The revelations of the action-replay: video and the optical consciousness

Eric Laurier & Stuart Reeves

Abstract:

In this paper we will respond to the increasingly influential ideas about editing or 'montage'; which originate from within Deleuzian film philosophy and non-representational theory. These approaches have much to offer researchers seeking to understand film, yet, as we argue, suffer from the confusions of revelatory tradition and the diminutions of human accomplishments (a kind of medium-determinism rather than technological-determinism). To help mark out the limits of the Deleuzian and non-representational approach we examine two places where we come upon a form of montage: the action-replay. We look at the uses of the action replay in two settings: Rangers fans watching live footage at home and a professional editing team producing football highlights packages for a sports channel. Drawing upon unfolding events in these two settings we begin to re-specify the relationship between language, video practices and technology.

Keywords: non-representational theory, ethnomethodology, action-replay, television, video, montage, editing, optical unconscious, technology, Deleuze

1. Introduction: the optical unconscious and the revelationist tradition

The corner kick arcs over a pack of players around the goal mouth. A header. The ball is going into the net. A goal! A goal!

No. The ball is in the goalie's hands. A striker is shaking his head in dishelief. The commentator is saying that it looked for a moment as if it was in. What happened? The players begin to move back up the pitch, the goalie rolls the ball out to one of his team.

The corner kick arcs over a pack of players around the goal mouth. The header again. It's Smith. This time visible from a different angle, behind the net and in slow-motion. The ball is high, floating into the net. The goalkeeper picks it out of the air, rolls sideways and clutches it.

The corner kick arcs, this time a lower angle and close-up on the header. Hands on the shoulder of his team-mate Smith emerges higher, his eyes are closed and his face registers the impact of the ball. The goalie's arms rising up, the left hand caught it first before the right came into secure it.

Smith walking away, his head down and Jones patting him sympathetically on the back.

Then back to the live action as the play continues in the centre of the pitch.

Human actions can happen so fast, that although we can draw conclusions later, quite what happened at the time is missed. For most of history societies lived with this fact and dealt with it through other possibilities such as repeating actions many times over to see how they might happen, reconstructing to greater, or lesser degrees, particular events to examine how and whether such actions were possible and, of course, imagining how they might have happened sometimes with the aid of the gods. The arrival of the still camera and then the film camera added new recording instruments to this repertoire of techniques for pursuing questions of what happened during fast action, beginning the path toward the action-replay¹. Famously Eadweard Muybridge settled the dispute over whether a horse's feet left the ground when it was galloping by using serial photographic recording (Buscher, 2005). Given the speed of so many of the actions that happen within it, from the 1960s onwards televised sport became a locus for the routine replaying events and the actions that constituted them (Hanson, 2008; Whannel, 1992). In the contemporary period the action-replay has become thoroughly interwoven with the refereeing and coverage of major sports events (Hanson, 2008). Seeing action replays of gameplay became such a commonplace expectation that stadiums installed large screens to show them to their spectators.

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¹ Also known as the 'instant-replay' in North America.

Because the action replay is so commonplace we barely notice nor reflect upon its special status or particular peculiar properties. As Scannell (2009) puts it: 'Recording technologies create the astonishing possibility of the return of the past in the present' (Scannell 2009: E5). While we are watching a live event, after an exciting, questionable or spectacular action occurs, that action can be shown again, from either the same angle or a different one, at the same speed or in slow-motion. It can be shown just once or as part of a series of replays. It can be unadorned, or be annotated, with a graphic highlighting a foul or marking the arc of a ball. It can be overlaid on top of similar actions, by other players, of the same sport to provide comparisons between this player's movement and their peers.

Part of the appeal and interest of the action-replay seems to stem then from the possibility of escaping the limitations of human eye. Where cinema as an art form appears to reveal abstract features of reality inaccessible to human perception (Turvey, 2008), the action-replay in sports coverage also appears to make visible certain features that were previously invisible to the spectators (and referees² and commentators). For the 'revelationist' tradition in theories of cinema (Turvey, 2008), edited films and videos join a roster of analytic optical technologies, like microscopes and telescopes, that allow us to see certain phenomena for the very first time (e.g., microscopes let us see bacteria, telescopes let us see distant stars). For Deleuze (1992), it is the 'image' of firstly, movement and then, in the cinema of the later twentieth century, time (Deleuze, 2005). The movement-image and the time-image are perceptible in ways previously inaccessible to ordinary vision through the instrument of the edited film. Just as experiments in cinema created the movement-image and the time-image, the introduction of actionreplay into sports coverage in similar ways might be imagined to have overcome the limits of human perception. Turvey (2008) however is critical of the revelatory tradition in cinema and its visual scepticism. In this paper we will explore his criticisms in relation to the action-replay in sport.

Even as it appears to be a technology for revealing indiscernible features of action, the action-replay also appears to be another of the roster of visual forms which 'come to act as our optical unconscious' (Doel & Clarke, 2007: 894). These are forms, according to Thrift, which are knowledges and competencies that shape 'bodies-with-environments to a specific set of addresses without the benefit of any cognitive inputs' (Nigel Thrift, 2004: 177). In being repetitive, empirical and 'bereft of intention' (ibid, 177) this is how these visual forms slip below human consciousness, and thus ongoingly produce the world as intelligible for human subjects without being noticeable. For Doel and Clarke (2007), montage generally, and cinematic montage in particular, is one of these unconscious framings that render the world visible. Because, as they argue so well, montage has been central and yet also ignored within human geography, human geographers (and other researchers) 'can no longer take their optical unconscious for granted' (Doel & Clarke 2007: 906). That montage is central to sports coverage is unsurprising given that

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² Indeed, there are ongoing debates within FIFA regarding the use of video evidence and goal-line technology to support or overturn refereed decisions (Kelso, 2010).

cinematic montage has consistently borrowed from and learnt from televisual montage throughout the last century. Perhaps even more than the montage of cinema, the editing of sports coverage contribute all the more substantially to the optical unconscious because sports broadcast is such a ubiquitous and popular form across the globe³. This interest in evaluating the role of montage and the optical unconsciousness in sports coverage is particularly timely, given the growing body of work that has taken up these ideas in a range of emerging areas, such as studies of video games (Ash, 2009), comic books (Dittmer, 2010), landscape (McHugh, 2008) and video methodologies (J. Lorimer, 2010).

