between non-stereoscopic photography and cinema, as does its narration.

Autor

Prof. Dr. Douglas Klahr, Associate Professor, School of Architecture, University of Texas at Arlington
1955 in Manhattan geboren
M.A. In Architekturgeschichte, Universität von Virginia
Ph.D. In Kunst- und Architekturgeschichte, Brown Universität

Jüngste Veröffentlichungen:

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