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‘To see what’s down there’: Embodiment, gestural archaeologies and materializing futures

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An arm extends. A finger points. Knees bend and a body drops, while an arm tracks a diagonal towards a vertical cut into the ground. The tip of a trowel catches the light as body-and-tool move quickly between layers of differently coloured and textured earth. Another hand grasps a pen and draws on paper the circular outline of a feature in the landscape. The hand-and-pen shifts from the horizontal plane of the paper to extend outward into an unseen distance before returning to the paper. A resistivity meter rocks gently in the breeze and slowly falls towards a hand that reaches out to steady it. These are gestures from factual television programming that has as its focus archaeological heritage. Giorgio Agamben writes that approaches to describing bodies-in-movement on screen as still images frozen in time only became possible through the paradox of cinema’s simultaneous mechanical annihilation and return of gesture: ‘cinema leads images back to the homeland of gesture’.ⁱ If gesture is the ‘label for actions that have the features of manifest deliberate expressiveness’, of the ‘immediate appearance of gesturalness’, film and television fragment and abstract that expressiveness through their production of image-objects that are fragments, not representations, of the real world and then attempt to return those images to gestural expressiveness through processes of editing, exhibition and broadcast.ⁱⁱ

Concerns with screening embodiment have focused on the *ethos* of the human body and the way in which cinema invites the spectator to consider ‘the lived sense and feeling of the human body not merely as a material object one possesses and analyzes among other objects but as a material subject that experiences and feels its own subjectivity’.ⁱⁱⁱ The literature on gesture, haptics and embodiment importantly explores the invitation that film extends to audiences to consider entanglements of human-to-human and human-to-apparatus relationships in terms of cinema’s production of what it means to be human.^{iv} Laura U. Marks writes powerfully about ‘the haptic [as] a form of visibility that muddles inter-subjective boundaries’.^v For Steven Shaviro, ‘the flesh is intrinsic to the cinematic apparatus, at once its subject, its substance, and its limit’.^{vi} And Vivian Sobchack’s exploration of her fingers’ recognition of the image in Jane Campion’s *The Piano* (1993) powerfully enfolds materiality into human experience.^{vii}

In this paper, however, I wish to suspend the return of gesture to the transcendental human body. Gesture practises and produces complex and diverse bodies, a dynamic that philosopher and quantum physicist, Karen Barad, describes as phenomena of intra-acting, material-discursive boundary-making practices that congeal and fix what we come to know as human and non-human.^{viii} Barad’s formulation of agential realism holds that things, objects and even human bodies do not precede intra-action but emerge through it. The material-discursive dynamism of this ‘worlding of the world’^{ix} is what creates the condition of possibility of humans

and non-humans. Intra-action is the haptic, performative gesture that produces, rather than blurs, boundaries in that there are no *a priori*, ontological material distinctions. Instead, repeated intra-action settles the potential, actualizes the virtual, enacts the cut that resolves as — to return to Sobchack — human subjectivity and piano key. To explore these questions further, I consider gesture in television that concerns archaeological practices in order to ask how gesture operates in this televisual sub-genre to invite new ways of thinking about the human and other-than-human.

Since the 1950s, British archaeological television programming moved the gestures of the televised lecture out in to the landscape and tested the technical capabilities of early outdoor broadcasting services,^x relying for its narrative and affective power on the skilled entanglement with earth that the archaeologist manifests. I suggest that television programmes that focus on the practices of archaeology alert viewers to the alien other within with which they are always-already enfolded, to the ongoing material-discursive intra-actions that practise boundaries of body, artifact, landscape.^{xi} That is, the focus on gesture in television archaeologies itself gestures towards the precise moments at which materialities actualize as distinct agents. The affective power of gesture in televised archaeology, from the excitement surrounding the emergence of a skull from the soil to the ‘aha!’ understanding of uses of the landscape, therefore rests in what Gilbert Simondon has theorized as individuation.^{xii} With affect operating within the realm of the virtual, as potential,^{xiii} the on-screen archaeological gesture returns distinctions between human and other-than-human bodies to the potential of being otherwise in the very moment of individuation. Individuation thus points forward to other multiple potential individuations.

