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Extended and Constructive Remembering: Two Notes on Martin and Deutscher

ABSTRACT

Martin and Deutscher's remarkable 1966 paper 'Remembering' still offers great riches to memory researchers across distinctive traditions, both in its methodological ambition (successfully marrying phenomenological and causal discourses) and in its content. In this short discussion, after briefly setting the paper in its context, we hone in on two live and under-explored issues which have gained attention recently under new labels – the extended mind hypothesis, and the constructive nature of memory. We suggest that Martin and Deutscher's causal analysis of memory is compatible with the idea that activities of remembering may be distributed across heterogeneous social and external resources, focussing in on their neglected example of creatures who 'remember as we do' as long as they carry round metal boxes which are given to them at birth. We then argue that the causal analysis is in some tension with the extent to which remembering is a constructive activity, because there may be no clear way to determine the appropriate 'limits of accuracy' within which a past event or experience must be represented.

BIOGRAPHY

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EXTENDED AND CONSTRUCTIVE REMEMBERING: TWO NOTES ON MARTIN AND DEUTSCHER

1. INTRODUCTION

Philosophers who don't retain personal memories of the debates and theoretical developments of the 1960s must construct a sense of the period's problems and passions from semantic knowledge, testimony, and direct engagement with key surviving traces, such as C.B. Martin and Max Deutscher's paper 'Remembering'ⁱ. In doing so, of course, we filter our understanding through the kind of interest-ridden schemas described in F.C. Bartlett's brilliant integrative study of rememberingⁱⁱ: sets of idiosyncratic, neurally-grounded yet culturally-embedded salience machines. Martin and Deutscher's 'Remembering' remains, as we intend to show, a live and significantly under-utilized resource for contemporary theories of memory: we don't here undertake the further task of demonstrating just how rich a glimpse it also offers of some intriguing historical trajectories driving Anglophone philosophy of mind, and of Max Deutscher's own intellectual journey. Despite Max's shifts in philosophical attention and his tendency always to be looking onwards, he has revisited 'Remembering' on a number of occasions, in direct work on the same topicsⁱⁱⁱ and enthusiastically in classes, discussion groups, and conversation with those lucky enough to be there.

Remembering is a central topic across quite distinct philosophical traditions, related as it is to questions about perception, emotion, representation, truth, skills, the self, responsibility, ethics, mourning, recognition, and so on.^{iv} Yet strangely, notwithstanding the recent explosion of interdisciplinary work in 'memory studies', the philosophy of memory has remained relatively marginal, with much research in the Anglophone traditions at least springing from unrelated and fairly technical concerns in epistemology.^v In part, perhaps, this is because of philosophers' uncertainties about engaging closely with the psychological and social sciences. But a further contributing factor may be a widespread sense that Martin and Deutscher's 1966 paper, one of the very first thoroughgoing causal analyses of any topic in philosophy of mind, solved (or at least pointed a definite way towards solving) certain central problems. This claim is not refuted by the existence of some vocal critics.^{vi} Bermudez's passing reference to Martin and Deutscher's 'influential and widely accepted account'^{vii} is more typical^{viii}: and in the most systematic treatments of memory in recent analytic philosophy, Sven Bernecker^{ix} builds his own causal analysis directly and very closely on theirs, even though his explicit references to their work primarily concern minor points of disagreement.

While we fully uphold this positive consensus about the 1966 account, we think that analytic philosophers' default agreement has remained at some level of abstraction from the richer and stranger details of Martin and Deutscher's paper. We aim instead in this brief paper at something closer in spirit to Max Deutscher's own critical reimagining in 'Remembering "Remembering"'.^x We focus on just two topics which might not seem clearly implicated in Martin and Deutscher's paper, because they have gained attention more recently under distinctive names – the extended mind hypothesis, and the constructive nature of memory. In suggesting that Martin and Deutscher did in fact include recognizable discussions of these issues under other labels, we happily run the risk of present-centredness in offering our own selective rereading. Many other topics worth resuscitating in their paper don't get a look in here, and we can only encourage others to take them up. In our era of 'embodied cognition', we'd especially single out Martin and Deutscher's suggestive remarks about how a swimmer's 'actually doing' a particular sequence of movements in the water might (in certain circumstances) be not a typical case of 'remembering how', but the best or even the only way of remembering particular past events.^{xi} There are also intriguing lines of enquiry to follow on the continuities and points of development between this work on memory and Max's more recent work, notably his various engagements with Derrida's writings on mourning and memory, and in his discussion of Arendt on recall.^{xii} But instead here, after a brief section which sets 'Remembering' in some further context, we forge ahead with two specific sets of comments on central parts of the original analysis which remain both live and under-explored.

