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Marc Furstenau and Adrian Mackenzie

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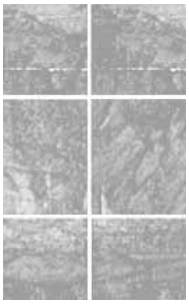

ARTICLE

The promise of 'makeability': digital editing software and the structuring of everyday cinematic life

MARC FURSTENAU
Carleton University, Ottawa, Canada

ADRIAN MACKENZIE
Centre for Social and Economic Aspects of Genomics, Lancaster University, UK

ABSTRACT

This article analyses amateur video editing software and considers its use within a broadly defined context of cultural practices, or 'everyday cinematic life'. The authors argue that such software must be understood in relation to specific cinematic discourses and in the context of long-standing promises of popular participation in 'movie-making'. They situate the historically sedimented nature of audiovisual experience in terms of a geneaology of non-commercial film editing and filmmaking, and analyse the phenomenological mixture of constraints and potentials embodied by individual amateur filmmakers and implemented in popular consumer-level editing software. The figure of the video editor (the software and the individual), the authors argue, incorporates a compromise inherent to cinematic life between the propensity to 'make' by appropriating forms and materials from the cinema, and the material, economic and legal constraints on making that preserve the organization of entertainment industries.

KEY WORDS

agency • amateur filmmaking • cinema • cinematic life • digital media • digital video editing • software

This article is concerned with the expansion or transformation of a particular realm of cinematic practice, the realm of amateur production, which has undergone significant change in the last several years. Historically, amateur filmmakers possessed only two of the basic elements of the cinematic apparatus – the camera and the projector – and lacked the crucial third element, the means to organize and edit the raw visual material. With

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software such as Apple's iMovie and Windows MovieMaker, which are now bundled on every Macintosh and PC, and with the commercial availability of more complex and sophisticated software such as Final Cut Pro and Adobe Premiere, the means to edit digital video have become widely accessible. An entire apparatus for the production, editing and exhibition of moving imagery has now been fully domesticated. This process of domestication began with the introduction of consumer-grade analog video technology, which simplified the process of image production (eliminating the need for exposed film to be sent to a lab to be processed, for instance), and image exhibition (allowing amateur video to be exhibited on the television screen via the VCR). This process has culminated in the digitization of video, thereby allowing the personal computer to function as the site for the editing of domestically produced, amateur moving imagery. The promise of amateur filmmaking is understood to have been realized in the combination of the digital computer and the video camera, and in the shift from *film* to *video*.

Russell (1999) has described such developments as instances of the 'diversification of film into a host of digital media' (p. 314). While new digital video technologies have typically been understood as threats to the integrity of the cinema, Russell argues that they must instead be understood as sites of cinematic diversification. Digital video, Russell argues, has 'reinvented cinema' (p. 314), situating the means for cinematic expression within the domestic sphere, refashioning the cinematic apparatus in the form of consumer electronics. The amateur cinema has been transformed into digital video but, as the very names of the software reveal, amateur digital video production is still represented discursively as 'moviemaking'. The personal computer has been reconfigured as a tool for the organization and arrangement of moving imagery captured on digital video cameras, which is then exhibited on computer and television screens (and now distributed across networks through websites such as *YouTube*). Reduced and reproduced in digital form, the cinema nevertheless persists as a structuring discourse. While digital images are processed on computers and dispersed across television screens and computer networks, they are the means by which we may become 'MovieMakers', authors of our own, individual 'iMovies'.

The 'diversification of film' into digital media, the 'digitization' of cinema and the radical expansion of the sphere of amateur practice, need to be addressed by film and media scholars. At the centre of any such analysis will have to be a careful account of both the potentials and constraints manifested in the tools and technologies through which this diversification is taking place. Editing tools have been made available in a specific form and material, that is, as *software.* All software, like media technologies more generally, mix both potential and constraint. Amateur filmmaking has developed along lines entwined with consumer computer software, and on the basis of discursive links that have been established between computers and the cinema. An analysis of the software can show what capacities have been enlarged and expanded, and how those capacities have been organized

and distributed. It can also reveal the specific constraints that are imposed by editing software, or that are the consequence of editing tools having been made available in the form of software, structured according to specific discursive parameters.

Poster (2002) has rather provocatively argued that visual studies 'is most productively conceived as media studies', that is, 'as part of a broader domain of the cultural study of information machines' (p. 67). For Poster, changes in media technologies presage broader cultural and social changes. 'The dissemination of information machines', he argues, 'alters basic attributes of culture' (p. 68), and he describes what he calls 'the emergence of a new cultural landscape by dint of the digitization of text, sound and image' (p. 68). We suggest that while the visual culture of cinema has indeed been dramatically changed by information machines, these changes are neither monolithic or linear. Cinematic and audiovisual perception are warped by tensions and contradictions that complicate and challenge Poster's argument and many other accounts of radical change by new media or digital culture theorists. In certain practices of digital video editing, the marks of potentially new forms of production and consumption, and their simultaneous constraint and confinement within commodified forms and norms of interactivity can be found. This compromise between potential and constraint is what we somewhat awkwardly term 'makeability'. (This awkwardness, however, attests to the complex mixture of potential and constraint that the article addresses.)

