

# Film Editing, Digital Montage, and the “Ontology” of Cinema Montage film, montage numérique et « ontologie » du cinéma

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Volume 28, numéro 2-3, printemps 2018

Mutations du montage : esthétiques, technologies, pratiques et discours

URI : <https://id.erudit.org/iderudit/1067492ar>

DOI : <https://doi.org/10.7202/1067492ar>

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Éditeur(s)

Cinémas

ISSN

1181-6945 (imprimé)

1705-6500 (numérique)

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Citer cet article

Furstenau, M. (2018). Film Editing, Digital Montage, and the “Ontology” of Cinema. *Cinémas*, 28(2-3), 29–49. <https://doi.org/10.7202/1067492ar>

## Résumé de l'article

Cet article rend compte de l'avènement du montage numérique. Bien que la théorie du cinéma fasse souvent référence aux effets « ontologiques » du changement technologique, elle définit rarement ce terme de manière explicite. À la suite du philosophe Gregory Currie, l'auteur soutient qu'une analyse ontologique ne peut être fondée sur la description d'un supposé aspect physique nécessaire ou définitif du cinéma en tant que médium. En effet, l'auteur affirme, comme Noël Carroll, que le cinéma n'est pas un « médium », mais plutôt une forme d'art qui a recourt à un large éventail de médias. Dans la transition entre montage analogue et montage numérique, les moyens de création de compositions cinématographiques audiovisuelles multimédia ont été consolidés, dans la mesure où la plupart des médias sont désormais restitués sous forme numérique, ce qui permet des manipulations et des modifications plus complètes et plus fines. En s'appuyant sur un compte-rendu plus adéquat de l'ontologie du cinéma, il est possible de voir comment cela s'inscrit dans la continuité de l'histoire de l'art cinématographique.

# Film Editing, Digital Montage, and the “Ontology” of Cinema

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## ABSTRACT

This article offers an account of the advent of digital editing, or digital montage. While reference is often made in film theory to the “ontological” effects of technological change, the term itself is rarely defined in explicit fashion. Following the philosopher Gregory Currie, the author argues that an ontological analysis cannot begin from an accounting of any putatively necessary or definitive physical aspect of the cinema as a medium. Indeed, the author argues, following Noël Carroll, that the cinema is not a “medium,” but rather an art form that employs a wide range of media. In the transition from film editing to digital montage, the means for the creation of multimedia, audiovisual cinematic compositions have been consolidated in so far as most media are now rendered in digital form, allowing for more comprehensive and fine-grained manipulations and modifications. On the basis of a more adequate account of the ontology of the cinema, this can be seen as continuous with the history of film art.

Of all the various elements of the cinematic apparatus that have been affected as a result of the incorporation of digital or computer technologies, it is arguably editing that has changed the most, and perhaps to an extent greater than ever before. Yet it is very difficult to explain what, precisely, this change means formally and aesthetically, and whether the change is so fundamental as to have altered the very “ontology” of the cinema, as is commonly claimed. Film editing has, it is often said, become part of a more extensive process of digital montage. D.N. Rodowick, for instance, argues that, in its new “virtual” form, “as constituted through digital capture or synthesis, the image is always ‘montage,’ in the sense of a singular combination of discrete elements. Even an unaltered digital still is

already a work of montage in this respect” (2007, 166). The triumph of “montage” is understood to be a consequence of a technical change. Rodowick seems to be implying that the very idea of montage, as first expressed, and most influentially, by Sergei Eisenstein, is the manifestation of a kind of ontological dream for the cinema, a dream of absolute technical control over all details.<sup>1</sup> Such a dream has now been realised, he argues, with the transformation of the cinematic image (and sound) into discrete bits of manipulable digital information. This realization, he says, entails a profound transformation of the cinema as a medium. Rodowick assumes, for the most part (but not without some melancholy ambiguity), a mainly disinterested attitude towards all of this, noting that “synthetic imagery is neither an inferior representation of reality nor a failed replacement for the photographic,” but it is, he insists, a profoundly different phenomenon than the one it is assumed to be replacing; it is “a fully coherent expression of a different reality, in fact, a new ontology” (176).<sup>2</sup>

This “new ontology,” in Rodowick’s account, is the result of all cinematic imagery having been subsumed by the logic of “montage,” which he contrasts with “film editing.” It is, I think, worth pursuing the question of what the difference is between these two notions that they have come to be understood as the basis upon which an ontological change has occurred in the cinema. Editing has meant historically the physical cutting and joining of pieces of film strip. Yuri Tsivian (2015a, 306) has argued that there is even a further distinction to be made, between “cutting,” which is the removal of anything superfluous in the original filmed footage, a merely technical and procedural task, without any larger or more extensive conceptual motivation, and “editing,” which he says is “cutting according to continuity rules.” In the passage from cutting to editing, he argues, with the elaboration of “rules,” an implicit theory emerges, first of all as a theory of narrative continuity. This is the basis, though, for an even more general theory of cinematic expression, which comes to be called “montage,” which Tsivian distinguishes from narrative “editing.”<sup>3</sup> The term montage, he says, “may mean one of two things: a fast-paced sequence designed to bridge a lapse of days or decades, or the practice of editing in the mirror of theory,” by which he seems to mean the sort of explicit

