Pre-cognition and driving

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Habitable Cars

The most significant recent developments in the study of car travel have come from the broader field of mobility studies (Cresswell, 2006; Hannam et al., 2006; Sheller & Urry, 2006). In sociology John Urry (2000; 2004) has argued that we need to rethink how we conceptualise society in tandem with how we understand travel. Just as society is characterised by its increasing mobility as it begins the 21st century; so mobility is manifest in building and maintaining extended networks of colleagues, friends and family (Urry, 2003). In geography Tim Cresswell, over a number of works, has charted the literary manifestation of the road (Cresswell, 1993), historical aspects of the majoritarian desire to settle drifters and other roaming populations (Cresswell, 2001), and finally how the notion of movement might require a much more fundamental shift in how we investigate spaces and places (Cresswell, 2006). In a variety of ways of then, the study of car transport has found itself re-emergent in this, no longer quite so, new field. At the same time car travel is, of course, a pressing problem for a world with rapidly rising levels of car ownership and use, unprecedented levels of energy consumption, pollution and road congestion. A pressing problem that cannot easily be solved for the very reason that car itself is the solution to so many of our daily logistical problems: getting to and from work, shifting groceries, collecting children from school, visiting friends and family and going on holiday (Larsen et al., 2006; Pooley et al., 2006).

In a recent ESRC project called Habitable Cars1 myself, Barry Brown and Hayden Lorimer have taken a different tack which is look at those very ways we have come to inhabit the car. Rather than building automobility up as the system that system theorists would choose, one so global and entrenched that we are quite unable to stop it steady march, our approach is to disperse such a simple theory into fields of practical action while also accepting the frustratingly dispersed and dispersing nature of mobility (a point well made by Tim Cresswell of course). While accepting that massive investment in car infrastructures by state and markets and equally massive investment in the car of our daily tasks and pleasure have locked us out of to previous ways of organising our worlds, we can at the same time look for what is being unlocked, as Nigel Thrift puts it with reference to cars: ‘New and friendly habitabilities [that] are therefore constantly on the horizon, some of which may still be able to be realized’ p54. To continue Thrift’s line of thinking on automobility, to work with and on the car as a vehicle for and of our everyday lives.

Thrift’s article ‘Driving in the City’, has been a tremendous inspiration in investigating driving-in-traffic for at least five reasons (providing such lists being a classic Thrftian trope):

1. He takes automobility seriously as a central form through which an actor-networked version of everyday life has been re-organised over the past 100 years. Cities the world over and not just LA and Las Vegas, are rebuilt around the car, in terms of the architectures of motorways, the garage’s relation to the house, the arrival of the non-place petrol stations and more.

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1 For more details on the project: www.ges.gla.ac.uk/users/~elaurier/habitable_cars/
2. He is interested in the various ways we have of living in the car, understood to be ‘profoundly embodied and sensuous experiences’. The inter-twinning of car and person, as a novel and irreducible form of what Mike Michael (1998) investigated as ‘co-agency’, which organises not only how we move but emotional responses (road rage being the obvious example used by Michael and others (Katz, 1999; Lupton, 2002).

3. He has dealt with the car itself as a highly designed space which can be investigated in its steadily evolving fit to and subtle transformations of its driver. Software and ergonomics steadily build new forms of “humanization” (Thrift, 2004a: 10), where Husserlian phenomenology finds itself becoming a building program for car makers, used to refashion how we sense the weight, speed, sound and touch of the car. GIS, GPS and other forms of computing developments also leading to the possibility that driving may converge with practices of walking in terms of displaying to other vehicles an account of our movements on the road.

4. He touches upon the practices other than driving that happen there, which we, in common with Thrift, have called ‘passengering’ (Brown et al., 2006). A rich vein of ways of talking, gesturing and looking at one another and the landscape of the road.

5. Unusually for a human geographer he continues to draw on literature from cognitive theory and neuroscience. Re-drawing consciousness, thought, decision-making and action via theories of the non-cognitive realm that exists in the time before we ruminate upon it post-hoc.

