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### 3. 'At any given moment': duration in archaeology and photography

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'A thousand incidents arise, which seem to be cut off from those which precede them, and to be disconnected from those which follow. Discontinuous though they appear, however, in point of fact, they stand out against the continuity of a background on which they are designed, and to which indeed they owe the intervals that separate them; they are the beats of the drum which break forth here and there in the symphony. Our attention fixes on them because they interest it more, but each of them is borne by the fluid mass of our whole psychical existence. Each is only the best illuminated point of a moving zone which comprises all that we feel or think or will – all, in short, that we are *at any given moment*' (Henri Bergson 1998 [1911]: 2-3).

**Duration (Figure 3.1).** The title of this chapter comes from the opening of Henri Bergson's book *Creative Evolution*, where he is introducing his understanding of duration. The philosophy of Bergson, his focus on duration (rather than a fixed point in time) and extent (rather than immobile sections of space), are about understanding the world in movement and this also features strongly in our archaeological research (Knight and Brudenell forthcoming; McFadyen 2006, 2008). In particular we are interested in the relationship between duration, extent and movement in archaeology and photography, and how we might understand these relations in a more critical manner if we think on the link between photography and archaeology.

This chapter considers the duration involved in the photographic process of early photography, it considers movement in several early and contemporary photographs, and it uses these to rethink the nature of archaeological evidence (Knight 2005) and the nature of movement in contemporary archaeological digital photography. Our case study from archaeology is the site of Must Farm, Cambridgeshire with its array of evidence for Bronze Age settlement (920–790 BC; Knight 2016). The architectural elements of the site include a timber causeway, and pile dwellings bounded by a palisade. However, instead of focussing on static architectural forms, we want to articulate an understanding of the site through the dynamics of building and living – architecture *as* practice, rather than architecture as an object (Hill 2003, McFadyen 2007, 2012 and 2016). This way of understanding the archaeology of the built environment means that we would describe this digital composite photograph of the site (*Figure 3.1*) as a 'dense territory of occupation' (Rendell 2002: 5) rather than one absent of people, with the juxtaposition of things in time.

There is the making, use and unmaking of an occupied space here, and not necessarily in that sequential order. There is a scatter of fresh wood chips from the making of the ash posts, the rounded ends of ash posts inserted into the silts that make up the diagonal line of the palisade (from the top left to bottom right of the frame), and to the right of this a dense cluster of fresh wood chips from the initial construction of the pile dwellings, the criss-crossing of large worked timbers (burnt and unburnt) from the collapse of the houses, and the rims of several used pots peeking out from underneath those timbers. Extending from the riverbank are the embedded horizontal tracks of foot and hoof prints. Cutting through the riverbank (near the upper left side of the frame), and river silts (in the right-hand side of the image), are the horizontal lines of the edges of the excavation, as are the heads of several grid pegs driven into the mud. In form and line a spatial archaeology could be described from the photographs, but it is not a flat and motionless representation of past events. Around and between the so-called edges of things there is texture and depth in the photographs, there is fluidity and an extent to things, there is duration over space.

Time is not at odds, or in stages, in the archaeological evidence or in the archaeological photographs.

**Concrete duration (Figure 3.2).** Time is not usually described in terms of duration (i.e. defined by its fluidity and extent or indivisibility) in photographs. Indeed, movement in photography is more often attributed to the ‘perceptual moment’ of the emergence of the technologies of microtime and the tenth of a second (Canales 2009). A snapshot photograph is supposedly instantaneous and captures all, freezing a moment in time (Hamilakis and Ifantidis 2015: 138). It is able to clarify form by rendering a thing immobile (Bergson 1998[1911]: 300). But is time frozen by, or in, the photograph, or does the image involve many events and processes (Edwards 1999 and Baird this volume)? It always takes time to take a photograph. Is the metaphor of the photographic snapshot the best way to develop an understanding of the nuances of archaeological evidence (Buchli 2013: 7, 65)?

In the Spring of 1845, William Henry Fox Talbot took a photograph of The Royal Exchange, London (Figure 3.2). This is a digital copy of a salt print from a calotype negative (the negative-to-positive, multiple image paper photographic process). Important here is that the box camera would have been set up, Fox Talbot would have uncovered the lens, and then he would have looked at his pocket watch for two or three minutes before covering the lens again (Ollman 2002). During that time, movement continued. As Jimenas Canales writes about Bergson, ‘real movement, real change, and real events escaped between the static intervals of time used in the sciences’ (2009: 17). And so a carriage wheel continues parallel to the street kerb as it follows the extension of the road into Threadneedle Street. And two people circumnavigate the railings around the statue of the Duke of Wellington. Other things and other people were moving too. But the carriage and the couple had a slower tempo as they negotiated the street and the railings. The fluidity of their moving zone is in time with the duration of the exposure. This is the connection between Photography and Archaeology: their similar temporal extent.