theoretical statements of, for example, Eisenstein and Pudovkin. Despite what Tsivian suggests, though, I contend that all editing, which has historically been based in physical cutting, but is now done mainly electronically, is undertaken in the “mirror of theory.” That is, all editing, not only Soviet-style “intellectual montage,” but even the earliest cutting, and straightforward continuity editing in narrative cinema, can be understood to be in the service of a theory of cinematic expression, explicit or not, necessarily guiding the intentional and purposive process of expressive transformation, which begins with the initial recording (and all the preparations for that) and continues with all subsequent modifications to the record, including but not only the editing of it.

If such theory is, as I am suggesting, implicit, it is part of what constitutes the cinema, in both its original form and as it has been changed in the digital era. There is a sense, though, as André Gaudreault and Philippe Marion (2015, 55) have argued, that the “ontology of the filmic image,” as they put it, has been transformed by digital technologies, and that “our traditional conception of editing is modified as a result.” They argue that “a kind of editing we might call intrinsic is inherent in the production of any digital image: even when it has not been retouched, it is always already a ‘translation’ through encoding and the result of a kind of editing process.” Editing in the predigital era, that is, was what we might call “extrinsic,” applied after the fact of recording, and only to the integral image. It is this integrity that is supposed to have been compromised, as imagery which had been difficult (if not impossible) to alter after the fact, which was a singular whole, has become atomistic, composed of discrete minimal units. It has become data. Such “data, already manipulated from the outset through dematerialization, lend themselves to every other kind of manipulation and reconstruction.” Gaudreault and Marion offer an initial “systematizing” of this “idea of editing (and even pre-editing) which, in the digital kingdom, merges with the very genesis of the image,” and they identify “three overlapping and interconnected phases: digital capture, image synthesis, and compositing. . . . Digital media mix these three stages of the expressive process and even do away with the boundaries between them, because the intervention of the ‘creator/speaker’ can be exercised indistinctly on the whole,

because everything is encoding, and because of the manipulation of dematerialized data.”

Gaudreault and Marion have admirably presented the problem of digital montage, and while they may seem to emphasize the novelty of digital technology they are in fact sensitive to the historical continuities that are manifested in its development, and the extent to which the cinema may now be seen to be more clearly related to the history of the graphic arts more generally—to, for instance, painting and the graphic novel. They are also sensitive to the way in which, as they acknowledge, “for certain filmmakers with a perfectionist bent this potential control offered by digital technology can be particularly reassuring, because the control it gives them is over the entire creative process” (56-57). Technological change, they argue, is in fact a constitutive part of what they helpfully call the “cultural practice” of cinema, and the incorporation of digital technology is only the latest (and surely will not be the last) instance of this. Their comments on editing are merely preliminary, though, and invite further elaboration. So, too, does their notion of a cinematic ontology, which is supposed rather than carefully argued. Yet they make some suggestive claims, when they observe, for example, that “digital mutation has an effect on cinematic creation. This creativity, founded on manipulation and inscribed in the heart of digital treatment, stimulates and encourages the use of an almost ‘ontologized’ dimension of the special effect we would not have suspected.” Special effects, they argue, “are no longer an optional supplement or inherent to certain genres, but rather a practice inseparably linked to the elaboration of film images *tout court*” (56). In the novel grammatical form that they give to this familiar philosophical term, whereby it becomes possible “to ontologize,” that is, as they seem to be implying, to make some aspect of a phenomenon which had been contingent a necessary and defining component, they point to a possible accounting of the incorporation of digital technologies into the cinema. Specifically, they point to the emergence of digital montage, which reveals important continuities, as well as undeniable differences, with the cinema of the past.

“Digital montage,” as Martin Lefebvre and I wrote some years ago, “has yet to find its theorists. One thing is clear, though,” we argued, “film scholars will soon be forced to review and rethink models of

film style that have dominated the discipline for at least half a century” (2002, 90). Since then, the effects of digital editing have indeed received careful theoretical consideration, yet certain assumptions about film style, and about the ontology of the cinema, remain in place, specifically around questions of creativity and intention. In this article, I will suggest how one might undertake a more explicit and deliberate ontological analysis of the cinema, considering editing in particular, which has long been understood as a necessary component of the cinema, understood ontologically, but which, as Gaudreault and Marion argue, has now become more intimately bound up with the broader set of techniques for the modification of the recorded image (and sound). My question is whether, and in what way, such a technical change has ontological consequences for the cinema as an art form. I propose an answer, however, that contrasts with the usual accounts in film theory of cinema’s ontology.<sup>4</sup>