Makeability is a transformation in 'cinematic life', a concept originally proposed by Acland (2000: 378), and conceived of as the nexus of habits, dispositions, institutions and practices that comprise a central strand in the material constitution of the mass media and popular cultures. Pursuing Acland's concept, we explore a particular site of lived experiences and agency in contemporary audiovisuality. The specific traits of digital video editors (software *and* users) can be analysed within the rubric of 'cinematic life', which offers a means of holding on to both the specificity of informatic media whilst positioning them within a history of cinematic materiality and discourse. As Acland (2003) has written, expanding on the concept of an 'everyday cinematic life', 'cinema culture is woven into daily life in a host of ways', characterized fundamentally by what he describes as 'intermedia continuities [that] make it essential to address not only what people see but where and when they see it' (p. 55). Film studies, he argues, must account for 'cinemagoing' as a particular spatial and temporal practice, a site of significant 'interrelationships' between everyday life and cinema. Building upon the insights of Michel de Certeau, but also Harold Innis and Michel Foucault, Acland insists that cinemagoing must be understood as a 'cultural *practice*', an 'everyday site of regulated and unregulated possibility. The term "cinemagoing"', he argues, 'conveniently captures the physical mobility involved, the necessary negotiation of community space, the process of consumer selection, and the multiple activities that one engages in before,

during, and after a film performance' (p. 58). Key to such an analysis, for Acland, is an acknowledgement that 'cinemagoing', thus understood, is not a practice restricted to a particular technology, or that the 'cinema' is a discrete phenomenon, but rather a sphere of action across a broad technological spectrum. 'Most assuredly', he writes, 'the intermedia relations among film, video, broadcasting, music, Internet, and so on, should undo any received wisdom about fixed and stable media qualities' (p. 54).

Expanding upon such an analysis, we would add that, as part of this broadly defined field of cultural practice, organized according to a cinematic discourse rather than determined by a particular and stable cinematic technology, we may find an increasing set of possibilities for the production, organization and distribution of 'cinematic' imagery, an expanding realm of 'makeability'. On computers, digital video editing software offers specific modalities of everyday cinematic engagement, which are structured materially and discursively in the form of a certain sort of participatory promise. The genealogy of the promise of participation in movie-making runs back through multiple paths, each of which mixes potentials and constraints. Today, the promise of access to the 'movie-dream' – in its multifaceted forms (having a life that looks like a movie, becoming an actor, making movies, etc.) – is being reiterated, again with materially and socially specific constraints and possibilities. Remixing of archival or home video footage, appropriation through fileswapping, ripping and transcoding of DVD and other film formats, and the proliferation of video cameras, all attest to expanded and re-contested opportunities for movie-making. As has always been the case, the realization of that promise is perpetually contested, deferred, and often stymied, by the material, technical and economic complexities of film as an industry. This has always lent a provisional, mixed and compromised character to non-industrial movie-making. In analysing how the promise of makeability has and is being materialized, this article works on two different levels. The first part outlines a genealogy of the promise of participation, while the second part of the article explores how that promise concretely organizes how editing software works and is worked with. At both levels, we are interested in the construction of a sense of agency in relation to images and sounds, that is, in the construction of a sense of 'makeability' within a diversified cinematic context.

The diversification of cinema associated with digital technologies continues, though, to be construed almost exclusively as a *threat* to the integrity of film. This reflects a tendency, an almost constituent tendency in the case of film studies, to think of other media technologies as rivals, disrupting the solidarity and coherence of the cinematic apparatus. A further response has been to deny the significance of digital audiovisual media, to insist that the advent of digital technologies changes nothing significant in the cinema (see Belton, 2002).[1] Perhaps the way to overcome this impasse is to accept that something complex *has* changed along several axes – but that the changes have been in the broader contexts within which cinematic

imagery, knowledges, practices and perceptions circulate. Recent changes have affected the modes for viewing and consuming cinematic imagery, but have also expanded the possibilities for cinematically inflected expression, opening a field of makeability, a realm of lived experience and practice, characterized by both possibility and limitation, by potential and constraint, in dealing with audiovisual material. Such makeability is manifested in the new interfaces that are being developed for the engagement with and for the production and modification of moving imagery. It is manifested, too, in the form of a promise of greater participation in the realms of moving image production and distribution.