On that last point on the list, the car is a perspicuous setting for the consideration of the boundary between cognition and pre-cognition for two further reasons, the first being that things happen very fast on the road and drivers respond in split seconds. This is not the thoughtful scene of writing where the author has hours to try and form their next paragraph, can delete it without harm and revisit their passage several weeks later and change it all over again. Car crashes brook the most limited revisions. Should a car pull out in front of you, as you would say afterwards, “I had no time to think about it, I simply had to swerve”. In a less dramatic vein, when driving our children home from school we are occupied with so many other tasks, such as stopping the children arguing and planning what to cook for dinner, that we ‘let the car drive itself’ as one of our project participants put it. Under such circumstances we will find ourselves, on autopilot, taking the left turn to the school when we should be turning to the right that day to go to the swimming pool. Somehow our actions appear to have continued before our mind catches up and notices the error.

While only concerned directly with automobility in one article Nigel Thrift (2004a), driving and the automobile system has also served as a touchstone in other works (Thrift, 1996; Thrift & French, 2002). Alongside his specific writings on cars, Nigel Thrift’s (1996; 2000; 2004a; 2005a; 2005b) wide ranging body of work on spatial practice has a more longstanding concern with the relationship between a series of entangled pairs: action with knowledge, pre-cognition with cognition, and, the subconscious & anteconscious with consciousness. In each of these pairs, the refiguration of what would be either philosophical, psychological or psychoanalytic binaries are re-arranged through a history of technological change and

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2 His remarks on these lines echo Latour’s (Latour, 1997) critique of Husserlian science versus phenomenology through the proliferation of lifeworlds via the many agencies produced by transportation’s transformations of experience.
innovation. For Thrift, how a spatial practice becomes possible at a certain period, and not others, really matters and what new possibilities dawn as new machineries emerge matters still more.

Alongside software, bank lists and toys, car driving provides yet one more facet of Thrift’s ‘technological unconscious’, of which more later. Automobility has become the sort of background to our world that has been around long enough for us to no longer notice it (unlike, say, the remarkability of SatNav, WiFi or Web 2.0). It is one though that is we ought to notice because it is undergoing a period of ‘transubstantion’ not in how it is represented, or how we identify with the car (or not) through such representations, but in inventing new means for us to move through the world and new ‘forms of material intelligence’. These are manifest in the increasing delegation of various tasks, some perceptual (some not) to the car’s (and roadside’s) software, ergonomic re-engineering of their architecture and mechanics. The government of driving is gradually annexed by the car as intelligence and intention are put in its hands. While Thrift does not mention this, there have been cases where a car’s cruise control has been blamed for collisions, for instance. While I would not want to argue against Thrift’s report on the increasing intermediation between driver and road as new software routines are put to work in suspension, steering and braking, I would want to be cautious over three of the consequences of the transubstantation of the car. Those consequence being that the car’s ongoing development, software support and re-design leads to a ‘new kind of coded governmentality’ or that car now ‘becomes a world in itself’ or to Thrift’s third claim, that it will become increasingly hard to get lost.

To begin with the second point, in what will follow I want firstly to remind us that we often travel with others inside the car and secondly that the car is full of windows and will never be the room that is a world in itself even less so than our study or kitchen or living room or perhaps most appropriately, gym. Though, of course, none of those habitable spaces are worlds unto themselves either. In the kitchen the outside world is constantly rushing through the fridge carton by expiring carton. The living room is lit up by animation from Japan and news from Iraq. Studies, though sometimes able to keep the demands of domesticity out, always take their students to other worlds. My greatest reservations over car becoming a world to itself, would be over the contemporary force of such a conclusion allied to the blending together of all cars. Where Thrift so often surprises us with fine and powerful distinctions in the realm of machines this one loses us as much as if we talk in terms of clothes where we could differentiate into gortex jackets and hot pants. Some new car models pursue sound proofing, superb stereo systems or LCD screens for passengers. Other new car models, such as the expanding two seater convertible market are designed to increase the centrality of the driving experience where it is world outside itself – the roar of the engine, every bump in the road and the heat of the sun on your back. Having set up such a uniform bloc of motorcars, Thrift does, of course, then unpick it again later.

On the third point, Ingold (2006) argues very nicely that incorporation of skills into machines does not necessarily lead to de-skilling, instead it may shift what a skilled user can do as they push these new machines to new limits of both creativity and productivity. What I might add here is that where a technology like GPS makes it easier to navigate in unfamiliar places, drivers will pay still less attention, pushing their new machines downward to new limits of confusion and disruption. Even for the intrepid and intelligent hillwalker, when
they are facing hypothermia GPS might help save their life but it will not save their life entirely. Getting lost in its dangers and in its pleasures has always been about more than lacking grid references or orientation. And it is a more enchanting possibility of being lost somewhere (as in Solnit, 2006; Thoreau, 1999 (orig 1854)) that Thrift is alluding to when he hints that there might be regret over the possibility of getting lost disappearing from the world. He has carried out authoritative research on the spread of time consciousness and we know how hard it is not to know what time of day it is.
Pre-cognition in driving

grouped around an alliance of workers in artificial intelligence (AI), cognitive science
and the like who have valorized embodied action, what we can see is a concerted
project to represent the non-representational through scientific principles, mainly by
working on the very small spaces and times of movement that can now be
apprehended and worked with in order to produce a 'structural description of
becoming aware' (Thrift, 2004a: 51).