The potential of archaeological gesture as the event of individuation that, at the same time, returns material-discursivity to the realm of the virtual also suggests an ethics of care that responds to what Karen Barad describes as the worlding of the world^{xiv} in her account of matter as form-taking activity.^{xv} That is, the gestures of television archaeologies point directly to matter as form-taking activity in a process of worlding, which invites viewers to consider matter beyond questions of individual human subjectivity and to consider the ethical responsibilities we share with all materialities in the moments of individuation and boundary-making. To explore this further, I will discuss two key British series that focused on archaeology as practice, rather than as an illustrative ‘handmaiden to history’^{xvi}: *Who were the British* (Anglia TV, 1965) and *Time Team* (Channel 4, 1994-2013). In *Who were the British: The Investigators*, the story is that of the history of archaeology and the contemporary practices and methods that comprised leading-edge archaeological fieldwork in 1965. *Time Team*’s ‘The Guerrilla Base of the King’ was the first ever episode of the initial regular series, first broadcast on Channel 4 in 1995, while ‘Athelney’ saw the return of *Time Team* to the site in 2003. The archaeology-as-practice in *Who were the British* and *Time Team* invites viewers to consider the role of gesture within emergent phenomena that actualize futures in which these matters matter.

Gesture and Human Language

As Adam Kendon notes, ‘an interest in visible action as utterance, or gesture, is of very long standing’.^{xvii} The briefest history of interest in gesture would nod

towards the First century AD, when Marcus Fabius Quintilianus produced *Institutio oratoria*, the first complete discussion of gesture in the context of rhetoric.^{xviii} The Roman writer's focus was on gesture as speech act and sign of feeling rather than as referential content. Later, John Bulwer's *Chirologia: or the Naturall Language of the Hand* and *Chironomia: or the Art of Manual Rhetoricke* (1644), continued the Classical focus on the relationship between gesture and the rhetorical arts.^{xix} Andrea Vincenzo de Jorio (1769-1851) was first to link gesture to the everyday lives of people, both past and present, relying on his pioneering work as an archaeologist to build his gestural theories.^{xx} His studies of Herculaneum and Pompeii, grounded in a rigorous observational method that would be described in the twentieth century as 'ethnoarchaeology',^{xxi} were attempts to fix gesture as cross-temporal signifying images. De Jorio's studies formed the basis for his publication, in 1832, of *La mimica degli antichi investigata nel gestire napoletano*, an investigation of historic and contemporary Neopolitan gesture. Similarly, Edward Tylor's 1865 publication, *Researches into the Early History of Mankind*, combined an ethno-archaeological approach with an interest in gestural customs to conclude that 'gesture-language' and 'speech-language' were less independent than thought previously.^{xxii}

Despite Agamben's claim, grounded in the specificity of Tourette's syndrome, that gesture disappeared at the end of the nineteenth century, gesture in its varied forms occupied twentieth-century behavioural scientists, anthropologists and philosophers. Walter Benjamin and Theodor Adorno's writings on gesture were informed by, but not limited to, the gestural and vocal performatives of Brechtian *gestus*. Adorno considered the links between theatre and the cinema through the 'objectless inwardness' of human subjectivity, an emptiness that could only be expressed through gesture.^{xxiii} He argued that it is through manifesting gesture that the subject is alienated from herself, disgusted by what she experiences as an element alien to the sovereign self: 'A spell hangs over Kafka's space; imprisoned in itself the subject holds its breath, as though it were not permitted to touch anything unlike itself'.^{xxiv} For Adorno and Agamben, gesture produces the unsayable at the heart of language. However, even the self-touching of holding one's breath, of not saying, is beyond language and involves a recognition of what Karen Barad terms the '*infinite alterity of the self*', which is marked by the 'always already involution, invitation, invisitation, wanted or unwanted, of the stranger within'.^{xxv} Gesture does not, therefore, point to Adorno's sense of the 'objectless inwardness', in that the very inwardness of breath-holding involves a self-touching, the uncomfortable materiality at the heart of human experience.

While it is beyond the scope of this paper to discuss the scholarship on gesture fully, attempts from the field of psycholinguistics to taxonomize gesture seek to understand action and speech as integrated, intra-active, co-productive: 'since, semiotically, gestures are often quite different from words, the question of how they collaborate with words in producing the meaning-complex of the utterance of which they are a part seems to be particularly interesting'.^{xxvi} From their studies of human interactions, David McNeill and Laura Pedelty have organized gesture into four types:

- 1) Iconics: Display, in their form and manner of execution, concrete aspects of the same scene that speech is also presenting.