Having outlined the optical unconscious and the revelationist movement in cinema, if we return to their origins it becomes clear the two are in fact closely related. Walter Benjamin first described the concept of the optical unconscious with reference to photography and its historical development:

For it is another nature that speaks to the camera than to the eye: other in the sense that a space informed by human consciousness gives way to a space informed by the unconscious. Whereas it is a commonplace that, for example, we have some idea what is involved in the act of walking, if only in general terms, we have no idea at all what happens during the fraction of a second when a person steps out. Photography, with its devices of slow motion and enlargement, reveals the secret. It is through photography that we first discover the existence of this optical unconscious, just as we discover the instinctual unconscious through psychoanalysis. (Benjamin 1979: 243)

Thus, Benjamin is arguing that the camera essentially reveals certain aspects of our reality that, in spite of them not featuring in conscious thought, are nevertheless registered by our perceptual system. Following this revelationist conceptualisation of one optical technology, i.e., photography, Deleuze (Deleuze, 1992, 2005) and others are able to argue that, while optical technologies and their creative uses change through history, there is a corresponding change in our unconscious everyday sense of space and time (Latham, 1999). These later uses of the concept imply that the optical unconscious reveals space, movement and time to human perception, even as the particularities of this forming or framing of the world themselves remain hidden. It is this path from hiddenness toward being unconscious or, instead, being in plain sight that we will investigate in this article. With the idea of the optical unconscious sketched out, let us turn toward two situations where action-replays happen and use them to help re-specify the relationship between the unconscious, the revelatory and montage.

Waiting for the replay: liveness and the optical conscious

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³ FIFA claimed over 700 million viewers for the 2010 World Cup.







S and his dad are both fans of the Scottish Premier League team Rangers⁴. They regularly come together to watch their team play on Sporta⁵ at S's dad's house. Today it's a Saturday league game and Rangers are playing Falkirk. They are in their usual spots: S on the sofa and his dad deep in his armchair. Both are wearing their blue, white and red scarves. Rangers recently got knocked out of the Champions League European competition after high hopes, and the atmosphere in the room is subdued. It is twenty minutes into the game, Rangers are about to take a corner kick and so there is a chance this might lead to them scoring. As the player wipes the ball clean and places it down, S and his dad (and thousands of others) are waiting expectantly.

There is a quick cut to the players jostling in front of the goal. Back to the corner: the kick goes up, cut to an overview of the goal. The crowd is roaring, S starts to get out of his seat, raising his arms, seeing what looks like a goal as his dad simultaneously says 'oh it's in'. There is a flurry of activity around the goal mouth as S and his dad look on. S begins to grimace as one of the defenders gets control of the ball and kicks it hard, away from the goal. The ball reaches the midfield and S's dad rubs his hand over his face.

"...aw shit', as a moment later his dad looks down in dismay. S's previously outstretched arms are now palm-down on top of his head as he sits up straight, gazing attentively at the screen. In the meantime the ball is under control by Rangers once again, albeit deep into their side. They are passing the ball between defence and midfield, back and forth.

'I want to see a replay of that one' says S's dad.

'That's a good corner' says S. The live play continues with inconclusive passing around of the ball in the midfield, however this play is then halted by a foul.

'Hurry up, show us the replay' says S, and then, just as he finishes his utterance, they do. The shot switches to the replay and once again the corner is taken, however this time the camera shot does not switch to an overview of the goal as the ball comes in, but rather stays on the corner perspective. As the ball enters the goal area, this same camera zooms in closer to focus on the players.

'Velicka. Bougherra', says S, announcing players as they strike the ball in the replay. The goalkeeper intervenes and hits the ball back out. The replay switches to a view just behind the left side of the goal and returns to the point where the corner kick was made.

'Aw foul before the ball comes in', as he says this S's dad points. With his experienced eye, he has noticed an illicit shove in the replay jostle that the referee didn't at the time.

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⁴ This vignette is based on recordings made as part of the "Designing the Augmented Stadium" EPSRC UK project (EP/E04848X/1).

⁵ Name changed for anonymity.

As we noted above, the key temporal property of the football game here is that it is 'live'. It is a mediated liveness of course, so we might want to say that it is not genuinely 'live' because S and his dad are not in the stadium, although this immediately sets up an antagonistic relationship between the live performance and its mediatisation (Auslander, 1999). Setting liveness in opposition to its broadcast is misleading not just because large screens are common at 'live' sports matches, music concerts, theatrical productions, and other events, but also because the quality of 'liveness' is also central to understanding the history and contemporary conditions of broadcast radio and television (Scannell, 1996). Liveness makes all the difference to the preparation of an event that is about to go 'on air' (Broth, forthcoming), to the organisation of professional commentary on it (Marriott, 1996, 2007; Scannell, 2009) and, as we will examine here, to the practices of those watching it. Liveness is all the more intriguing because it is a phenomenon which films for cinema (the movement-image and time-image forms of Deleuze and others) and photography (the optical technology of choice of Benjamin) almost entirely exclude.

The game is happening in the same 'now' for each viewer of the game whether they are watching it on Sporta or are in the stadium. This brings with it a series of other properties: There is no foregone result to the corner kick that they are watching. If any of the spectators are watching recordings of the game afterward, there *is* inescapably a foregone result (observable in the common practice of fans studiously avoiding media that might give away the result prematurely to a subsequent viewing of replays or highlights packages). In the collective now of watching the game, no one in the world knows how it will actually turn out. It could go any way. Even when it is likely to go one way there could still be surprises or upsets or disappointments or spectacular goals that become part of a shared football history. Were the match coverage to be one minute behind then some people in the world, most obviously the crowd in the stadium, would know before the others. The conclusion would be foregone. Were they watching it behind everyone else, S and his dad would be cut off from, what is for them, a collective moment of shared anticipation, excitement and (ultimately) disappointment.

While the montage between shots of the game is important, let us consider here what instead provides for the sensibility, intelligibility and accountability of the ongoing coverage. The liveness of the coverage means that the temporal unfolding of action in S and his dad's sitting room is matched to the temporal unfolding of action in the stadium. It is not a temporal unfolding of just any action – rather, it is the temporal unfolding of this particular football match. And it is the particularities that tell the audience when to turn up and when to leave, when to pay attention as the match commences and, in much more detailed ways, when to pay attention when something is happening. In the vignette, it is the corner kick that is priming S and his dad's close scrutiny of what is happening. Their close scrutiny is convergent with and reliant upon the directed and edited close scrutiny produced by the team covering the match (Bovet & Sormani, forthcoming; Engstrom, Perry, Juhlin, & Broth, 2009).