This early photograph is important to archaeology because it makes us look harder at material and movement, that which is animate and inanimate. The temporal is key here, not just the spatial. There is movement between objects and parts: river sediments to ash post at Must Farm and street kerb to carriage wheel at The Royal Exchange. Fox Talbot’s photograph is not a failure for having blurred form, for where there is a lack of clarity there is real movement. If we were to slow down further, the areas where we think we see form and line, dressed stone and building, would blur and move too.

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**Clock time (Figure 3.3).** Both the box camera and the pocket watch are integral to the early photographic process. Time is fundamental to the creation of the image. But it is as if we have forgotten the pocket watch. It is important to think about the actual time of the photograph, rather than the idea of time captured by the photograph. As a material reminder, the image reproduced here as *Figure 3.3* is a digital copy of another calotype by William Henry Fox Talbot from 1841 of *Nicolaas Henneman taking a calotype portrait of Pullen*. In the photograph of the taking of a photograph Henneman is touching the box camera – but he has his eyes firmly on the pocket watch.

We can learn about the moving zone and an extended duration in contemporary photography, too. In *Theater* (1993), Hiroshi Sugimoto left the shutter of his camera open for the length of the showing of a film. Time is approached as duration in his photography. The art critic Masashi Ogura writes, ‘what is in question here is the way photography relates to duration as well as instantaneousness using the physical mechanism of a camera’ (2001: 7). Due to the extended duration, the details from the instantaneous images on the screen disappear and their light reveals the nuances of the material world of the cinema. Sugimoto is not interested in freezing form on the screen; he is interested in the movement it generates.

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**Movement (Figure 3.4).** In 2005, Martin Newth produced a series of photographs entitled *Rush Hour – Roads. Rush Hour. M1 South (Figure 3.4)* was produced with an hour-long exposure time over the period of rush hour. At first glance, the material world looks immovable as if at a point of rest (Bergson *ibid.*: 299). Martin Newth (pers. comm.) describes this first glance as appearing to be completely empty of any traffic or people. The second glance brings ‘the power to imagine the roads roaring with traffic – picking up on very small clues in the image and/or the title’.

Yet, surprisingly, form is not crystal clear. At a second glance, you look to the material, the so-called inanimate, in order to reveal the animate. If you look hard enough, take some time, you notice that these are movement images.

The car or wheel is not visible next to the painted road marking, instead a blur of movement is registered high above the white line. Unlike the William Henry Fox Talbot photograph, there is a marked difference between the fast tempo of the car and the slow duration of the photograph. The moving zone is less material, but it has a greater depth to it.

Time is not spatialised, fixed or frozen (Bergson *ibid.*: 303). With extended duration photography makes more of movement, texture and depth. These photographs by Fox Talbot, Sugimoto and Newth hold to an animacy which is already there (this not about reanimating the past).

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**Illuminated points (Figure 3.5).** Eadweard Muybridge's photography is famous for supposedly capturing high-speed motion. 'His 1878 camera shutters,' Rebecca Solnit writes, 'were a triumph of engineering that made reliable exposures of a fraction of a second for the first time, a speed at which extremely rapid motion could be captured in focus rather than recorded as blurs' (Solnit 2003: 4). As Tim Cresswell describes, Muybridge's film and shutter technology could take pictures at one thousandth of a second in rapid succession (Cresswell 2006: 60). However, we would argue that it is a mistake to reach for his photographs when thinking about movement in the photographic image. Each of the examples of 'motion' in *Animal Locomotion* (Muybridge 1887) was produced by a series of cameras and a series of photographs. A collotype that is composed of 24 successive images shows this. Twenty-four cameras were set up in a line at regular intervals and the shutters were then released consecutively. These instantaneous images are of immobile form, with each at a point of rest. Fast movement in the world can produce, through a minimum duration of exposure in photography, an immobile section of space in the photographic image. The linear and sequential arrangement of Muybridge's images, along with the numbers that count incrementally in the bottom left-hand corner of each photograph, allow the intellect to preside over actions and so picture the end-point. Bergson writes,

'So if our activity always aims at a result into which it is momentarily fitted, our perception must retain of the material world, at every moment, only a state into which it is provisionally placed' (*ibid.*: 300).