What I would like to do here is return to and expand upon what Thrift makes as only a
passing reference when discussing driving, though it indexes a much deeper concern in
Thrift’s vision of embodied action. In seeking to redress the desire of social theorists to treat
those they study as sometimes optimistically proto-social theorists or worse cultural dopesto
over-intellectualise ordinary practices, Thrift cites research by cognitive scientists of various
stripes on the “pre-cognitive” or “non-cognitive”. The importance of the pre-cognitive is
laid down in several places in Thrift’s work (Thrift, 2000; Thrift, 2005a; Thrift, 2005b) and in
each of these its use is bound up with embodiment, the senses, affect, nervous systems, a
non-Freudian sense of unconscious action, and technological backgrounds.

It is unwise to try and summarise Thrift’s writings on knowledge and action since they are
nothing if not far-reaching and heterogeneous. All I hope to do here is to sketch the
movements of one of the concepts from neuroscience that he has drawn into his work on
practical action. In offering a summation of ‘affect’ (or mood):

affect can be understood as a simple or complex biological drive, a pragmatic effect of
the pre-cognitive or cognitive interactions of bodies, a set of capacities for affecting or
being affected by, the communicative power of faciality, and so on (Thrift, 2005a)
p138

When bodies interact there can be two sorts of effects, one being those that are in some way
knowing, thinking, recollecting and perhaps imagining as joint actions. The second effect
being action that pre-figures and in some way anticipates thinking, reflecting, willing and
believing. The cognitive domain is one that we might read across to the intellectual and
intellectualised practices and concepts that implicate us as investigators of social and cultural
life and that we map on to more mundane lifeworlds. A domain that equips us and that we
are well equipped to act in. What we are missing is what bodies of various kinds can do
before they get to knowing what they are doing, thinking about what they are doing,
recollecting what they or others were doing and imagining what they or others might do, are
doing, have done.

In addressing a wider array of sentiences (e.g. ‘informed material’) than normally recognised
by the human-centred social sciences, Thrift focuses on:

how recent developments are producing a potential for new kinds of gathering of
informed material by revitalizing a world that is often thought to be in danger of being
crushed by abstract forces. In the penultimate part of the paper, I argue that one
productive way of understanding these developments is as a new form of
reading/writing the world, but in the precognitive rather than the cognitive domain, (Thrift, 2005b: 464).

Once again the contrast here is between the cognitive domain equated with thought, intelligence, consciousness and a domain before thought of impulses, emotions and affect.

From these scant quotes we also hopefully get a sense of how the pre-cognitive is tied to considering affect and an alternative sort of politics. If the pre-cognitive is practice that is somehow before thought, if it is action that precedes any sort of thinking about or deciding to initiate that action, then we find possibilities for new forms of control and new resources for fashioning alternative possibilities. Once we accept that there is such a thing as the pre-cognitive then it can become both a domain of the ‘technological unconsciousness’ and unnoticed yet active background that soft capitalism is pursuing in terms of channelling it into the functioning of economies (Thrift, 2004b) and also a human capacity that is being transformed and extended by, amongst other Latourian things (1997), car software and ergonomics:

To summarize, new kinds of sensing have therefore become possible. Reach and memory are being extended; perceptions which were difficult or impossible to register are becoming routinely available; new kinds of understated intelligence are becoming possible. These developments are probably having most effect in the pre-cognitive domain, leading to the possibility of arguing that what we are seeing is the laying down of a system (or systems) of distributed pre-cognition (Thrift, 2005b) p471

A scintillating account, one that certainly has us wondering whether we are being moved by profit and machines before we have a chance to even consider deciding whether we want to be moved by these reconfigured gatherings. Having alerted us to these, by parts, exciting and terrifying expansions of sentience, Thrift urges us to reconsider our joint-agency with humans, animals and, of course, machines. It is, as with so many of Thrift’s interventions, a timely one since human agency has been under a process of reconsideration in the light of actor-network theory (Latour, 2005), socio-materiality (Law & Hetherington, 2000), performance studies (Jones & Stephenson, 1999) and older traditions such as phenomenology (Merleau-Ponty, 1962) and ethnomethodology (Garfinkel, 1962). These latter approach have been less catholic in their acceptance of what psychology and the neuroscience are offering, and have re-examined their conceptual basis (Coulter, 1983; Potter, 2000). Consequently, I would like to unearth the origins and conceptual basis of pre-cognition and draw on video records of driving to re-specify what happens “before thought”.