For the S and his dad, like other TV audiences, what the cutting provides is mobility of perspective; something that is unavailable to the immobile perspective of members of the

stadium crowd, whose perspective is entirely determined by a combination of ticket selection and the vagaries of stadium seating. It is this aspect of spatial movement, which characterises what Deleuze (1992) theorised as the movement-image of cinema. Camera optics combined with editing could allow viewers to zoom in and out of one perspective or jump between perspectives as the cuts take viewers from one camera's perspective to another. S and his dad are looking over the shoulder of the corner kicker, the next second they are peeking in from behind the left side of the goal for a better view of the action. More significantly, for Deleuze's idea of the time-image, what also happens in the vignette is that the ongoing flow of time, the 'duration' of the game, is about to be sliced through by an action replay which leaps back to an earlier moment in time (Morris, 1987; Whannel, 1992). This new 'world' of time which jumps between a live present and what happened seconds or minutes ago, sounds much closer to Deleuze's idea of the time-image which he presents in his second book *Cinema 2: The Time Image* (Deleuze, 2005). In this influential work he argues that a number of post-war editors through their use of 'irrational' edits present us with a new 'time-image'.

It is no longer time that depends on movement; it is aberrant movement that depends on time. The relation, sensory-motor situation -> indirect image of time is replaced by a non-localizable relation, pure optical and sound situation -> direct time-image. (Deleuze 2005: 41)

Deleuze traces a number of different time-images through a number of different directors (rather than editors) such as Resnais, Bunuel, Varda and Welles. As an anonymous and work-a-day practice, sports broadcast is far away from these experimental feature-film directors' work, yet in cutting between the 'sensory-motor' of ongoing play to the action-replays it does also join that same shift from 'the chronological succession, the separation of the before and after' (Deleuze 2005: 155) to 'the relativity and plasticity of space-time' (Doel & Clarke 2007: 895). The coverage on Sporta is conventional and yet part of that convention is to jump between the live play and the recorded play in search of revelation. Inadvertently then we have a montage which is of non-successional time. It is all the more interesting though for being taken-for-granted and part of the world of the everyday.

Accordingly, we must now ask whether S and his dad have been presented with a perceptible 'image of time' that is a connection of the present to its immediate past. Turvey's (2008) critique of Deleuze's idea of time-image begins with a reminder over the incorrect articulation of seeing and duration. To put it briefly here: time as duration is not something that can be seen by the eye. So, although there are clearly images of Rangers players that are noticeable in the replay by the competent Rangers fan, and indeed, in the vignette, we saw how S verbally picked out that the two of them involved in the near-miss (i.e. 'Boughera' and 'Velicka'), it is also apparent that there is no image that depicts time. Instead the coverage shows events happening *in* time. S, his dad and the televised spectators exhibit certain qualities of Deleuze's idea in their projection of the future goal. And again, after the ball is kicked back out into the field the effect on their affect is one that again displays a present shaped by mourning the missed goal. Without

accepting the idea of the time-image we can accept that the present is not a moment sealed off from the future, instead, it is already shaping that future time.

A duration that they do orient to in the vignette is just how long they have to wait before the action replay comes up. There is no disclosure of any hidden properties of time as a see-able thing. Instead, we find there is an observable shared orientation, developed from considerable experience of watching TV football and gaining familiarity with the 'grammar' of live TV football production, to what routinely happens next after a significant event at the goal mouth and how long they should have to expect to wait. This live broadcast grammar, or conventional sequential relationship between shots here is as follows: near-miss live, then multiple replays of that near-miss. The expectation is that these replays will appear in close proximity to the live sequence that they are replays of. It is an accountable, analysable and noticeable thing when the action replay is delayed and its proximity declines, as exhibited through both S and his dad remarking on its absence. This orientation to the expected sequential relation between shots is of course shared with the TV production team who are busy trying to implement these conventional grammatical sequences of replay in the editing room. Because of the complex demands of live broadcast, replays can only be shown at a point in the live game where there is an anticipated and long-enough absence of action (Owens, 2006). Correspondingly, S and his dad share a common understanding of when 'nothing is happening' on the pitch – i.e., moments of 'downtime' that are common in football where there is a kind of inconclusive form of play, during which time players are 'probing' the opposition. We saw something of this form in towards the middle of the sequence with S and his dad. It is this moment of 'nothing happening' that the production team conventionally exploit for showing replays, and hence the relevant production of S's utterance 'Hurry up, show us the replay'.

It may be though that we are mistaken in pursuing the human agents here and that in a more Deleuzian vein it is the coverage itself that is the technological unconscious. However, Turvey (2008: 95), drawing upon Wittgenstein, reminds us neither cinema nor TV can be conscious or unconscious; it is only human beings and things that resemble them that can see (or fail to see), be conscious or unconscious. Another option is that one might want to say that the viewers are themselves taking on an optical unconscious without being aware of doing so which is slightly different from the earlier description of their engagement with and concentration upon the game. The concentration on the game fits with failing to realise that there is an optical (and auditory) technology at work here. Yet when the replay does not turn up both S and his dad expect and indeed request a replay as part of their conversation. The action replay is part of what they, as experienced TV football spectators, have come to expect will be provided by the sports coverage at particular noticeable moments in order to help them make sense of instances, for example, where it seemed like a goal almost happened amidst a flurry of bodily activity by players on the pitch. So while it is not being made relevant by them in initially and this could be interpreted by an external interpreter as warranting the use of the term unconscious, once it is missing their awareness of it is made apparent as part of their expectations and projects of what ought to come next. The idea of the unconscious allows theorists of technology and media to edge back in a form of media-determinism (e.g.

jump-cut in cinema, action replay in sport, frame rate in video games) that they would otherwise be critical of.

Selecting replays: sameness, repetition and stance

Having begun to address theories of the optical unconscious and the concept of revelation through football fans waiting and then watching the replay, we will continue to address those ideas through considering some aspects of the work of editors of sports coverage⁶. In examining editing-as-it-happens we are in a territory exotic to the retrospective analysis of theorists of cinema and television that study the end products of this process. What we will describe in the following is media in the midst of the editing practices of an as yet-to-be-realised thing; i.e., media in the making rather than the media in the receiving that formed the earlier vignette (Greiffenhagen, 2011). Or, in another disciplinary register, a study of media production rather than a study of media reception. We can note in passing that the varied workplace practices of producing broadcast television have however been investigated by a small number of researchers from film and media studies (Caldwell, 2008; Mayer, Banks, & Caldwell, 2009) and ethnomethodology (Mathias Broth, 2004, 2008; M Broth, 2009; Engstrom et al., 2009; Laurier & Brown, 2011; Perry, Engstrom, & Juhlin, 2010).