### **The Ontology of Film Art**

I will, in a very general way, follow Gregory Currie’s observation that “art works are in some sense closely connected with human action—in particular with the actions of artists,” a perhaps obvious claim, and one that is, as Currie says, “widely recognized” (1989, 1). Yet the challenge is, as he aims to do, to “make this relation quite precise.” He is concerned to provide an account of what all artworks have in common, to “specify the kind of thing that art works are” (2). He acknowledges that, even at the time of his writing, such an approach raises suspicion. “To suppose that art works might be one kind of thing will seem like the product of an outdated metaphysical optimism” (3), he admits.<sup>5</sup> “Philosophers,” he adds, “tend to be rather wary of ontological problems, and prefer to approach them, if at all, by way of theses about language and meaning” (11).<sup>6</sup> Beyond the familiar complaint against the metaphysical itself, it seems moreover that there are simply too many different kinds of art ever to be susceptible to a general ontological account. Yet Currie undertakes to find the means to do so, specifically by arguing that “no work of art is a physical object,” dispensing with the problem of material differences between artworks. He argues, instead, that a work of art is an “*action type*, the tokens of which are particular actions performed on particular occasions by particular people” (7).

Like Currie, others conceive of the ontological analysis of cultural entities, including importantly works of art, as an inquiry into the philosophical problem of intention. Dale Jacquette, for instance, in his book *Ontology*, argues that we cannot “hope to understand the metaphysics of culture and the ontology of language, art and artefacts, except as products of thought, sharing in some way the qualia and intentionality of thought whose properties uniquely characterize the ontology of mind” (2002, 269). As such, when “we recognize the expression of mental content and intention in language, art and artefacts, then we appreciate the need to include cultural entities in a third category of psychological or psychology-related existents distinct from the purely physical and abstract things in which cultural entities are embodied and whose properties they exemplify” (274). Joseph Margolis has offered a similar argument, making the implications even plainer for what an ontological analysis of entities like “works” or “art” means, necessarily requiring a consideration of the question of intention, and distinguishing clearly between the physical essence of natural entities and the culturally emergent character of cultural entities. “Briefly put,” he says, “artworks exhibit purposiveness essentially in being composed of elements of some artistic medium, whereas physical objects are composed entirely of physical parts (which, relative to some embodied art, may serve as its physical medium)” (1980, 42). This leads Margolis to his more general conclusion:

Cultural entities are emergent not in the sense that a novel substance mysteriously evolves out of a physical substratum, but in the sense that, in familiar contexts of discourse, we admit novel particulars that possess properties essentially lacking in purely physical objects. Since these properties are merely intentional, rule-like, functional, it is particularly appropriate to specify a relation between such entities and physical bodies that precludes identity, permits the ascription of both cultural and physical properties to selected entities, and obviates dualism. (48)

By contrast, much of what is called ontology in film theory, mainly building upon Bazin, is focused on the non-intentional qualities of the material or physical apparatus of the cinema, specifically the photographic processes. Yet, and like with any art, the ontological



qualities of the cinema emerge only from the intentional purposes to which the physical materials are put, and we need not accept a dualistic account of such an art form that ascribes an independent aesthetic value to the sheer fact of a supposedly unique physical constitution. This is an important observation to make when considering the action of creating works of cinematic art, which have very often been understood first of all to be particular kinds of physical objects, and so different as such from other kinds of artworks. While film theorists are, as Currie says about philosophers more generally, wary of metaphysical and essentialist accounts, there is a longstanding commitment to a kind of ontological analysis, derived perhaps most directly from André Bazin's famous and influential account of the "Ontology of the Photographic Image" (1971), defended recently, and vigorously, by Daniel Morgan (2006) and Philip Rosen (2001), among others. According to this account, the cinema is a photographic thing, which, as analyzed "ontologically" by Bazin, derives its value less from the actions of the filmmaker than the automatic process of photography, a value imbued in the object itself, the photographic image, a fact emphasized by later writers such as Stanley Cavell (1971) and D.N. Rodowick (2007). Against the traditional accounts of cinematic ontology, which are for the most part based in a privileging of the photographic, and which thereby insist on the physical specificity of the cinema (and photography), as unique and distinct from other kinds of artworks, I will try to show how the cinema in fact shares an ontological identity with other works of art, all understood as what Currie calls "action types," as efforts by artists to achieve specific effects by engaging observers of their work by whatever means available. Currie argues that "it would be hopeless to try to come to a view about the ontological status of art works by pure reflection on the concept *art work*. We cannot understand what art *is* except by understanding how art *works*" (1989, 11; emphasis in original). Currie is, in other words, establishing a basic relation between ontology and appreciation, explaining that he shall "look at the ways in which works are to be judged and appreciated. This will provide a set of constraints on a theory about what artworks are. We can then see 'work of art' as a term occurring in an overall aesthetic theory which describes and analyzes the sorts of relations that hold between us as



critics and observers, and the works themselves" (11-12).