Thrift references the early and renowned neuroscientist Benjamin Libet and his theory of voluntary movement.

In contrast to writing, the new technologies function mainly in the milliseconds of the precognitive domain of perception (Donald, 2001; Libet, 2005). (Thrift, 2005b) p473

From the 1970s onwards Libet has argued that all voluntary actions are set in motion by the brain before any conscious acts of willing to do so, have the time to occur. Benjamin Libet’s work (Libet, 2004; Libet et al., 1983; Libet et al., 1979) has gained a certain notoriety in terms
of the questions it raises for free will (Honderich, 2005). Rather than jumping to those I will very briefly describe one of the experiments he and a team of neurosurgeons carried out and what his results were.

Subjects pushed a button whenever they felt like it, while hooked up to an EEG and equally they could change their mind on feeling an urge or desire to push the button. They then had to report the moment when they felt the desire to push the button. Subjects were to note the exact time they felt the urge to move and this was compared with results from the EEG which recorded neural initiation of movement. Neural initiation began 500 milliseconds before movement of the hand and the feeling of doing so 150 milliseconds. The feeling of the desire to move their hand then, contrary to expectation happens after the neurons fire up to move their hand. There are two implications usually drawn from Libet’s experiments: the first being that there is always a delay before cognition kicks in of 500msecs as the neurons achieve readiness to response. From this, the broad conclusion is drawn that consciousness is always delayed, is always behind. Secondly that the brain initiates courses of action before any conscious acts of willing to do some actions (such as push a button, turn to the left at the traffic lights etc.). From this we get to Thrift’s, and others, notion of pre-cognition as bodily action underway before thought catches up with it.

Yet let us return to the experiment itself to remind ourselves that for the decision to move or feeling a desire to press the button, the research subjects were reporting on their introspective feelings. That is they were saying aloud when they felt an urge or desire to move. A central rejoinder to the confused presuppositions of Libet’s experiment is made by Bennett and Hacker (2003), which we will go on to explore in greater depth is:

‘It is neither necessary nor sufficient for an act to be voluntary that it be preceded by a feeling of desiring, wishing, wanting or intending to perform it or by an urge to do it’ p229.

To put this another way you have not moved “involuntarily” simply because you did not feel a desire or urge or intention to move beforehand. Hacker and Bennett go on to point out that what is perhaps most amazing about the study is that people when asked to report a curious thing like “a feeling of intention to move one’s hand” can indeed find a feeling to report on even though moving your hand doesn’t require such a thing.

What this comes around to, very briefly, is that it is mistaken to figure cognition, or more accurately, volition in the way that Libet and others who pursue this notion do. Yes, there are urges and unintended actions but for an intended action to be an intended action it does not need to be caused by a prior brain located intention of the actor. What you end up with, which Thrift would not want to find himself supporting, is a neo-Cartesianism where the mind is supplanted by the brain. Instead of the mind dictating to the body as it was in Descartes, it is now the neuroscientist’s brain that acts first and the rest of the body follows.

We will return to this critique later in the chapter after examining, in some detail, transcripts of a video clips of driving gathered and analysed as part of the Habitable Cars project. One purpose being that we then have some worldly material in hand to re-specify ‘intentions’, ‘thinking’ and ‘action’ (similarly and more extensively, see Edwards, 1997). A second being that we will re-engage practices of reasoning as they relate to the practicalities of driving a car
(Livingston, 2006). In the section that follows we will be examining two commuters who car share and have been doing so for a couple of years. As we join them, it is morning and they are about five minutes into their journey to work.