- 2) Metaphorics: Display, in their form and manner of execution, abstract concepts and relationships.
- 3) Beats: Are times to occur with thematic discontinuities in discourse and do not depict any imagery.
- 4) Deictics: Point to a location in gesture space that stands for an abstract concept or relationship.^{xxvii}

Iconic gestures display concrete aspects of the scene that the speech is presenting. For example, in 'The Guerrilla Base of the King', the first episode of *Time Team's* inaugural series for Channel 4 in 1994, Geraldine the environmental archaeologist indicates with the diagonal spacing of her hands at slightly more than shoulder width the size of the augur that she wishes to use to produce soil cores from the landowner's field. Metaphorics display abstract concepts and relationships, as when, in Series 10, Episode 8, *Time Team* returns to Athelney and presenter Tony Robinson makes humorous reference to the archaeologists' long-standing explanation of all mysterious features as 'ritual'. Beats occur with thematic discontinuities in discourse and are typified by Tony Robinson's initial pieces to camera in Series 1 where he outlines the background story for viewers and uses gesture to emphasize dramatic change in the narrative. Deictics point to a location in the space encompassed by the gesture that stands for an abstract concept or relationship, as when the on-screen archaeologists point into a trench and gesture towards changes in soil colouration and to superimpositions of stone work and use these to project into a future-past a sequence of building and destruction.

In addition to gestural typology, McNeill and Pedelty note that 'speakers continuously set up spatial distinctions and relations by way of their gestures and use these spaces to structure the discourse' and that these fall into three spatial regimes:

- 1) Concrete: Or topographical space, where the gesture space maps on to physical space, either in the real world or the story world.
- 2) Referential: Where the gesture space is separated into distinct spaces for different characters or other arguments and successive verbal references to the same entities are accompanied by gestures returning to the same spaces.
- 3) Structural: Where a new gesture space or hand shape is used to mark thematic discontinuities.^{xxviii}

The concrete regime is where gestures map on to physical space. Pointing in all of its forms is a clear example. The referential regime is marked by people referring to the same entities during the course of conversation. The filmed *Time Team* gatherings at the start and end of each day, a key feature of archaeological fieldwork that was showcased in the first few series of the programme, show all members of the team working with maps and plans and repeatedly gesturing towards them in the course of debates over interpretation and plans for the subsequent day. The structural regime of gestural space is produced in the course of discussion in order to mark thematic discontinuities; it structures communication spatially and alerts people to changes in focus. When, in Series 1 Episode 1, presenter Tony Robinson is told by historian, Robin Bush, of the Viking execution practice known as the 'blood eagle' he raises both hands, clasped together, up to his forehead, his elbows bent and resting on the table. Lowering his head into his hands, he says 'that is so disgusting'.

It is clear from the examples above that gesture and language form a co-productive relationship. However, the typologies of gesture offered by psycholinguistics rely on gesture's primary relationship to language and also with the primacy of the human body as a clearly bounded gesturing entity. If, as Barad would argue, gesture involves myriad molecular touchings and self-touchings then gesture must be understood as participating in a worlding of world that productively troubles human-centred meaning-making and produces the very conditions of possibility for language itself.

Archaeological Gestures: Pointing and Touching

Communication is ordinarily anchored to the material world – to actual people, artifacts, rooms, buildings, landscapes, events, processes. One way it gets anchored is through pointing.^{xxix}

Even where the material is invoked through gesture, as when Sara Schneckloth remarks that 'gestural marks are an embodied language', the notion of the material as fixed, as the stable bedrock to which gesture may be anchored, prevails.^{xxx} If, as Adorno and Barad suggest, gesture is a reminder of the material other that is always at stake in becoming then not only is the gesture-speech co-production of language important, but so too is the sense of gesture as itself always-already a co-production of intra-acting agencies, of matter as form-taking activity. If that is the case, then consideration of gesture must be extended to the tools, technologies and materialities that form part of the gesture.

What is it to say 'look, here', with a pointed finger? David McNeill's work demonstrates that gesture does not support speech in the production of language, but rather that language is co-produced by gesture and speech.^{xxxi} Herbert Clark extends this work in his writing about pointing and placing as 'directing-to' and 'placing-for'.^{xxxii} Drawing on Charles Sanders Peirce to support his arguments, Clark claims pointing as a sign rather than a gesture because it creates an index. For Clark, a gesture that focuses attention is indexical:

In directing-to and placing-for, speakers try to establish a connection, often spatial, between the index they create and the object of that index....With directing-to, speakers *create* the indexing site with respect to the referent....With placing-for, speakers *presuppose* an existing indexing site and establish the referent with respect to it.^{xxxiii}

Where McNeill focuses on the primacy of language, I wish to suggest that it is the intra-acting dynamism of materiality in its becoming that produces what comes to be recognized as the co-production of gesture and speech and that gesture and speech together point back always to the impossible possibility of language.

