

**Acting ahead of the future:
towards an embodied, cognitive, social theory of anticipation¹**

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Introduction

In recent years there has been increased interest in *anticipation*, as a form of causation in which the present behaviour of entities and systems, whether living or non-living, is shaped by future events (for a summary, see Poli (2010)). In particular, many authors have argued that in advanced liberal societies, a new style of relating to the future is becoming discernable, characterised by more explicit and complex forms of anticipation. Adams et al. (2009: 249) argue that in contemporary society, an engagement in the present with the future has become obligatory: there is a moral imperative to anticipate. Anderson (2010) argues that liberal democracies are attracted to anticipatory practices because of their constitutive tension between openness and closedness: between a future imagined as a realm of freedom and contingency, and the desire for security. Other studies have added to this rich, intersecting literature by exploring the growing importance of anticipation – sometimes using near-synonyms of pre-emption or ‘premediation’ – in areas as diverse as infectious disease (Cooper, 2006), counter-terrorism (de Goede, 2008; Massumi, 2007), futures and derivatives markets (Cooper, 2010; Fortun, 2001), peak oil (Weszkalnys, 2014) and emergency planning (Adey and Anderson, 2011).

However, what is lacking is a systematic approach to such ‘anticipatory regimes’ that enables us to understand how anticipation is understood and practiced in different social formations across space and time, and what this can reveal about the changing phenomenological experience of human action. In this paper I will argue that in order fully to understand the anticipatory character of contemporary society we need a more systematic theory of ‘anachrony’ – of human action displaced in time.² The theoretical approach I will describe is embodied, cognitive, and socio-historical. So, first, the proposed approach will be based on the *embodied* nature of human experience, because, as I will argue, time is experienced, discussed and reasoned about using spatial metaphors, and ones which are organised around human embodied experience. For example, events are said to be ‘before’ or

‘after’, things are ‘passed down’ or ‘coming up’, ‘within reach’ or to be ‘put behind you’. The anachronic displacement of events in time is, however distantly, experienced according to the human *Bauplan* (body plan) and its three axes. Secondly, the approach will be *cognitive*, drawing on developments in cognitive linguistics about the relationship between language and spatial and temporal experience. Just as spatial reasoning, communication and empathy rely on imaginatively projecting the self as a deictic centre of experience in *space*, I will argue that forms of anticipatory action, like those of recall, involve projecting and orienting the self and its epistemic and agential powers in *time*. But, thirdly, it will also be *socio-historic*. The use of spatial and bodily experience to organise the experience of time may be nearly universal in human culture: time is experienced as a space in which the human subject is situated, is oriented, and experiences change. However, the exact nature of that temporal ‘space’ is far from universal, in either its shape or the logic of how temporal relations are understood – for example the relations between past, present and future (Adam and Groves, 2007). In different social formations the felt experience of time passing, and of temporal relations, is thus organised into different ‘gestalts’ or ‘regimes’, which both shape and are shaped by anachronic experience. Once we have assembled these complementary theoretical elements, we will be able to start to analyse the character of contemporary anticipatory practices and experiences.