Currie is, he says, "building up a theory about what features of a work are relevant to an appreciation of the work" (1989, 12). One of the most important aspects of cinematic works of art is the relations established between their various parts, as a multimedia art form. An account of editing, or montage, if understood as a practice performed in "the mirror of theory," must have, as part of that account, a specific conception of the "theory" guiding it. As Currie says, "appreciation of an art work is not merely the appreciation of a final product—a visual pattern, a word or sound sequence—but an appreciation of the artist's achievement in arriving at that pattern or structure" (68).<sup>7</sup> A primary if not essential means for such achievements in the cinema has been editing, which may, in the digital era, be seen as an aspect of the more general process of montage, or the means for the assembly of a work, consisting of a wide range of possible materials, to be appreciated for the quality and significance of that assembly.

### **Film Editing to Digital Montage**

Noël Carroll has described the basis for most conceptual or theoretical accounts of editing, which establish a distinction between the causal process of photographic recording and the intentional and creative use of the recorded material. As he observes, "film editing has special importance in this regard, since it clearly involves going way beyond mere recording; it is a means for creatively and assertively rearranging whatever events and objects the camera took in and, therefore, it affords wide latitude for artistic invention and creation" (2008, 41). Carroll insists, though, that this does not make editing unique, as is so often claimed, but that any of the other means available to the filmmaker—he mentions cinematography, for example, and significantly—are as potentially creative: editing does not possess some privileged or greater expressive power in relation to any of the other formal techniques of filmmaking. Yet such a distinction is almost universal in theoretical accounts of the cinema. Given the importance granted to editing, and the basic distinction made between the raw material, regardless of the extent of its stylization, and the supposedly *definitive* or more strictly cinematic stylizations of editing, or montage—regardless of the

ultimate formal and expressive value granted to editing—it is not surprising that the most recent and admittedly extensive technical changes to the editing apparatus have caused such concern among film theorists.

For most of the history of the cinema, little about the basic technology for film editing had changed. Despite some important technical developments or enhancements, and the introduction of relatively elaborate mechanical systems, editing remained a rudimentary physical procedure.<sup>8</sup> The material filmstrip was cut into smaller pieces and spliced together with other segments. While technically simple, this was a relatively laborious task. The editor would have to scroll through the lengths of developed film, in what is described as a “linear” process, marking the sections for cutting, slowly assembling these into sequences by splicing the segments together, and assembling the sequences into the final film. Digital editing systems, by contrast, are “non-linear,” that is, they provide the editor with “random access” to audiovisual material that had either been shot directly onto digital video or converted from film to digital information. Viewed as an array of digital files on a computer screen rather than linear strips of film, shots and sequences may be easily arranged and rearranged, and combined relatively effortlessly with separately recorded dialogue, music and other aural elements.

The process of editing has, by all accounts, been made considerably easier, at least as a technical undertaking, and digital systems have been embraced for the most part by filmmakers and film editors, despite some initial reluctance.<sup>9</sup> But if the new systems are understood, in the most basic sense, as providing efficiencies in film production, it is because they make it easier to do what had been characteristic of such production, which throughout most of the history of cinema has been to combine disparate material—visual, auditory, textual, graphic and so on—into a single, complex composition. As Noël Carroll has importantly observed, like any art, “film is not one medium, but many media” (2003, 8). Carroll argues that in any art, or with any particular medium which is used to create any particular work of art, “the medium does not fix the parameters of style, but stylistic ambitions dictate the production or reinvention of the medium.” For the cinema, Carroll argues, no particular

medium is more constitutive or definitive than any other, no particular medium is less susceptible to, or should not be subject to, technical change. Given its necessarily multimedia constitution, the cinema cannot be reduced in theoretical analysis to any single medium, nor can any particular medium be thought of as the source of a distinct aesthetic effect, derived from a pre-existing and normative value of that medium. "Film is not a distinctive medium, but an array or ensemble of media, some of recent invention, and some still not invented, whose stylistic potentials cannot be fixed by the film theorist, since the film theorist has no crystal ball into the future" (9). The various technologies and media available to a filmmaker derive their value only from the particular artistic uses to which they are put by the filmmaker.

The various aspects of the filmmaking process, understood as the arrangement of these different elements into a single coherent depiction, have now been amalgamated, by establishing a physical conformity across all the various materials for cinematic composition, rendering them all in the common form of digital information. This makes the combining of elements easier, and allows for a greater range of "editing interventions" at various moments in the filmmaking process and for the precise control over all elements to an unprecedented degree. This makes possible correction, adjustment and a wide range of further modifications—a comprehensive capacity for the editing of all elements at all stages of production—from film editing to what we might call digital montage. Editing has typically been thought of as the final and separate stage of the process of filmmaking, and as thereby the most expressive of the various stages, or as the moment when the filmmaker has the greatest expressive control. It was also understood, though, as a moment of expressive constraint, in so far as the filmmaker had little ability to alter the recorded material, especially the photographed images, and could only arrange the elements in sequences rather than modify them any further internally, so to speak. It can, however, be understood more broadly as continuous with, and contiguous with, all the other aspects of the creation of a cinematic depiction, as a part of a more extensive and singular expressive undertaking. On this latter characterization, the main technical challenge of filmmaking has been contending with the different physical qualities

of the various materials used in the creation of such depictions. This challenge has now effectively been overcome.