Here is the opening sequence of *Who were the British: The Investigators* (1965, Anglia Television). It begins with a bird's eye view establishing shot of a coastal region, looking out to sea. Waves can be heard clearly. The camera pans left and an archaeological excavation comes in to view. As the camera continues its 360-degree circuit, excavated features appear in the frame and the audio mixes in the sounds of excavation, trowel on soil, scraping at stones. The camera tilts down to show people at work in trenches. Presenter Brian Hope-Taylor is just audible. The camera zooms in. 'Now have you got any change in the colour of the soil here?', Hope-Taylor asks of the man scraping away in the trench as he leans in to point. The

excavator strokes the top of the soil with several fingers and says that 'There's charcoal just along here'. Hope-Taylor reaches in to point with his index finger and asks 'What, just along there?'. Hope-Taylor straightens slightly, holds out his drawing board and indicates with a circular sweep of the hand followed by a diagonal extension towards the trench saying 'Good, well that will be the posthole just about here, at the end of this partition wall'. He then points, once again with his index finger, at the drawing itself, concluding that this is just what they want as an anchor of measurement, the statement punctuated by an expansive sweep of the arm from right to left.

Here is *Time Team's* 'The Guerrilla Base of the King (C4, 1994). In part 1, the environmental archaeologist requests a landowner's permission to augur a field. When she explains what an augur is, her hands separate, with the near camera arm rising up above her face and the far arm lowering so that her hand is out of shot. This is a large tool. She accompanies 'so I can get a little bit of soil out' with moving her hands together to measure a foot of space between her palms and follows this quickly with 'so I can actually see what's down there', a projected future accompanied by her left hand being held at waist height, pointing with her index finger. The landowner never breaks eye contact, however, so only the viewer notes the gesture. However, when the archaeologist then points in to the distance, saying 'and if we do a few of those over there', the landowner finally follows her gesture to look out of frame, to the right (Figure 1).

Archaeological pointing is also touching. Hope-Taylor stands at the top of the scaffold, proclaiming that 'fourteen hundred years ago, people were living on *this* piece of ground'. The camera focuses on the landscape for three seconds before returning to Hope-Taylor, who angles his large drawing board so that the viewer can see it easily. He says 'our work shows that it must have looked something like this', indicating an ink reconstruction drawing. As Hope-Taylor describes the feature – a palisade wall – he traces it on the drawing, his little finger lightly stroking the paper. He flips the drawing board around, saying that this site also has evidence of the English and he shows an overhead ground plan of the archaeological features that mark out both the British and later English halls. Rather than use the little finger that traced the walls in the reconstruction drawing, here Hope-Taylor switches to his index finger to mark out the right angles of the foundations.

When *Time Team* returns in 2003 to Athelney, touching replaces pointing and the programme is marked by a disaggregation of narrative and gesture. Where the first series is characterized by static handheld shots that focus on groups of people framed in long and mid shots, a decade on, *Time Team* shifts to rapid cuts between close-ups of speaking faces and cutaways to gesturing hands holding photographs, maps, tools and artefacts (Figure 2). Disembodied fingers point at and stroke bubbles in lumps of slag and hold pens that touch visualizations on computer screens. Editing is fast-paced, averaging three-second shots. However, moments of touching are held longer, with cutaways on screen appearing for five to seven seconds and two-shot discussions of held artefacts lasting as long as ten to fifteen seconds. In the first 1994 series, shot lengths averaged six to seven seconds, while the duration of two-shots extended to twenty seconds. The faster editing pace relies more on touching for narrative drive rather than pointing: the point of the scene needs to be made more quickly, a point made by touch.