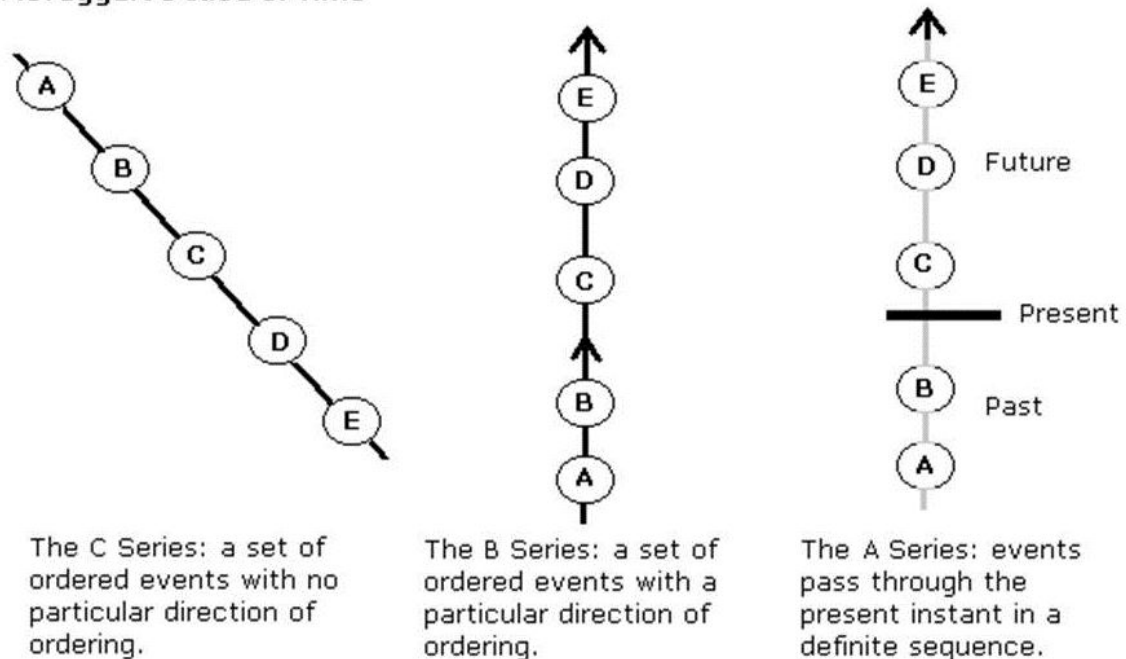
The body and time perception

In this section I draw on cognitive linguistics to explain how the language of time and human action is organised through a spatial metaphor based on the experience of the axes, motion and senses of the human body, and how different kinds of anachronic experience involve forms of ‘deictic projection’, in which the centre of experience and agency is imaginatively displaced and reoriented in time.

To use terms introduced by Edmund Husserl, primary retention and primary protention constitute the ready-to-hand-ness of the instantaneous past and instantaneous future respectively in the immediate experience of duration, change and motion (Husserl, 1991). By contrast, secondary retention (recall) and what Bernard Stiegler (2009: 229) calls secondary protention (anticipation) involve cognition and imagination about more distant moments in time; it is these aspects of temporal experience that are most frequently experienced and described spatially. Central to this experience of ‘time as space’ is the idea of events being strung out as points and line-segments along a one-dimensional line (whether

straight or curved, single or branched). John McTaggart's well-known analysis of A-, B- and C-series time can help us identify three features of the timeline (McTaggart, 1908). The first is that events are typically situated on the line in a particular order, and at varying distances from another. Time experiences and descriptions that involve only this feature of time are what McTaggart called 'C-series' time: time characterised as a changeless, timeless and directionless. Such a sense of time is invoked by phrases such as "March is between January and February", or "there was not enough time". But, secondly, the experience of the flow of time also imposes an asymmetry to time; time flows in one direction only, 'from' the future and 'to' the past. Here we are in what McTaggart called 'B-series' time: we can now say not just that 'we were born ten years apart', but also that 'I was born *before* you'; or 'Christmas *follows* Halloween', and so on. But thirdly, the timeline can also be *deictic*, punctuated by the experienced present of a subject.³ This is A-series time, invoked whenever we use linguistic tenses. This kind of time has a deictic centre, 'now', which separates the time line into the 'deictic time spheres' of past, present and future. So in phrases like "the past is behind us", or "the future lies ahead" we are talking about A-series time.

McTaggart's Idea of Time



However, I will argue that the distinctive phenomenological structure of B- and A-series time – that of direction and deixis respectively – is structured not simply by an abstract mathematical logic, but by the experience of the human animal body in space. The human body is *situated*, but also, like most other animal bodies that have evolved under the influence

of gravity and the need to find food, it is *bilaterian* – it has left-right (lateral) symmetry but is asymmetrical along the vertical and sagittal (front-back) axes. Around these various Bauplan axes are organised the human body's various organs of metabolism, motion, perception, communication and environmental manipulation. This means that spatial words such as 'up' and 'forward' do not just denote abstract geometric descriptions but also connote fundamental features of human experience. It is this that makes them such potent metaphorical vehicles for shaping our experience of time, and especially of secondary retention and secondary protention.

An aspect of the human evolution into cultural, linguistically mediated beings involved losing the innate sense of spatial orientation enjoyed by other animals. Instead, humans have developed various culturally mediated ways of organizing their experience and description of space and spatial relations. Levinson summarises these spatial frameworks as falling into three main categories: *relative*, based on an observer's point of view (e.g. 'behind you'), *intrinsic*, related to inherent spatial features ('in front of the church'); and *absolute* ('in London') (Levinson, 2004). These roughly correspond respectively to A-series time with its deictic centre, B-series time with its directedness and C-series time without either.

All three forms of spatial description rely on relatively complex forms of cognitive processing to perform, but the 'relative' and 'intrinsic' frameworks in particular depend on 'perspective tracking' in space. MacWhinney (2008) describes perspective tracking as combining our animal proprioceptive ability to know where and how our body is situated in space ('perspective taking') with the cognitive ability to follow the position and orientation of another human body (or other object) and relate it meaningfully to our own ('perspective shifting'). When we perceive or imagine the actions of others, we use this perspective tracking to map them onto our own body image: we do this by projecting a fictive image of ourselves, rotating it if necessary, while always distinguishing it from our own materially situated body.⁴

