BETWEEN FILM, VIDEO, AND THE DIGITAL

HYBRID MOVING IMAGES IN THE POST-MEDIA AGE

JIHOON KIM

Between Film,
Video, and
the Digital

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Hybrid Moving Images in the Post-Media Age

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For Sun Joo Lee,
my dearest intellectual colleague
and emotional companion

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Hybrid moving images and medium specificity

Media artist Jim Campbell has produced a number of pieces consisting of images made with LED displays of photographic and filmic materials. In these pieces, the low-resolution electronic displays, combined with digital image processing, transform the photochemical material into a series of pixels. Accordingly, the images waver between the discreteness of the digital and the continuity of the analogue, taking on multiple levels of hybridization derived from material and technical aspects of the pieces. This is illustrated in *Home Movies 300-1* (2006, Figure 0.1), a work which projects the 16-mm moving portrait of an anonymous family onto a double Plexiglas screen while its 300 LEDs diffuse the footage into a series of noises as the minimal units of digital visual information. At the same time, the viewer is also able to see the discreteness of the minimized units when watching the display from a distance. What captures the viewer's attention, then, is the ghostly registration of family members, such as a smiling mom, a child on a swing, a toddling child, etc., which is perceived as continuous. As Richard Shiff notes, *Home Movies 300-1* positions the viewer "at the single door that opens to both classes of image, to representation and to abstraction."[1] Yet it could also be added that the ambivalence
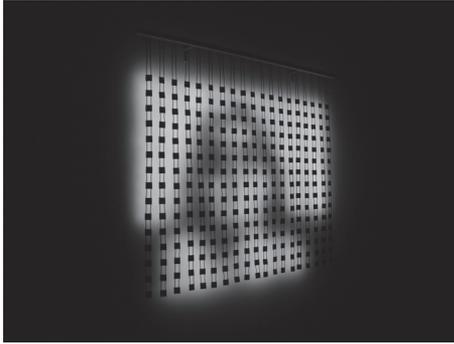
FIGURE 0.1 *Jim Campbell,* Home Movies 300-1 *(2006), installation view, 60 × 50 × 3 inches. Video installation: custom electronics, 300 LEDs, courtesy of the artist.*

caused by the digital processing of the analogue image leads to other layers of hybridization: of still and moving images, of recorded and simulated images, and of luminous and pixelated images.

Campbell's work exemplifies the ways in which contemporary media art pieces across various platforms and genres, ranging from avant-garde cinema to video installation, provide a fresh look at the photographic inscription of reality either by bringing the still photograph to life or by unearthing the photographic stillness embedded in the moving image, both achieved with the help of digital technologies. This new breed of practices fosters hybrid visual forms that make porous the boundaries between live-action and animated images, as well as between the recorded and the manipulated. On an even more complex level, Campbell's images are based on the combinatory employment of photography, film (both with digitized data), and digital video (as replaced by the LEDs) that results in the dynamic coexistence of stasis and motion. Thus, they are structurally either both photographic and filmic or of these. The co-presence of the two media amounts to a form of moving image that reveals both the differences and the similarities between them through an array of technical processes allowing the coexistence of, and the exchange between, their properties.

Digital technologies play a pivotal role in formulating the aesthetics of co-presence that Campbell's images present to their viewer.

While grounded in the combination of custom LEDs and computational algorithms, his self-devised digital imaging system alludes to this double nature of digital video, to the extent that its resulting visual expression integrates photographic representations and at the same time radically transforms them according to the ways in which the series of discrete elements (pixels) comprising them are manipulated. In this sense, Campbell's ambiguous visual expressions reflect the situation that the ongoing proliferation of digital technologies in the terrain of art practice during the last two decades has unsettled the status of the moving image. From the 1990s onward, digitization has subsequently precipitated the flexibility of media images because they are grounded in numerical codes subject to putatively unlimited manipulations. Since then, numerous art practitioners across different fields have responded to the volatility of image by creating new works of art that could obscure established distinctions between different media arts, including cinema, video art, and digital art. These artworks have presented certain types of moving images in which the different forms of media coexist and influence each other, such as the images emblematized by Campbell's works. The fact that these images are based on the merger of the properties of these media and articulate the phenomena of border crossings between their corresponding arts raises the following three questions. First, if these images remain highly ambiguous, what can we identify as an artistic medium in this combinatory system (i.e., what is its key medium: found film, photography, computer algorithm, or, an array of LEDs)? Second, if these images disallow the belief in a single medium's directive role in shaping a particular sensible form, how can we reconfigure the notion of a medium vis-à-vis the variety of practices producing them? And finally, what theoretical framework can we use to describe the growing exchange between previously distinct media and the emergence of the art forms based on this exchange?

In response to these three questions, this book characterizes these images as "hybrid moving images," an array of impure image forms characterized by the interrelation of the material, technical, and aesthetic components of existing moving image media—namely, film, video, and the digital. The term "hybrid" denotes its two etymological underpinnings, firstly, "a mixed form of two concepts from two language systems, the Latin *hibrida* (mixed blood)," and secondly, "the Greek *hubris*—excess,"[2] which suggests that the

form transgresses the boundaries of each system. Various literary and cultural studies based on poststructural, postmodern, and postcolonial theories have elaborated upon these two meanings of the term in association with the concepts of multiplicity, heterogeneity, fusion, diversity, and difference, using them to describe conditions in which different linguistic or cultural systems meet and interact so as to blur the previously maintained distinctions between themselves and others, including an array of conceptual dichotomies such as the global and the local.[3] More specifically, hybridization refers to "the two-way process of borrowing and blending between cultures, where new, incoherent and heterogeneous forms of cultural practice emerge in . . . [the] third spaces."[4] Seen in this light, hybrid moving images point to the in-between spaces of existing audiovisual media, as well as to certain forms produced by an array of interrelations that drive the mutual influences between the media. These images, then, enable us to redefine each medium's identity not as self-determined, but as constructed through its transfer to, and appropriation of, other media and forms.

The term "moving image" refers to a category of images in motion broader than the images that have traditionally been discussed in a discourse grounded in a sharp distinction between one art form and another. In this sense, the uses of the term have often been associated with a rejection of medium-essentialist thinking in the context of changing and emerging relationships between different artistic forms and means. Noël Carroll develops his concept of the "moving image" by way of his attack on the doctrine of modernist medium-specificity thesis, which consist of the three arguments that (1) a medium is defined by a physical substance (2) it maintains its unique essence derived from its intrinsic material qualities, and (3) the unique nature of the medium indicates or dictates each art's own domain of expression and exploration. Carroll draws upon various counterexamples, including the nonfigurative films of the avant-garde practices, image processing in video, and the cinema based upon digitally composite images, in order to demonstrate that the forms and styles of film are not necessarily determined by a limited set of techniques such as the cinematographic representation of reality through the film camera and certain methods of montage.

Carroll's use of the term "moving image" is related to his definition of a medium as being irreducible to a single material

entity. For him, a medium is "generally composite in terms of its basic constituents"[5]; and "an art form then is composed of multiple media."[6] Here film serves as a telling example for validating these two arguments. As to the first argument, even though film is defined as a medium on the basis of a filmstrip, its resulting image is not necessarily derived from a camera's recording of profilmic reality, but includes "flicker films," which can be made by the alternation of blank and opaque leader without photographic emulsion. Also, as to the second argument, even though film is defined as an art form of a moving image that bears a photographic impression of reality, this does not necessarily include a filmstrip but embraces video, to the extent that video "may be developed . . . to the point where most of us would have little trouble calling a commercial narrative made from fully high-definition video a film."[7] Based on these two arguments, Carroll paves the way for reconfiguring a technological medium as constitutively hybrid: that is, there is no single element of a medium that ahistorically ordains a single set of forms and styles; instead, it is differentiated into multiple components, which supports the idea that "a single art form may sustain different, nonconverging potentials and possibilities"[8] for diverse and aesthetic approaches and formal developments. Carroll's discussion of a filmstrip could be such a case, given that it is associated not simply with realist cinema but also with flicker films and handmade films. For both forms are distinct from each other in terms of their different aesthetic approaches to the materiality of the filmstrip, as well as in terms of the differences in the techniques and other materials that intersect with the filmstrip. This differentiation of forms leads him to denounce the idea that a medium's identifiable "pure" domain immediately determines a particular set of forms whose aesthetic effects are indicative of its most genuine essence. Instead, it allows Carroll to take on a pragmatic view on the relation between a medium and its forms or styles: "It is the use we have for the medium that determines which aspects of the medium are relevant, and not the medium that determines the use."[9] More significantly, this pragmatism indicates that Carroll's concept of a medium embraces the historical variability or reinvention of its components as well as its possible border crossing with other media. As to the impact of digital video and computer-based special effects on the production of feature films, he suggests that these testify to the increasing intersections

between film and other moving image media that were anchored in their distinct art forms (video art and computer art), as well as to the innovation of film's mediality and aesthetics vis-à-vis the development of these media: "Film is not one medium but many media, including ones invented long after 1895, and even some of which have yet to be invented. Video and computer-generated imaging, for example, are film media . . . in the sense that they may be components of what we now call films."[10]

D. N. Rodowick tellingly demonstrates that Carroll conflates an objection to the medium-specificity argument with an exclusion of anything that is regarded as materially or technically specific to a given medium. Carroll convincingly testifies to the constitutive multiplicity of a moving image medium and the extent to which its components are open to stylistic variation and historical invention, both of which demystify the belief in a medium's univocality and in its power to dictate forms of an art as manifestations of its predetermined essence. But there is no reason that dismissing these two lines of the medium-specificity argument prevents us from abandoning any observation of what components a medium is composed of and what effects they produce. Rather, Carroll's suggestion of a medium's internal and external hybridities is based on his identification of a medium's components and of their relation to aesthetic effects, all of which he excludes from his concept of the moving image. Thus what Carroll ironically validates, for Rodowick, is that "nothing . . . would disallow specifying media with a strong kinship (film, video, and digital imaging) as having a variable distinctiveness containing overlapping as well as divergent elements or qualities."[11] The media's characteristics associated with their hybridity, such as historical variability and openness to different materials, forms, and practices, then become compatible with the concept of medium specificity—one which is not reducible to the medium-specificity arguments of a medium's teleological essence and of the absolute distinctiveness of its forms, but nonetheless requires us to observe a medium's composite properties and discern differences and similarities between them and those of other media. Ultimately, what Rodowick proposes is *a dialectic of medium specificity and hybridity* with regard to a medium's internal differentiation and its possibilities for being aligned with what is outside it: "I am happy to admit as many hybridizations of media as artists can invent in their actual practice. But what makes a hybrid

cannot be understood if the individual properties being combined cannot be distinguished."[12]

Taking Rodowick's discussion above as a point of departure, this book characterizes hybrid moving images as being grounded in and indicative of the dialectic of medium specificity and hybridity, or as being produced by a set of artistic practices that aspire to reconfigure the concepts of a medium and its specificity vis-à-vis hybridization. To be sure, these images cannot be fully contained within Carroll's concept of the moving image, in which any observation on the differences of media in their material and technical components, as well as the notion of a medium as such, is eliminated. Rather, these images ask us to keep our eye on the material, technical, and aesthetic dimensions of the media involved. For they are based on the changes in a medium's internal components or in the ways that they are combined differently with other media elements that have hitherto not been regarded as contained within its art form. Seen in this light, what I call hybrid moving images are inseparable from the images that each of the three media has produced on its own (filmic, videographic, and digital images), and much more from the differences and similarities between these images. At the same time, central to these images is the fact that they result from the different relations between media that frequently cross the generic and disciplinary borders between their corresponding arts. To summarize, the hybrid moving images demonstrate that it is more productive to identify different moving images grounded in the variability of a single medium or the differing combinations of more than two media, rather than insisting upon the "moving image" as a general category.