Of course, pointing is always-already touching. As Karen Barad outlines, no touching involves 'actual' contact, although all intra-actions – measurement, gesture, pointing, theorizing, caressing – touch.^{xxxiv} Where all television archaeologies concern gesture as touch, particular intensities of attention frame that touching to alert viewers to archaeology's core concern with our own absolute alterity. As Barad writes:

The indeterminacy at the heart of being calls out to us to respond. Living compassionately....requires recognizing and facing our responsibility to the infinitude of the other, welcoming the stranger whose very existence is the possibility of touching and being touched.^{xxxv}

In the more recent series of *Time Team*, the replacement of the body gesturing with close-up cutaways of touching becomes a key element of the programme. What emerges is a transformation from the previous series of mid-shot contextual filming that concentrates attention on the bodies of archaeologists as active agents in the co-production of narrative with material culture and site into an approach where archaeologists' bodies are disaggregated into talking heads, walking bodies and close-ups of hands touching artefacts or using tools. In these later *Time Team* episodes we see an attention to archaeology as an embodied practice of care that simultaneously reminds the viewer of the indeterminacy of these boundaries. Hands pass artefacts to one another and the scale of human and non-human participants in the frame attains equal weighting. Where earlier approaches to filming and editing privileged figures in the landscape making sense of archaeological features, the later years of *Time Team* focused attention on an archaeologist-material-landscape assemblage where the boundaries between each are practised through the abstraction and reconfiguration of multiple, indistinct bodies that resolve as human and non-human, but do not emphasize the ontological separation of the two.

Archaeology as worlding gesture

If gesture and the moving image as such enact the material-discursive practices of worlding the world, how do TV archaeologies figure differently? Television archaeology's specific attentions to working with and through the materializing traces of past events and its emphasis on the material archive in the future tense focuses archaeological gesture as a performative that points to utopian otherworlds. *Time Team's* group planning meetings around the breakfast table, discussions about reconstruction drawings in the site office and day's-end meetings in the pub enact the material-discursivities entangled in the task of 'bringing the past to life', but do so through propelling these materials into potential futures in which they cohere and are valued by as yet unidentified others. Seated in the round in the King Alfred pub in Altheney, the team passes maps and chunks of iron slag around, while handling pints of beer and navigating clusters of empty glasses on the table. This suggests the famed conviviality of the archaeological project and refracts the event of fieldwork through the embodied narrative practices of the analytical gesture.

Elsewhere, archaeologist Mick Aston and presenter Tony Robinson stand on a grassy bank and measure out a ditch, using their bodies as a scale of distance and gesture to conjure the space. Mick invites Tony several times to 'imagine that...', mobilizing diverse materialities into futures to be actualized. Repeated gestures of measurement, pointing and stroking congeal in the bodies of people, cameras, maps,

aerial photographs, artefacts and tools. The repetition that serves to fix also creates the conditions by which things perceive and touch one another. As Henri Bergson argues, perception requires habitual memory while at the same time repeated perceptual acts materialize memory.^{xxxvi} Perception here is not a conscious act performed by a knowing subject, but is instead a manifestation of the vibrating molecular spaces of matter as form-taking activity. It 'compels us, de facto, to perceive matter in ourselves, whereas we, de jure, perceive matter within matter'.^{xxxvii} On screen, the process by which matter reaches out to touch itself is manifested. TV archaeology returns language to a material indeterminacy and demonstrates the ongoing crafting of new worlds, possibilities and futures. It touches on the absolute otherwise in which we are immersed always.

Archaeology as such is concerned with matter as a form-taking activity. What archaeology on television invites is an attention to these processes, which potentially returns image to gesture and gesture itself to a regime that is beyond representation. Archaeology on television concerns the infinite alterity and multiplicity of the material-discursive boundary-making practices in which the world participates. Where those practices serve to fix ideas of language, of the human, the affective power of gesture in television archaeologies – whether the expansive, full-body gestures of archaeologists reaching out into the landscape or the fragmentary image-objects of gloved fingers and sherds – presents an other-than-human set of possibilities. That is, an archaeological attention to pollen grains and their use in the modelling of environments or an attention to the burnt residue within a Bronze Age vessel presents an urgent demand to account for the potential of agencies that act beyond the limits of human subjectivity. It is the precisely foregrounded enactment of flesh-soil-ceramic that open up the ethical dimensions of what it might mean to consider the lifeworlds of matter mattering. Television archaeologies invite us to account for, attend to and project into the future all forms of otherness, all material potentialities, including, but not limited to, the human.

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Figures

Figure 1: *Time Team* S01 E01 (C4, 1994)

Figure 2: *Time Team* S10 E08 (C4, 2003)

Endnotes

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ⁱⁱ Adam Kendon, *Gesture: Visible Action as Utterance* (Cambridge: Cambridge University Press, 2004), 15. On the image-object, see Hito Steyerl, 'A Thing Like You and Me', *e-flux* 15 (2010), <http://www.e-flux.com/journal/a-thing-like-you-and-me/>, accessed 1 July 2014.