Spatial language is also used to conceive, reason and communicate about non-spatial meaning-domains that lack easily perceived structure such as value, social structure and time (Boroditsky, 2000; Johnson, 1987). In discourse, people often constitute a 'space' with axes representing relative 'distance' from a deictic centre – along not just spatial and temporal axes but also sometimes a sociospatial axis ('us'–'them'), or an evaluative axis ('right'–'wrong') (Hart, 2014: 164). The human imaginative ability to understand the 'points of view' of others differentially situated in such 'spaces' seems to be derived from the ability to do

perspective shifting in physical space. And in the case of time, in order to organise that experience for themselves and others, people almost universally draw on the two asymmetrical, structured axes of the human body: *top–down* (or head-bottom) (structured by gravity and the Earth’s surface), but more often *front–back* (structured by animal motion and perception). When talking about B-series or A-series time, Chinese and other East Asian languages sometimes use the vertical axis, especially in describing bounded time units such as days, years, periods or their subdivisions, using ‘upper’ to mean earlier and ‘lower’ for later – or sometimes directly from body parts – ‘head’ (earlier) and ‘bottom’ (later). English has some vertical time language for A-series time, in both directions, with things being ‘passed down’ and events ‘coming up’ (Radden, 2006:228-9). However, the more common body-axis to feature in language about B-series (directed) and A-series (deictically centred) time is the sagittal or front–back axis.

In Western languages the future is almost always ‘in front’ of us, the future ‘behind’. But to describe temporal relations between past and future events we also perform *perspective tracking* in time, moving our deictic centre and reorienting the fictive temporal body. For the future, the default position of this projected body is ‘ego-opposed’: the future is in front of us, but moments further in the future are said to be ‘*aft-er*’ as in ‘*be-hind*’ the immediate future. So if we were to imagine the future as a human body, we are ‘face-to-face’ with it. (This is in accord with western spatial description – members of Western cultures seeing static objects lined up in front of them will tend to describe the nearest one as in front – they used an ‘ego-opposed’ or ‘face-to-face’ perspective.⁵) For the past, by contrast, we turn round and switch to an ‘ego-aligned’ orientation: moments further in the past are ‘*before*’ or ‘*in front*’ of the immediate past. (Radden, 2011: ‘25). However, in some cultures the past is in front of us and the future behind us, as it is for Walter Benjamin’s angel of history, facing the storm of history which propels him backwards into the future (Benjamin, 1968). South American languages such as Aymara, Toba and Quechua position the past and future in this way, and speakers of the first two languages even have the habit look over the left shoulder when talking about the future (Klein, 1987).

But A-series time involves seeing time not just as spatially organised around the deictic centre of ‘now’ but also as *motion*, using the locomotive power we share with other animals as the metaphorical ‘vehicle’ to express the flow of time. Lakoff (1993) distinguishes two variants of the metaphor ‘time is motion’. The first is ‘time passing is motion of an object’, or the ‘moving time’ metaphor. The most common version of this

places the future 'in front' of us and moving towards us. The second variant of 'time is motion' is 'time passing is motion over a landscape', or the 'moving ego' metaphor. Here, we *move towards* the future. This metaphor is not used for static, C- or B-series time, but is solely associated with the situated, deictic human observer or actor of A-series time (Radden, 2011: 31).

But the spatialisation of time using the asymmetric axes of the human body is used to convey not just the ordering of time events and the flow of time, but also other features of B- and A-series time as it is experienced by the living body engaging in acts of retention and protention – and these will be crucial for our analysis of anachronic future-action. Firstly, spatial, and at root *bodily*, language is also used to express the visibility or invisibility of events – whether events, past or future, are available to the senses or obscure. As we have seen, some South American languages like Aymara and Toba use the 'back' to express the obscurity of future events – it is only present or past events that are in front of us, and thus knowable.⁶ Similarly, whereas Vietnamese use 'future as front' for near and certain events, they use 'future as back' for distant and uncertain ones (Radden, 2011: 24). In Western languages the future is typically in front of us, yet unknown events in the more distant future are described as '*aft-er*', as in '*be-hind*', the immediate future – as if a dimly perceived 'afterfuture' is being obscured by the future that we can deal with face-to-face. In Western languages speakers also sometimes use the bodily experience of verticality to express epistemological dimensions of time perception, drawing on the way that the Earth's surface cuts the visual field in two, on the concentration of the senses in the topmost extremity of the vertical human body, and on the way that gravity pulls things down to a state of rest. Events can thus be 'coming up', as if emerging from obscurity, or 'up in the air', before they are 'settled' in a final arrangement on the ground (Radden, 2006: 228-9).

Secondly, spatialized temporal language is used to describe not just the *sensing* body – the point of view, situated in time and facing one way or the other – but also the *acting* body and its ability or otherwise to change things. Verticality is sometimes used here – things 'passed down' from the past tend to be those things that are fixed and unalterable, as if the arms cannot reach up to alter them but must just receive them (Radden, 2011: 9-10). But the sagittal, front–back axis is used more commonly to distribute agency temporally. Things 'behind us' as ego moves forward are things we have to accept, whereas things in front are more open to agency – perhaps because of the way the arms as well as the eyes face forward. The 'moving time' metaphor is also used to express limited agency: future events are seen as

approaching the static, relatively passive subject from the front – especially in cases of the ‘terminative present’, where an event occurs as the result of a build-up (Radden, 2011: 31). Yet another way to express agency is the opening up of other dimensions on the timeline. For, as well as its uni-dimensional structure, time is also sometimes given two or three dimensions; whereas ‘at’ implies a zero-dimensional point, we also say ‘on’ Tuesday, or ‘in’ or ‘during’ 2020, which can imply time as supporting or containing multiple possibilities, or we speak of branching paths (Radden, 2011: 3-4). Multidimensional space opens up, at least potentially, the possibility of action and choice.