2. 'REMEMBERING'

In 'Remembering', Martin and Deutscher forged a coherent synthesis of commitments which many others saw as incompatible. Deutscher noted this wryly.^{xiii}

This close fusion of an attention to concept and experience, with a readiness to use examples and metaphors of cause and effect disconcerted some readers. The writing was too experiential for the extreme physicalists and, for the pure conceptualists, too 'causal' in its imagination of those phenomena.

Martin and Deutscher united Wittgenstein's and Ryle's stress on the life of the mind as taking shape in characteristic activities, certain things that a person does, with acknowledgement of the causal and material

bases of these activities. They merged respect for the diversity and richness of our language and practices with a refusal to treat the subject's perspective as the final authority. And they combined the creative use of thought experiments and puzzle cases – which Deutscher later rightly characterized as 'imaginative, sometimes cute'^{xiv} – with careful attention to the subtlety and detail within ordinary experience. Although Max's own subsequent work would take him into close engagement with phenomenology rather than with the sciences of mind, in this original analysis of memory the two projects are natural allies rather than glaring antagonists.

In thus creating rather than following a philosophical method and style, Martin and Deutscher were resisting what they saw as an over-reaction, in the philosophy of the 1950s and 1960s, to empiricist or mentalist theories of mind. 'As practiced by Wittgenstein, Ryle and J.L. Austin', Deutscher later noted, 'philosophy broke away from an entrancement with memory as a present image within which one must discern pastness and valid indications of the past.'^{xv} Martin and Deutscher wholeheartedly embraced the Wittgenstein/ Ryle vision of remembering as embodied, embedded action, part of the weave of a life rather than essentially private. They chose 'remembering' rather than 'memory' as their target phenomenon, and consistently treated the 'representing' involved as a personal-level activity, which often though by no means always occurs overtly. Painting and swimming can, in the right circumstances, just as much be cases or ways of representing and remembering as saying something, thinking it, or having a mental image.^{xvi} Whereas many tired critiques of 'representation' in philosophy of mind oppose it to performance or process, Martin and Deutscher rightly saw representing as one kind of performance.

Some philosophers influenced by Wittgenstein and Ryle put less energy into the development of positive accounts of mind or memory than into mocking Hume and his 20th-century followers for seeing memory as a two-step process, in which I first inspect a present mental item and then infer what happened in the past from certain of its features. For Martin and Deutscher, the consequent retreat from the inner went too far. Thin accounts of memory as (for example) retained knowledge^{xvii} failed to capture what's happening (for example) when 'someone is remembering an event rather than remembering what he has been told about it.'^{xviii} In search of a richer account, Martin and Deutscher looked to causal connections between experience and remembering: my past experience must have produced 'a state or set of states' which somehow drive my current remembering. This is the motivation for their causal analysis, and in particular for their claim that our ordinary understanding of memory assumes some kind of 'memory traces' underpinning these causal links between past and present.

Gloomy critics of 'the fiasco of the theory of traces'^{xix} and of causal theories of memory in general continue to complain that these approaches exemplify a mechanistic and reductionist attitude, treating humans like computers (in addition to the diverse earlier sources critically discussed in Sutton,^{xx} see also Watkins,^{xxi} Braude,^{xxii} Gauld,^{xxiii} and Randall,^{xxiv}). This is a particularly bewildering misunderstanding in relation to Martin and Deutscher. Not only does the computer metaphor play no part at all in their analysis, but the entire cast of their project addresses the affective, embodied, and socially embedded way in which human beings engage in re-entering the past.^{xxv} It is characteristic of the way in which I remember experiences (in contrast to my memory for general facts) that there are often additional details potentially available to me, beyond the first point of access, so that I can 'begin to search and wait for more to return.'^{xxvi} Only theorists who had already decided that causal concepts are in some way alien to human experience could fail to appreciate Martin and Deutscher's argument that, in relation to memory at least, experience is already shot through with causation, where the kind of causation in question is more like 'sedimentation' than the collision of isolated billiard balls.^{xxvii}