The digitization of amateur moving image production, specifically the addition of the means to edit imagery, does seem to have significantly enlarged and expanded the capacities of the amateur producer. The increased degree of control and the intuitive interfaces of most commercially available digital editing software have resulted in a qualitative transformation in amateur production. Whether this is an objective improvement is an open question. The private sphere of amateur filmmaking practice, in Zimmerman's (1995) words, had been characterized throughout most of its history by a 'lack of fixity, regularity, and coherence', and, more generally, by a 'spontaneity and lack of purpose' (p. 11). Emphasizing the stark difference between the amateur and professional realms of film production, Zimmerman notes that, in Hollywood, 'narratives, technology, expertise, and execution triumph; in home video, the interpersonal relations between an unskilled camera operator and the friendly subjects and the preservation of fleeting, perishable moments of family history prevail' (p. 144). Writing in the mid-1990s, Zimmerman offers a general definition of a 'home movie' style, which

> does not execute the rigid standards of composition, narrative, and the erasure of the filmmaker . . . It does not conform to prescriptive formats: subjects interact with the camera as friends and openly pose, the camera firehoses, and scenes from daily life unroll unedited or in no particular narrative sequence. (p. 146)

Since Zimmerman's work, the technological and social contexts within which 'home movies' are made, the spheres of amateur film and video production, have been altered considerably. The entire technical apparatus has been made available in its newly digitized form, but has been accompanied by the incorporation of an often implicit but nonetheless rigid set of production standards. The expert execution of technical tasks, which the new digital apparatus has made possible, has also prompted a shift towards the rigorous standardization of amateur production. Many aspects of the home movie aesthetic that Zimmerman had described – an aesthetic defined almost entirely negatively, as a (virtuous) *lack* of rigid standards and conventions – have been retrofitted, as technological obstacles have been

shifted, knowledges circulated, and skills acquired. Amateurs can access a range of professional cinematic production knowledges in various venues: in a copious literature of popular magazines, how-to books, online manuals, computer-based tutorials, and in school, college, university and evening classes. Of these practical skills, the most significant is editing, on the basis of which the rest follow. Once material can be edited, standards of composition become more important, narrative structures begin to emerge, and the filmmaker's presence tends to be erased. Such standards are made explicit in the Final Cut manual (*Final Cut Express HD: Getting Started*, 2005). 'Making good videos', the authors insist, 'begins with good camera work' (p. 9), an injunction that is followed by a lengthy list of shooting tips, advising the amateur filmmaker to use a tripod, avoid zooming, avoid bright lights behind the subject and, more generally, to 'plan your shots in advance' and to 'think about image composition and frame your shots' (p. 9). The vaunted 'spontaneity and lack of purpose', which Zimmerman had presented as definitive of amateur practice, are precisely what the discourse of digital editing seeks to subordinate in favour of a thoroughgoing and proper professionalism, one that will conform to the professional demands of the software itself. 'Final Cut', note the authors, 'is a robust and powerful digital video editing tool; however, it is not designed to correct video that was improperly shot or audio that was improperly recorded' (p. 9). Digital editing software can be analysed first of all, then, in terms of its incorporation of the amateur filmmaker into the realm of 'quality' production. This is where its effects have been most significant, and it is to the determined blurring of the line between amateur and professional cinema that attention must be turned, to the more complex field of cinematic experience and practice.

CINEMATIC LIFE: FORMS, PRACTICES AND TECHNOLOGIES

In the process of delineating this complex field, there is a general sense of expanded potential. As the line that had for so long separated amateur from professional production is steadily blurred, the amateur's capacity for participation within the larger, previously demarcated field of moving image production is heightened. In most recent accounts of the digitization of cinema, though, the traditional distinction between realms of amateur and professional cinema has been maintained, and vital relations between cinematic and non-cinematic technologies have been mostly ignored. This blocks the development of adequate accounts of cinematic digitization. Cinema is reduced to a *material* (film) or a *form* (narrative realism), rather than being understood as a complex, dynamic, discursive and technological context for the production, distribution and perception of image and sound. Such distinctions need to be dismantled. 'It does not make sense', argues Acland (2000),

> and perhaps it never did – to say that there is a film culture as absolutely distinct from television, video, music, and amusement parks; the relation between them is not one of conflict but one of symbiosis . . . So powerful have the representational aspects of motion pictures been in the reimagining of time and space that scholars and critics tend to neglect other equally significant consequences of cinematic life. (pp. 376–8)

An expanded notion of a 'cinematic life' can link cinematic texts and knowledges, activities and experiences. Cinematic life metabolizes audio-visual experience in various and contested meanings. These meanings are understood to derive from the dynamics of exchange, conversation, perceptions, memories and, increasingly, from the actual making of images, rather than from any inherent textual or material quality. In this vein, Miller (2001) suggests that cinema studies could learn from work being done in cultural history and cultural policy studies, which have witnessed a radical historicization of context, such that the analysis of textual properties and spectatorial processes must now be supplemented by an account of what he calls the *occasionality* that structures the conditions under which a text is made, circulated, received, interpreted and criticized, taking seriously the conditions of existence of cultural production (p. 306).

Miller's notion of 'occasionality' is a powerful way of thinking about the specific contours of the contexts within which cinematic texts circulate, pointing both to the various specific occasions of engagement, as well as to the varying *sense* of occasion that characterizes our engagements. 'The life of any popular or praised film', writes Miller, 'is a passage across space and time, a life remade again and again by institutions, discourses, and practices of distribution and reception that make each uptake of a text into a specific occasion' (p. 306). Such occasions can include, of course, the theatrical context of the film screening, and the various modes of home viewing, but also the more charged context of the film festival, for instance, or a premiere, or special screening.[2] Further significant distinctions can also be made between, for instance, the various *kinds* of theatres, each with a different sense of occasion – the first-run prestige theatre, the multiplex, the second-run movie house, the repertory cinema, the student co-op cinema, and so on.