“I thought”

\[\text{P= passenger, D= driver}\]

\[
((\text{Approaching slip road}))
\]

\[
((\text{P raises his hand to point at car pulling out}))
\]

\[
((\text{His finger then touches nose}))
\]

P: I thought he was gonna:\, ((looks into car as they pass it)) aye, she was gonnae pull out and go for it

P: Somebody pulled out in front of me

\[
((\text{turns toward driver}))
\]

(1.0)

D: ((turns toward passenger))

P: Comin’ in

\[
((\text{both return to looking forwards}))
\]

\[\text{3 Denoting these person as these particular categories of actor already begins to make assumptions about the relevant categories, where they may or may not be relevant. I can only signal such concerns here, for a fuller examination of omni-presence or not of categories see Schegloff 1992 (Ochs, 1979)}\]
A first thing I would like us to take from this fragment is that the passenger is monitoring the road ahead in tandem with the driver. The second thing is that they have pointed out something. There are all manner of things that passengers point out, such as the weather visible out the front window, or new houses being built or unusual vehicles on the road. What is special here is that the car being pointed out here is relevant to the driving of the vehicle: a car on a potential collision course. That passengers are involved in monitoring the road, at all, is a feature of the socially organised nature of driving road vehicles that cognitive psychology with its focus on the lonely brain locked inside its skull with only nerves, muscles and lenses to look out upon the outside world generally excludes for the purposes of its studies (Potter, 2005; Potter & te Molder, 2005). Rather than concentrate on demonstrating the frequency or pertinence of passenger involvement in driving cars I would like us to examine this fragment in the light of the moral restraints on how much and exactly when a person, encumbered with the rights and responsibilities of a passenger can intervene in the driver’s work.

If you are a passenger, no matter how talented a driver you are, if you intervene too often or inappropriately, you can justifiably be accused of being a ‘back seat driver’. As Watson (Watson, 1999) puts it any remarks made about driving be the passenger are ‘inferentially rich’. The fact that cars are driven by one person rather than two (or four (or a team)) is more a matter of histories of car design and social convention than an issue of individualised cognition. Nevertheless because it is so, driving the car has become the exemplary scene of psychology’s demonstrations of various models of thinking, action, automaticity and so on (e.g. (Groeger, 2000)). How then might a passenger offer a warning or make an observation about the road that is pertinent to the driving’s course and not be overstepping the mark? There are several possibilities: one that echoes Watson’s (1999) ethnographic study of truck drivers on un-metalled roads is noticing an object that is projectably collidable with given our course. This sort of pointing-at other vehicles or objects, even on collision courses, is nevertheless relatively rare since to point them out is to at the same time to raise the matter that the driver might not have noticed them. The driver can respond to such remarks as criticism of the competence in driving the car as well as infringements of their rights as being just like any other competent (not in need of assistance or advice).

At the outset the car has not yet pulled out when it shouldn’t but in finely judged ways its location and motion in relation to the visible markers of the road is cause for concern. Even afterward quite what it was up to, is unclear. However its anticipatable course is into their way. Even though the driver may well be monitoring what the car is doing the absence of him, for instance, slowing down or even turning his head slightly toward the car deprives the passenger of any visible response, and thereby appreciation of the threat posed by the car’s rapid approach and over-stepping of the road markings.

Before we therefore assume that the driver has either failed to notice the other car or failed to produce an appreciable response that would have headed off the passenger’s intervention, we can consider the further possibility that we may be party to is a classic game of “chicken” on the road. A game where the driver is banking on the car seeing him keeping-on-coming, where if he slowed down the other car might exploit that as an opportunity to jump into the road and accelerate away leaving behind the smell of burning rubber and an outraged car. I
am not saying this will happen or am sure that it is what’s happening but merely saying that one of the ways drivers handle one another is to get the other one to stand down. Moreover drivers exploit the visibility of the absence or presence of noticing one another. Where both cars have rights to go ahead, particularly in seriously congested roads such as those of Mexico City (Sormani, 2004), they will try and avoid letting the other driver see that they have seen them. If one has not seen the other, then for the one who has seen the other, they ought to let them through because they cannot rule out that the other driver genuinely has not seen them.

What is happening here is taken up by the passenger as that genuine circumstance of the driver not having seen the other car. The car which approaches the junction could quite imaginably not have looked properly to the left or have had this car in their blind spot and missed its approach. Under such circumstances the approaching car should then save the day by stopping in time and thus preventing a potentially fatal crash. It is worth remembering that one of the main reasons for there being actually very few crashes on the road is that where one driver makes an error their error is noticed by approaching drivers and repaired by them. In the majority of situations it takes two drivers’ inattentiveness to have a crash.