These two aspects of hybrid moving images, the constitutive compositeness and variability of a medium, as well as the possibility for its alliance with other media, echo Berys Gaut's discussion of a medium. In a way similar to Carroll and Rodowick, Gaut asks us to distinguish two ways of conceiving a medium: a medium as "the kind of stuff out of which artworks are made" and a medium as that which is "constituted by a set of practices that govern the use of the material."[13] For Gaut, the latter notion demonstrates that the material alone cannot invariably determine the medium of an art form: as with painting, for instance, it includes not only oil pigment and a canvas, but also chalk, charcoal, tempera, woodcut, etc., and it is up to a set of practices and their underlying conventions

what material is adopted and how the material realizes an artwork that constitutes a painting. But this functionalist view alone is not sufficient because the materials "also play a role in finely individuating the media of painting—as instanced by oil painting, as opposed to watercolors or frescos."[14] The reciprocal complimentary relationship between the materials and a set of practices can be applied to the media of the moving image. For instance, celluloid may be used both for the record of profilmic reality and for the graphic rendering of nonphotographic imagery with handmade techniques, but the latter use is limited in comparison to computer graphics in terms of the degree of flexibility by which an image can be manipulated. Considered this way, I define an artistic medium as a set of material and technical components, which not only allows for but also is constituted by formal variations of artistic expression.

The idea of a medium being determined by an array of technical and aesthetic conventions suggests that an art form can be seen as involving more than the components of one medium when it is realized. This is certainly suggested by Carroll and Rodowick, but Gaut elaborates upon this in his notion of "nesting," referring to the phenomena by which "media can contain other media."[15] The medium of the moving image serves as a telling example of this phenomenon of "nesting," since it encompasses different types of images, each of which can be discerned by the specific medium producing that image, such as celluloid, analogue video, digital video, computer graphics, etc. To push this point further, the hybrid moving images are seen to testify to more different aspects of nesting than Gaut's original concept proposes. While Gaut speaks of only the plurality of the media that are incorporated in a given art form, for example, the moving image, hybrid moving images based on the intersection of film, video, and the digital demonstrate that there are other levels of incorporation at play: first, the incorporation of more than two distinct media components—for instance, the mixture of film's components and those of video— into the form of a moving image, which is made by a set of artistic practices that throw these media in a new relation; and second, the incorporation of old moving image media into the digital as the digital adopts and reworks the old media's formal components by converting their material and technical elements into digital codes. These two levels of incorporation suggest that the phenomena of nesting in the digital age have become so complex that it is

insufficient merely to acknowledge that a medium contains several media. Rather, what is required is to examine the relations between the media constituting the medium of the moving image. The notion of hybridization, then, serves as a framework for theorizing the two levels of incorporation as more complex types of nesting than those discussed by Gaut.

Finally, like Rodowick's claim, Gaut's idea of nesting suggests that it is still indispensable for us to identify the properties of a medium that constitutes an art form and to differentiate them from those of other media that engage in shaping the form. In this view, it is meaningful to ask, for instance, what features are specific to digital images in contrast to traditional photochemical images, even when the former perceptually resembles the latter. Here the notion of specificity is not necessarily defined in terms of uniqueness as it is asserted by the traditional medium-specificity argument. For in this case, the representation of photographic imagery *as such* is not unique to photochemical media such as photography and film, but shared by the digital. This suggests that the specificity of a digital image can be identified only in comparison to photochemical images, that is, according to what conventions of photochemical media the digital adopts and what new properties it adds to those conventions in order to allow for new expressive possibilities in the resulting image. Gaut's concept of "differential properties," that is, "properties that distinguish one group of media from another group, but that are not necessarily unique to any particular medium,"[16] provides us with a useful analytic framework for discussing the media of the moving image and the relation between them. The live-action imagery based on the bond between the lens and profilmic reality, for instance, is specific to film, video, and the digital in contrast to other media (for instance, literature and music), but is not unique to any of them. This notion of specificity, which is comparative and relational, is particularly helpful in examining hybrid moving images, since their impurity can be illuminated by identifying what properties are shared by the media constituting the images and what features pertain to each of them individually. To be sure, careful attention to the formal dimension of the artwork is particularly crucial to this conception of medium specificity. For it is on the level of form that the structural similarities and differences between diverse media images are negotiated and interrelated while simultaneously being made visible.

Post-media conditions

This book contextualizes the emergence of hybrid moving images across different genres and platforms within the larger contexts of the "post-media" age. In doing so, it argues that the images' material, technical, and aesthetic hybridities derive from and at the same time are expressive of "post-media conditions," which I define as an array of conditions that have posed fundamental challenges to the traditional definition of artistic media—namely, that a media's material and technical components immediately determine its forms and expressive possibilities, which are exclusively distinct from the forms and expressive possibilities of other media. It was both the discourses on contemporary art criticism and the studies on new media and media art that coined the term, and these have developed the debates about those conditions since the late 1990s. In contemporary art criticism, Rosalind E. Krauss played a determining role as she proposed and elaborated upon the term "post-medium condition" in a series of her writings, and the discourses on contemporary art by Jacques Rancière and Nicolas Bourriaud, among others, are more or less in alliance with Krauss's argument on that condition. Meanwhile, such thinkers as Lev Manovich and Peter Weibel, whom I consider as pertaining to the "new media camp," have introduced the term "post-media condition" as a response to the discourses mainly circulated in the contemporary art criticism bloc. Although the difference of a keyword in the two discursive domains—"medium" in the domain of contemporary art criticism and "media" in that of new media camp—implies a conspicuous front line that has persisted in regard to how to evaluate the impacts of electronic and digital technologies on the forms and practices of art, the discourses in both domains have reached three common points of post-media conditions that lay the groundwork for this book: (1) the demise of the modernist medium specificity, that is, the proliferation of electronic and digital technologies that has led to the dissolution of the boundaries between one art form and another, which were previously sustained by a media's unique properties; (2) as a response to the demise of the modernist medium specificity, a renewed awareness of what media's material, technical, and aesthetic components are and what artists can do with those components; and, (3) as a result of this renewed awareness,

the emergence of artistic practices by which the media's components have new, previously uncharted relationships with those of other media in ways that go beyond its formal boundaries. The last two conditions, I shall argue, suggest not the total abandonment or loss of medium specificity *per se*, but a reconfiguration of medium specificity in tandem with media hybridity.

Krauss's concept of the post-medium condition means that the pervasive power of electronic and digital media challenges Clement Greenberg's idea of medium specificity so profoundly that it transcends the traditional definition of artistic medium in general. Television and video cannot be contained within the purview of modernist medium specificity, according to which a medium's distinct identity is derived from its unique material properties, and this identity exclusively delineates the medium's formal and generic boundaries as distinctive from other mediums. This is because the material and technical components of television and video are constitutively heterogeneous, allowing them to exist in putatively diverse forms, spaces, and temporalities. Krauss writes, "Even if video had a distinct technical support—its own apparatus, so to speak—it occupied a kind of discursive chaos, a heterogeneity of activities that could not be theorized as coherent or conceived as having something like an essence or unifying core. . . . It proclaimed the end of medium specificity. In the age of television, so it broadcast, we inhabit a *post-medium condition*."[17] Similarly, the "new media camp" has coined such terms as "post-media aesthetics" (Manovich) and "post-media condition" (Weibel) in order to describe the ways in which the idea of Greenbergian medium specificity became fundamentally dismantled under the growing influence of electronic and digital technologies. Manovich points out that the emergence of television and video precipitated the "rapid development of new artistic forms" (assemblage, happening, performance, installation, time-based art, process art, etc.) that encouraged "the use of different materials in arbitrary combinations (installation) . . . [and] . . . aimed to dematerialize the art object (conceptual art)."[18] For Manovich, the digital revolution of the 1980s and 1990s marks the most consequential development of the dissolution of modernist medium specificity, in that the shift to digital representation, along with the introduction of new editing tools that could be applied to most media and substitute traditional distinct artistic means, has led to the dissolution of the "differences between photography

and painting (in the realm of still image) and between film and animation (in the realm of a moving image)"[19] on the material levels of perception, storage, and distribution. In a similar vein, Weibel outlines a historical trajectory of cinematic experiments beyond filmic imaginary into three phases: the expanded cinema movement in the 1960s extending the cinematographic code with "analogous means"; the video revolution in the 1970s harnessing "intensive manipulation and artificial construction of the image"; and the digital apparatus in the 1980s and 1990s with "an explosion of the algorithmic image and new features like observer dependency, interactivity, virtuality, [and] programmed behavior."[20] Consequently, the loss of modernist medium specificity recognized by both Krauss and the "new media camp" theorists (Manovich and Weibel) asks them to revisit the traditional definition of a medium, as well as paying attention to the array of artistic practices by which that medium's components interact with those of other media in ways that challenge the previous distinctions between one art form and another.

Krauss's response is to redefine a medium as "a set of conventions derived from (but not identical with) the material conditions of a given technical support."[21] The medium in question here is not reducible to its physical properties alone, but instead is reconceived as a multiplicity of its material and technical components which lend themselves to the development of artistic conventions, but none of which have a directive power in determining the medium's expressive possibilities. Krauss draws upon the idea of the filmic apparatus as exemplary of her definition of medium, considering the medium as being characterized by its "aggregative" condition in which medium specificity is still maintained and at the same time internally differentiated according to the heterogeneity and interdependence of its components. "Film consists of the celluloid strip, the camera that registers light on the strip, the projector which sets the recorded image into motion, and the screen," she writes, "as an artistic medium, it cannot be reduced to any of the elements as objects, but all of them are united to constitute its apparatus."[22] In so doing, Krauss avoids any direct association between the medium and its physical substance as is the case of the Greenbergian medium-specificity argument, and instead highlights the significance of certain artistic expressions that call into question the effect of a medium's constraints and thereby reconfigure it as

an open field for the interplay of "conventions" and "possibilities." Hence her notion of the medium reconciles the requirement for the material and technical specificity of a distinct medium with the formal and conceptual diversity of artistic creation.