Is movement best described by focusing on the start and end points? Or does movement operate in the intervals that separate the points – through the particular qualities of its duration and extent (Aldred 2017: 91)? The aim of Muybridge's photographic work was to reveal motion through clarity of form, and yet for such form to be clear it has to be immobile. Form here is *derivative* (Canales 2009). Cresswell sees things differently 'Muybridge's images,' he argues,

'are remarkable in many ways. Most obviously they made visible the world of motion. Photography had, for a long time, been a technology that extracted stillness from the motion of the world' (2006: 61).

But Cresswell (2006) and Solnit (2004) mistake clarity of form for visible motion. To compound this mistake, they also write in negative terms of the blurred durations of early photography: its inability or difficulty in producing clear form. They dismiss slower readings of speed: the blur and the particular qualities of movement that it holds.

There is a second way in which the idea of movement in Muybridge's photographs is heteronomous. The apparatus of the giphoscope is required if we are to create the illusion of movement with these images. The movement is in the apparatus (Deleuze 1989). It is a mistake to confuse the moving object (even when photographed successively) with the act of moving. Instead, as Bergson writes, to see movement we should be 'attaching ourselves to the inner becoming of things rather than placing ourselves outside them in order to recompose their becoming artificially' (*ibid.*: 306). *Animal Locomotion* attempts to bring together the instant of taking the photograph and the time elapsing within the frame. But real movement involves concrete duration, and indivisible time. Muybridge's images do not give duration an absolute existence but instead put time on the same plane as space - there is no texture or depth in them, no moving zone.

**Moving zone.** We are fed up of hearing that as archaeologists we only study material remains, that the spaces we investigate are devoid of human movement and life. Archaeological evidence is often conceived in terms of residues or remains, defined by human absence rather than presence (Barrett 1988, 2006; Lucas 2012: 11-17; cf. McFadyen 2010). The assumption is that archaeological evidence is a material that has become separated from human bodies, that human processes and events have been produced and are now over and of the past. Art historian Frederick Bohrer has gone one step further: he would have it that Photography and Archaeology are both *defined by absence* (2011: 7).

Our view is quite the reverse.

In both Archaeology and Photography, people's relationships with things, and the practices and objects they are caught up in, are very much present. Bodies are still involved in movement. Materials go on facilitating movement (as much as having been produced by it). It is simply that the archaeologist needs to look/think with a slower temporal register. Jeffrey Cohen put this beautifully when he writes

'When we decelerate, imagine a deeper past, get geologic, then history becomes more eventful, richer, deeper in its strata. Modernity loses some of its lustre, prehistory loses homogeneity, and the agency of the material world becomes easier to perceive alongside that of the human' (2015: 37).

Archaeological knowledge is often imagined as involving a temporal movement from dusty remains and ruined fragments (where people have been absent for a very long time) to a snapshot or trace of a particular life. Neither side of this description is accurate, because duration is inherent to archaeological evidence (cf. Lucas 2005). Far from ruins and traces, the occupied spaces of Archaeology and Photography are the product of movement and constitute a context in which future movement can occur.

We described the digital composite photograph of the Must Farm Platform as a juxtaposition of things from many times with the making, use and unmaking of an occupied space (*Figure 3.1*). Some have sought to understand such spaces through the idea of 'multi-temporality' in archaeo-photography (Hamilakis and Ifantidis 2015: 143). Our focus on duration leads to a very different vision. In our discussion of this photograph above, we illuminated points of a moving zone. However, time is not fixed by space. Movement is happening between other objects or parts. The architecture extends into the riverbank that is a *rodden* (the dried raised bed of a watercourse) composed of marine silts. Fish hooks and carp bone are a part of the freshwater river silts. Leaves, as well as footprints, fall in an autumnal deposition. Our understanding of these geological and ecological relationships develops in terms of how people engaged with different temporal conditions - the flooding of the Flag Fen Basin, the flow of a river channel, the season of the year (Knight 2016).