In the visual transcripts below the assistant producer (AP) is sitting on the left and the editor is sitting in the middle in front of a hybrid tape and digital system he's using to cut together the highlights of a Rangers Scottish Premier League⁷ game that finished earlier that afternoon. As we join them they are editing together one of the goals from the game. The replays are identified by their camera angles. These are: '18' (short for 18 yard line), 'high behind' (behind the goals), '2' & '3' (which are usually lower-level close-ups). Earlier the AP proposed using the 18, the high behind and then 'one of the tighter ones'. In beginning to follow through on that proposal the editor has just completed the edit that brought in the first replay from the 18 yard line camera. We now join them as the editor begins searching for the footage for the next clip:

Transcript 1, part 1

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⁶ The vignette of sports editing comes from data collected as part the ESRC-funded project "Assembling the line: amateur & professional work, skills and practice in digital video editing" RES-062-23-0564.

⁷ It is not the same game watched by S and his dad in the earlier vignette. We had hoped to record production and reception settings of the same games but were not able to recruit participants for the same days.



In the transcript above, as the editor begins fast forwarding through the footage, he repeats the sequence '18s high behind', re-establishing for them both which replay he should now search for. The AP nods in agreement and then elaborates by providing the two possible additional replays they can choose from for their final replay shot of this goal. They are both watching the footage as the editor scans through it. When the 'high behind' does not come up quickly, the AP attends to that absence by turning to his notes that should provide the sequence of replays from the live broadcast.

Transcript 1, part 2



As noted above the AP then does supply, on the basis of his reading of the logging sheet, that the high behinds comes in 'on the second angle', in other words, the second angle after the 'live' shot of the goal happening. Even as the AP is examining his notes, the 'high behind' had come up on screen. That this has already happened the editor shows by his use of the past tense 'got it'. Once he has the clip the editor then begins a more careful adjustment of the 'in' point to get from 18 to the high behind. That this job takes a while, and is the editor's task, is known in common by editor and the AP. The latter's disengagement from their earlier shared involvement in selection and searching is visible in the AP's comportment. His gaze still on the screen and pen rested on his lips nevertheless displaying a ready-ness for future tasks.

A first fundamental difference between our earlier vignette of the football fans and the replay editing team is that the replays are no longer part of a live broadcast. The editor and AP are dealing with the replays in terms of how best to show an event where they already know what happened and have also already seen what coverage was produced of what happened. We should take care here not to overstate the divergence because there are overlaps between the football fans and the work of the live editing crew. In searching for replays both live and highlights production teams know that something happened (e.g. a goal or an incident) which can be replayed. For both the details of what happened is indeed established during the replays (see (Engstrom, Perry, Juhlin, & Broth, forthcoming)) as much as it is for the TV viewers we examined earlier. What the live production team lack, but the highlights team have, are a series of properties of the completed match: the final result, the number of goals, the number of near-misses, the

number of incidents. Moreover they can situate each goal within the gestalt of the match and with retrospective qualities such as 'the turning point', 'the first goal of three', 'the only goal' etc.

A second fundamental difference in their orientation toward the replays is that they are jointly editing them rather than jointly following the match through their watching of them. Related to the first difference, replays serve now as alternate shots of the goal to be selected from for their qualities as sequences of shots (i.e., camera 2 was better than camera 3, so camera 3 is not used). The AP provides the majority of proposals for shot sequences (as he had done immediately preceding the transcript) and the editor then follows through on those proposals, fine-tuning the exact 'in' and 'out' points, smoothing audio transitions and noticing new picture or sound problems that emerge once shots are re-joined. (We should add that the AP is there to provide a second line of detection of problems and also then points out unwanted freeze frames, poor audio transitions and so on.)

In examining the highlights packages produced by editorial teams like this one, we can note conventionalised forms that they take: the original live goal shot followed by one to three replays shots, where the last will often be in slow-motion. The highlights are providing a repetition of the original event from a number of different angles and sometimes at a different speed. This is a form that seems to echo Doel and Clarke's remarks on cinematic montage:

Cinematic repetition foregrounds the production of difference rather than the reiteration of the given and the return of the same. Cinema allows the event to be abstracted from its habitual flow, so it becomes a material to be engineered: stopped, expanded, diminished, reversed, accelerated, decelerated, cut, spliced, transformed, etc. (Doel & Clarke, 2007: 900)

In other words each replay that is added to the highlights does not simply keep expressing exactly the same thing. Instead every replay changes what is seen and what can be seen. Moreover even if the 18 yard line shot was cut back to show the 18 replay again, that second replay would be seen differently, not least because the first one is the 'first' replay of the 18 and the second one cannot then be a 'first' again. Each cut then also changes the overall highlights package. Certainly Doel and Clarke's (2007) Deleuzian description of montage does then express a number of the possible courses of action that are involved in using action replays. There will be freeze frames of the ball having crossed the line, longer and shorter clips of the same goal and decelerations through slowmotion. As these differences proliferate they create a practical problem faced by the editing team in reproducing 'the same'. To put it another way, they have to make a highlight that is recognisably that same goal but built out of different replays. In Doel and Clarke's words we can follow the concerns of producers in re-iterating 'given's and building things that are 'the same' enough not to become unintelligible because their difference undoes them. Reversing Doel and Clarke's (2007) orientation to practice we might instead foreground the remarkable achievement that is the production of sameness

even as it is threatened by difference and dissemination. The editorial team are to play upon a phrase of Mike Lynch and David Bogen's (1996) 'practical constructionists' in the face of the deconstructive potential of sequences of replays. It is worth adding that the production team are finely attuned to the events of the match through endogenous categories such as: disputed, controversial, shocking etc. And that those events are all the more likely to be drawn into sometime irreconcilable disputes between fans of the opposing teams and (perhaps more surprisingly to those who don't follow football) between fans of the same team.

Our brief inquiry here into the making of football highlights is at odds with the lifeworlds and legacy of *avant-garde* cinema that was Deleuze's medium of choice. At odds because, as we have noted already, we are concerned with the 'making of', rather than the completed-for-all-practical-purposes (if always also incomplete for later revision, interpretation etc.) filmic object (Livingston, 1995). At odds also because the ambitions of the football highlights (like many other forms of sports highlights) are not to defamiliarise the viewer nor to show an image of time as recollection, hallucination, forgery or thought (Deleuze, 2005). They orient towards their viewers' expectations of being able to see each replayable event in the football match again in pursuit of an inquiry into *what* really happened and *how* it did happen.