Krauss's redefinitions of the medium as a "set of conventions" derived from a "technical support," and of medium specificity as being occupied by the intersection of the medium's internally heterogeneous components and a range of expressive possibilities given by the medium's conventions, imply that a traditional medium is capable of going beyond its previous formal boundaries and has new alliances with other mediums. Calling this artistic operation "reinventing the medium," Krauss has praised several artists who reexamine the inner complexity of older material supports and techniques that are now perceived as outdated under the pervasive influences of new media. Along with Marcel Broodthaers's films, which aim to investigate the nature of film in relation to cinema's primitive technique derived from the flip book (for instance, his *A Voyage on the North Sea* [1973–1974]),[23] these artists' practices include James Coleman's "projected images" that waver between photographic stillness and cinematic motion due to his idiosyncratic blending of slide projection and the filmstrip's photograms;[24] Jeff Wall's conceptual photo-panel teeming with cinematic allusions; and William Kentridge's "drawings for projection" built on the transformative amalgamation of outmoded technical remnants, such as pre-cinematic optical toys, cartoon animation, and handmade film.[25] For Krauss, those artists' works concern the idea of a medium as "conventions out of which to develop a form of expressiveness that can be both projective and mnemonic,"[26] insofar as they interrogate the range of expressive possibilities given by the material and technical properties of the old mediums (painting, photography, and film) and their interrelationships in a redemptive manner. It is significant to underline that those artists' practices, as well as Krauss's concept of the medium as technical support, seem to reconcile the legitimacy of medium specificity with the hybridization of the art forms based upon that medium. Those artists are commonly grounded in their own recognition of a medium's specific features, but the medium used by the artists lends itself to a variety of conceptual practices that seek out the medium's nature beyond the essentialist assertion that the medium's physical domains immediately guarantee its proper art forms. This

practice, then, promotes the combination of a medium with the materials, techniques, and conventions of other mediums that had been considered outside that medium's standardized forms: for instance, Coleman's imagery transcends the standardized projection of cinema and alludes to the photographic stillness embedded in the filmstrip, and Kentridge's drawings for projection transgress the boundaries of charcoal drawing and excavate its historical relation to hand-drawn animation and cartoon animation.

Jacques Rancière has extensively problematized the Greenbergian conception of the medium whose material specificity alone defines the medium's essence and therefore buttresses the separation of different art forms. In a similar manner as Krauss's medium as technical support, Rancière offers his own redefinition of a medium as "milieu" in two ways: both as "the milieu in which the performances of a determined artistic arrangement come to be inscribed, [and as] the milieu that these performances themselves contribute to configuring."[27] In doing so, he has paid attention to a wide range of artistic practices that promote hybridizations of mediums, or, mixtures and clashes between the art forms' heterogeneous elements: that is, practices ranging from film and video installation pieces to multi-platform projects that invite the blurring of the boundaries between art and nonart, or between the artistic object and the life-world.[28] In an interview, Rancière clarifies that all these practices are defined by "the erasure of medium specificity, indeed by the erasure of the visibility of art as a distinct practice."[29] Rancière finds in Jean-Luc Godard's *magnum opus* video work *Histoire(s) du cinéma* (1988–1998) a telling example of how his video-based montage emerges as the montage of a "metamorphic operativeness, crossing the boundaries between the arts and denying the specificity of materials."[30] Godard's various ways of fragmentation and juxtaposition by virtue of video's technical effects make possible a series of unexpected encounters between particular cinematic images, paintings, and literary or philosophical texts. Rancière's emphasis upon the medium as promoting hybridizations of previously separated arts echoes a series of criticism by Nicolas Bourriaud, who coined a now well-known term "relational aesthetics." By this term, he singles out the various open-ended works of art since the 1990s as a set of artistic practices "which take as their theoretical and practical point of departure the whole of human relations and their social

context."[31] A closer inspection of Bourriaud's line of arguments illustrates that his relational aesthetics are not solely concerned with the renewal of the bond between art and life, but also between art and its audience. For Bourriaud, relational aesthetics as the principle of reestablishing art in this manner is built upon "random materialism," a particular materialism that "takes its point of departure the world contingency, which has no pre-existing origin or sense."[32] This materialism suggests that an individual material adopted by an artist neither imposes its essence on his/her conception of the artwork nor predetermines the form of the artwork. Rather, it is the form that takes precedence over the material in the artwork. Bourriaud defines a form as a "structure" which comes into being in the "dynamic relationship enjoyed by an artistic proposition with other formations, artistic or otherwise."[33]

Manovich and Weibel also consider the emblem "post-media" as opening up a situation in which digital technologies serve as an environment in which techniques and aesthetic features of a media are dislocated from its medium-specific boundaries and become increasingly hybridized with those of other media. It is in these two senses that the two theorists' arguments on the post-media conditions are not unlike Krauss's "technical support" or Rancière's "milieu." Manovich claims that the "post-media" aesthetics are indebted to the developments of various software applications in the areas of moving image production since the mid-1990s, such as Adobe After Effects, Maya, Inferno, and so forth, through which "previously separated media—live action cinematography, graphics, still photography, animation, 3D computer animation, and typography—started to be combined in numerous ways."[34] In Weibel's words, Manovich's argument on this situation is rendered as the "total availability of specific media" under the computer, which results in two phases of contemporary art practice: the "equivalence of media" and the "mixing of the media." While the first phase refers to the computer's recognition of each art form and its respective medium, the second means that its hardware and software lead to the innovation of each form and the mixture of its media-specific features: "Video and computer installations can be a piece of literature, architecture or a sculpture. Photography and video art, originally confined to two dimensions, receive spatial and sculptural dimensions in installations. Painting refers to photography or digital graphics programs and uses both. The

graphics programs are called paint programs because they refer to painting. Film is proving to be increasingly dominant in a documentary realism which takes its critique of the mass media from video."[35]

For the theorists of post-media conditions, the equivalence and availability of all media under computer-based imaging and interfaces does not necessarily lead to the elimination of previous art forms. For Weibel, "it does not render the idiosyncratic worlds in the world of devices or the intrinsic properties of the media world superfluous. On the contrary, the specificity and idiosyncratic worlds of the media are becoming increasingly differentiated."[36] For Manovich, the developments of various software applications to simulate the aesthetics and working methods of previous media amount to what he calls a "hybrid revolution" in the culture of the moving image since the 1990s: a revolution characterized by the reigning of the moving image sequences that use "juxtapositions of media and hybrids of different media techniques as their basic aesthetic principle."[37] This may not support the idiosyncrasy of previous media as it is defined by the traditional medium-specificity argument, insofar as computerization extracts their techniques from their physical support and turns them into algorithmic operations. But in other senses, this hybridity draws our attention to the extent to which various technical procedures available from the software applications are traced back to the moving image forms grounded in previous media (film, photography, painting, video), such as stop-motion animation, 2D and 3D computer graphics, optical printing, analogue "effects" video, etc. Again, this availability of the techniques of the previous media opens up possibilities for their various fusion, including a peculiar technique's migration into other media aesthetics and forms: "While particular media techniques continue to be used in relation to their original media, they can also be applied to other media . . . motion blur is applied to 3D computer graphics, [and] computer generated fields of particles are blended with live action footage to give it an enhanced look."[38]

It should be noted that Krauss's argument on the post-medium and the post-media discourses of the "new media camp" have an antagonistic relationship with each other in terms of their opposing views on the impacts of electronic and digital technologies. Following Walter Benjamin, Krauss limits her ideas of the medium as technical support and of reinventing the medium to the outdated

technological means (analogue photograph or film) that are increasingly recognized as obsolete in the context of the proliferation of electronic and digital technologies, assuming that they threaten to eliminate the medium's material and technical specificities and assimilate artistic creativity and autonomy into their imperative to mass communication.[39] In so doing, her renewed theorization of medium specificity turns out to be circumscribed within the definitional polarity between the "medium" as the resource for artistic expression (and the projector of artistic autonomy) and the "media" as technological means of communication and culture. This dichotomy validates the idea that Krauss's idea of reinventing the medium is possible only when the medium is regarded as obsolete, therefore bracketing out any consideration of an array of artistic practices that explore the expressive possibilities of the medium by relating the medium's material and technical components and its conventions to those of new "media." Thus, it becomes clear that her thesis of the post-medium condition is still anchored in a belief in the uniqueness and singularity of the means of artistic expression that is part of the same Greenbergian modernist argument on medium specificity that she originally intends to renew or overcome. This problem becomes more conspicuous when we see that what Krauss sees as the technical support for reinventing the medium, such as analogue photography and film, is not totally dissociated from the machine-based technologies implied by the term "media." [40] The fact that in Krauss's theorization there is no space for considering the technological components and their operations of old artistic means enables me to choose the term "media" instead of "medium" in my characterizations of the conditions connoted by the prefix "post."

On the other hand, it should also be worth noting that the discourses on post-media are in some senses as reductive as Krauss's theorization of post-medium, in terms of their assumption that electronic and digital technologies annihilate the idea of medium specificity *per se* and assimilate any artistic practices into their new technical principles. For Manovich, "transcoding," translating all existing media into numerical data and formats through simulation, stands out as the most fundamental principle of new media, as it suggests a process by which the computer negotiates with any of media objects as well as their respective forms and techniques. "Because new media is created on computers, distributed via

computers, and stored and archived on computers," Manovich contends, "the logic of a computer can be expected to significantly influence the traditional cultural logic of media . . . [and] the computer will affect the cultural layer."[41] His emphasis upon the processes of simulation and transcoding, however, adds up to a celebration of the possibilities for various combinations of any visual expressions and techniques in moving image production within the same software environment. This is linked to the following conclusion: "Whether these media are openly juxtaposed or almost seamlessly blended together is less important than the fact of this co-presence itself."[42] But there is no reason for postulating that the representations and techniques of traditional media disappear, or, are "seamlessly blended together," just because some of their key definitional prerequisites—for instance, a medium as it is defined by its stable materiality that has a directive impact on the formation of an art— become untenable under the influence of digital media. Considering this, I argue that the formal, technical, and aesthetic components of non-digital media are still at play in the operation of new media even though the processes of simulation and transcoding replace their materiality. Art critic Sven Lütticken supports my argument as he astutely points out that the post-media theorists such as Manovich do not consider the "role played by memory in guiding the use of media." For Lütticken, the reason that we still maintain the concept of media even though digitization appears to absorb and introduce notable changes in them is that the "media are not just tools or machines," but also "layerings of [their] conventions, and memories [that] haunt us."[43] Consequently, electronic and digital technologies might disallow the idea of medium specificity if it means an array of boundaries that distinguish one art form from another, but this does not necessarily mean the total annihilation of all the material, technical, and aesthetic components in the traditional technologies for artistic practices.