New technologies expand the sites and senses of occasion, both within and beyond the already diverse theatrical and domestic contexts. In each of these, our investment in and attachment to the film screened differs, and the film's effect alters according to the specific means with or context within which we may 'possess' the film. Shifts in occasion affect, among other things, our *proprietary* relation to film, an increasingly complex matter as computers, DVDs, video-on-demand services, digital copying, and 'writing' and editing software trigger large-scale political, technological, economic and cultural reorganization of film distribution and exhibition. 'We must', Miller argues, 'consider all the shifts and shocks that characterize the existence of

cultural commodities, their ongoing renewal as the temporary "property" of varied, productive workers and publics, and their condition as the abiding "property" of business people' (p. 306).

The film industry mainly seeks to regulate occasionality in order to ensure, as far as possible, the predictability of audiovisual experience. The products of the dominant cinema are carefully designed, distributed and exhibited in order to be consumed, like Big Macs, in a way that diminishes variations in individual acts of consumption. This has long been evident in film exhibition, which, Acland (2000) argues, 'as an industrial and cultural endeavour, is invested in a project of stabilization, of making audiences and making (or imagining) them as readable, predictable, and knowable' (p. 378). Yet Acland also suggests that 'various forces have ensured a continued destabilization of spectatorial relations' (p. 378). Such patterns of destabilization, however, can be found in many places apart from Acland's particular site of analysis, the movie theatre. Indeed, the commercial movie theatre is no longer the privileged site it may once have been – such privilege, in fact, may well have been only a fleeting, anomalous moment in the cinema's history. As Miller (2001) argues, there was only a 'brief moment when cinema could be viewed as a fairly unitary phenomenon in terms of exhibition (say, 1920 to 1950)', a moment which has functioned nevertheless, he insists, to 'set up the *conceptual* prospect of its textual fetishization in academia' (p. 306). The irony of this is not lost on Miller, who notes that the very project of academic film studies was premised upon a technological innovation – the introduction of the VCR – the immense popularity and rapid diffusion of which, as he says, 'compromised the very discourse of stable aestheticization!' (p. 306).[3] Such stability is further compromised by the extension of an amateur realm of production, beyond an expanded realm of consumption, into a realm of makeability.

THE OCCASIONALITY OF EDITING: AGENCY AND CONSTRAINT

A careful analysis of the type of software that is expanding the realm of occasionality to include the capacity to edit moving imagery can reveal both the degrees to which it is enlarging and expanding our sense of agency within the context of cinematic life, and the sorts of constraints it is imposing. Digital video editing software changes who can make video, radically enlarging the field of participation. Yet the sense of agency associated with making is highly constrained. It lies at the intersection of forces of commodification, audiovisual norms and identity construction as 'subjects' of new media. Whence does any agency effect arise at the video-editing interface? In what ways is the potential for an individual to make something visible and audible in the form of a media object, a movie, constrained? The answers to such questions lie in a careful analysis of the experience of using such software, in a careful phenomenological description. The exploration that follows of software in use draws specifically on the work of the

philosopher Maurice Merleau-Ponty. It seeks to understand how, in the use of digital video editing technology, seeing or hearing, and what is seen or heard, entwine to make a temporal gestalt of sound, image and, sometimes, text. A phenomenological investigation of the software situation is useful because it emphasizes the fine-grained blend of perception and action, ideation and materiality that underlies contemporary audiovisuality. Phenomenological notions of embodied perception allow the entwining of seeing–hearing and what is seen, heard and touched to be described without separating them a priori (for instance, into the person who edits and the video editing technology). However, the phenomenological standpoint, although it allows us to explore the experience of seeing–making something with audiovisual materials, needs to be set alongside an account of the constraints on those materials.

Like almost any other object (a painting, a poster, a building, a person), software such as iMovie (see Figure 1) is something visible in the world. By virtue of its popularity, it is something that people increasingly see and work with. This thing, visible on a computer screen, makes other things visible and audible in specific ways, first for some 'I' (or perhaps the more lightweight informatic 'i'), and also for others. Merleau-Ponty (1964b) describes the relation between seeing and doing in simple terms: 'I have only to see something to know how to reach it and deal with it, even if I do not know how this happens in the nervous machine' (p. 162). The 'I' and the 'something' of software-in-use have to be situated in specific occasions of audiovisuality that we have named, following Acland (2000), 'cinematic life'.

The cinematic life elaborated in and around editing software offers a complex configured space in which to 'reach' and 'deal' with things. Even a relatively simple instance such as iMovie displays highly intricate modalities of reaching and dealing. As the screenshot in Figure 1 shows, the software appears on screen within a familiar pattern of rectangular frames.