We are now ready to start situating the phenomenon of anticipation or future-action in this framework. How exactly can the human subject, positioned in a spatialised version of time, be understood as seeing, knowing or acting in advance? In the next section I will start to answer that question through an analysis of anachronic words in the English language.⁷

A lexicon of anachrony

There are many future-action words in English, and as in most European languages they typically combine two morphemes. The first is one of two prefixes: ‘pre-’ or one of its variants such as ‘por-’ or ‘fore-’, (from the Proto Indo-European (PIE) *per-), or alternatively ‘ante-’ (from PIE *ant-). Both of these have the originally spatial or bodily meaning of ‘in front of’ or the front of the head. The second morpheme is one naming the kind of action being done ahead of its time. As we shall see, these tend to divide into three classes: perceptual, cognitive or manipulative – though these get metaphorically extended into a much richer semantic field. To mark out my anachronic words more clearly, I will, when appropriate, separate the two morphemes with a ‘+’.

Whereas, as we saw above, the experience of the passage of time draws on root meanings of the front or back of the body, and on the motion across a landscape made possible by the legs, in future-action words there appears to be a weighting on words involving the upper body – on the perceptual, cognitive and communicative powers focused in the human head, and the manipulative powers of the arms and hands. Some future-action words have a root meaning that is perceptual or cognitive. Here we can arrange our words on a rough spectrum from the sensory to the mental – whether they are about PERCEIVING, BEING AWARE OF, or KNOWING an event in advance. Thus we have the more perceptual *fore+sight*, but also *pro+vide*, which originally meant ‘to see in advance’, and thereby to take precautions; then there are words such as *fore+bode* (from PIE *bheudh-, ‘be aware’, ‘make

aware’) and *pre+sentiment* (from Latin *sentire*, ‘to feel’); and finally those like *fore+know* (first appearing 1450–1530) and *pro+gnosticate* (both from the PIE root **gno-*, ‘to know’) which are more cognitive in character. Other future-action words are more exactly lingual – about SPEAKING of something in advance. Thus we have *fore+tell* and *fore+told* (c.1300, from Proto-Germanic **taljan*, ‘to mention in order’, from PIE root **del-* ‘to count, reckon’), and similarly *pre+dict* (1620s, from the Latin *praedicere*, from *dicere*, ‘to say’) and *pro+phesy* from the Greek for prophet *προ+φήτης*, ‘fore+speaker’.



● perceiving	fore+see, pro+vide
● being aware	fore+bode, pre+sentiment
● knowing	fore+know, pro+gnosticate
● speaking	fore+tell, pre+dict, pro+phesy
● taking	anti+cipate, pre+empt, pre+hend
● throwing	pro+ject, fore+cast
● reaching	por+tend pro+tention

Image: ‘Another Place’,
by Antony Gormley

But some future-action words have root meanings based in the powers of the human body not just to sense and know the world but to shape it. Again, we can distinguish these further, but this time according to distinctive narratives of shaping the future through the action of the arms – taking, throwing and reaching. Thus some have the root meaning TO TAKE IN ADVANCE. In this group we have *anti+cipate* (from Latin *capere*, *to take*, from the PIE root *kap-*), but also *pre+empt* (from Latin *emptio*, ‘purchasing’, from PIE base **em-* ‘to take, distribute’), *pre+hend* (from Latin *hendere*, from PIE root **ghend-* ‘to seize’) and *pro+lepsis* (from Greek *lambanein*, ‘to take’).⁸ Here the narrative is one of initial separation and independence followed by a moment of taking-in-hand.

Other future-action words have the root meaning of TO THROW FORWARD. So we have *pro+ject*, from the Latin, which was originally spatial, ‘to throw away’, but its meaning was extended to include that of projecting a scheme, plan or plot into the future. *Fore+cast*

(from Old Norse *kasta*, ‘to throw, calculate, prepare’) originally had a similar meaning of scheming and planning in advance (though we will return to the rich history of meanings of fore+cast in the next section). Here the narrative is almost opposite to that of ‘taking’: an initial moment of control is followed by a point of letting-go, when agency is largely passed to enviroing conditions. (Note that both pro+ject and fore+cast take advantage of the ambiguity that ‘projection’ or ‘cast’ can both refer to the *act* of throwing and the *result* of the act.)

Finally, other future-action words mean TO REACH OUT, notably *por+tend*, and indeed Husserl’s *pro+tentio* (early 15c., from Latin *tendere*, ‘to stretch, extend’, from PIE root *ten- ‘to stretch’). In this case the narrative is one of continuous contact: the reaching-out is not in order to take in hand, or to propel and release; here the reaching out is *itself* the act of secondary protention, of connecting the present and the future.