Deleuze's focus, tight upon the 'interstice' or 'cut', takes editing's relationship with the movement, time and the image even further into that domain which in human geography has come to be called the more-than-representational (H. Lorimer, 2005). For Deleuze and for Clarke and Doel the 'cut' is there to emphasise a crucial entity that is of a non-representational nature - the cut is not to be seen. It is an invisible frame that makes certain things visible even as other things then also become invisible (e.g. what was cut out). What the tight focus on the interstice then itself also cuts out are those other components that constitute an edited sequence. In a first sense these are the internal logics of watching a game of football and in a second sense these are the sequential relations that form between shots by their adjacency before and after a cut.

Drawing on what was exhibited in our vignettes, we are arguing here that Deleuze focusing on the cut (while having helped displace previous treatments of film as image) misses the varied forms, tasks and practices of cutting involving transitions. For Deleuze editing collapses on to two very broad historical traditions - continuity editing in early cinema and then 'irrational cuts' (as he calls them) in the second half of the 20th century cinema. While this serves interesting ends for ideas about movement and time it loses a sense of 'editing qua editing' (Crittenden, 2005; Crittenden & Murch, 2006) in favour the philosophising 'film qua film' (Clarke & Doel, 2007: 894).

Whether it be cutting from a master shot to a tight shot which tells the viewer something has changed or from a point-of-view shot to a person looking to tell the view who is looking at that view (Murch, 2001), the shots themselves need to be considered since they are part of the gestalt of the cut. Even the cut itself can take different forms such as the 'L-cut' that brings audio in ahead of the video or, more unusually, video ahead of the

audio. It can be a cross-fade dissolve which is immensely popular with amateur film-makers (Laurier, 2008) or a jump-cut which was anathema and now quite conventional in documentary interviews and elsewhere (Thompson & Bowen, 2009). In terms of our editing team here what it also misses is that the 'out' point in itself has numerous qualities for the editor. For instance, this 'out' might be to cut just as the action completes, or just before it completes. The editor can rely on viewers drawing upon their cultural knowledges in order that the viewer might project the rest (i.e., because they do not need to see it). The editor can also extend the shot and cut later to accomplish other expressions. In our final excerpt from the editing team at work, which jumps ahead slightly from part 3 to part 5, we can see aspects of what more their 'out' adds.



Transcript 1, part 5

In the second frame of the transcript the editor and AP have acquired the feature that they wanted, in that camera 2 has provided a close-up on the goal-mouth as well as showing the corner kick. In watching it through they come to the formally adequate completion of this edited sequence of replays. The point at which their edited sequence has reached this state of being an adequate and accountable goal in the highlights is marked by their pair of assessments: 'that's okay' and 'it's fine'. The matched assessments (i.e. neither upgrading nor downgrading each other) display their aligned stance (Stivers, 2008) on the edited sequence. As the camera 2 footage continues to roll, in frame 3 the editor saying 'and off' over the continuing footage, re-orients the AP's attention toward now seeing not just that the clip itself was adequate but now marking where the exact out-point from this footage will be. When the editor holds on for something more and that extra begins to appear the AP laughs in appreciation (Glenn, 2010). What the editor

has picked up by holding on a tiny bit longer is an amusing zoom onto one of the players running up behind the unaware goal-scorer to give him a big hug.

In holding off on making his out-point the editor provides the editorial with an opportunity to show their stance on the event⁸:

Through cutting, crosscutting, and recutting, montage is a form of difference-producing repetition that enables film to express the characteristics of a qualitative multiplicity (Deleuze, 1991). With each cut, the whole changes. Like practice, eventfulness, and resistance, montage does not consist in anything. It has a certain *désistance* that does not so much negate a stance, as uproot and disseminate the whole series of stances. (Doel & Clarke 2007: 900)

The Deleuzian approach again reflects much of what we have just described. In particular, how the extension of the clip beyond one potential cutting point (just after the goal) to another one (the victorious goal-scorer being approached and then hugged from behind) changes the whole, and so changes the editor's stance on the event from merely 'showing the goal and how it happened' to also finding humour in the celebration. Certainly it is not a negation, as Doel and Clarke also note, but neither is it the Deleuzian whirlwind uprooting and disseminating the whole series of stances. The AP and editor lift and adjust their stances in a much slighter set of movements that do then establish a new stance on the goal and the players that scored it. Stances that are neither acceptance nor resistance. In fact quite what the stance is, goes unsaid, manifest as it is in the set-up 'and off...', the *denoument* of the shot with 'there' and the recipient's ongoing appreciation.

In pointing toward what exactly the editor shows the AP, we are not arguing for the representational versus non-representational, instead we set them both aside in favour of appreciating the lived work of the editor and AP. This is a shift from consideration of 'the shown' to the practices of showing in which certain aspects are picked out. It is perhaps less surprising to note that the editor and AP are conscious of what they are doing even if they are not verbalising all that they are doing. What need not be said is part of their membership and shared experience of editing together, not an optical or technological unconscious which automatically does things for them. Much of what is happening and what they are doing together is in their ongoing playing, pausing, rewinding, edging forward and backward of the video accompanied by only the briefest remarks 'and off... there.' Where the timing in relation to what has happened on screen so far, up until the editor says 'there', is what provides for their inter-subjective grasp of what they are doing with the video.

To draw together this examination of the replay in sports highlights editing, it should now be obvious that the replay itself and any sequence of replays it not a self-standing entity. The highlights production team in the editing suite are doing distinct if related

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⁸ Subtle displays of stance are edged into documentaries in similar ways (Scannell, 1996).

things with the replays by comparison with the football fans in their sitting room of the previous section. Like a word or a phrase from a language quite what a replay or an edited sequence of replays means is established each time. The replay serves as a resource and a medium in those practices. While this might seem like it then takes us only in the direction of difference, disappearance and even 'désistance' (rather than resistance, a multiplication of stances (Doel & Clarke 2007)), a Wittgensteinian and praxeological approach to editing allows us to pull against that force in the direction of sameness, appearance and stance.