Let us return to Thrift and pre-cognition via the passenger’s gesture: a point that is transformed into a touch of the chin, and then the hand is taken out of sight. It is tempting to equate gesture with what is before or outside of language, an embodied intelligence. The brain is reacting, communication is underway before the brain has a chance to reason about what the body is doing. In Libet’s neuro-scientific account, the passenger’s brain is firing up first as it works out what is going on and then sending the electrical charges down his nervous system to get that arm moving, the finger extending to link it with the optical information being processed by the brain from the eyes, and so on, and so psychologically forth.

All of this sound highly plausible because we are so deeply immersed in cognitive psychology and popular neuroscience that such an account sounds not merely plausible but a matter of scientific fact. To argue that it is not so requires careful retracing of the many ways in which Cartesian rhizomes have run through language to link up with our concepts of thinking, acting, free will and perception. As Wittgensteinian scholars of the mind will remind us, once again, treating “seeing”, “noticing”, “pointing out” (as a passenger moreover) as brains processing retinal information and activating muscles is a conceptual confusion, a problem with incorrect use of our language (Coulter, 1983; Edwards, 1997; Hacker, 1996; Watson, 2003). The “brain” does not work out the danger the car at the junction poses through processing retinal information and sending messages to its limbs, it is a “person” that works out the danger the car at the junction poses. If we ask who saw the car, the correct response is the passenger, not the passenger’s brain. This is not in any way to deny that their whole body is indeed involved and they could not do what they do in the way that they do it without arms, fingers and a brain. It is to say that if we ask who is pointing out to who, it is the passenger pointing out to the driver, not brain 1 pointing out to brain 2.

Rather than continue to critique Cartesian neuro-scientific accounts here what I will do is make brief remarks about the gesture in its course. To do so begin to give us a sense of how we might inquire into gestures as part of the production and reception of reasonable and reasoned courses of action. The pointing happens quickly, where pointing can linger on an
object to make sure that there is something to be seen, is seen, and what is being pointed at, is seen. It should be in three sequentially related parts: one being its emergence, the second its pause and the third its dissolution, or perhaps transformation. In three parts it allows for displaying that something is about to pointed at, then with lingering and thereby picking an object out and then an evaluation of that thing. As it actually happens the pointing never pauses, the hand is made into the shape, the finger rises up but doesn’t stop, like a bus rushing past a bus-stop, it runs on and thereby re-appraising what has been picked out. We make sense of the almost-pointing not as a semiotic gesture (as-it-were) where the hand is making a sign for the car, we make sense of it by locating what it could be locating in the visual field ahead of the car (Goodwin, 2003).

As Goodwin and others (Heath, 1986; Kendon, 2004; Mondada, forthcoming; Schegloff, 1998) argue the gesture comes with the speaking, it is not a separate track of communication. Sign language running alongside spoken language. Each one is already in relation to the other, they are not ‘one’ to ‘other’ in fact, they are one, as much as ‘eh, oh, uhm, that’ are not other to ‘muppet’, ‘cyclist’, and ‘thank you’. Alongside their relation to speaking, as we have noted above the gestures have emergent sequential properties to them akin to both the ordering of words and the turns taken in conversation. The pointing here is only half-made and becomes a touch of the nose instead of a firm or definite point. The run-up nevertheless makes what is coming appreciable, in that we see the pointing coming before we could discern what it could point at. Indeed run-ups or pre-pointings can, and do, happen this way to allow us to tune-in on the visual field. Often, we see what is being pointed at before the pointing comes to its pause because we are ongoing involved in monitoring scenes and so may well be able to correctly anticipate what the pointing is supposed to land on. Not by careful inspection of the direction of the finger, like the sight of a sniper’s rifle, but by picking out the misbehaving vehicle ahead. In fact just how wrong the idea that we follow the finger is when we try to point out a star in the night sky to a friend. The pointing finger almost always fails us when what is being pointed at cannot be picked out without the point.

Pointing as an embodied visual practice has been written about extensively elsewhere (Goodwin, 2003; Hindmarsh & Heath, 2000a; Hindmarsh & Heath, 2000b) and for that reason, along with its pertinence to pre-cognition, what I would like to is shift what immediately follows the pointing:


(((His finger then touches nose)))

P: I thought he was gonna::, ((looks into car as they pass it)) she was gonnae pull out and go for it

The rapid transform of the [pointing at] into the finger touching the nose instead, the latter gesture, in relation to the former, becomes a re-appraisal of what was seen as underway already. Noticeably cut-off in terms of how long we expect a point to last, the pointing’s dissolution negates the thing that was now only seemingly seen. If it were a finger touching an object to make it relevant, it’s a touch that is visibly withdrawn. The words that follow, ‘I thought’ could be taken as a report on what was occurring inside the brain of the passenger and that’s the literal way ‘thinking’ is all too often dealt with by psychologists and neuroscientists. When having their brain scanned by PET or fMRI subjects are asked to ‘think’ of a number for instance. From a number of ordinary language philosophers the rejoinder to such experimental suppositions is that the uses of ‘I think’ and ‘I thought’ are polymorphous (Coulter, 1989; Ryle, 1949; Wittgenstein, 1953).