Temporal gestalts and future-action

In this section I will argue that the specific way that time is experienced as a space (in which fictive bodies with their powers of motion, perception and manipulation are situated, directed and projected) is also social and historical, being organised in different kinds of society into different *Temporalgestalten* (Luhmann, 1976: 135) or ‘temporal regimes’ (Nowotny, 1996). Niklas Luhmann’s social theory of time has three elements that will be particularly useful here. The first is the idea that different social systems have their own times with distinctive speeds, rhythms and densities (Luhmann, 1995). The second is the distinction he makes between the ‘present future’ (the not-yet-actualised future as perceived in the present) and a ‘future present’ (a present that will be actualised in the future). The distinctive relation between ‘present futures’ and ‘future presents’ specify a particular temporal gestalt, and thereby shape the way that the system unfolds over time (see also Opitz and Tellmann, 2015: 110). The third idea of Luhmann’s that will be important in my analysis is the dual concepts of ‘futurization’ – the move towards an open conception of the future as undetermined and potentially radically different from the present – and ‘defuturization’ – in which the ‘present future’ (the future as it is imagined and experienced) is felt as less ‘other’, and ‘future presents’ are seen as more tightly bound to the ‘present present’ (Luhmann, 1976).

I do not have space here to describe in detail the shifts in temporal gestalt experienced by European culture since the Middle Ages, and how these altered the experience of anachrony, but we can trace some of these changes through the shifting meanings of the word ‘fore+cast’. In the ‘divine time’ of medieval society, events are experienced as determined in

advance, since all moments are equally present to the mind of God (Le Goff, 1980); in this experience of time, divination and presentiments are not anachronic since time *itself* is anachronic, and ‘fore+cast’ is an adjective, describing the property of being pre-ordained.⁹ For example in William Caxton’s 1483 edition of *The Pylgremage of the Sowle* by Guillaume de Deguileville it is said of a character that ‘for sothly his deth was fore cast’.

But in what we might call the ‘merchants’ time’ of the Renaissance, in which the future is seen as open and contingent and action is foregrounded, fore+cast becomes an interior virtue – of being able through forethought, to turn to advantage events as they unfold (Le Goff, 1980: 35). An early example of this way of using fore+cast is in Thomas Wyatt’s narrative introduction to his Psalms, written probably in the 1530s, in which King David (and by implication Wyatt’s monarch Henry VIII) are criticised as lacking prudence: David ‘forgot the wisdom and forecast (Which woe to realms when that these kings doth lack)’. Whereas for Wyatt this internal fore+cast has a more restorative, prudential character, in Machiavelli’s *virtù* we see a more positive conception of how through internal qualities of flexibility, ruthlessness and cunning the unpredictable operations of fate can be turned into an opportunity for free action (Folkers, 2013: 92).

Then, within the open but knowable ‘state time’ of the nineteenth century, ‘fore+cast’ becomes used to refer to an act of ‘secondary protention’ through which we know the future, by pro+jecting forward a probabilistic prediction based on past events (Hacking, 1990). Here, fore+cast as action and result comes to mean something closer to pre+dict and pre+diction – but a prediction not of the individual event but of the aggregate and the mean (Adam and Groves, 2007), and one that does not assume a pre-existing future, but extrapolates or projects from past facts and present tendencies.

So, the English word ‘fore+cast’ was originally non-representational: in divine time it was *events* that were fore+cast – in effect, cast by God in the moment of creation where all history was thrown forward once and for all; and in merchants’ time, in which the future was open and unknowable, fore+cast was an internal ‘cast’ of virtue and character, one which could enable the individual to respond to the contingencies of events and turn them to advantage. Over time, fore+cast became more propositional, the act of ‘estimating the course of the future’ – however, in ‘state time’ this estimation was grounded in an idea of bodily action, of discerning current (hence recent-past) trends and ‘casting’ them forward into an open future to see what future presents may become actualised.

But how is the experience of future-action shaped by the contemporary temporal gestalt? Various social scientists have developed accounts of the distinctive nature of contemporary temporal experience (e.g. Adams et al., 2009; Anderson, 2010; Cooper, 2006; Luhmann, 1976; Nowotny, 1996). Common to all of them is the idea that in some sense the future is collapsing into the present. Rather as the past can seem present-to-hand in contemporary culture, so too does the future; the future is not a distant, ‘other’, ‘futurized’ horizon, but a string of future presents that are immediate, inevitable, and demand attention. To use the language of Husserl and Stiegler, *secondary* protention (the anticipation of more distant futures) becomes merged into and an aspect of *primary* protention (the immediate awareness of the unfolding of time). But at the same time, in the contemporary temporal gestalt the becoming of the future is also felt to be aleatory, contingent and open. Indeed, in many ways the contingency of the future is felt in an even greater way than in ‘state time’. In a range of activity-domains, the unfolding of the future is felt and described in ways that emphasise complexity, non-linearity and irreducible indeterminacy.