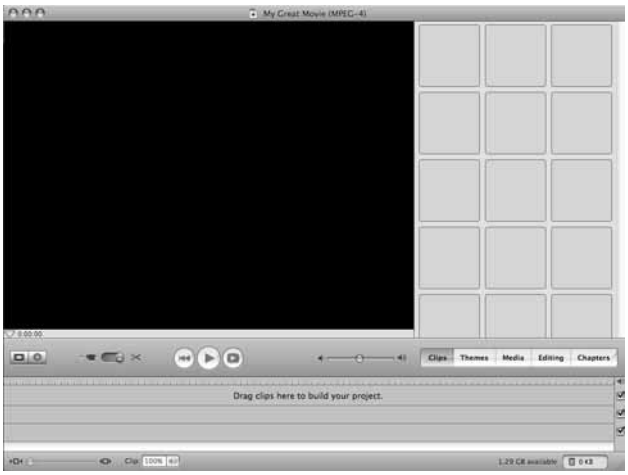

Figure 1
The opening screen of iMovie.

Frames are just the outermost component of a nested, layered, tiled visible space that seeks to narrow the gaps between seeing and reaching. The use of frames in software interfaces is well-nigh ubiquitous. (In some video editing software, lines of text, as in 'command-line interfaces', supplant frames or 'windows', but none of the video-editing software we discuss displays this feature.) The three main frames that compose the space in Figure 1 divide and classify what is visible on screen into different kinds of seeing and reaching/dealing. (Indeed, one is directed to reach for and 'drag' clips into the timeline.) The frame on the upper right, itself subdivided into a grid-like array of images, presents video files for selection. Pointing and clicking on a 'clip' (something already selected from the streams of audio-visual material flowing out of cameras, online audiovisual archives and other media formats) brings it into the large frame on the top left. Tabulated lists of resources are now familiar conventions in software interfaces. Lists, tables and 'menus' are basic ordering devices in information systems interfaces. Lists and tables make something available to eye and hand, a *selection*. The elementary gesture of moving a pointer is tracked in tables more easily where movement only matters in discrete, orthogonal directions: up or down the column, left or right across the row. The wandering line of the mouse pointer is translated into a distinct selection. The tables, lists and menus shorten the connection between seeing and reaching.

The layout of the interface goes further than this in blending seeing and what is seen or heard. For instance, the lower frame running across the bottom of Figure 1 contains many controls that change what is available in the upper frames. Perhaps more importantly, they allow what Merleau-Ponty (1964a) called a *temporal gestalt* to take shape: 'a film is not a sum total of images but a temporal *gestalt*' (p. 54). Timelines stand at the centre of this frame. Like lists, tables and menus, timelines are conventions borrowed from print media as simple ordering devices. But the timeline in iMovie, Final Cut, Adobe Premiere or even sound and music software such as CuBase, Logic or Protools, is a densely clustered subspace of operations, views, configurations and movements. Even in the simpler case of iMovie, most of the operations associated with montage and cutting, the basic elements in the temporal gestalt of video, are attached to the timeline. All of these operations are dependent, however, on the possibility of perceiving a structure or configuration. Seeing and manipulating this structure requires that the field of perception organizes itself so as to be perceivable. This self-organization of what is perceived can be understood, following Merleau-Ponty, as stemming from the way we inhabit or embody space. Merleau-Ponty argues that this inhabitation or 'haunting' of space begins from gestures of pointing:

> This insertion of our factual situation as a particular case within the system of other possible situations begins as soon as we *designate* a point in space with our finger. For this pointing gesture, which animals do not understand, supposes that we are already installed in

> virtual space – at the end of the line prolonging our finger in a centrifugal and cultural space. (p. 7)

Pointing adumbrates a virtual space superimposed on actual space. Recognition of this profoundly layered and embodied character of spatiality helps explain the density of the operations associated with the timeline. Different gestures of pointing, and/or typing of key commands, change the situation in very literal ways by laying out other possible movements or 'motor projects' associated with the movie under construction. The virtual spatiality of the timeline consists of the practical affordance of different ways of grasping the same temporal order. For instance, controls in iMovie allow the timeline to be viewed either as a sequence of clips, shown as static pictures running from left to right, or as a series of edited images and sounds on separate lines, lined up against a ruler whose marks represent fractions of a second. Different ways of rendering the timeline imply two different ways in which hand and eye roam the space of potential relations between different elements of the audiovisual object under construction. In any mode of display, the materials ranged along the line can be moved, copied, removed, or cut into pieces either individually or in groups.

In more complex software, such as Final Cut or Adobe Premiere, the timelines are multilinear and materials attached to them can be subject to many other manipulations (see Figure 2).