In sum, my comparative reading of the post-medium and the post-media discourses demonstrates that despite the duality of "medium" and "media," both share with one another the demise of the modernist medium-specificity argument that insists upon the boundaries between one art form and another, and the reconfiguration of media as internally divided and non-reductive rather than the traditional idea of the medium as primarily defined

by its unique material properties. Besides these two commonalities, Krauss's observations on the artists whom she considers as reinventing the medium in response to the post-medium condition touch on the larger domains of the growing interactions between the art forms (for instance, film and photography) that were previously separated under the traditional logic of medium specificity, as well as between the material and techniques that constitute each of them. The post-media discourses also see those interactions as being activated by the computational processes of simulation and transcoding, by which different objects and techniques that were hitherto demarcated become available and opened to a variety of combinations. All the three correspondences are in line with critic J. Sage Elwell's understanding of the post-medium condition as closely related to the post-media condition, in that both are premised upon the deep hybridization of historically existing media in the age of the digital: "The ability to document performance-based concept pieces, the capacity to transform video into a medium itself, the birth of digital technology and the ongoing realization of digital convergence have all combined to yield a media fluidity. . . . In this post-medium condition everything is a potential medium for artistic creation, including digitization itself." [44]

While concurring with Elwell's view, I would stress two more implications of the three correspondences between the two lines of the discourses. First, both discourses' perspectives on the hybridizations of different art forms and their components commonly suggest that the idea of media hybridity does not necessarily contradict—and thus can be compatible—with that of medium specificity, which demands identifying a media's material, technical, and aesthetic components and the components' differences from those of other media: as in Krauss, her identification of the filmic apparatus as aggregative, and as in Manovich, his view of simulation and transcoding as intrinsic to digital technologies. Second, both discourses' privileged examples of the hybridized artistic expressions—for Krauss, Coleman's "projected images" and Kentridge's "drawings for projection" and, for Manovich, a variety of moving images based upon the combination of the techniques and aesthetics that were separated in different mediums (film, photography, hand-drawn animation)—implicitly point to the hybrid moving images that this book defines and classifies.

Film's post-media conditions

Since the 1990s, it has not simply been film as a celluloid-based medium for the art of the moving image that the post-media conditions outlined thus far have profoundly impacted, but also cinema as an apparatus comprising film's systems of production and reception, its previously designated social site (movie theater), its experience (collective viewing), its cultural status, and its history.[45] Considering these changes, this book characterizes these two consequences as "post-filmic" and "post-cinematic" conditions, under which the previous medium-specific boundaries of film or cinema become fundamentally dissolved. The decline of the celluloid-based image by the dominance of electronic and digital media arouses several changes heralded by the "death of cinema" discourses on multiple levels: dispensing with reality, the computer-generated imagery does not entice us with any object of contemplation anchored in film's engagement with physical space and time;[46] the changing value of a cinematic system from the authenticity of going to the movie theater to the interchangeability of viewing practices throughout various platforms (DVD, digital projection, and the internet) in the name of multimedia impoverishes cinema as a prominent form of cultural experience;[47] from the standpoint of avant-garde cinema, the reigning of digital tools is regarded as thwarting the value of artisanal cinema based on a filmmaker's physical relation to the materiality of film;[48] and finally, the photochemical image as indicative of a past to the viewer of a present is overshadowed by the electronic and digital images that seem to collapse temporal differences into real-time instantaneity.[49] All these different yet overlapping responses commonly point to the shrinking of film as an art grounded in the primacy of the photographic moving image whose celluloid-based materiality was believed to maintain the image's connection to the profilmic event, or of cinema as a cultural institution that had long maintained its own setting, equipment, and experience. Viewed together, these discourses of the death of cinema are consolidated into what Anne Friedberg sees as a consequence of media convergence, an end of filmic medium specificity in its traditional sense. "The differences between the media of movies, television, and computers are rapidly diminishing," she writes, "the movie screen, the home television screen, and the computer screen

retain their separate locations, but the types of images you see on each of them are losing their medium-based specificity."[50] While all these discourses on the death of cinema suggest the fluctuation of cinema studies as a distinct discipline grounded in its previously stable object of inquiry and concepts, it is also worthwhile to single out two key post-media conditions of film that have been more frequently raised in the discipline and thus deserve more focused attention.

The first and foremost post-filmic condition is undoubtedly the loss of film's celluloid-based materiality and its subsequent erosion of the value of the filmic image as causally linked to the passage of time in reality. Theorists who highlight this condition tend to emphasize an array of material, technical, and aesthetic discontinuities between celluloid and digital production. For Mary Ann Doane, the indexicality of cinema associated with the analogical relationship of its image to the referent does more than differentiate it from other art forms; the indexical in cinema bears the inextricability of the medium—film's chemical and photographic base—as well as the possibility for "a transgression of what are given as material limitations."[51] In this respect, digital technologies are viewed as an increasing threat to the restraints and possibilities that were previously guaranteed by the properties of celluloid medium insofar as they "exude a fantasy of immateriality."[52] Doane's point dovetails an argument from the film preservationist Paolo Cherchi Usai, for whom the immateriality of the digital image marks a fundamental diversion from the historicity of filmic image, an image whose history is derived from celluloid's material and chemical features subject to entropy and decay.[53] Experimental filmmaker Barbette Mangolte links this material difference to the difference of temporal aesthetics between celluloid-based and digital cinema, asking why it is difficult for digital cinema to express duration. For Mangolte, the technical base of the image in digital cinema is fundamentally distinct from the materiality of celluloid and the physicality of its filmstrips, both of which enable the analogue filmic image to have a unique relationship to the duration of the past. "In film, two seconds is three feet and twenty seconds is thirty feet," she writes. "There is no way to ignore duration when you physically manipulate the piece of film. Nothing like this exists in digital editing."[54] Rodowick takes up and furthers Mangolte's position, claiming that digital capture, transcoding, and synthesis serve to express a different temporality

in digital cinema than the presentation of past duration because they introduce a temporal discontinuity into the processes of recording, editing, and display, unlike the continuities of analogical transcription in the celluloid-based cinema. For Rodowick, digital technologies transform the expression of duration in film, allowing digital cinema to construct what he calls the "digital event," one that corresponds less to the duration of the world and lived time than to the control and variation of numerical elements internal in the computer's algorithmic operations.[55] Rodowick's view on the fundamental replacement of the inscription of lived duration in the filmstrip with the algorithmic temporality of digital imaging echoes Vivian Sobchack's contrast between the cinematic cut and the digital morph. Unlike the cut or dissolve in the celluloid-based cinema that is used to effect a temporal change inscribed in the series of filmstrips, in the digital morph "difference is accumulated not as a whole constituted from discrete elements but rather as a subsumption to the sameness of self-identity."[56]

The theorists' voices that herald the dissolution of filmic materiality and the indexical value that it was supposed to guarantee are associated with the second overarching post-media condition of film, namely, the loss of the identity of film as a stable object. This identity crisis has been suggested in two ways. First, as for digital cinema, its images are defined not by the primacy of lens-based imagery as in the case of celluloid-based cinema but by their constitutive heterogeneity thanks to the computer's capacity to transcode any media object and its accompanying techniques. In a similar way as Carroll's use of the term "moving image" as a broad category, Manovich argues that digital cinema consists of the sum of live-action material (and extensively, analogue photograph), painting, image processing, compositing, 2D and 3D computer animation, and is defined as "*a particular case of animation that uses live-action footage as one of its many elements*," because "live action footage is now only raw material to be manipulated by hand—animated, combined with 3D-computer generated scenes, and painted over."[57] Second, in accordance with the hybridity of the images in digital cinema, the components of traditional cinema have become assimilated into the language and operations of the computer. For Manovich, cinema as a major art form of the twentieth century has found new life, as its key elements—its ways of viewing (framing, camera movements), of structuring time and

space (montage between different shots), of making narrative space (a transparent, single-perspective space viewed through the rectangular screen), etc.—are simulated and extended to the basic principles of the user's accessing, organizing, and interacting with data and objects in the computer software.[58] The avant-garde film and modernist art in the 1920s, notably Bauhaus and Russian constructivism, each represented by László Moholy-Nagy and Dziga Vertov, lie at the heart of the translation of cinematic elements into digital software and user interaction—that is, cinema's afterlife as a "cultural interface."[59] Here cinema is considered not so much a definable object or stable medium, but instead a set of representational, perceptual, and expressive conventions which have been developed since its inception and have been borrowed by new media.

At first sight, Manovich's view on the cinema's transition into the cultural interfaces of the computer might cause discomfort for the theorists (Rodowick, Doane, etc.) who have stressed the post-filmic conditions of digital cinema, including the crisis of celluloid-based cinema. The theorists rightly point out the technical differences between celluloid-based cinema and digital imaging, as well as the ways in which the latter unsettles both the image of the former and its relation to reality. As we have seen in my reading of the discourses of the "new media camp," it is true that the post-media conditions proposed by those discourses might run the risk of declaring both the abolition of medium specificity *per se* (and of the concept of the medium in general) and the computer's triumphant absorption of all the technical and aesthetic possibilities of previous media in its transcoding and algorithmic operations. However, if we assume that the technical, aesthetic components of previous media are not entirely annihilated but that they persist in the representations and operations of new media to varying degrees, Manovich's overall arguments in *The Language of New Media* (2001) and its related writings can be read as entailing a range of hybridities inherent in the images that digital technologies configure in their varying relationships to cinema. That is, just as Manovich's emphasis upon numerical representation, by which any media element is represented as a discrete sample dissociated from its material origin, is read as highlighting the digital image's discontinuity with the image of celluloid-based cinema, his explanations of transcoding and cultural interfaces appear to suggest an ineluctable reliance of

the digital image upon the aesthetic and technical components of celluloid-based cinema. Seen in this light, Manovich's two ways of redefining cinema can be read as less teleological than they seem to be, even though some of his arguments are not totally free of techno-deterministic utopianism.