### **Image and Montage**

V.F. Perkins once described film theory quite significantly as “the embodiment of twin mystiques, one of the *image* and the other of *montage*” (1972, 17).<sup>10</sup> Perkins sought to reject what he called the main “orthodoxy” of film theory, still dominant when he was writing in 1972, an orthodoxy that “defines the medium as ‘film,’ meaning the stuff that goes through the camera, whereas the subject of criticism is actually the movie, the thing we see on the screen.” Perkins was seeking to re-establish film theory as the basis for an effective film criticism, to provide, that is, the means for making informed aesthetic judgements about what is actually seen as the final product of a creative effort by a filmmaker, rather than for the establishment of normative aesthetic principles derived from a description of the medium’s physical constitution.<sup>11</sup> Yet film theory has arguably only entrenched the “twin mystiques” even further, so that there are two effectively competing sources of aesthetic value, either the original photographic image or the procedures of editing, or montage, for the organization of the imagery.

In the digital era, this is thought to have broken down, resulting in an aesthetic and formal crisis. Without the regulating material force of the fixed photographic image, the filmmaker is understood to have been granted a degree of artistic and formal freedom unprecedented in the history of the cinema. Such a conclusion, of course, depends on establishing a clear distinction between the photographic record and the means for altering and manipulating that record, while no such distinction can in fact be plausibly maintained. Creativity in the cinema, as in any art, is based in but is not simply determined by the physical qualities of the medium. Any general account of editing as an aspect of filmmaking as a creative art would have to explain its value independently of any specific technical change. Editing, we might say, is a tradition, a practice, an artistic activity, one undertaken with the means available, derived importantly from the form in which those means were first made available. This activity continues, taking advantage of any new means provided (or by eschewing them), but without ever being

identical to or reducible to any particular physical or material means.

Films are edited according to well-established and recognized patterns, and perform the same basic rhetorical, narrative and expressive functions. Most accounts of digital editing, though, tend to disregard the fact that, for the most part, little about the cinema in formal and aesthetic terms has in fact changed. While many film theorists acknowledge a superficial continuity—the persistence of a “photographic” style or look, the digital simulation of camera effects or photochemical registration which is in fact digital encoding—the change to the editing apparatus is understood to have occurred at a deeper or more profound level. For many, new digital editing technologies seem to have transformed the cinema at what is typically described as an “ontological” level, by allowing for more extensive, internal modifications than had been possible during the era of the physical cutting and splicing of already composed photographic imagery. Lev Manovich, for instance, distinguishes between traditional “temporal” editing in film and what he calls “digital compositing,” which allows for fine-grained internal or “spatial” montage. “While film montage privileges temporal montage over montage within a shot—technically the latter was much more difficult to achieve—compositing makes them equal” (2001, 155).

This, Manovich argues, is a significant transformation, destroying what he calls the “indexical” identity of film, which may no longer be distinguished from what he describes as “manual” media such as painting.<sup>12</sup> Rather than analogically sampling the “real world” as the basis for a unique cinematic realism, moving images are now “synthesized” digitally, created without any direct reference to or connection with reality, the result of more direct and comprehensive interventions by the filmmaker, by the creator of the compositions. While the cinema may still be characterized for the most part by a realist style, the source or value of its realistic representations is understood to have been altered as a result of the change in the degree of control provided to the filmmaker; this increased control is seen as the result of a material change to the physical constitution of the medium. “In summary,” Manovich says, “the differences between cinematic and synthetic realism begin on the level of ontology” (2001, 196). Others have made similar

claims. Lucy Fischer notes that while editing had been limited in the past to establishing what she calls “plastic relations *between* shots,” now it can mean establishing “synthetic relations *within* shots” (1999, 81). The consequence, she says, is a “transformation of cinema’s traditional association with realism,” adding that “a new philosophy or ontology of the medium may be in order” (81). D.N. Rodowick argues that traditional editing has been replaced by what he calls “digital synthesis,” which “produces an image of what never occurred in reality; it is a fully imaginative and intentional artifact” (2007, 169). This is, he says, “ontologically strange or curious,” given that it takes the apparent form of what had been understood before as causal or non-intentional. “What appears to be photographic, and therefore causal, is simulated and therefore intentional.”

Such accounts of the effects of new digital editing technology, which tend simply to assume a necessary and direct correlation between the physical basis of filmmaking and the aesthetic value of the cinema, are based on what I argue is an untenable dualism (like that which Margolis seeks to obviate in accounts of art more generally), a distinction between the cinema’s supposed raw material (the photographic image), which is thought to possess its own unique aesthetic value, and the means for the organization of that material (editing or montage), assumed to have a quite different if not in fact contradictory aesthetic value. These two values may be defined as *causality* and *intentionality*. Editing is the *intentional* means by which an expressive or rhetorical value is imposed upon material that had been generated through an automatic, *causal* process of photochemical registration. Editing, as the supposedly clearest manifestation in the cinema of intention, is often thought to have been properly limited or constrained by the relatively autonomous, causal nature of photography, to have been necessarily guided and, importantly, limited as an intentional act, by the brute physical fact of the photograph’s relatively unyielding material constitution. In the broadest sense, artistic intention is understood to have been subordinated in the cinema, to perhaps a greater extent than in any other art form, and it is this very subordination, this particular constraint, that is supposed to have granted the cinema its unique aesthetic status, derived most significantly from its causal origins. As Bazin famously said, the cinema, understood ontologically as

a photographic medium, benefits from the absence of the artist rather than from their presence.<sup>13</sup>