Here the range of situations and decisions associated with the temporal gestalt multiplies. The timeline breaks into many parallel tracks for video and audio. They can be orchestrated, superimposed, merged together or separated out in countless permutations. The gestures of reaching and

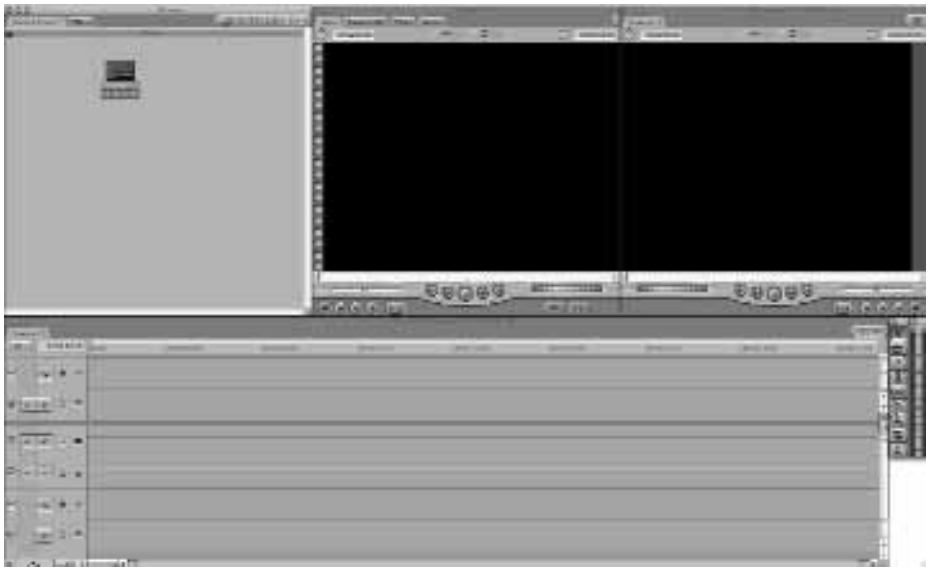

Figure 2 The opening screen of Final Cut.

dealing with audiovisual materials, then, are situated and punctuated by the timeline as a highly *superpositional* space. The superpositionality of this space, the fact that it offers different perspectives simultaneously, or in close proximity to each other, is not fundamentally attributable to the software per se, but to the combination of human embodiment and technical artefact together. Eye and hand at the digital video editing interface come together around a system of possible movements radiating along the lines laid down by the frames, lists, tables and lines of the software.

DIGITAL VIDEO EDITING SOFTWARE AND MATERIAL CONSTRAINTS

The potential power of the software under discussion has sometimes been attributed to computers as *universal* media machines (Kittler, 1997). It has been described as a database logic supplanting narrative (Manovich, 2001). Yet, in practice, the power of the software is always less than universal, and database logic is always mixed with other logics. Many limitations, delays, workarounds, detours and compromises have to be made, and these strongly affect what is within reach on screen. Concrete limitations in the universal media machine are sometimes seen as temporary problems that will soon be solved by better technologies. The issue is a lot more complicated than any simple notion of technological progress can explain. For instance, in iMovie, as shown in Figure 1, the array of video clips available, or the list of sound files that can be used, depends on a gamut of prior operations that make these materials available to the program. On several grounds, it might be better to say that the 'temporary problems' that limit what can be done in the software are themselves constitutive elements of the universal media machine. We have already established that artefacts such as iMovie or MovieMaker superimpose seeing, reaching and dealing with sounds and images within the densely compressed and highly aligned tracks of movement of the screen. But, productive as it may be in the way that it offers possibilities of combining, ordering and reproducing sounds and images together in a temporal form, this 'superimposability' is limited. Any claim to universality must be set against the background of what Merleau-Ponty (1964b) fleetingly refers to as the 'centrifugal and cultural space' into which every gesture radiates.

In the cultural logic of the video editor, constraints are arrayed on all sides. The very layout of the interface, with its frames, menus, controls and images, is deeply constrained as to how images and sounds can be changed and combined. It is not just a case of moving anything anywhere. These constraints are structurally coupled with audiovisual standards, legal and licensing agreements and the intensely competitive marketing of commodity audiovisual and computing hardware. All the programs under consideration require that digital video and sound files be brought into ('imported') or bought (purchased) as an add-on for the program. Sometimes importing visual and aural materials is straightforward because the materials are in a

common consumer format such as DV (an audiovisual recording format developed by a consortium of consumer video camera manufacturers during the 1990s). DV format files are usually only produced by camcorders and other consumer-grade recording devices. Many potential clips exist as files in other formats (Quicktime .mov, Windows .avi, mpeg-1, mpeg-2, mpeg-4). The *codecs* (**Co**der-**Dec**oder; software or hardware that encodes and decodes audiovisual signals into and out of a stream of binary data) needed to import these files into the video-editing software are not always freely available. Users typically need to develop a series of work-arounds to cope with this. For instance, having found an mpeg-4 file they want a clip from, a user might need to render it as a Quicktime (.mov) file before it could be imported into iMovie. But rendering an mpeg file as a Quicktime movie means using proprietary rendering software such as QuicktimePro, software that has to be obtained (purchased presumably) separately. Even with QuicktimePro, not all formats can be imported into iMovie (e.g. mpeg-1 files). More expensive and sophisticated software such as Final Cut Pro might be able to import them, but this poses other difficulties in terms of suitable hardware (to which we return later).