If we consider the ontology of the digital image or digital cinema as grounded in the negotiations between digital technologies' technical differences from celluloid-based cinema and their dependence upon its technical and representational conventions, we can arrive at another instance of the reconciliation between medium specificity and media hybridity, or between the newness of digital technologies and the continuities between celluloid-based cinema and digital imaging. I would call these continuities between the old and the new systems "diachronic hybridization." This type of hybridization echoes a media-archaeological perspective that has demonstrated how digital technologies are situated in the forms and techniques of past media, including Thomas Elsaesser's framework on observing how digital technologies could serve as a "time machine" through which cinema's variability and heterogeneity from its outset can be exposed and reevaluated,[60] as well as André Gaudreault and Philippe Marion's argument that digital cinema's alliances with other media platforms (such as theme parks, television, and the DVD) testify to cinema's recurring intermediality, namely, cinema's adoption of existing cultural forms (such as magic trick shows, park attractions, stage performances, etc.) in its early stage.[61] Philip Rosen's brilliant idea of "digital mimicry" turns this media-archaeological point of diachronic hybridizations into a media-ontological concept. Rosen coins this term to indicate the extent to which the manipulability of the image afforded by digital equipments and graphic algorithms possesses "the capacity to mime any kind of non-digital image," particularly, in his context, the indexical image produced by photochemical media.[62] This signals that digital manipulation, unlike the rhetoric on the novelties of digital imaging in contrast to the historically preceding media, is compelled to rely on and incorporate their forms of imagery. In this way, regardless of the increased flexibility and rapidity with which any alteration and configuration of the image can be implemented, which Rosen calls "practically infinite manipulability," digital manipulation must be seen as the mixture of the purely digital and its impure—originally non-digital—elements. Thus, while the manipulative

capability of the digital might be regarded as idiosyncratic due to its specificities such as numerical representation and transcoding, its transformation of old media forms does not necessarily obliterate their specificities on a formal and conventional level but instead demands "a hybridity of old and new."[63]

In fact, this scholarship's sensitivity toward the hybridity of digital cinema and imaging in relation to their historical precedents drives my interpretation of film's post-media conditions as well. However, there is a key point of caution to be taken in adapting this diachronic perspective, namely that the arguments of Doane, Rodowick, and others on the digital's differences from photochemical media are still useful in keeping an eye on the technical structures of the digital that inscribe their specific qualities and on the features of the photochemical media that are eroded or displaced by the digital. Thus, I would argue that in developing the perspective on diachronic hybridization, we need to see both continuities and discontinuities, or, to put it in another way, to see the digital's media-specific features that coexist with its hybrid aspects. For experimental filmmaker and theorist Malcolm Le Grice, an awareness of digital technologies' fundamental media-specific differences from other mechanical media systems, such as nonlinearity, programmability, and interactivity, can be supplemented by the technologies' reliance upon those mechanical media: "Some of the more prominent current technological developments in digital media are driven by a desire to produce a time-based auditory and visual capacity which is more or less continuous with the forms and language developed from the history of cinema."[64] In this way, it is possible to understand the post-filmic and post-cinematic conditions as being marked by the dialectical correlation of medium specificity and hybridity, and to conceptualize the images produced by digital technologies' adoption and processing of the photographic and filmic representations as expressing different hybrid configurations of the old and the new. In the words of Markos Hadjioannou, examining the ontology of the images in terms of their hybridity is a "matter of dealing with the new as not new or old but new and old, as simultaneously distinct and interactively interrelated, so that each medium acquires a space of its own but where boundaries are in fact always shifting."[65]

As a supplement to the diachronic hybridization that has been raised in the existing scholarship that positions digital techniques and aesthetics within their incorporation of (or reliance upon)

the techniques and aesthetics of film as old media, I propose
"synchronic hybridization," a kind of hybridization derived from
the encounters between historically existing media technologies
in a given time. What I am calling synchronic hybridization in the
context of the post-media conditions points to the transformation
of cinematic components (cinematography, mise-en-scène, and the
experience of time and space) and their migration into other art
forms and platforms that were largely regarded as distinct from
the normative formation of the cinematic apparatus. Or, to put
it in another way, the conditions refer to the situations in which
those components have been thrown into the double movement of
deterritorialization and reterritorialization created by the growing
influence of post-filmic technologies and of the arts and media
that have been excluded from the traditional medium-specific
ideas of cinema. I develop this type of hybridization from another
discursive thread of cinema's post-media conditions. In fact, it
was an array of "paracinematic" experiments in the 1970s that
prefigured a key moment of synchronic hybridization. Jonathan
Walley's excellent study of the projects, emblematized by the works
of Anthony McCall, Paul Sharits, and Tony Conrad, demonstrates
that they are cross-disciplinary cinematic practices that aimed to
seek the properties and effects of cinema in relation to the domains
of performance, post-minimalism, conceptual art, and site-specific
art—that is to say, outside the material parameters of film.[66] The
synchronic hybridization prefigured in the work of paracinema
has become quite popular since the 1990s, with the dramatic
rise of media installations based on the interplay of previously
distinct artistic expressions—film and video art, for instance—and
straddling between the gallery space and the film theater. Addressing
those diverse practices of installation which exploit and transform
cinematic elements through other art forms and technical means
(video and digital media), Raymond Bellour succinctly touches
on the idea of synchronic hybridization as follows: "All we have
is incertitudes—slip-sliding, straddling, flickering, hybridization,
metamorphosing, transition and passages between what is still
called cinema and the thousand and one ways to show moving
images in the vague and misnomered domain known as Art."[67] In
accordance with Bellour's notion of the "passages" between cinema
and contemporary art, Francesco Casetti proposes the concept of
the "relocation of cinema" to indicate the post-cinematic situations

enabled by the influences of electronic and digital technologies, under which cinema maintains some elements of the traditional filmic experience while simultaneously involving a variety of forms, platforms (DVDs, mobile phones, the internet, etc.), and activities that it did not previously embrace.[68] Pushing this idea further, Casetti goes on to assert that the idea of the cinematic apparatus under post-media conditions "no longer appears to be a predetermined, closed, and binding structure, but rather an open and flexible set of elements . . . an assemblage."[69] Bearing in mind and developing the ideas of Walley, Bellour, and Casetti, I argue that synchronic hybridization serves as a useful conceptual framework for identifying an array of hybrid moving images produced when the technical and aesthetic components of film go beyond the standardized formation of the cinematic apparatus and are fused with other art forms or media technologies, as well as for examining the images' complex and border-crossing ontological features.[70]

Consequently, this book argues that film's post-media conditions can be fully illuminated when we consider both types—diachronic and synchronic—of hybridizations in regard to film's growing impurity and its persistence in other art forms and media technologies. As for diachronic hybridization, digital technologies appropriate a set of components that have previously defined the identity of film (the photographic image, camera movements, styles of montage, etc.), producing a variety of moving images by maintaining some of its components' properties (for instance, an image's photorealistic expression and the image's reference to profilmic reality) and transforming others with their specific features, such as simulation and algorithmic manipulations. At the same time, synchronic hybridization is useful in identifying and examining the diversified connections between cinema and other existing or emergent technologies, which are emblematized by, for instance, cinema's multiform distribution via DVDs, mobile media, digital projection, Web-based platforms, etc. In either case, the moving images manifest themselves in the varying coexistence and interrelation of the features derived from the specificity of digital technologies, and those derived from their hybridized reliance upon the material, technical, and aesthetic elements of film. This is the case not only with digital video (DV) cinema and spectacular narrative cinema (two major categories of mainstream cinema), but also with avant-garde cinema, with moving image installations marked by video's deliberate

merger with cinema (contemporary art), and with various types of digital media art that transform and relocate the components of cinema through computer algorithms (new media art). Thus, it is a key aim of this book to investigate the dynamic negotiations between medium specificity and media hybridity in the moving images produced in those practical territories of nonmainstream cinema.

Video's post-media conditions

In the modernist age, analogue video was considered to be sharply distinct from film because of two aesthetic features that were expressive of its material and technical specificities. The first feature is that, unlike the filmic image, the forms of video image hinge upon an array of technical processes that directly deal with the continuous flow of electronic signals as a constitutive factor of its material. That is, any manipulation of the signal on all levels of the apparatus— from the camera to the synthesizer or processor to the monitor— leads to a shift in the end result of the image, ranging from a change in its surface quality to a change in the relationship between two image units (such as the frame and the shot). This ontological aspect of the video image is what Yvonne Spielmann calls "transformation imagery," an array of "flexible, unstable, nonfixed forms of the image" characterized by their "fluid pictoriality."[71] Spielmann's two features of the video image—"transformative imagery" and "fluid pictoriality"—seem to establish a direct association between the medium's material and technical properties and the aesthetic forms that they produce. This association alludes to a canonical tendency of early video art which created a variety of video imagery as part of an investigation into the new machine's inherent nature. Categorizing this tendency as "image-processing video," as exemplified by Nam June Paik, Steina and Woody Vasulka, Stephen Beck, Peter Donebauer, and Eric Siegel, to name just a few, curator Lucinda Furlong describes it as evocative of Spielmann's two features. "The image-processing encompasses the synthesis and manipulation of the video signal in a way that often changes the image quite drastically," Furlong writes. "it conjures up a number of very specific stereotypes: densely layered 'psychedelic' images composed of soft, undulating forms in which highly saturated colors give a painterly effect, or geometric abstractions that undergo a

series of visual permutations."[72] Numerous accounts of video art have largely defined the stereotypes of the "image-processing" as a direct manifestation of video's underlying substance, of its states of change, and even of the processes or devices as such, most of which were devised and modified by the artists themselves.

The second feature of video concerns the temporality of the image. The medium-specific discourses on the time of video consider simultaneity and instantaneity as the two most prevalent and intertwining features, both of which are presupposed to be unavailable to film. Early commentators such as David Antin, Stanley Cavell, Bruce Kurtz, Krauss, Fredric Jameson, and others glean both features from the technological formation of early video—live feedback and the existence of the monitor, both inherited from television.[73] In contrast to film as a medium, defined by the delay between the inscription of the past event and the time of viewing, video is inherently marked by its engagement with the "present tense." The continuous flow of the electronic signal in video is described as shaping the simultaneity of event recording and transmission. Under this technological implementation, instantaneity refers to the fact that video's temporal dimension is hardly stable, inasmuch as the continuum of the flow can be interrupted in the processes of editing and transmission for the sake of making its record of time ephemeral, multiplied, or dubious. This is also deemed to be differentiated from film, a medium which, during projection, structures time built upon the immutability of the recorded past. Regardless of the differences between those discourses, the emphasis on "simultaneity" and "instantaneity" is predicated upon the direct association between the construction of the video apparatus and the aesthetic determination of an artistic medium.