As many theorists have argued, in this temporal gestalt, anticipation becomes almost compulsory. Ben Anderson (2010) identifies a range of contemporary practices which are routinely used to presence possible futures in the present: techniques of *calculation*, in which the size and probability of possible future events are estimated; of *imagination*, involving processes of creative fabulation such as visioning and scenario planning; and of *performance*, in which possible future events are simulated through role-playing and other exercises (Anderson, 2010: 783-6). He suggests that these are variously oriented to three distinct logics of relating knowledge and action across time: *pre+caution* ‘acts ... on the basis of a determinate empirically apprehended threat’; *pre+emption* ‘acts over threats that have not yet emerged as determinate threats ... [and] become[s] immersed in the conditions of [their] emergence’; and *pre+paredness* ‘does not aim to stop a future event happening ... [but] aims to stop the *effects* of an event disrupting the circulations and interdependencies that make up a valued life’ (2010: 790, 790, 791). As I will briefly show, these practices can be analysed as forms of deictic projection of the body and its powers. However, I will also show how the density of relations in the contemporary time gestalt between the ‘present present’, ‘present futures’ and ‘future presents’ at once *compel* and *destabilise* future-action..

Let us first take a relatively simple case of using knowledge of the future to act in the present. John Dupuy has developed a metaphysics of what he calls ‘projected’ time to try to make sense of this kind of anachronic action. In contrast to linear, ‘occurring time’, projected

time ‘takes the form of a loop, in which past and future reciprocally determine each other’: the past causes the future causally (through the succession of ‘present presents’), but the future also causes the past through expectation and anticipation (secondary protention) (Dupuy and Grinbaum, 2004:16). In the idea of projected time, Dupuy partially reverses the usual image of the future as before us and open, and the past behind us and settled; in projected time, it is the future which is fixed (once action has been taken), and the present open (as long as action has not yet been performed) (see also Dupuy, 2000). In the language of my analysis, this enables the projection of the *knowing* subject forward to the closed future, and thence the projection of the *acting* (and now knowledgeable) subject back to the open present. Indeed, one might say that it is only through such acts of fictive ‘time travel’ into an open ‘present future’ and back, making the various possible ‘future presents’ collapse down into one future that will indeed present itself, that the ‘present present’ is kept open as a site of freedom.

Mario Kaiser (2015) uses the term ‘chronopolitics’ as a general term for such ways of connecting future and present’ (Kaiser, 2015: 167). Similarly to Dupuy, he suggests that they rely on metaphorical time travel, and uses the films *Back to the Future* (Zemeckis, 1985) and *Terminator* (Cameron, 1984) to illustrate the way that action in the present can be taken either to protect a desired future, or prevent a feared one.¹⁰ Knowledge of the future is either made true or false by action in the present that ensures that the discerned future will respectively occur or not occur. We can see this kind of temporal topology in the case of practices of pre+cautionary calculation and fabulation, where the image is of running forwards along a particular branch of the future to see where it leads, returning to the present with that knowledge, and then acting to try to ensure that this branch is or is not the one that is taken. Conversely, in practices of emergency preparedness, in which a catastrophic ‘present future’ ‘does not stretch out before us like an open field, but ... comes at us’ (Opitz and Tellmann, 2015: 112), the looping from future to present is used to pre+pare in the ‘present present’ for a ‘present future’ that cannot be avoided – and thus try to make the ‘afterfuture’ or ‘compound future’ – the time ‘behind’ the impending future – more bearable.

Yet there are features of the contemporary time gestalt that make it hard to stabilise this loop in quite the way that Dupuy and Kaiser suggest, producing instead dynamics of either a runaway acceleration in which action becomes self-justifying, or a suspension between past and future in which action becomes extremely difficult. A striking example of the first is given by Brian Massumi in his discussion of the Bush-Rumsfeld war on terror.

Massumi explores the chronopolitical differences between prevention, deterrence and pre-emption. Both prevention and deterrence focus on a real, objective danger ‘harbingered’ by the present. But whereas prevention involves acting to prevent the realisation of the danger (in the way discussed by Dupuy and Kaiser above), deterrence necessitates that one ‘keep moving into the dangerous future ... [and indeed] race toward it ever faster.’ Here, the vividness of a feared ‘present future’ trumps the uncertainty of the ‘present present’, driving a self-causing and accelerating loop. Pre-emption similarly makes a future threat ‘the motor of its process’, but whereas deterrence is concerned about existing threats, pre-emption focuses on the mere *potential* for threats (Massumi, 2007). As Anderson argues through his concept of the ‘pre-insurgent’, when a population is regarded as always about to become hostile, ‘all of life must be known and intervened in without limit or remainder.’ (Anderson, 2011: 235). In this form of secondary protention it is not just knowledge of the *future* that becomes retroactively true (or false) by virtue of action taken on the basis of it in the present; here even knowledge of the *present* and the dangers it may be incubating ‘is by nature retroactive ... becomes objective ... as an effect of the preemptive action taken’ (Massumi, 2007). As Melinda Cooper puts it, as a mode of anticipation, pre-emption is ‘*future-invocative* rather than predictive or representative, since the future it calls forth is effectively generated *de novo* out of our collective apprehensiveness’ (Cooper, 2006: 125). In this form of secondary protention, then, looping between the projection into the future of the knowing subject and subsequent projection back to the present of the acting subject does not keep the present open but closes it down into a self-propelling loop where an unchosen future becomes necessary.