Conclusion

There are detailed histories to be written of the gradual introduction of the action replay and its changing relationship to broadcasting, watching and refereeing sports: the football fan of the 1970s surprised by, perhaps sceptical of, then growing using to and, finally, coming to expect action replays (Barnou, 1990; Morris, 1987); the changing praxeologies of refereeing as the action replay is integrated analysing what happened during incidents and making judgements on that basis (Hanson, 2008); and the rise of remote sports production units that are built into the trailers of lorries in order to allow action replays to be taken to the distributed sites of sports events (Owens, 2006). Here our ambition has been to briefly visit two further places where the action replay is put to use: by football fans watching a game from their sitting room and by sports editors producing highlights of a match after the game is finished. A visit which we have used to question the idea of the optical/technological unconscious.

We have joined Turvey (2008) in arguing that as part of the optical unconscious, the action replay is taken by the revelationist tradition to be similar to the microscope or telescope because it reveals truths inaccessible to the human eye. Extending the revelationist tradition, Deleuze can then suggest the editing together of different events can allow us to see the nature of time as a crystal. A conception which Turvey argues against:

The cinema does not, therefore, reveal time that the human eye cannot see. Not only is it senseless to conceive of time as something that can or cannot be seen, but the temporal relations between things that can be seen in films are not invisible properties of those things that need to be revealed by a visual technology. Deleuze, like Vertov, in effect hypostatizes a relational property, conceiving of time as if it were like an intrinsic physical property of a thing that the eye is incapable of perceiving unaided rather than something possessed by virtue of its interaction with other things. (Turvey 2008: 97)

The action-replay while not part the 'Revelationist' tradition in cinema that Turvey argues against, is one that is similarly involved in revealing qualities of human action. It is a commonplace to remark on it allowing us to see features of sport's action that we were never able see unaided. This it does, not by additional optical qualities like a microscope, but by showing the same action again, from alternate angles and in slow-motion. The alternate angles do not make the invisible visible, they give us a perspective that might be either closer to what happened allowing us to see more detail (but not detail beyond what a human witness with that same perspective could see) or to remove an obstacle that prevented us from having a clear line of vision toward what is happening.

Video's place in studies in ethnomethodology and conversation analysis has continued to grow over the last three decades (Goodwin, 1980; Heath, 1986; Heath, Hindmarsh, & Luff, 2010; Mondada, 2006). It has continued to help in recovering how everyday

practices are remarkably orderly and indeed showing that they are so. In parallel it has pursued the 'whatness' of various kinds of much less everyday work. In investigating professional and other closed settings such as workplaces, the looks of things are no longer familiar to members of society and only to (some) members of those workplaces (Luff, Hindmarsh, & Heath, 2000; Mondada, 2003). Video therein has then allowed research teams to learn something more of how those places function from how experts actually do things and their relationship to the accounts of how they say they do those things (Lynch, 1993) (Heath et al., 2010). Our second set of materials took us into just such a workplace where the sports production team were using unfamiliar materials and were carrying out relatively obscure tasks (though TV production is of course something that most members of society have a passing knowledge of).

It is important to clarify that when we used video recordings to analyse the football fans on their couch and the editing team in their workplace, we are not 'seeing reality as it really is' by somehow escaping the limitations of the human eye. Instead, as we have argued, we can recover just how football fans see the broadcast game and just how editing teams see the replays they are working on, by, in Turvey's apposite term, augmenting the limitations of human memory and our speed to write the details down as they pass. In an ethnomethodology augmented by video recordings the replay of recorded actions sometimes exposes the limits of, while also re-grounding and re-invigorating the social scientist's imagination⁹. So, rather than how convention imaginations these phenomena to be, we can describe just how practices play out and just what these phenomena are. Providing us with the possibility (as we have taken up in this paper) to have an inventive, aesthetic and critical response to those conventions. While our materials did not reveal the editorial team seeing an image of time, they certainly augmented our capabilities to return to the recorded details of action with an orientation to the overlooked, the obvious, the familiar and the strange. Often finding that we made (or the participants we are studying) made mistakes in recognising what happened first time around.

Consequent upon Deleuzian and the non-representational approaches to film, video and related media has been the prioritisation of sense over intelligibility (Doel & Clarke 2007). The emphasis on sense and sense-making is a welcome move, as we noted earlier, after the long history of treating all persons as if they were like intellectuals and thus missing so much of what is constitutive of the human mind (Ryle, 2009). Yet the intelligible is not the intellectual, and the collection of praxeological studies emanating from ethnomethodology and conversation analysis recurrently mark that distinction between the intellectual and the intelligible (Sharrock, 2009). Restricting human affairs to sensing the world inadvertently leads us towards fields of practice staffed by somatic impulsive actors who are compulsed, fascinated and pushed around by their pre-cognitive responses (Nigel Thrift, 2000). Sense (and affect) have been and continue to be useful for gaining purchase on concepts connected with moods, atmospheres, passing feelings that

⁹ Garfinkel is often quoted as saying video recordings are an aide for the sluggish imagination (H. Garfinkel, 1967). Sacks worried that the sociological imagination was too limited and too hemmed in by convention (Sacks, 1992).

also pulse through the living audiences, crowds, workers and so on. Yet this taste for that aspect also diminishes the myriad human language games of judging, assessing, analysing, counting, arguing, repairing, bidding, forbidding, pleading, protesting, sniping, complying, directing, fouling, scrubbing and complaining. Understanding these human practices and describing the understanding inhering in these practices for ethnomethodology means a combined concern with intelligibility and sensing. Moreover it draws upon the legacy of a commitment to ordinary language's discernment amongst the words: sense, sensation, sensing, sense-making and sensibilities and their varied uses, most evident in Austin (Austin, 1962) but picked up again more recently by Cavell (Cavell, 2002).

Related to the diminishment of intelligibility Deleuzian approaches to visual media revive an earlier worry over Latourian thinning of the human to fatten the things of the world (Laurier & Philo, 1999). Similar to Latourian 'thing', cinema, or montage by itself, acquires properties attributed to language-using humans and many other animals. As Turvey argues:

Deleuze often writes about the cinema as if it can perceive ... or as if it is conscious ... But even though a shot might be like human perception ... in that it separates what it frames from the rest of reality, this does not mean that it is a perception, or that the movie camera perceives and is conscious. For a camera cannot behave like a sighted or conscious creature. It cannot recognize or fail to recognize an object, identify it or misidentify it, discover it or overlook it, pay attention to it or ignore it, watch it, observe it, scrutinize it, study it, or inspect it. Nor can it go blind or lose consciousness. The camera can certainly help us do some of these things by recording and thereby enabling us to see what we would not be able to see otherwise. But this does not mean that the camera performs these actions. (Turvey, 2008: 95)

For the action replay in the two related places we came upon it earlier, it should be clear not only that it was the football fans' and the production team's accomplishments in recognising, identifying, observing, ignoring and so on. There is no 'replay qua replay' because no medium is able to express itself by itself in the way that the phrase 'film qua film' (Doel & Clarke 2007: 894) suggests. Moreover what should also be clear is that quite what features of any action replay were being realised was due to how they were being configured (even as they were providing resources) (H. Garfinkel, & Sacks, H., 1986) (Greiffenhagen & Watson, 2009; Hindmarsh & Heath, 2000).