The material, technical, and aesthetic boundaries of analogue video have been weakened when it yielded to digitization, which resulted in two changes that contributed to repositioning video as "post-media." The first conspicuous change is that digital video is incorporated into an element of the computer that consists of numerous software algorithms to simulate existing media, with its hardware becoming invisible. The second—and more significant— change is the shift from "transformation imagery" to "digital manipulation" in terms of the material and technical dimensions of video imagery. For examining this shift, it is meaningful to consider

Timothy Binkley's argument on digitization as the passage from "transcription" to "conversion." The term "transcription" indicates that analogue media, including film and analogue video, transfer an image from one physical medium to another for storage and display it as materially homogeneous. As with analogue video, a light wave captured by an electronic signal is first transcribed to the processing instruments, then to the magnetic tape combined with display and playback devices. Those two transcriptions ensure the identity of the electronic current as the material source of the image. This material homogeneity of the image is not maintained in the digital "conversion," by which an image is turned into abstract numerical data. As with digital video, the electronic signal of varying voltages is not transcribed, but converted into a pattern of abstract relationships made by software-driven mathematical algorithms. "Digital media do not make analogue ones obsolete, since interfaces are needed to make numerical abstractions tangible, and these converters usually connect digital numbers with analogue events," writes Binkley.[74] A key difference between analogue video's transcription and digital video's conversion, then, is that in the latter's case the shift on the surface of visual information can occur through means other than transforming the electronic waveform as a material component, the means to which the former was restricted. This entails an array of procedures in digital video post-production, which can be called digital manipulations. They enable one to exert a wider range of control over the source image than allowed by the processes of analogue video. In this way, while deepening the instability and fluidity of the video image, digital manipulation makes discontinuous the circuit of recording, transmission, processing, and display—a continuity presupposed in the transformation of analogue video.

This discontinuity of digital video has two remarkable consequences for the ontology of digital video image in comparison to its analogue counterpart. First, the visual information coming from the electronic transcription of an event in front of the lens does not become a prerequisite for the specificity of the video image in the digital era. To put it differently, in digital video, any sort of image taken from different material sources can be converted into a series of information that is easily translated into a flow of electronic signals. The now-popularized video software applications are able to deal not merely with images captured by

the digital camera, but with image objects encoded from originally different material formats (transferred film, scanned photography and painting, 2D or 3D graphics). In this sense, it is tempting to say that digital video echoes the way in which Manovich defines digital cinema as the sum of previously disparate images, including live-action imagery. Second, in tandem with the extendedness of the source image of digital video, the manipulation paradigm includes a resulting image which does not need to be directly concerned with the intrinsic qualities of video as a distinctive medium. Since the mid-1990s, video art has witnessed the increasing erosion of the "pure" electronic moving image. A number of renowned video art critics attribute this change to the digital revolution, an innovation that causes changes in video technologies and, at the same time, the merger of different media in generating imagery. For instance, Chris Meigh-Andrews states: "The convergence of computer manipulated imagery from a diverse range of sources, together with the development of image display technologies . . . has rendered the distinction between previously distinct media increasingly obsolete and largely irrelevant."[75] Michael Rush also agrees with Meigh-Andrews's declaration of the weakened medium specificity of video. "Video technology is now in a hybrid stage, combining all manner of digital technologies in the creation of what is likely to be a new medium," Rush claims. "It is time for video to assume its place as simply a 'filmic' medium, now that the word 'filming' refers to the many ways in which the moving or animated image is created."[76]

Since the 1990s, the transition from analogue transformation to digital manipulation has also enabled the ontological distinction between film and video in the light of temporality to be diminished. As the projection of the prerecorded image increasingly replaced the feedback system combined with the monitor, it promoted film's incursion into the exhibition space. Accordingly, the simultaneity between recording and viewing did not become a prerequisite for the temporality of video. Yet the dominance of projection is not a single factor in this change. As to the possibility of converting film into digitized files for projection, numerous artists came to cross the boundaries between video and cinema in various ways, each pursuing their own inquiry into the time of the moving image. Not simply did the artists adopt a cinematic language and production system for shooting with a video camera, but they often used digital-based video technologies to deal with any format of footage

in editing and installation, whether shot on film or video. In this way, the disintegration of the easily identifiable video apparatus has triggered the interchangeability of cinema and video. Fueled by this technological reformation, a number of exhibitions have brought together a variety of works coming from different materials (16 mm and 35 mm film, digital video, HD video) and installation formats (film projection, video projection, or plasma-screen display) in the name of examining notions of time which do not precisely conform with the concepts of simultaneity and instantaneity. This suggests that the ways of using video to explore the time of the moving image became diversified. Organizing an exhibition devoted to works derived from video projection, Marc Mayer already anticipated this tendency in the mid-1990s, which he characterized as a "reflection on time." "Through real time or extreme slow motion, through repetition, or rapid pictorial variation and recombination, through editing," he notes, "video projection resembles nontemporal art without actually compromising the temporal dimension."[77]

In sum, the paradigm shift to digital manipulation entails that the video image has become uncoupled from the particular technologies of video's early years, and that it has merged with the material, technical, formal, and aesthetic constituents of other media images in terms of its aesthetic dimensions of surface and temporality. It is from these two consequences that we can identify video's post-media conditions in its digital phase. Despite these conditions, however, the affinity between early video's transformative capacities and the manipulation of digital video has not drawn specific attention in the still-modernist criticism on contemporary video art. What should be underlined in this context is that the property of video that makes their source image temporally fluid and figuratively flexible is still maintained in its digital version. For illustrating this point, it is of great help to refer to Manovich's remark on the relationship between the electronic and the digital in terms of the instability of the image:

> To a significant extent, an electronic signal is already characterized by similar variability because it can exist in numerous states. For example, in the case of a sine wave, we can modify its amplitude or frequency; each modification produces a new version of the original signal without affecting its structure. . . . *All that happens when we move from analogue electronics to digital computers is that the range of variations is greatly expanded.*[78]

To expand on Manovich's view on the transition of video from electronic media to the digital, it could be argued that the analogue video image is relatively "hard" in comparison to the "softness" of digital video imagery, the latter of which is able to encompass images derived from both electronic and non-electronic signals (pixel), or from both signal-based images and the encoded versions of object-based images (picture, photography, film). While this ontological heterogeneity of the image based on the computer's processes of abstraction and transcoding can be seen as specific to digital video, the capability of video to alter the figurative and temporal qualities of the source image remains continuous from analogue video. It is here that the digital video image involving elements of visual media previously distinct from purely electronic imagery—namely, photography, painting, and film—is also conceptualized as both medium-specific and hybrid. Spielmann indeed suggests this point in her discussion on the importance of the intersection of analogue video with the digital. "Due to its open apparatus—the processing and transformative characteristics of the electronic image—video, despite its status as an analogue medium, shares significant features of the digital," she notes, "*both the electronic and the digital media forms of video have the potential to produce imagery in any direction and dimension in an open structure*."[79]

With this dialectical juncture of medium specificity and hybridity in mind, I would claim that what matters in the video's post-media conditions is the persistence of the transformative techniques of analogue video in the manipulation paradigm of digital video. Those who engage in the debate on the status of video in the digital era nonetheless tend to emphasize the weakened link between those techniques and the formal and aesthetic imperatives that video is directed to pursue; as Spielmann further argues: "The point I want to stress is that such contemporary 'video installations' are less concerned with video than with other media forms."[80] Her argument suggests that the importance of video may be neglected when the manipulative features of video do not deal with the processes of video *as such*, but instead with the forms or conventions of film and photography. However, Spielmann's downplaying of the hybrid forms of moving image in digital video contradicts her observation on the correspondence between electronic transformation and digital manipulation for two reasons: first, in terms of materiality, the image encoded from the celluloid-based media exists under the

condition of the interchangeability between electronic signal and digital pixels; and second, for this reason, the image lends itself to certain changes made by the manipulative techniques of video such that it acquires different qualities in its final state. For these two reasons, the exploration of other media forms via the manipulation of digital video does not necessarily mean the elimination of video's material and technical specificities (the amalgamation of electronic signals and digital pixels) in the light of its transformative characteristics. Hence, what is at the heart of evaluating digital manipulation is tracking how these specificities of digital video are linked to the set of corresponding representational practices that testify to video's post-media conditions in the two types of hybridization, as is the case with the ontology of the digital image in relation to film. As to diachronic hybridization, digital video maintains a range of continuities with its analogue predecessor while inscribing its own material and technical specificities in the resulting image; and as to synchronic hybridization, its expressive possibilities have expanded beyond video's previously established medium-specific boundaries that demarcated video art from other visual arts, therein giving it an unprecedented relationship with the components of painting, photography, and film.

Intermedial approaches to hybrid moving images

The post-media conditions of film and video examined thus far eventually aim at identifying the two key conditions for the emergence of hybrid moving images across different media of art: first, diachronic hybridization as a type of hybridization caused by the transition from old media (photography, film, and analogue video) to digital media technologies, which activates the awareness of the old media's internal aggregative characteristics and entails a broad system of interactions between the old and the new media; and second, synchronic hybridization as the sum of conceptual and technical operations that reposition the components of all these existing media and call into question, traverse, and redraw their formal and generic boundaries. Against the backdrop of these two hybridizations, this book defines the ontology of hybrid moving

images as that of "coexistence and interrelation." This suggests that the images include an array of new production processes by which the material, technical, aesthetic properties of more than two media engage in creating the images thanks to digitization. As a result, the hybrid moving images are marked either by the simultaneous existence of different media elements (for instance, the coexistence of stillness and movement) or by the transformation of one media's elements through those of the other (for instance, the layering of different temporal traces in a single picture frame). Although previous studies on the digital image have occasionally addressed these two features, they have tended either to exaggerate its difference from the images of old media or to generalize its constitutive hybridity as the seamless absorption of the traces of non-digital media. It is my ambition in this book to overcome these two shortcomings and establish the hybrid moving image as a conceptual field for thinking how the previous ontological accounts of the similarities and differences between old and new media are contested and reconfigured in a variety of ways.

In the following I shall tease out these two definitions of hybridization under post-media conditions by discussing how they appear in the domain of the moving image. This is to propose the idea of intermediality not simply as a methodological tool for approaching and analyzing the hybridity of the moving image, but also as a type of configuration based on the mixture of the components from more than two media and thus on their co-presence and interrelation (For this reason, I prefer using the term "configuration" to "figuration"). In this sense, the two ontological hybridizations demand a formalist view on media technologies and their role in shaping visual expressions, because it is on the level of their forms that the aspects of these hybridizations, including the simultaneous occurrences of their media components, become discernible.