In this driving event to say ‘I thought’ is to make available what the passenger was supposing or assuming in making their gesture. It is the kind of use of ‘I thought’ that we say after the fact when indeed things may have gone wrong or have been revealed to not have been what the person has assumed or supposed. From the way the car ahead was moving, the passenger assumed they would pull out in front of them. An extreme example would be a police officer having accidentally shot a suspect saying “I thought he was reaching for a gun” (from Bennett & Hacker, 2003). Brains do not make such suppositions, police officers do. It is the police officer as a police officer that is held accountable not their brain. In neither case is there the need to suppose that an additional privileged process (e.g. thought) was going on. Moreover the phrase ‘I thought’ begins to build that what will follow is an account for the mistaken gesture that immediately preceded. There’s nothing essential about the gesture in directing the driver’s attention, the passenger could have called out ‘watch out!’ or made one of those, often heard from passengers, sharp intakes of breath.
P: Somebody pulled out in front of me
+ ((turns toward driver))

(1.0)

D: ((turns toward passenger to meet gaze))

P: Comin’ in

((both return to looking forwards))

(1.0)

P: Just down from your street ((sideways nod))

(0.5)

P: ((shakes his head)) Didnae even apol’. I beeped at him and everything he didn’t bother apologising ((looks toward driver extendedly and with additional move into driver’s space))
Rather than waiting for any sort of confirmation or acceptance of his intervention as justified, from the driver, the passenger shifts quickly on to what we might call an incident-generated recollection. That is, he recollects an event that bears some similarities with the car-almost-pulling-out incident. Or rather he is trying achieve similarities, in that he recounts how someone else did a thing (which did not happen here) only tens of minute beforehand. In the switch to accounting and recounting we have a gestural shift from the pointing that indexed an immediate object on the road, as part and parcel of driving that road, to a turning toward the driver to tell a story that, while it should be placed adjacent to the event it refers to, can wait for the driver to have the opportunity, in amongst driving's work, to listen to the passenger’s story. Without the time-pressed urgency of colliding with a car the passenger waits with their head turned for a second after “in front of me” until the driver looks toward him before completing the utterance with “comin in”. Once the driver’s attention is secured, or rather once the driver indicates gesturally by returning the gaze of the passenger that they are listening, and ready to listen, the passenger produces a story in some ways accounts for the event (and does more at the same time): earlier in the same morning a car pulled out in front of him. The proximity of a realised pull-out gives him good reason to make the mistaken assessment of intent he had just made. The mistaken pointing-out-of-the-car is justified because such things do, and had happened, just that morning, ‘just down from your street’ to the passenger.
Concluding remarks

It will now be realized why I have said so little about psychology in the body of this book. Part of the purpose of the book has been to argue against the false notion that psychology is the sole empirical study of people’s mental powers, propensities, and performances, together with its implied false corollary that ‘the mind’ is what is properly describable only in the technical terms proprietary to psychological research. England cannot be described solely in the technical terms proprietary to psychological research. (Ryle, 1949, 308)

The introduction of the neuro-psychological theories of non-cognition and pre-cognition by Nigel Thrift was one solution to a problem which continues to be rife in not only psychology fifty years after Ryle’s devastating critique, but the social sciences more generally, which is the over-emphasis on intellectual forms of life and the attribution of its characteristics to all sorts of other communities and workplaces. The problem, overly simply put, is that what actors are taken to be doing when they are reasoning is isomorphic with what theorists are doing when they theorise. Or as Thrift pithily puts it: “Probably 95 percent of embodied thought is non-cognitive, yet probably 95 percent of academic thought has concentrated on the cognitive dimension of the conscious ‘I’.” (Thrift, 2000, 36). While the problem remains the solution is not to import pre-cognition and cognition thereby inadvertently smuggling a Cartesian division back into the analysis of practices involving humans and their many technologies.