A second kind of constraint can be found scattered across the toolbars, menus and control panels of the video-editors. Icons offer different kinds of operations – rollcut, step tool, transitions between cuts ('circle closing', 'circle opening', 'push', 'wash-in', 'wash-out') and effects (visual and audio) – that themselves represent a repertoire of actions abstracted from a century of film editing. In the effects repertoire, named operations, such as the 'Ken Burns Effect' offered by iMovie, can be applied to an image, immediately locating the video within a known constellation of styles – styles recognizable because they have been widely used in Hollywood and other cinema industries. Pre-packaged effects and transitions align and reiterate the promise that anyone can make or create movies (hence the title of the Windows operating system equivalent to iMovie, MovieMaker). They connect private, individualized making to some version of the 'movie dream'. The fact that the 'movie dream', as elaborated by Hollywood itself, relies on constant appropriation and repetition is, ironically, re-affirmed by the pre-packaged and constrained reach of the software. Viewed more broadly, we could say that the constraints enmesh the individual as a consumer in the promise of makeability of an assemblage of commodified software, platforms, network infrastructures and digital hardware.

RESTORATION: THE POWER OF CONSTRAINTS

The limitations on manipulating audiovisual materials carried out through digital video editing software are not just practical. They form part of the fabric of economic and cultural relations that occasion video-editing software. Moreover, images and sounds become perceptible on bitmapped screens in diverse spaces (offices, bedrooms, lounges, public spaces, on mobile phones, handheld PDAs, etc.) only because constraints have been

embedded in the flow of images. Even at the most technological levels, the algorithms, encodings (mpeg, avi, mov, ogg), protocols and formats (PAL, NTSC) that allow images and sounds to be produced, reproduced and circulated using digital equipment of various kinds are not outside the space of culture. As primary requisites of contemporary audiovisuality, they themselves are marked by decisions, judgements, compromises and contestations between different ways of seeing, hearing, making visible and making audible on communications networks and storage formats of limited capacity. The very textures, timbres and tones of images and sounds we perceive today are minutely yet profoundly imbued by the logics of these standardized, often proprietary formats. This might appear in various visual artefacts such as ripple lines that sometimes appear when converting (transcoding) between different formats (quilting, motion blocking, jitter, mosquito-noise).

What prevents digital video editing software from treating images as context-free information is the fact that both software and images are deeply wedded to competing software platforms and commodity digital hardware. These platforms and hardware increasingly incorporate digital rights management schemes, such as the region coding applied to DVDs, that seek to maintain segregated market shares. Software producers align their products towards some platforms, formats or devices and not others. Digital audiovisual culture is deeply imbued with interlocking constraints that support commodification of both hardware and content. Yet these constraints or standards also make it possible to develop software that many people can use to make images. Without their common (albeit sometimes frustratingly incompatible) functionality, nothing could be made.

How can this cultural–economic fabric of video-editing be considered alongside the embodied seeing–hearing–making described earlier? Merleau-Ponty (1964a) formulated the relation between eye and hand in painting in a curiously reverse-sounding way:

> The eye is an instrument that moves itself, a means which invents its own ends; it is that which has been moved by some impact of the world, which it then restores to the visible through the offices of an agile hand. (p. 165)

An eye is moved by the world because embodied vision is 'caught in things'.

> Visible and mobile, my body is a thing among things; it is caught in the fabric of the world and its cohesion is that of a thing. But because it moves itself and sees, it holds things in a circle around itself. (p. 163)

For many contemporary eyes, the 'impact of the world' includes cinematic audiovisuality, a form of perception saturated with cultural codes and forms that themselves are heavily constrained. In cinematic life, the impact of the

world is highly conventionalized, yet also 'occasionalized'. Cinematic life is an occasioned perception of perception. These conventions and occasions are formative. They move us in particular ways and not others. Merleau-Ponty also says that the eye 'moves itself'. Having been moved, the eye moves. Through the video editor, eye plus hand 'restores' something to the visible and audible world. What becomes audible and visible in the temporal form of a movie, made using the software by 'reaching' and 'dealing' with audio-visual materials, comes from the way in which eyes (and ears) have felt something (an 'impact' in Merleau-Ponty's terms) of a world. Yet this world has largely been made perceptible under certain mediatic conditions, through certain codings, configurations and materializations of the audible and visible, the constituents of what we are calling 'cinematic life'. Such a life is embodied as a materially–practically specific blending between seeing and the seen, hearing and the heard. Under such conditions, to make images and sounds is to work with perceptions of perception. Thus, makeability associated with video editing objectifies a second-order audiovisuality, one that has been shaped, coded and configured by the specific historical situation of information-digital media as the successors to cinema, television, radio, print and recorded music.

Merleau-Ponty speaks of the eye and hand *restoring* something to the world. The 'ends' that eyes invent and make visible through working with digital video-editing software are not timeless inventions, but *restorations* of a world marked and made by economies and scales of value peculiar to an audiovisuality that sediments earlier media formations. In this world, bodies are put to work audiovisually, that is through interfaces such as those displayed in Adobe Premiere or Final Cut Pro. However, very different restorations result. A Jihadist video, the re-make of a *Star Trek* episode and a holiday travelogue all restore different things to visibility.