As a methodological concept, intermediality is an umbrella-term that refers to the border crossings between different media and the mixture of them in art forms and practices. Irina O. Rajewsky and Werner Wolf provide broader definitions of this term, such as "a generic term for all those phenomena that . . . in some way take place *between* media,"[81] and one that is "applied to any transgression of boundaries between conventionally distinct media of communication."[82] Despite the extreme variety of the subjects and the approaches to intermediality, it is commonly acknowledged that

intermediality suggests a methodological tool for paying attention to the interactions between different art forms or disciplines and analyzing their types such as dialogue, cohabitation, exchange, transformation, collision, appropriation, and repurposing. What is at issue, then, is how to distinguish which particular kind of intermediality fits into the types of moving image based upon the interactions between different art forms or media components. Rajewsky's concept of "media combination" is particularly useful for defining and analyzing hybrid moving images in question. This refers to an array of media artifacts whose intermedial quality is determined by "the media constellation constituting a given media product, which is to say the result or the very process of combining at least two conventionally distinct media or medial forms of articulation."[83] Unlike other kinds of intermediality, including the transformation of a given media product into another medium (as in the case of the adaptation of a novel by film), or a self-reflexive inquiry into the extent to which an art form (such as film) is comprised of conventions and styles from other media,[84] the category of media combination is able to deal with a more particular case in which previously distinct technological media intimately merge with each other in a newly constituted form on the material, technical, and aesthetic levels, while also maintaining the focus on the other aspects of intermediality. Rajewsky's category of media combination inspires me to consider the concept of intermediality as indicating an array of particular moving images based on the varying combinations of components from film, video, and the digital. The notion of combination can be interchangeable with the term "configuration," a concept coined by Joachim Paech to characterize intermediality as particular image forms in which relations between different media technologies are made visible: "The trace of the medium would become describable as *a figured process or a configuration* in the film and in the dispositive situation of observing the film (at the cinema, on television or video, etc.)."[85] Here, Paech's concept of configuration does not simply emphasize the combinatory nature of an image form that results from the encounter between the material, technical, and aesthetic elements of more than two media. More significantly, intermediality in this sense is understood as a constitutive process by which those elements negotiate with each other in their engagement with the formulation of a new image.

The concept of intermediality as a range of media combinations or configurations helps to distinguish hybrid moving images from the objects of investigation that previous cinema studies have adopted regarding the comparative analyses of the relationships between cinema and other arts, such as literature and painting. As Ágnes Pethő succinctly summarizes, these studies cover a wide area of researches, encompassing (1) the mutual influences of cinema and the arts, (2) the embedded representation of painting or literature in cinema, and (3) common phenomena that can be viewed comparatively in cinema and the arts.[86] Given Rajewsky's definition of media combination, it becomes obvious that all the comparative studies on the three subjects of intermediality have ultimately resulted in confirming either film's reliance upon other art forms (literature, painting, and theater) as constitutive of its established specificity or cinema's integration of their languages and conventions in its particular organization of images and narratives, such as first-person narration and the composition of *tableau vivant*. These two lines of the cinema studies on intermediality, which are still confined to the purviews of self-reflexivity and intertextuality, suggest that less attention has been paid to the moving image artworks that are marked by their combinatory implementations of more than two media, as well as to the changes in the material and technical dimensions of the media as that which make possible such implementations.

Despite this paucity, Jay David Bolter and Richard Grusin's now-famous concept named "remediation," which is defined as "the representation of one medium in another,"[87] is perhaps one of the most pivotal theories for conceiving intermediality as a configuration of hybrid moving images from a diachronic perspective. In this view, a new medium is always differentiated into multiple material, technical, and formal elements derived from its repurposing of older media, (e.g., the user interfaces of video game space are based on their algorithms' repurposing of filmic techniques). At the same time, this view supposes that a new medium cannot be isolated as a transcendental entity inasmuch as it can be repurposed as a constitutive element of other emerging media. "A medium is that which remediates," Bolter and Grusin thus write, "It is that which appropriates the techniques, forms, and social significance of other media and attempts to rival or refashion them in the name of the real."[88] Bolter and Grusin's two additional terms,

"immediacy" and "hypermediacy," emerge as two representational strategies of remediation that are applicable to historically existing media. While immediacy refers to a range of processes by which the presence of the medium is denied and effaced, so hypermediacy is typified by a fascination with the medium itself as it brings its styles and conventions into relief. Digital technologies, for Bolter and Grusin, are also governed by immediacy and hypermediacy as the double logic of remediation: for instance, just as the World Wide Web encapsulates the logic of hypermediacy as expressive of the desire for multiplicity, so do digital photography and computer graphics for animated films and computer games imitate and adopt the criteria of Cartesian geometry and linear perspective in order to achieve the illusion of transparency. Bolter and Grusin view cinema as a telling example of an art form characterized by the processes of "mutual appropriation" of film and digital media in the double logic of immediacy and hypermediacy. Just as numerous video games borrow the representational strategies of film, from camera positions to the language of editing, so do contemporary films adopt digital viewing interfaces (small-screen viewing devices, interactive interfaces, etc.) and computer graphics, thereby multiplying their media references. To be sure, there are two shortcomings in Bolter and Grusin's theory of remediation as it is applied to a variety of hybrid moving images in question. First, their examples of remediation tend to privilege the digital artifacts of mainstream cinema and its related entertainment, therefore bypassing various hybridizations that occur in the domains of experimental film and video and media installations.[89] Second, and more significantly, it is not difficult to see that their conceptual pair of immediacy and hypermediacy reminds us of the aesthetic dichotomy of realism and modernism, which leads to obscure the ways in which digital technologies transform the material, technical, and aesthetic components of an old media to construct a new, hybridized configuration of the image. My classification and analysis of hybrid moving images accordingly aim at overcoming these two limitations of the concept of remediation while acknowledging its effectiveness.

Raymond Bellour's concept of the "*entre-images* [between-the-images]" can be seen as a prominent concept for considering intermediality as a type of image configuration based on synchronic hybridization, namely, a hybridization by which properties of more than two media representations are set in motion and made visible

under post-media conditions. By this process, the resulting image adds up to the complex exchange between more than two media technologies, as it reveals the differences and similarities between them yet does not strictly pertain to any of them. This is the reason that Bellour sees the *entre-images* as occupying the "space of all these passages" [*l'espace de tous ces passages*]. For Bellour, video is a medium that particularly opens up and configures this liminal space, since

> video is above all a go-between. Passages . . . between mobile and immobile, between the photographic analogy and that which transforms it. Passages, corollaries, that traverse without exactly encompassing these "universals" of the image: thus, between photography, film, and video, a multiplicity of superimpositions, of highly unpredictable configurations, is produced.[90]

For Bellour, video plays a particular role in the intersections of different media such as painting, photography, film, and the computer image, as its multidimensional or heterogeneous characteristics generate certain image forms in which a medium undergoes reflexive processes in relation to the other media. Initially, video goes hand in hand with film as a medium that produces the moving image based on the bond between the camera and profilmic reality because it emulates film's lens-based mechanism. At the same time, however, video's particular electronic specificities allow us to create an image that takes on both pictorial qualities and spatiotemporal qualities different than those of film—the latter aspect refers to the effects of multidimensionality and omnidirectionality within the video image's picture frame, which becomes distinct from the linear ordering of visual elements and the clear demarcation between the on-screen and the off-screen spaces in the cinematographic image. Also, these two aspects, which derive from the technical processes of the electronic apparatus, can also be applied to the computer-based imaging system, through which one can access and manipulate any type of visual data, but without necessary reliance upon the recording process of the cinematographic and the videographic images.[91] Considered this way, video is a medium whose specific features are identified, yet at the same time open to the intermedial relations of its historical predecessors and descendants. The *entre-images*, then, opens up the space for a hybrid image form in

which these relations are inscribed and through which the viewer encounters both the convergence of elements of those media and their divergent transformations.[92]

Bellour rightly places the *entre-images* within the two axes of hybridization. On the horizontal axis (which corresponds to synchronic hybridization) lie new images produced by the exchange and collision between different media images—film, photography, video, and the digital—that were hitherto presupposed to be distinct mediums (what he calls "passages of the image"). On the vertical axis (which corresponds to diachronic hybridization) lies a twofold historical change in the cinematic apparatus, mobilized by electronic and digital technologies (what he calls the "double helix"): the technologies make the cinematic apparatus go beyond its traditional formations while assimilating those formations into their capacities for converting, storing, and transmitting data.[93] For Bellour, electronic and digital artifacts cause cinema to be dissolved, while simultaneously emerging as the resources for the evolution of new cinematic forms by which the relationship between old and new media is variably reexamined.

Like Bellour's *entre-images*, Yvonne Spielmann's conception of "intermedia" most extensively encapsulates the framework for considering intermediality as a particular type of configuration based on the hybrid relations between different media components from a synchronic perspective: "The characteristic of intermedia may be identified in *certain forms of the image, when elements of the static and the moving image are interrelated to create a third form of the image*."[94] Spielmann draws upon Peter Greenaway's *Prospero's Books* (1991) in order to identify the two characteristics of the intermedial image. In this high-definition video film, Greenway uses electronic and digital processing to rework and transform both photographic and filmic images. This processing enables a series of static images, reminiscent of the serial photography of Eadweard Muybridge and Étienne-Jules Marey, to be animated in a manner similar to the generation of cinematic illusion. The resulting visual expressions include the dynamic insertion of the digitally animated animals or human figures (i.e., still images, whether painterly rendered or photographed) into the live-action film frame, or point to the "cluster," a particular type of image that is made through the "multiple layerings of different images or image elements" and results in a "spatial density."[95] The cluster serves as a media

object that requires an intermedial approach as a methodological tool for analyzing the array of processes by which different media elements are merged into a hybrid type of image. Spielmann singles out these processes of interrelation as "collision" and "exchange." First, collision points to the simultaneous existence of elements from different media, for instance, elements of filmic images and static (painterly or photographic) images, in the form of another media technology, for instance, the computer-generated or videographic image. Second, exchange means that the media-specific types of images are "reworked in other media at the level of form."[96] For instance, the interval between successive frames in film is processed by electronic and digital imaging system. Thus, the intermedia image calls upon us to see that its hybrid modality hinges upon how these components are maintained or transformed in the structure of synchronic hybridization. Seen in this light, Spielmann's concept of intermedia allows us to see both the forms and conventions of the traditional media image and the new ontological features introduced by electronic and digital technologies. That is, the intermedia paradigm affirms the material and technical differences of digital media from their analogue predecessors while also turning the viewer's attention to the ways in which these two are interrelated in a new image form.