But in another form of contemporary temporal experience it is *the ‘present present’ itself* that faces and reaches forward. Similarly to the metaphor combining ‘moving time’ and ‘moving ego’ that we invoke when we talk about ‘trying to catch up with’ or ‘race against’ time (Radden, 2006: 235), in this experience of time the subject is trying to act, but *time itself* is also acting. However, here time is not so much *moving towards* the future, or *advancing from* the future, as *growing (into)* or *incubating* the future – for example the future is seen as a ‘seed’ within the present (Nordmann, 2014: 93). In this image we are moving away from the more normal zoocentric metaphor of time based on the moving and sensing animal body facing other such bodies and objects and projecting itself onto them; instead, we have a vegetative model, as if the ‘present present’ *grows into* the ‘future present’. This invokes what Michael Marder calls a phytocentric ontology – a model of time, event and becoming based not on *animal* but *plant* being: not a fixed body plan moving forward through the

world, or the future as a separate being facing towards or away from us, but a more vegetal process of continuity, waiting, growing and filling space (Marder, 2015). Even when animal metaphors are used to capture this idea of the future emerging from and continuous with the present, they tend to focus on more ‘vegetative’ aspects of bodily life, such as the incubation of the embryo. The same imagery is invoked in the idea that the present is a ‘harbinger’ of the future – that it contains the future inside itself in ways that can, with care, be discerned (harbinger comes from same root as *auberge*, ‘landlord’). The very language of ‘tendencies’, used to describe the present reaching out (tendere) for the future, points us towards the more vegetative imagery of tendrils ex+tending or por+tending themselves. The image here is not one of grasping or throwing the future from a separate and stable present; instead the present *itself* is already reaching out past the subject and producing futures – albeit ones that may differ radically from itself – thus leaving the subject as if entangled in tendrils.

This ‘por+tentive’ or ‘incubative’ mode of contemporary time means that the subject’s deixis in relation to potential futures can be ambiguous. Even futures averted can remain potent and fearful. As Massumi points out, even if we pre-empt the event we fear, it always remains as a counterfactual, a branching possibility that we did not take: the original threat ‘always will have been’ (Massumi, 2007). We can be haunted by the counterfactual future into which we projected our knowing self, without it ever becoming a future present. But the aleatory and incubative dimensions of contemporary temporal experience also mean that we often cannot know whether disaster has actually been averted. This is a feature of the anticipatory politics of catastrophic climate change, in which ‘it is possible to read signs of climate change as a catastrophic *telos* which is already in process’ (Foust and O’Shannon Murphy, 2009: 158). As Kate Manzo points out, the iconography of climate change depends on identifying ‘fingerprints’ of global warming, which show that it is already happening, and ‘harbingers’ of future climate change, which ‘foreshadow the types of impacts likely to become more frequent’ (Manzo, 2010: 99). If the ‘present present’ is indeed incubating a ‘future present’, or reaching forward to realise it – or indeed if there are tendencies in the present that can be projected forwards – then perhaps the future is already underway, and we cannot know whether the future has already been ‘cast’, whether it is too late to act.

This unstable affectual structure of contemporary anticipation is also explored by Kim Cunningham in her analysis of the ‘prognosis time’ inhabited by cancer patients – the time between diagnosis of risk factors and the ‘future present’ when the truth will have become clear. Patients in this time ‘can neither mourn a certain death nor be comforted by high

probabilities of survival' (Cunningham, 2014: 463). The loss is projected into the future, as a source of 'anticipatory mourning'. Cunningham uses Miranda July's (2011) film *The Future* to illustrate the way that characters can be suspended between two temporal positions: 'It is too late/It has not happened yet. Is the catastrophic event in the past or the future?' We saw how in medieval time events could be experienced as both behind and in front. In prognosis time, the statistical calculation of population risk similarly suspends the individual body in time, and the deixis of A-series time is disturbed; there is no clear before and after. The subject feels the event they dread to be both in front of them (inciting action) and behind them (calling forth mourning).