3. THE CAUSAL ANALYSIS, DISTRIBUTED COGNITION, SOCIAL MEMORY, AND EXTERNAL LOOPS

Martin and Deutscher argue that one cannot be considered to be remembering unless a causal relationship holds between the (mental) states resulting from an experience, and the states that represent that experience at a later time, namely the time at which one is remembering. They arrive at this position on the basis of their defence of three statements which they consider 'separately necessary and jointly sufficient, if an event is to be an instance of remembering'^{xxviii}:

If someone remembers something, whether it be 'public', such as a car accident, or 'private', such as an itch, then the following criteria must be fulfilled:

1. Within certain limits of accuracy he represents that past thing.
2. If the thing was 'public', then he observed what he now represents. If the thing was 'private', then it was his.
3. His past experience of the thing was operative in producing a state or successive states in him finally operative in producing his representation.

In the longest and most original parts of their analysis, Martin and Deutscher go on to add further clauses to the third condition in an attempt to rule out possible deviant causal chains between experience and subsequent remembering. The first additional clause emphasises the ‘operative’ relation, the second pinpoints the limits of ‘prompting’ which are compatible with remembering, and the third the need for the states produced by the original experience to ‘constitute a structural analogue of the thing remembered.’^{xxxix} They introduce the term ‘operative’ for ‘a causal condition which may be necessary or sufficient, but need be neither.’^{xxx} As they put it,

A condition may be operative in producing another, even though the result would have been obtained at the same time by another method, had the operative condition not been present.

This idea has its own trajectory in the subsequent history of metaphysical theories of causation, which we don’t pursue here. Its introduction in this original context was meant to rule out the possibility of causal chains beginning with memory prompts or cues that contain all of the information remembered, rather than with the remembered experience itself. Such cases include those in which one is able to report a previously experienced event as a result of having been informed that one has experienced it, in the absence of any recollection for the event itself.

The second clause, regarding prompting, is introduced in order to cover cases like the first that differ in that the memory cue itself is also caused by the original experience, but in some sense indirectly. In one of the examples provided by Martin and Deutscher, a person named Kent tells a person named Gray about an accident in which he was involved. Later Kent has another accident that wipes out his memory of the first. Later still, Gray relates the details of the first accident back to Kent who then is able to represent it despite not remembering it directly. The problem with this case, according to Martin and Deutscher, is that even though the original observation *is* a primary factor in bringing about Kent’s final account of it, the original experience fails to be ‘operative in producing (through a successive set of states) his account of the accident *in* the circumstance of his being prompted.’^{xxxi}

Such deviant causal chains exercised philosophers greatly in the years after ‘Remembering’ in an array of contexts,^{xxxii} notably including debates in the theory of personal identity about whether memories could in principle be transmitted across two people as well as within one person’s biography.^{xxxiii} Here we discuss only one twist in Martin and Deutscher’s analysis which has a new resonance in recent interdisciplinary work on situated, distributed, and extended cognition.

In the 1990s, independent lines of research in social theory, cognitive anthropology, and science studies^{xxxiv} and in philosophy of cognitive science^{xxxv} converged on the anti-individualist view that processes of thinking, remembering, believing and so on often spread over heterogeneous resources across brain, body, and world. The environment – physical, social, technological, and cultural – is on this view a constituent of some cognitive states and processes, rather than a mere trigger or cue. Human mentality is uniquely geared to hook up with and incorporate such external resources or ‘exograms.’^{xxxvi} The traces on which I draw when I reliably cooperate with other people or with particular cognitive artifacts to perform complex cognitive tasks are not located in my brain alone. Instead, argue proponents of situated and distributed cognition, we typically form more or less enduring coupled systems in which disparate neural, bodily, social, and material resources combine for particular interactive purposes..^{xxxvii}

Philosophical discussions of the extended mind have focussed almost exclusively on the role of technology and artifacts, and as we’ll see Martin and Deutscher had already addressed such cases. But human practices of remembering are arguably more reliant on *socially* distributed or ‘transactive’ memory resources.^{xxxviii} In socially extended memory systems, such as certain couples or families or enduring small groups of friends and colleagues, specialized information is often distributed across the members of the group. Such transactive memory systems operate more or less successfully as long as the members roughly share an understanding of this distribution and can each access information as needed.^{xxxix} Sometimes this information might be factual, but these transactive processes also operate firmly in the domain of personal and shared experience. Consider this example from a recent study of how older couples talk collaboratively about their past: the context here is a discussion of the couple’s honeymoon some 50 years ago.^{xl}

F: And we went to two shows, can you remember what they were called?
M: We did. One was a musical, or were they both? I don’t... no...one...
F: John Hanson was in it.
M: Desert Song.
F: Desert Song, that’s it, I couldn’t remember what it was called, but yes, I knew John Hanson was in it.