Deleuze's montage emerges in an aleatory fashion where one can still track the avoidable and contingent histories that lead to the arrival of particular features of the optical unconscious (Doel & Clarke, 2007). However the dangers of very term optical *unconscious* are that people start to become pushed around by forces which are defined by their being inaccessible to the awareness of ordinary members of society (or to ordinary vision as Turvey (2008) puts it). Deleuze's studies of cinema have privileged high art as the form which will reveal the true nature of world to us, and in doing so risks treating human vision as deficient. Its orientation toward montage is something we share even if we are

disappointed by the disappearance of the editors and their work from its theorisation. Certainly we would want to agree that there is both a long run of forms in use that are akin to montage and that it expands now with the increasing domestication of video. But while we do see many things that seem like montage, when we then deploy this, as a common property of diverse practices, it risks, having erased the editors, then destroying the distinctiveness of editing with video and film, as well as the distinctiveness of watching edited filmic and televisual forms in living rooms and other familiar places. Our hope is that we might see Deleuzian theorisation of media (new and old) complimented by a series of studies of those media in use that extend and deepen our understanding of cinema, television, home video, video games, video art, telemedicine, teleconferencing and more.

Bibliography

- Ash, J. (2009). 'Emerging spatialities of the screen: video games and the reconfiguration of spatial awareness', *Environment and Planning A*, 41(9), 2105-2124.
- Auslander, P. (1999). Liveness: performance in a mediatized culture. London: Routledge.
- Austin, J. L. (1962). How to do things with words. Oxford: Clarendon Press.
- Barnou, E. (1990). *Tube of Plenty: The Evolution of American Television*. Oxford: Oxford University Press.
- Bovet, A., & Sormani, P. (forthcoming). 'The televisual accountability of Reality TV: the video assessment of musical performances in talent shows ', p. NYP in M. Broth, E. Laurier & L. Mondada (eds), *Video at Work: praxeological studies of media production* London: Routldge.
- Broth, M. (2004). 'The production of a live TV-interview through mediated interaction' in C. van Dijkum, J. Blasius, H. Kleijer & B. van Hilten (eds), Recent Developments and Applications in Social Research Methodology. (Proceedings of the Sixth International Conference on Logic and Methodology, August 17–20, 2004, Amsterdam). Amsterdam: SISWO.
- Broth, M. (2008). 'The studio interaction as a contextual resource for TV-production', *Journal of Pragmatics*, 40, 904-926.
- Broth, M. (2009). 'Seeing through screens, hearing through speakers: Managing distant studio space in television control room interaction', *Journal of Pragmatics*, 41, 1998-2016.
- Buscher, M. (2005). 'Social Life under the Microscope?', *Sociological Research Online*, 10(1), http://www.socresonline.org.uk/10/11/buscher.html.
- Büscher, M. (2001). Ideas in the making: talk, vision, objects and embodied action in multi-media art and landscape architecture., *Sociololgy*. Lancaster: University of Lancaster.
- Caldwell, J. T. (2008). Production Culture: Industrial Reflexivity and the Critical Practices in Film and Television. Durham NC: Duke University Press.
- Cavell, S. (2002). *Must we mean what we say (Updated Edition)*. Cambridge: Cambridge University Press.
- Crittenden, R. (2005). Film and Video Editing: Second Edition. London: Routledge.
- Crittenden, R., & Murch, W. (2006). 'Fine Cuts'.
- Cuff, E. (1993). 'Problems of Versions in Everyday Situations'.
- Deleuze, G. (1992). Cinema 1: the movement-image. London: Athlone Press.
- Deleuze, G. (2005). Cinema 2: the time-image. London: Continuum.
- Dittmer, J. (2010). 'Comic book visualities: a methodological manifesto on geography, montage and narration', *Transactions of the Institute of British Geographers*, 35(2), 222–236.
- Doel, M. A., & Clarke, D. B. (2007). 'Afterimages', Environment & Planning D: Society and Space, 25, 890-910.

- Engstrom, A., Perry, M., Juhlin, O., & Broth, M. (2009). "EVS... now!" socially segueing instant replay into live video', *copies available from the authors*.
- Engstrom, A., Perry, M., Juhlin, O., & Broth, M. (forthcoming). 'Visual narrative and temporal relevance: segueing instant replay into live video', *Visual Studies*, NYP.
- Garfinkel, H. (1967). Studies in Ethnomethodology. Englewood Cliffs, NJ: Prentice-Hall.
- Garfinkel, H., & Sacks, H. (1986). 'On Formal Structures of Practical Actions', pp. 160-193 in H. Garfinkel (ed), *Ethnomethodological Studies of Work*. London: Routledge and Keegan Paul.
- Glenn, P. (2010). Laughter in Interaction (Studies in Interactional Sociolinguistics). Cambridge: Cambridge University Press.
- Goodwin, C. (1980). 'Restarts, pauses and the achievement of a state of mutual gaze at turn beginning', *Sociological Inquiry*, *50*, 272-302.
- Goodwin, C., & Goodwin, M. H. (1997). 'Contested Vision: The Discursive Constitution of Rodney King', pp. 292-316 in B.-L. Gunnarsson, P. Linell & B. Nordbery (eds), *The Construction of Professional Discourse*. New York: Longman.
- Greiffenhagen, C. (2011). 'Visual Grammar in Practice: Negotiating the Arrangement of Speech Bubbles in Storyboards', *copies available from the author*.
- Greiffenhagen, C., & Watson, R. (2009). 'Visual repairables: analysing the work of repair in human--computer interaction', *visual communication*, 8(1), 65-90.
- Hanson, C. (2008). 'The Instant Replay Time and Time Again', Spectator, 28(2), 51-60.
- Heath, C. (1986). *Body Movement and Speech in Medical Interaction*. Cambridge: Cambridge University Press.
- Heath, C., Hindmarsh, J., & Luff, P. (2010). Video in Qualitative Research, Analysing Social Interaction in Everyday Life. London: Sage.
- Heritage, J., & Raymond, G. (2005). 'The Terms of Agreement: Indexing Epistemic Authority and Subordination in Talk-in-Interaction*', *Social Psychology Quarterly*, 68(1), 15-38.
- Hill, R. J., & Stones Crittenden, K. (eds.) (1968). *Proceedings of the Purdue Symposium on Ethnomethology*. Purdue: Institute for the Study of Social Change.
- Hindmarsh, J., & Heath, C. (2000). 'Sharing the tools of the trade; the interactional constitution of workplace objects', *Journal of Contemporary Ethnography*, 29(5), 523-562.
- Jayyusi, L. (1988). 'Toward a socio-logic of film', 1-14.
- Kelso, P. (2010). England v Germany: Fifa want 'better refereeing' not goal-line technology, *Telegraph*. London.
- Latham, A. (1999). 'The power of distraction: distraction, tactility, and habit in the work of Walter Benjamin. Environment and Planning D.', *Environment and Planning D: Society and Space, 17*, 451-473.
- Laurier, E. (2008). The Home Made Video. In C. Graham (Ed.), *Photo technologies & interspaces symposium*, . Institute for Advanced Studies: University of Lancaster.
- Laurier, E., & Brown, B. (2011). 'The Reservations of the Editor: the routine work of showing and knowing the film in the edit suite June 15th', *Journal of Social Semiotics*, 21(2), 239-257.
- Laurier, E., & Philo, C. (1999). 'X-morphising: a review essay of Bruno Latour's 'Aramis or the love of technology'.', *Environment and Planning A*, 31, 1043-1071.