Most “ontological” analysis of the cinema begin with a consideration of the physical basis, with the causal nature of photographic registration, rather than the more general function to which any number of possible physical bases would be suitable. Most accounts of digital cinema, and of digital editing, argue that the nature of the cinema has changed with the change to that physical basis, with the transition from celluloid to digital. The ontology or “being” of the cinema is confused with the material or physical basis of the cinema, or with a particular physical constitution that it had at one time assumed most commonly, and what is assumed to be most characteristically. This is celluloid-based film, which Carroll reduces to only one and not necessarily even the most privileged or indispensable among many possible physical manifestations of the cinema: for the most part it has been understood as the definitive physical aspect of the cinema, as the source of the most authentically cinematic phenomena. Yet most of the functions of the cinema, those that have been realized and those that may still be invented, can be achieved as long as the more general ontological criterion is fulfilled, as long as it takes the form of moving images, through any of the other physical means that Carroll lists, and any other we could imagine or that are yet to be invented. Once the basic ontological criterion of the cinema is determined in *this* manner, it becomes possible to account for the often relentless and significant technical change, without having to determine when and to what extent such change jeopardizes the very identity of the cinema. As long as filmmakers continue to seek to produce any manner of effects with the deployment of moving imagery (as part of a more complex audiovisual composition), however they may be created and displayed, we are dealing with the same basic ontological entity.

### **Conclusion: Ontology, Intention, and Technical Constraint**

Ontology, of course, is a notoriously vague philosophical term, and is far more often simply invoked rather than clearly defined.<sup>14</sup> In the simplest sense, though, it is the task of describing and distinguishing particular phenomena, asking what they *are*—what it



is to *be* a work of film art, to *be* a cinematic work—which, as Currie argues, means to ask how they *work*, which is to raise the questions of human action and intention. With regard to cultural phenomena like the cinema, answering such a question requires more than merely inspecting and describing the physical basis of the medium. It requires an account of what sorts of things humans create and add to the world and the metaphysical consequences of such additions.

An ontological analysis has to consider the uses to which any particular material apparatus is put, what formal and artistic goals are set by a film artist, having chosen the cinema as an artistic medium (or historically variable amalgam of media), with the various technical constraints and affordances that it provides, at any particular moment in its technical history. In the past, filmmakers have had to contend with different aspects of the various cinematic media that might have been thought of as constraints—the lack of colour or synchronized sound; the limited amount of film that could fit in a film magazine, which necessarily determined how long a single shot could be; the field of view covered by the lenses available; and so on. In each of these cases, filmmakers have either found ways of achieving their artistic goals by working within the constraints imposed upon them or have sought the means to overcome such constraints.<sup>15</sup> Before effective photographic colour processes were developed for the cinema, filmmakers would often tint or hand-colour their films. Before synchronized image and sound recording, various sound effects were added during the projection of films. When no more than about ten minutes of film could fit into a camera, longer shots were created by disguising the necessary cuts (or, more precisely, “joins”), creating longer sequences, or even giving the impression of a single continuous shot for the entire length of a film, as Alfred Hitchcock famously did in *Rope* (1949).

Alternatively, filmmakers have found aesthetic possibilities in what are otherwise understood to be constraints, in monochromatic imagery, in “silent” performances and in the necessity to edit that finite filmstrip lengths imposed, converting each of these, one might say, into affordances. At certain points, of course, such constraints or limitations are removed—with the invention of panchromatic film stock, synchronized recording, new lenses allowing deeper focus, and now effectively infinite amounts of hard-drive

storage rather than limited lengths of film. With each of these technical developments (which occur partly independently of the specific artistic activities of filmmakers, but sometimes in direct relation to them) it is typically argued that the very nature or identity of the cinema has been altered or transformed, on the basis of an often implicit assumption that a particular technical quality or characteristic—the lack of colour, or the lack of sound, the limitations on the depth of field, or the relative immutability of the photographic image—is or is not essential to the physical and that any change to or addition or subtraction of such elements has “ontological” consequences. Once overcome, the cinema is thought to have been transformed, or to have entered a wholly new aesthetic era, or even to have come to the end of its history, to be replaced by some other kind of aesthetic phenomenon, requiring a new definition. The cinema, of course, has not come to the end of its history, and its ontological nature—understood from a more strictly psychological and intentional perspective—persists even in the contemporary era, when film editing has indeed been superseded by digital montage, but when the artistic purposes to which the cinema may be put remain as boundless as ever.