By processing the elemental in the photograph we build a framework that understands the inhuman on human terms in Archaeology. Just like Newth's photograph (*Figure 3.4*), movement in the archaeological evidence is less material than when seen at the pace of lived perception, but it is thicker. Archaeological evidence witnesses duration at a different scale:

'There is no form, since form is immobile and reality is movement. What is real is the continual *change of form*: form is only a snapshot view of transition' (Bergson *ibid.*: 302; see Canales 2009: 186)

Movement occurs as the passage of time as well as the traversal of space. For this reason the snapshot metaphor for Photography is not a good one for Archaeology. Time *and* space movements that both constitute and produce their own contexts. Consider the long exposure in early photography again: it is by looking at the material, the so-called inanimate, that the

animate is revealed. Time is not fixed by space. Movement happens between objects or parts. It is relationships between objects and people that are important.

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**Long exposures (Figure 3.6).** ‘Bell Street, from High Street’ (*Figure 3.6a*) is a carbon print of a calotype photograph by Thomas Annan taken some time between 1868 and 1877. It is one of thirty-one photographs in the series. The main focus of this photographic work is the backstreets of Glasgow. These were dark and narrow spaces, and so Annan used a large-scale camera and a wet collodian process in order to create the negatives (Mozley 1977). He would set up the camera and coat the photographic plates on the spot to produce the negatives. The process was awkward. It drew people’s attention to the camera. It took time.

(Anita Mozley writes that Annan’s focus was on the tenements, and that he was ambivalent to the presence of their occupants (1977: vii), but more accurately his focus whilst taking each photograph must have been, as with Nicolaas Henneman above, on his pocket watch.)

As an experiment, we ask you to look at the photograph (*Figure 3.6a*) and then read the following lines from Robert Musil’s *The Man Without Qualities*.

‘Dark patches of pedestrian bustle formed into cloudy streams. Where stronger lines of speed transected their loose-woven hurrying, they clotted up – only to trickle on all the faster then after a few ripples regain their regular pulse-beat...and as a whole resembled a seething, bubbling fluid in a vessel consisting of the solid material of buildings, laws, regulations, and historical traditions’ (Musil 1953: 3).

Now look at the photograph again, and mark the different kinds of blurred form. People with ‘stronger lines of speed’ are there as ‘cloudy streams’. They are on the pavement and the road, parallel to the street kerb. ‘Darker patches’ form where people have slowed down and stopped to talk to each other on the street corner. This is a conversation serious enough for a basket to have been put down, for it will take time. A more ‘loose-woven’ group talk to each other as they cross the street, whilst another play on and off the threshold of a doorway. In *Figure 3.6b*, one woman is doubled and repeated as she walks around the street corner and comes back to halt at a street lamp. In *Figure 3.6c*, the line of the street kerb not only divides the space between road and pavement (horizontally), it has depth (vertically), and provides seating space for women to halt. And *the basket* has been put down (it could almost already be in the museum!), but the people involved in the using and depositing of it are there, in movement. This is because of the time played out in the taking of the photograph (*Figure 3.6d*).

In this photograph, different kinds of moving zone are constituted through varying speeds of changing forms. Each has a different texture and depth with stronger or weaker lines, or denser to looser clusters. In this photograph, the cast of the shadow is an effect of action rather than representation. Trace is constituted from movement and a specific temporal parameter. It is not the image *of* something (Doane 2003). Interestingly, in the 1900 edition of Annan’s work, the images were produced as photogravure plates and in that process many of the calotypes were ‘tidied up’ by James Criag Annan, Thomas Annan’s son. (Mozley (1977: xii) writes, ‘Moving figures, those ghosts who would not stand still for the photographer, are completely excised.’)

**Taking Time (Figure 3.7).** One difference between Archaeology and Photography is that archaeological evidence is constantly in the process of emerging. There is no lens cap that is taken off or put back on. Movement occurs in concrete duration, which is indivisible time. An archaeology in time casts light on things that are always already animate. As with Robert Musil's account of the streets of Vienna, so with this archaeological digital photograph taken at Must Farm (Figure 3.7). With the duration of exposure in early photographic technologies in mind as we consider the pace of archaeological knowledge, we can slow down our reading of the image. Human movement and life is far from absent from this archaeological evidence. The basket is an eel trap. Half of it has been uncovered in the image. The people involved in the using, depositing and uncovering this Bronze Age trap, woven from canes of willow, are there *in* movement. Ongoing processes are material in the river silts. In the top third of the image there is an intersection where tarpaulin, bucket and archaeologists' foot prints connect in the clods of the surface mud. In the middle of the image, the archaeologists' handiwork continues where their feet do not into the smear of mud over the eel trap. In the bottom third their handiwork moves down into the river silts where they encounter the hard edges of willow canes left where Bronze Age hands made and set the trap in the river. The trap is located deep in the petrol grey-blue river silts *and* it is positioned to catch eel in the Spring/Summer flow of a freshwater river. There are different kinds of moving zone that are constituted from the varying speeds of the changing forms. The lines made by the speed of the archaeologists' feet and hands are as strong and weak as 'dark patches' and 'cloudy streams' respectively. The hands of those that made and set the trap are less material, they are more 'loose-woven', but they have greater depth and they hold to the material. A river flows and forms through them all.