What I have tried to do here is follow the example of a number of other philosophers (Cavell, 1998 (original 1979); Ryle, 1949) and post-cognitive psychologists (Edwards, 1997; Potter, 2000) by returning to a situation where we find “thought” as an ordinary word being spoken by a passenger to a driver, where something is being seen to be so for a moment, then realised not to be so and that all of this can be analysed without recourse to involuntary mental processes. Hopefully it gives a flavour of how we might begin to study actual instances of quite ordinary driving without falling into the cognitive theory’s billiard ball game of mental causation. As private cognitive processes “wanting”, “intending” or “deciding” are taken to be indirectly accessible causes of actions or movements. To refuse to accept volition, intention or decision-making as specific mental processes is not to say that we do not do things because we intend to, want to or decide to do so, it is simply that the “because” is not causal. If it were causal once the passenger from the transcript had formed an intention to point out the car that was on a collision course he could simply relax and let the “intention” cause his finger to rise and point toward the car. As a consequence it is unwise to chart the redistribution of intentionality between driver and car because there is no ‘thing’ to be redistributed.

That what the passenger did was intended and that it was not involuntary (e.g. pre-cognitive) is covered by the fact that, even though the passenger was acting quickly, he was aware of what he was (intentionally) doing. If he was unaware of the fact that he had raised his arm and made a gesture that looked a lot like pointing at that car, then it would have been unintended. It has nothing to do with a mental entity causing, or not causing, the action. This point applies to many of the other actions involved in driving that are gathered together as “automatic”, the prime example being changing gear (Groeger, 2000). That a driver grasps the gear lever in a certain way “automatically” as they change gear may not be intentional.
and Thrift’s remarks on ergonomics have some purchase there, but the driver’s gear-changing is intentional. When some form of cruise control does the gear changing the attribution of intention changes. The driver, for instance, intentionally activating the cruise control and then a Latourian (1997) moment of displacement where the company that designed and engineered and programmed the cruise control historically having intended the cruise control do behave in certain ways. What defines intended action is that the actor can provide reasons for what they are doing, or have done, which if you recall, is what the passenger provides, having suppressed his point toward the car. To say ‘I thought’ is to provide justification or excuse for our actions, not to name an internal state. An ‘involuntary’ gesture would be a nervous tic and one that others would not assume was intentional or that they person meant anything by it (Cavell, 2002).

There is taking responsibility for one’s actions, rather than doing them freely or under constraint. What the passenger’s ‘I thought’ does is to take responsibility. ‘He must mean what he gestures’ to adapt a phrase from Cavell (2002). In examining what is excusable as the involuntary, Austin (1956-7) brings out that simple oppositions do not hold, quite the opposite, an action can be impulsive and intentional, or, an action can be intentional though not deliberate. Austin uses the amusing and potentially fatal example: while walking along the cliffs, on impulse pushing you over the edge. I both intended to do it while acting on impulse, yet what I did not do was pause to reflect on whether I should or not. In the passenger’s case they intentionally point out the other car, there is no time to pause in advance and reflect on whether they should or not.

Reactions to impending dangers during driving are fascinating because they are at the edge of the involuntary. The mistake is to extend them across all driving, when they are actually relatively rare. We can see something of the situation which accounts for them, the passenger’s involvement in monitoring the road ahead with the driver. When a car looks as if it will collide with them then the crash will happen to the passenger too and so in a certain way making a quick response is the right thing to do. If the car had pulled out then it may well save the day, getting the driver to slam on the brakes in time. Is the problem more that the passenger forgets they are a passenger rather than that they act involuntarily or pre-cognitively? They do so because they have the sequence of responses inculcated in them, something all the more obvious when front-seat passengers find themselves trying to press a footbrake that isn’t theirs (unless they are a driving instructor). A passenger that has never learnt to drive a car, or a child does not find themselves responding to events on the road in the same way. All of these final remarks are leading to why we should hesitate before talking about precognition in relation to driving or any other human action.

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4 And as one reader of this chapter pointed out, it is only when they are in the front-seat that they find themselves trying to press the footbrake. They do so because there is something about this particular bystander position that immerses them in the ‘activity’, like playing doubles in Tennis without a racquet.
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Bibliography


Sormani, P. (2004), 'Order in disorder: some ethnographic observations in traffic', copies available from the author, Department of Sociology, Uni of Manchester.

Thrift, N. (2004a), 'Driving in the City', Theory, Culture & Society, in press, NYP.