Spielmann's concept of intermediality leads us to recognize the two ways in which the post-media conditions of film and video, marked by a media's differentiation into its set of material, technical, and formal elements, add up to different types of hybrid moving image. First, it functions as a methodological framework for identifying the image as the configuration of elements coming from different media, which is marked by different patterns of co-presence and interrelation. Second, it suggests that intermediality in the hybrid moving image is grounded in the interrelated ontological conditions of media technologies, namely, the diachronic and synchronic hybridizations of historically existing media. Despite these two advantages, however, Spielmann's privileging of the cluster as a prominent form of intermedia image overlooks other possible forms of intermediality that are not contained within the aesthetics of sheer juxtaposition as the hallmark of modernist visual art. The types of media artifacts I classify and examine in this book's chapters suggest that there is a wide range of possibilities for various correlations of film, video, and the digital on their material, technical, and aesthetic levels, which results in different coexistences

of, and exchanges between, the components of those media in the artworks of the moving image.

Addressing the question of how new media technologies simultaneously depend upon and differ from conventional media for creative expression, *Between Film, Video, and the Digital* theorizes the reconfiguration of an artistic medium and its specificity in the context of post-media conditions that enable hybridizations of film, video, and the digital. This wide range of scope is intended to suggest that post-media conditions are not limited to a particular genre or mode of practice. That is, post-media conditions are marked by the attempts of the artists and filmmakers who have aspired to redraw the boundaries between different media and their corresponding art forms or genres, and thereby render them constantly shifting, and by the hybrid images through which their conceptual and technical devices are inscribed and made visible. In this sense, this book is a critical intervention in the topology of the contemporary art and culture of the moving image, correlating an extensive overview of their tendencies with a series of in-depth analyses in the light of a theorization of media hybridization in accordance with the reconfiguration of medium specificity.

In tracing the complex breeds of hybrid moving images and examining their formal and technical aspects, the book offers five categories as conceptual tools: "videographic moving picture," "hybrid abstraction," "transitional found footage practice," "intermedial essay film," and "cinematic video installation." I propose these categories to highlight that which happens to the media that would remain as distinct if they had remained under the doctrine of modernist medium specificity, and the changes that post-media conditions bring to the media's material, technical, and aesthetic layers. These conceptual constructs are not mutually exclusive in terms of the logic of differentiation applicable to the traditional concept of classification: rather, I intend to leave intact the overlaps between the categories in order to underline the extent to which the images' ontology of coexistence and interrelation is dispersed across different platforms and genres, constructing a range of aesthetic constellations that a seemingly disparate group of artworks commonly realize. That is, these overlaps are a key aspect of the post-media age.

The aesthetic constellations, then, are concerned with a host of concepts that the rich traditions of cinema and media studies

have pursued in theorizing: indexicality, movement, duration, materiality, archive, historicity, memory, and apparatus. I introduce and elaborate on the five categories of hybrid moving images as artifacts that offer a renewed understanding of those concepts: videographic moving pictures in relation to indexicality, movement, and instantaneity; hybrid abstraction in relation to abstraction and materiality; transitional found footage practices in relation to the historicity of cinema and the concept of archive; intermedial essay films in relation to the memory of cinema; and finally, cinematic video installations in relation to the compound idea of the cinematic or video apparatus. In this way, *Between Film, Video, and the Digital* does not simply establish itself as a monograph dedicated to post-media and the hybrid moving image as new theoretical arenas for media transition and the ontology of the moving image, but also offers updated accounts of how traditional cinema and media studies can be revivified in its encounter with its neighboring media technologies and art forms.

The first and second chapters position and track down two aesthetic tendencies of hybrid moving images, namely, photorealistic and abstract aesthetics, in the light of video's post-media conditions. Chapter 1 discusses an array of artworks by Sam Taylor-Johnson, Mark Lewis, Bill Viola, Fiona Tan, Adad Hannah, and David Claerbout, all of which make porous the categorical distinctions between film, photography, and painting by creating an ambiguous correlation between stillness and movement enabled by digital video. It classifies their images as "videographic moving pictures"—a combination of "moving" as pertaining to film and video with "picture" as implying the mode of stillness common to painting and photography. The importance of examining this type of the hybrid moving images lies in its challenge of a few traditional conceptions of traditional art forms: photography as privileged by the material stability of its chemical basis and defined by its capacity to freeze the moment in time; photography demarcated from painting and cinema; and video art whose images are clearly distinct from the filmic image. This chapter stresses a crucial role of digital video in engendering the interaction of three properties derived from film, video, and the digital: film's inscription of photographic reality, analogue video's ability to alter the surface and temporality of the source image, and digital manipulation's blending and mediation of the two. Considering digital video this

way, it is possible to conceptualize videographic moving pictures as remediating and refashioning two historically existing image forms that experimental cinema has long developed in the light of cinema's ineluctable link to photographic stillness, which I call the "film stilled" and the "still film." This chapter closely examines the works of the artists who have elaborated upon these two image forms with the aid of digital video. In doing so, I argue that the layering of photographic and cinematic properties common to the practitioners' videographic moving pictures enables a set of concepts grounded in the analogue photographic media to have unprecedented relations to their previously assumed opposites: indexicality connected to manipulability, and photographic pastness to cinematic presentness.

Chapter 2 provides a classification of hybrid moving images that opposes videographic moving pictures due to their abstractionist aesthetics and materialist energy, while also setting up the historical genealogy of the images. By creating this type of hybrid moving images, artists and filmmakers such as Evan Meaney, Rosa Menkman, Rebecca Baron and Douglas Goodwin, Takeshi Murata, Lynn Marie Kirby, Siegfried A. Fruhauf, Johanna Vaude, Jürgen Reble, and Jennifer West have led to a notable tendency of contemporary digital experimental film and video that has brought into relief and explored the materiality of media. This chapter singles out a dynamic correlation of representational and abstract components in the practitioners' images as a key character of the practitioners' hybrid images. In so doing, it claims that this correlation testifies either to the transition of the aesthetic of abstraction in structural film and analogue video to the material substrates and algorithms of digital imaging, or to the continual interaction between the material traces of film and video. In either case, digital video can be seen as both inheriting its aesthetic of abstraction from its analogue predecessors and inscribing its code-based material and technical specificities in the resulting abstract imagery. Encompassing the two, I offer "hybrid abstraction" as a second category of the hybrid moving image driven by materialist energies, with "digital glitch video" and "mixed-media abstraction" as its subcategories.

Chapters 3 and 4 focus upon how the transformative or manipulative elements of analogue and digital video are used to deal with an array of problems raised by film's post-media conditions, including how the post-filmic technologies shift the ontological state

of the historically existing images, how the post-filmic technologies can serve to continue and update filmmakers' celluloid-based techniques in reworking those images, and how those technologies construct both the memory of those images and that of the filmmakers who reflect upon or investigate those images. Chapter 3 tracks several experimental filmmakers (Vicki Bennett, Gregg Biermann, Christoph Girardet-Matthias Müller, R. Bruce Elder, and Ken Jacobs) who elaborate their found footage practices with the help of digital video. I define their different uses of digital video as "transitional found footage practices," given that their resulting images reflect two ideas of transition regarding the ontology of cinema in the digital age: a transition of film-based techniques for traditional found footage filmmaking such as montage and special effects, and a transition of found footage itself from celluloid to the stream of digital video on the levels of spectatorship and of the film image itself. My interest in the implication of transitional found footage practices, particularly what the hybridity of their images and techniques suggests for found footage filmmaking's major objective of attempting to reconstruct the archive of the past, is extended into Chapter 4. Here, I focus upon a particular group of essay films marked by their uses of video technologies (analogue video, digital video, and internet-based video platforms) to process and retrieve film-based imagery (images made with 8 mm, Super-8mm, 16 mm) that shapes the landscapes of their filmmakers' personal memory and reflection. Such filmmakers as Hito Steyerl, Lynne Sachs, Clive Holden, and Jonathan Caouette employ these multiple formats in their essayistic projects in order to investigate how the memory trace inscribed in film is transformed and reconfigured as it passes through the filters and textures of post-filmic media. Accordingly, these filmmakers' works are replete with images in which the traces of celluloid dynamically interact with the properties of video, images that result in the complex configuration of the two media as testifying to the construction of their memory and subjectivity as open and dialogical. In this sense, I call this type of essay film "intermedial essay films." In these two chapters, the dialectic of convergence and divergence, or medium specificity and hybridity, extend into another dialectical dimension of these practices: that is, the filmmakers' embrace of new technologies stands between past and present in that they aspire to renew their technical and historical exploration of film's past with the present media systems

while also acknowledging the extent to which these systems mutate the celluloid-based image.

The last chapter extends the dialectic of medium specificity and media hybridity from the level of the image to that of the apparatus as it addresses a particular group of media installations that have been popular due to the mutual fascination between cinema and contemporary art since the 1990s. Numerous artists, as well as established filmmakers including Chris Marker, Harun Farocki, Abbas Kiarostami, to name just a few, have extensively used video technologies to draw on and manipulate cinematic image and narrative, such that their works explore the sensorial and mnemonic power of cinema as an art of spectacle and how influential and global cinema was in shaping their memories and artistic ideas. As a result, the works' resulting constitution appears to be the amalgamation of cinema and video on the levels of their image and apparatus. In this chapter, I characterize these works as "cinematic video installations," analyzing the ways in which the medial components of cinema and video are correlated. Providing a critical remapping of how cinematic video installations have been discussed in both the discourses of post-cinema and those of contemporary art, I argue that cinematic video installations must be viewed as a complex hybridization of cinematic and video-based technologies. This argument entails viewing video not as anchored in a limited set of material and technical devices, but as an electronic and digital dispositif that offers the artist a wider range of conceptual and technical methods for the aesthetics of hybridity, impurity, and confusion. Bearing this in mind, I identify in this chapter spatialization (materializing the spectatorial experience of the film image, montage, and narrative in the theatrical or architectural forms of screen-related apparatuses) and temporalization (manipulating the time of the image by means of digital video's capacities) as two key operations that video technologies execute in adopting and altering the components and historical traces of cinema. By performing formal analysis of the installation pieces by several artists or filmmakers such as Farocki, Kutluğ Ataman, Doug Aitken, Eija-Liisa Ahtila, Douglas Gordon, Candice Breitz, and Stan Douglas, I demonstrate that the ambiguous cohabitation of cinematic and video-based specificities occurs not only in the domain of the image space but also in the formation of the apparatus that frames the image and determines the viewer's relation to the image.