Conclusion

In this paper I started by arguing that in order to understand the nature and significance of the contemporary compulsion to anticipate we need a wider theory of anachrony – of a structure in human action where an action is experienced as displaced from its 'normal' point in time – and that such a theory needs to be embodied, cognitive, and socio-historical. In the next section I began to unpack this argument by showing how time experience is organised according to a spatial logic, itself conditioned by the felt experience of the human body in space, and by the (culturally shaped) human capacity to do perspective-switching in order to empathise, navigate and communicate. Time is experienced as a quasi-spatial phenomenological field, and time passing is experienced through various metaphors of directedness and motion from various deictic centres, projected outwards from the felt human body. In different languages, the asymmetric, structured axes of the human body and its phenomenological and praxiological field are drawn upon to express temporal characteristics such as time's motion, actuality versus potentiality, visibility versus invisibility and inevitability versus changeability. Then in the next section I looked at a range of English words that in different ways mean 'acting ahead of time'. I showed how these metaphors favoured certain capacities of the human body – capacities of the *head and face* – perceiving, knowing, talking – but also capacities of the *arms and hands* – reaching, throwing, taking – all of which powers can be said to be displaced in time and thereby connect present and future. In the following section I then showed how in different social orderings the 'space of time' is structured differently, according to temporal gestalts with different felt relations between past, present and future, in ways that both shape and are shaped by the changing experience and practice of anachronic action. I applied this analytical schema to

contemporary anticipatory practices, and suggested that, although in one sense the defuturised but open contemporary temporal gestalt *necessitates* anticipation because of the felt immediacy of the future, in another it seriously *destabilises* it, producing forms of anticipation that involve ambiguous relations between past, present and future, thus making the present a site not of freedom but unfreedom.

One way to account for this conflicted character of contemporary anticipation is to identify ways in which the contemporary 'temporal regime' combines contrasting features of past temporal regimes: the stochasticity of 'state time' constituted through probabilities operating across populations – but also the need for the individual to make decisions for themselves within that stochasticity; the 'otherness' of the future characteristic of modern, 'historical' time – but also the medieval sense that the future can be behind us as well as in front. When the contemporary individual carries out the forms of 'secondary protention' classified in my 'lexicon of anachrony', imaginatively projecting their body as a site of perception and action in a temporal field understood spatially, they do so in a 'space' with dense and often conflicting relations.

Yet it is also clear that contemporary anticipatory practices do not simply respond to a pre-existing temporal gestalt; they also seem to be contributing in intensifying ways to shaping the way that time unfolds. The human body senses, knows reaches and takes, not just in the moment, in the 'present present', but through acts of secondary retention and protention which bring different times together in a range of chrono-political logics: we project forward, and then back to the present to choose which path to take; we act in the present to rehearse and prepare for a known future. But we also incite the virtual powers of the present and create the future we predicted – and retrospectively the present we claimed to see; and sometimes the possibility of action seems blocked by ambiguity as to *where we are* in relation to desired or feared futures. The future is indeterminate partly *because* we (along with other forces) are reaching out and making it. Against this background, the key question is surely whether a greater awareness of the logic of human anticipation will enable us to shape the unfolding of the future in ways that are more, and not less, open to human collective choice and control.

Notes

¹ Many thanks to Christopher Hart, Richard Tutton and Rebecca Coleman for very helpful feedback on earlier drafts of this paper. Many thanks too to Krístrún Gunnarsdóttir for creating a very useful annotated bibliography of the literature on contemporary anticipatory practices.

² Generally, I will use ‘anticipation’, anachrony, and ‘future-action’ interchangeably. Strictly speaking, ‘anachrony’ can be used to refer to actions that seem to be *behind* their time as well as those *ahead* of their time; and ‘anticipation’ features in my analysis as just one specific form of future-oriented anachrony. However, because of its importance as a term in the literature, I will also use ‘anticipation’ in a more general sense to refer to any form of acting, knowing or sensing ahead of time. Similarly, when using ‘anachrony’ I will generally be only having in mind actions *ahead* of their time.

³ ‘Deictic’ expressions are those (such as ‘I’ and ‘you’, ‘here’ and ‘now’, ‘this’ and ‘that’) whose semantic expression may be fixed but whose denotative meaning depends on the context of utterance.

⁴ This analysis is supported by the discovery of ‘mirror neurones’ in humans and other animals.

⁵ By contrast, Hausa people usually see the *furthest* of a line of visible objects as in front – using an ‘ego-aligned’ perspective – and generally do something similar with time, where later days are ‘before’ earlier ones (Hill, 1978).

⁶ Interestingly, the Toba combine this orientation towards past and future with a cyclic understanding of time. Present events are in view; the recent past is in front and remains in view for a while; the remote past is out of view and concedes with the remote future; and the immediate future is about to come into view from behind (Klein, 1987).

⁷ Etymological information is from the Oxford English Dictionary, and the Online Etymology Dictionary at <http://www.etymonline.com/>.

⁸ There are also other future-action words which involve more complex manipulative actions that I do not have the space to bring in properly here, such as pre+pare (from the Latin *parāre*, to make ready in advance (like ‘paring’ vegetables or hooves), and the German term ‘vor+sorge’, used in the original German name of the precautionary principle or ‘Vorsorgeprinzip’, which is literally *pre+care* rather than *fore+sight*.

⁹ There are of course other modalities of temporal experience in medieval society.

¹⁰ Kaiser defines *pre-emption* as a proactive acting to avert a known future; and *prevention* as cautious action to protect a desired, but fragile future. However, following Massumi, Cooper and Anderson I want to reserve the term ‘pre-emption’ for a more radical orientation to future contingency.

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