#### NOTES

1. Indeed, Rodowick explicitly traces digital manipulation back to Eisensteinian theories of montage, arguing that the method of separating elements of a cinematic composition for the purpose of digital compositing “is what Eisenstein would have considered as dividing the shot into a ‘montage cell’” (2007, 167).
2. Rodowick is building explicitly on the earlier claims of Lev Manovich, among the first to make this sort of ontological argument about new digital media and digital cinema, in his *Language of New Media* (2001).
3. The term “montage,” at the very least, can be understood to signal that it is editing undertaken with some more expansive expressive goals in mind, but there is much dispute over the matter. Though widely used now, the term “montage” must be understood to derive most directly from the work of Eisenstein. One of the best accounts of the complexity of Eisenstein’s concept of “montage” remains Jacques Aumont’s study, *Montage Eisenstein*. About Eisenstein, Aumont says, “strictly speaking, there is no single theory of cinema (or theory of montage, since for Eisenstein the two are one and the same) to be constructed out of his work” (1987, 156). Tsivian argues that there is an important distinction between editing, which performs a mainly narrative function, and montage, derived mainly from Eisenstein, which is more formal. “Distinct from the American way of joining shots,” he says, “montage in the French and Soviet sense did not hinge so much on storytelling needs.” Editing, as montage, was, for early French filmmakers, “more likely to be

about the rhythm and musicality of action than about action *per se*,” while for the Soviets, it was about “the construction of meaning that emerges not within but between shots” (2015b, 314). Valerie Orpen makes a similar claim, defining montage, in contrast to editing, as the means by which “emotional impact and visual design are achieved through the editing of many brief shots” (2003, 126). By contrast, see Sam Rohdie, who collapses the distinction, stating simply, “montage is the joining together of different elements of film in a variety of ways, between shots, within them, between sequences, within these” (2006, 1). I follow Rohdie, and use the term “montage” in an expansive sense.

4. The question of the ontology of the cinema, and the significance of “digital montage,” are raised in tentative fashion in this article. I explore them further, and in more detail, in a forthcoming book, *The Aesthetics of Digital Montage: Art, Technology, and Film Form*.
5. Given that “ontology” does indeed have the distinct whiff of an outdated “metaphysics,” it is in some respects surprising that it is a word to which so many contemporary film theorists have recourse, many of whom are otherwise so suspicious of any “metaphysical optimism.” For a good summary of the debate over whether entities like works of art fall appropriately within the realm of ontological analysis, see Jacqueline (2002), especially the chapter on the “Ontology of Culture.” Jacqueline acknowledges that one “might want to raise doubts at the outset about the validity of introducing an ontology of culture” (267), given the apparently irreducible heterogeneity of cultural activity, but argues that it is in fact a viable philosophical undertaking, but as in inquiry precisely into the question of intention. “The world contains not only natural objects like rocks or plants, but objects that would not exist as complexes or in the exact form with the particular properties that they have were it not for human intervention. There are artefacts, products of human thought that are touched and transformed in various ways by human hands. The list of such things includes expressions of thought in language and art, and the results of human invention, manufacture and technology” (265).
6. Part of my concern in this essay is to raise the question of why film theorists—who have, as Currie puts it, tended to approach the question of the cinema through the more structural concepts of language and meaning, the basis for most of the very familiar semiotic or semiological analyses of cinema, but also those from the perspective of cultural studies, or cultural theory—seem inevitably to return to the question of “ontology,” and whether this is used in some loose, informal, colloquial sense, or if there is indeed an interest in addressing the cinema within and according to larger metaphysical questions, as the word in fact implies. The sorts of “ontological” analyses that tend to be offered of the cinema, though, typically conform to what Nicholas Wolterstorff has described as “certain common and tempting but none the less untenable views on the nature of art works. In the first place, art works cannot be identified with any physical objects” (1980, 42). In accounts of the cinema, specifically, this temptation is usually not resisted, notes Wolterstorff, and he describes what he says is an often-overlooked distinction between “rendering” understood as the result of the automatic processes of the camera, and “representation,” the intentional act of purposely imbuing a work with meaning, and a tendency to trace a particular kind of meaning, what is called realism, to a specifically physical origin in rendering. In what he admits is his “suggestive essay” on the ontology of the photographic image, he argues that Bazin nevertheless “wholly misses the fact that in film as in painting representation is a phenomenon distinct from rendering” (20, n11). What Bazin says

about the nature of photographic rendering, Wolterstorff argues, “has little to do with *realism* in the sense of that word which is relevant to art and aesthetics. This is clear from the fact that there are non-realistic as well as realistic films. The realism of a film inheres in its representational dimension, not in its renditional dimension” (20, n11). There is still a common tendency in theoretical accounts of the cinema to insist that it cannot escape its fundamentally physical identity. Even Daniel Yacavone, who is suspicious of claims for a cinematic realism that derive from some account of what he calls “the (suggested) objectivity (or ‘honesty’) of the film camera” (2015, 247), associated with Bazin and others like Stanley Cavell, nevertheless insists himself on a kind of irreducible physicality to film art, arguing that “in their medium-given and -recognized perceptual facticity and concreteness, as bearing an ‘analogical’ relation to reality, film images (and sequences) are a powerful vehicle for new artistic significance as rooted in figurative, associational meanings still (very) closely tied to perceptual features,” and that this “reflects a duality at the ‘ontological’ heart of cinematic works of art” (123). It is just such “duality” that most intentionalist ontologies of artworks seek to dispel.