ⁱⁱⁱ Vivian Sobchack, *Carnal Thoughts: Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004), 178.

^{iv} These arguments are developed by Laura U. Marks in *The Skin of the Film: Intercultural Cinema, Embodiment and the Senses* (Durham, N.C.: Duke University Press, 1999), *Touch: Sensuous Theory and Multisensory Media* (Minneapolis, MN: University of Minnesota Press, 2002) and 'Thinking Multisensory Culture', *Paragraph* 31:2 (2012), 123-37; by Davina Quinlivan in 'Film, healing and the body in crisis: a twenty-first century aesthetics of hope and reparation', *Screen* 55:1 (2014), 103-117; and by Vivian Sobchack in 'What my fingers knew: the cinesthetic subject, or vision in the flesh', *Senses of Cinema* 5 (2002), <http://sensesofcinema.com/2000/5/fingers/>, accessed 1 July 2014.

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^{viii} Karen Barad, *Meeting the University Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, N.C.: Duke University Press, 2007).

^{ix} *Meeting the University Halfway*, 160.

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- ^x Tim Boon, *Films of Fact: A History of Science in Documentary Films and Television* (London: Wallflower Press, 2008).
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- ^{xii} Gilbert Simondon, *On the Mode of Existence of Technical Objects*, translated by Ninian Mellamphy (Paris: Aubier, Editions Montaigne, [1958] 1980).
- ^{xiii} Brian Massumi, 'The autonomy of affect', *Cultural Critique* 31:2 (1995), 83-109.
- ^{xiv} *Meeting the University Halfway*, 160 and see Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, N.C.: Duke University Press, 2010).
- ^{xv} See *Meeting the University Halfway*; Brian Massumi, with Arne De Boever, Alex Murray and Jon Roffe, "'Technical Mentality" Revisited: Brian Massumi on Gilbert Simondon', in *Gilbert Simondon: Being and Technology*, edited by Arne De Boever, Alex Murray, Jon Roffe and Ashley Woodward (Edinburgh University Press, 2012), 19-37; and *On the Mode of Existence of Technical Objects*.
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- ^{xviii} *Gesture: Visible Action as Utterance*, 17.
- ^{xix} *Gesture: Visible Action as Utterance*, 25.
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^{xxii} *Gesture: Visible Action as Utterance*, 50-53.

^{xxiii} Alistair Morgan, "'A Figure of Annihilated Human Existence': Agamben and Adorno on Gesture", *Law Critique* 20 (2009), 300-301.

^{xxiv} Adorno 2003: 262, in "'A Figure of Annihilated Human Existence': Agamben and Adorno on Gesture", 303. See, also, Davina Quinlivan, *The Place of Breath in Cinema* (Edinburgh: Edinburgh University Press, 2012) on the breathing body in cinema.

^{xxv} 'On Touching: The Inhuman that therefore I am', 207, italics in the original.

^{xxvi} *Gesture: Visible Action as Utterance*, 5. See also David McNeill, *Gesture and Thought*, (Chicago: Chicago University Press, 2008) on the co-production of language between speech and gesture.

^{xxvii} David McNeill and Laura L. Pedelty 'Right Brain and Gesture', in *Language, Gesture and Space*, edited by Karen Emmorey and Jude S. Reilly (New Jersey: Lawrence Erlbaum Associates, 1995), 63-85.

^{xxviii} 'Right Brain and Gesture', 65

^{xxix} Herbert Clark, 'Pointing and Placing', *Pointing: Where Language, Culture and Cognition Meet*, edited by Sotaro Kita (New Jersey: Erlbaum, 2003), 243.

^{xxx} Sara Schneckloth 'Marking Time, Figuring Space: Gesture and the Embodied Moment', *Journal of Visual Culture* 7:3 (2008), 279.

^{xxxi} *Gesture and Thought*

^{xxxii} 'Pointing and Placing'.

^{xxxiii} 'Pointing and Placing', 249.

^{xxxiv} 'On Touching: The Inhuman that Therefore I am'.

^{xxxv} 'On Touching: The Inhuman that Therefore I am', 219.

^{xxxvi} Henri Bergson, *Matter and Memory*, translated by Nancy Margaret Paul and W. Scott Palmer (London: George Allen and Unwin, 1911), 1-85.

^{xxxvii} *Matter and Memory*, 80.