By taking time we acknowledge different kinds of form, and so we see movement.

Archaeological evidence, of which this archaeological digital photograph is one example, is defined not by absence and ruin but by presence – 'dense territories of occupation' (Rendell 2002: 5). Archaeology is not the study *of* the duration, extension and movement of other people's lives, because there is no lens cap to put on. It is a subject that is a part of those conditions as objects.

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**Conclusion.** This chapter has suggested that thinking through the long exposure times that characterised early photography represents an important lens through which to understand the nature of archaeological evidence. We want to slow down the reader/viewer because it is through duration, we suggest, that we come to an understanding of movement in Photography and Archaeology.

In the uses of photography for the purposes of archaeological theory, in theorisations of a connection between photography and archaeology, critiques of time through the image of the trace or the remnant are prominent (Shanks 1992, Hamilakis 2008, Bohrer 2011, Hamilakis and Ifantidis 2013 and 2015, Carabott *et al.* 2015). Interestingly, all of these works take significant inspiration from Roland Barthes' *Camera Lucida* (1981). For example, Michael Shanks places significant weight on the Barthesian concept of 'punctum', that momentary form of time that draws out greater reflection and meaning in the viewer, and can be produced from the inclusion of accidental detail in a photograph that makes the viewer take a second look and notice something else, and so it 'pierces the coherent surface of coded understanding' (Shanks 1992: 146). Philip Carabott, Yannis Hamilakis and Eleni Papargyriou foreground Barthes's (1981: 12) sense of 'disturbance' in terms of what they see as 'multi-temporality':

'Photographic objects are multi-temporal things, and they condense different times as co-existence rather than succession; for example the having-been-there of the time when the photo was taken, and the here-and-now of us viewing it, and often several other times in between' (Carabott *et al.* 2015: 10).

Thus, in their discussion of remnants of Muslim tombstones on the Acropolis, Hamilakis and Infantidis (2015: 150) argue that in 'the combined mnemonic and temporal possibilities of both apparatuses' (archaeology and photography), 'the depiction of multi-temporal archaeological fragments is...enhanced by the multi-temporal affordances of the photographs themselves'.

Both the punctum-inspired account of 'significant time' or the disturbance-inspired evocation of the 'multi-temporal' are effective in disrupting the notion of archaeological photography as any straightforward documentary witness. But in their assumption that a photograph represents a trace of momentary time captured by the camera, they erase from their account the time taken in its creation. Duration cannot simply be added into these accounts because, we follow Bergson (*ibid.*) in arguing, duration has an absolute existence.

Our image of the juxtaposition of time in archaeology and photography at Must Farm (*Figure 3.1*) is just as susceptible as the description by Hamilakis and Infantidis of the mutual 'multi-temporality' of photography and archaeology is to the danger of viewing time on the same plane as space. The danger is that if time is spatialised, and there is a clear form to these multiple times, then there is no texture and depth, no 'moving zone'. It may disrupt the legacy of documentary witness in archaeological photography to detail the wood chips, timber palisade, horizontal lines of the edges of excavation at Must Farm; or the 18th- and 19th-century headstones, the 19th- and 20th-century landscape, the horizontal line of the metal fence. But each instance such an account presents is detail in clear form, forging each moment of time as an incident at rest in the frame (Bergson *ibid.*: 2).

The limitations to such a succession of still lives appear in a blur, through Bergson and duration. There is movement, not relict stillness, in archaeological evidence and in archaeological photography. Duration, extent and movement have been overlooked in how we think about Archaeology and Photography. In the process, the animate in archaeology's materials and images has been neglected. We need not dismiss work on the legacy of surveillance (Shanks 1992) or the monumentalised moment (Hamilakis and Infantidis 2015) in archaeological photography, or the new kinds of photographic practice in archaeology in the

form of photo documentaries and photo-essays (*ibid.*), in asking archaeologists to linger a while longer over the evidence before us.

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