7. Margolis, too, begins with the question of criticism, linking ontology with the establishment of grounds for interpretation and appreciation, insisting that “one’s account of the nature of criticism and of the nature of an artwork is conceptually linked in the most intimate way” (1980, 27).
8. For a comprehensive history of film editing technology and style see Fairservice (2001) and Keil and Whissel (2016), both of which describe the various technical changes that have indeed taken place, while insisting, as Keil and Whissel say, that “compared to such technology-intensive crafts as sound mixing or cinematography, editing has been relatively unaffected by major technological developments” (7). The most important examples of such mechanical systems are the Moviola, introduced around 1925, and flatbed systems such as the Steenbeck, introduced in the 1950s and 60s, yet both were merely elaborate apparatuses for doing what had always been done—physically cutting and splicing filmstrips.
9. Walter Murch (1995) provides an account of his experience of the transition from film to digital editing. While he admits to some initial reluctance and concern about the effects of the new technology on the art and craft of editing, he is finally convinced that digital systems make a traditionally laborious process much easier and more effective. See also Ohanian (1993), who also insists that, while certainly more complex than traditional editing technology, digital systems provide the editor with much greater power and control.
10. On the difference between the terms “editing” and “montage,” Perkins says: “Although it has acquired special ‘creative’ connotations, ‘montage’ is just the French word for film editing” (1972, 19). As I have suggested above, I will accept this position on the distinction between these two terms.
11. This is, in some important respects, similar to what Margolis argues, when he says that “speculation about the mode of existence of a work of art has, like speculation about so many other cognate questions, oscillated between the poles of materialism and idealism” (1980, 28). Given how suspect (even if not always wholly understood) idealism was to become, so many film theorists have advocated instead for a thoroughgoing materialism. While not simply subscribing to a traditional idealism, Margolis notes the limitation of materialism, which, he says, “founders because the developed range of comments that we allow in our discourse about works of art cannot be construed coherently as comments *about* material objects

(that is, about artworks construed as nothing more than material objects). That is not to say that reference to material objects is not crucial to our discourse about art; it is only to say that an artwork is not simply a kind of material object" (28-29). Film theorists, I am claiming, and as Perkins argues, often emphasize the material aspects of the cinematic apparatus as the origin of its (supposedly unique) ontological identity.

12. "Indexicality" has become a ubiquitous term in film theory, a shorthand term to describe the nature of the traditional photographic or "analogue" cinema that is supposed to have been replaced by a digital cinema, understood as "non-indexical." For an alternative account of "indexicality," specifically in relation to the advent of digital editing, see Furstenau and Lefebvre (2002). There we argue that indexicality, as originally defined by Charles Peirce as an element of his model of semiotic, is (with the iconic and the symbolic, his other main terms) an irreducible aspect of all representation, and cannot be removed, destroyed or compromised by any technical development. We argue that "every sign, whether it be about some individual existent thing or about a general type, requires indexicality. Reference to painting [is] made to demonstrate that indexicality is not specific to photographic-based media—or to any medium for that matter. *Indexicality is simply how signs indicate what it is that they are about*" (97; emphasis in the original). In this respect, cinema remains just as "indexical" in the digital as in the analogue era. On this issue, see also Gunning (2007).
13. Describing the advent of photography, Bazin says: "For the first time an image of the world is formed automatically, without the creative intervention of man. . . . All the arts are based on the presence of man, only photography derives an advantage from his absence" (1971, 13).
14. A useful account of ontology as a specific branch on metaphysical inquiry is offered by Reinhardt Grossmann (1995).
15. For a philosophical account of constraint in the arts, see Elster (2000), Section III.

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## RÉSUMÉ

### Montage film, montage numérique et «ontologie» du cinéma

Marc Furstenau

Cet article rend compte de l'avènement du montage numérique. Bien que la théorie du cinéma fasse souvent référence aux effets «ontologiques» du changement technologique, elle définit rarement ce terme de manière explicite. À la suite du

philosophe Gregory Currie, l'auteur soutient qu'une analyse ontologique ne peut être fondée sur la description d'un supposé aspect physique nécessaire ou définitif du cinéma en tant que médium. En effet, l'auteur affirme, comme Noël Carroll, que le cinéma n'est pas un «médium», mais plutôt une forme d'art qui a recourt à un large éventail de médias. Dans la transition entre montage analogue et montage numérique, les moyens de création de compositions cinématographiques audiovisuelles multimédia ont été consolidés, dans la mesure où la plupart des médias sont désormais restitués sous forme numérique, ce qui permet des manipulations et des modifications plus complètes et plus fines. En s'appuyant sur un compte-rendu plus adéquat de l'ontologie du cinéma, il est possible de voir comment cela s'inscrit dans la continuité de l'histoire de l'art cinématographique.