Discussing digital media, Hansen (2004) refines this general point about the feedback loop between seeing and making further when he suggests that:

> putting the body to work (even in quite minimal ways) has the effect of conferring reality on an experience, of catalyzing the creation of a singular affective experience, that is, one that is qualitatively different from (but that can be deployed to supplement) the 'verisimilitude' or 'illusion' of the cinematic image. (p. 39)

The practicalities of video editing software suggest that this claim needs to be treated cautiously. On the one hand, operations performed at the interface affect experience. This is a difference that can be felt as 'makeability', or what Hansen terms the 'creative force of bodily affectivity' (p. 91). Makeability affects experience or perception, and it does introduce meaning into information. On the other hand, digital infrastructures and technologies and the 'abstract permutations' (p. 91) they permit are not alone responsible for

this feeling of agency. Cultural logics are sedimented everywhere in the digital infrastructure. The very possibilities of making and meaning-making associated with the editing software, we have argued, are entwined with constraints and limits on what can be brought into view and what can be reached. Some things are within reach and others are not.

CONCLUSION

A promise of participation has always accompanied viewing and spectatorship in cinematic life. Shifts have recently occurred in what is promised, in what is offered. With digital technologies, the possibilities for participation have been enlarged, but significant structures of constraint have also been maintained and new ones added. In order to understand this shift, we have examined a specific site where cinematic engagement is imagined and practised. This examination highlights two different things: first, the need to explore the genealogy of that promise; and, second, to analyse the sedimented history of visual practice that organizes the video editor itself. The 'video editor' means two things at once in our view: the software itself and the culturally and phenomenologically situated subject who collects and edits footage. Makeability, then, refers to the potentials that come from coupling between the two.

That subject's experience, embodied at the level of skills acquired through a plethora of popular literature, tutorials, online and programmed assistance, is magnetized by the promise of participation. However, the experience is compromised. There is a tension, or even a conflict, between the contemporary regulation of image circulation and consumption, and the potentials and openings of makeability. The compromise consists of two interlaced promises: the freedom to make one's own 'movie', and the freedom to fully enter and participate within an already historically elaborated cinematic life. Both promises are practically implemented in various ways within the software we examined, which functions as a primary 'interface'. Within cinematic life, what occurs at that interface is subject to the technological, legal, conceptual and perceptual constraints that emanate from different sources in the field of audiovisual engagement.

The 'cultural study of information machines', as proposed by Poster (2002), needs to countenance the compromised character of media experiences. The burgeoning manifestations of moving imagery (flash animation, video game graphics, machinima, streaming video, computer and console games, interactive TV graphics, digital cinematic imagery), surfaces of display and projection (widescreen TVs, computers, hand-held devices, public display screens, cinema screens) and modes of working with and manipulating collections and streams of audiovisual material from archives, cameras (cameraphones, webcams, digital cameras, video cameras and camcorders), scanners, computer-generated images (drawing, animation, design, layout software packages, simulations) – all of these may well harbour versions of this tension between material and historical constraints and freedoms.

NOTES

1. For Belton (2002), the changes brought about by digitization have not altered in any significant way the audience's *experience* of the cinema. Digital technologies have merely been incorporated into, and subordinated to, otherwise unaffected systems of production, representation and exhibition. Bordwell (2002) makes a similar argument, arguing that there has been no significant change to the main stylistic character of the American cinema, despite supposed radical technological change, but that that style has only been 'intensified'.
2. For a useful account of the various contexts within which films circulate, and of the manner in which the value of a film is produced 'relationally' in its movement through various sites and contexts, see Harbord (2002).
3. For a brief account of the significance of the VCR and the DVD, and of their functional role in the elaboration of specific modes of scholarly discourse on the cinema, see Lefebvre and Furstenau (2002).

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BIOGRAPHICAL NOTES

MARC FURSTENAU is Assistant Professor of Film Studies in the School for Studies in Art and Culture, Carleton University, Ottawa, Canada. He is co-editor with Bruce Bennett and Adrian Mackenzie of the collection *Cinema and Technology* (Palgrave, 2008) and is presently editing a collection of essays on film theory. He has published articles on film, cultural theory and technology in various journals, including *Cinémas* and *Post-Script*.

Address: Film Studies, School for Studies in Art and Culture, Carleton University, 1125 Colonel By Drive, Ottawa, ON, Canada K1S 5B6. [email: marc_furstenau@carleton.ca]

ADRIAN MACKENZIE researches in the area of technology, science and culture. He has published books on technology: *Transductions: Bodies and Machines at Speed* (Continuum, 2002/6), *Cutting Code: Software and Sociality* (Peter Lang, 2006) and *Wirelessness: Radical Empiricism in Network Cultures* (MIT Press, 2009) as well as articles on media, science and culture. He is currently working on practices, ethics and politics of collaboration in synthetic biology.

Address: Centre for Social and Economic Aspects of Genomics, Lancaster University, Lancaster LA1 4YD, UK. [email: a.mackenzie@lancaster.ac.uk]