- Livingston, E. (1995). *An Anthropology of Reading*. Bloomington and Indianapolis: Indiana University Press.
- Lorimer, H. (2005). 'The busyness of being 'more-than-representational': some recent work in cultural geography', *Progress in Human Geography*.
- Lorimer, J. (2010). 'Moving image methodologies for more-than-human geographies', *Cultural Geographies*, 236-258.
- Luff, P., Hindmarsh, J., & Heath, C. (eds.) (2000). *Workplace Studies*. Cambridge: Cambridge University Press.
- Lymer, G. (2009). 'Demonstrating Professional Vision: The Work of Critique in Architectural Education', *Mind, Culture & Activity*, 16(2), 145-171.
- Lynch, M. (1993). Scientific practice and ordinary action: ethnomethodology and social studies of science. Cambridge: Cambridge University Press.
- Lynch, M., & Bogen, D. (1996). The Spectacle of History: Speech, Text and Memory at the Iran-contra Hearings. London: Duke University Press.
- Marriott, S. (1996). 'Time and time again: 'live' television commentary and the construction of replay talk', *Media, Culture & Society, 18*, 69-86.
- Marriott, S. (2007). Live Television: Time, Space and the Broadcast Event London: Sage.
- Mayer, V., Banks, M. J., & Caldwell, J. T. (eds.) (2009). *Production Studies: Cultural Studies of Media Industries*. London: Routledge.
- McHugh, K. E. (2008). 'Movement, memory, landscape: an excursion in non-representational thought', *GeoJournal*, 74(3), 209-218.
- Mondada, L. (2003). 'Working with video: how surgeons produce video records of their actions', *Visual Studies*, 18(1), 58-73.
- Mondada, L. (2006). 'Video recording as the reflexive preservation and configuration of phenomenal features for analysis', pp. 51-68 in H. Knoblauch & B. Schnettler (eds), *Video Analysis: Methodology & Methods*. Oxford: Peter Lang.
- Morris, B. (1987). 'Reading Replay in "Live" Television Text', *The Journal of Popular Culture*, 20(4), 147-157.
- Morse, M. (1983). 'Sport on Television: Replay and Display', pp. 44-66 in A. Kaplan (ed), *Regarding Television: Critical Approaches*. Los Angeles: American Film Institute.
- Murch, W. (2001). In the blink of an eye, a perspective on film editing. Los Angeles: Silman-James Press.
- Murphy, K. (2004). 'Imagination as Joint Activity: The Case of Architectural Interaction', *Mind, Culture & Activity, 11,* 267-278.
- Owens, J. (2006). Television Sports Production. London: Focal Press.
- Perry, M., Engstrom, A., & Juhlin, O. (2010). 'Mediated multi-stream media production: making sense of sense-making in distributed and multi-participant professional video production', *copies available from the authors*.
- Phillabaum, S. (2005). 'Calibrating photographic vision through multiple semiotic resources', *Semiotica*, 147-175.
- Ryle, G. (2009). 'The Concept of Mind: 60th Anniversary Edition', 1-377.
- Ryle, G. (2009 (orig 1949)). The Concept of Mind. 60th Anniversary Edition. London: Routledge.
- Sacks, H. (1992). Lectures on Conversation. Oxford: Blackwell.

- Scannell, P. (1996). Radio, Television & Modern Life. Oxford: Blackwell.
- Scannell, P. (2009). 'Review Essay: The Liveness of Broadcast Talk', *Journal of Communication*, 59, E1-E6.
- Sharrock, W. (2009). 'Perennial arguments about intelligibility and rationality in the philosophy of the social sciences, (11), 1–18.', *Ethnographic Studies*, 11, 107–124.
- Stivers, T. (2008). 'Stance, alignment, and affiliation during storytelling: When nodding is a token of affiliation', *Research on Language & Social Interaction*, 41(1), 31-57.
- Sudnow, D. (1972). 'Temporal Parameters of Interpersonal Observation', pp. 259-279 in D. Sudnow (ed), *Studies in Social Interaction*. New York: Free Press.
- Thompson, R., & Bowen, C. J. (2009). *Grammar of the Edit, Second Edition*. London: Focal Press.
- Thrift, N. (1996). Spatial Formations. London: Sage.
- Thrift, N. (1999). 'Steps to an Ecology of Place', pp. 295-322 in D. Massey, J. Allen & P. Sarre (eds), *Human Geography Today*. Oxford: Polity Press.
- Thrift, N. (2000). 'Still Life in Nearly Present Time: The Object of Nature', *Body & Society*, 6(3-4), 34-57.
- Thrift, N. (2004). 'Remembering the technological unconscious by foregrounding knowledges of position', *Environment and Planning D: Society and Space*, 22(1), 175-190.
- Thrift, N. (2007). Non-representational Theory: Space, Politics, Affect London: Routledge. Turvey, M. (2008). Doubting Vision: Film and the Revelationist Tradition. Oxford: Oxford University Press.
- Whannel, G. (1992). Fields in Vision: Television Sport and Cultural Transformation. London: Routledge.