M: Yes.

What's striking about this kind of collaborative facilitation, brought about by interactive cross-cuing, is that the couple together can recall information that both individuals had forgotten.

We want to discuss not the intrinsic merits or difficulties of these contested ideas about distributed and extended cognition, but the question of how they relate to standard causal analyses of mind and memory: what are the commitments of such a causal theory with regard to the *location* of the states and processes involved in remembering? Martin and Deutscher's suggestive proposals deserve revisiting in the current debate. The first and 'most simple rule' which they consider is that

the causal chain between the past observation and the present representation of it should continue without interruption within the body of the person concerned.

This simple rule would just forbid cases in which another person carried the relevant information for me. However, Martin and Deutscher do not accept it, and their reasons are worth examining (both their examples and their conclusions on these points are followed very directly by.^{xli} Firstly, they argue that the simple rule is too weak in that it fails to rule out 'other spurious cases of memory.'^{xlii}

Suppose that a student could not remember what he read in a chemistry book for an examination, and inscribed what he read into his palm with a hot needle. In the examination he writes down the correct formulae by feeling the marks on his palm. Here the causal chain does not extend beyond the body of the person and yet he does not remember what he read in the chemistry book, but only what he inscribed on his palm.

Secondly, they argue that the simple rule is too strong, in that it makes too much of what are contingent features of memory in human beings:

We do not want to say that we can conceive only of humans remembering. Surely it is imaginable that we might find creatures who could represent the past as efficiently as we do, in the various ways we do, but who differ from us in the following respects. They carry a metal box around with them and, if they are separated from it, then they can remember nothing, no matter how recent. They are not born with the boxes. The boxes are made in a factory, and given them at birth, after which the creatures gradually develop the ability to remember. They do not ask the box questions about the past, but when they are connected with the box they remember as we do. This case shows that the suggested criterion [that the causal chain should be entirely within the body] is not strictly necessary.

These extraordinary examples, not revisited in 'Remembering "Remembering"', gain new resonance in the era of embodied cognition and the extended mind, in which some theorists are suggesting that in some respects we are already like these creatures with their boxes. If we understand Martin and Deutscher correctly here, the key point about the creatures is that when connected with the box, 'they remember as we do': the box is not first inspected *before* they remember, but is rather just the means or medium of remembering the past. Likewise, Andy Clark has argued that a person with incipient Alzheimer's might reliably and successfully remember with a notebook as the means or medium of remembering, if use of the notebook is fully proceduralized or automatic rather than a two-step process in which it is first consulted and then its deliverances interpreted.^{xliii} As I do not ask my brain questions about the past, no more do Martin and Deutscher's creatures nor Clark's Otto interrogate their external devices. Just as the creatures can be separated from their boxes, so the notebook could of course be stolen or tampered with: but as Clark repeatedly reminds us, a whole range of mishaps and disruptions (with many different causes) can also befall our brains.

As we noted, Martin and Deutscher use these examples to motivate both their subtle treatment of prompting or cuing, which we won't discuss in detail, and their invocation of memory traces. The sequence of argument is telling: the location of traces is not intended to be their essential feature, for we are to rely on the causal continuity provided by traces to 'deal correctly' with the two cases just mentioned.^{xliv} The cheating student's memory is completely prompted by his tattoo, we are to imagine, in that he can give back no more 'than what was supplied' by what he inscribed.^{xlv} In contrast, the creatures who 'remember as we do' are no more completely *prompted* by their boxes than we are by our own brains. We need to see how this example should be interpreted in light of the full account of traces which Martin and Deutscher go on to develop. To do so, we first resume our selective exposition: the idea of a memory trace, they suggest,^{xlvi}

is an indispensable part of our idea of memory. Once we accept the causal model for memory we must also accept the existence of some sort of trace, or structural analogue of what was experienced.

For experience to be operative in subsequent episodic remembering, it must give rise to enduring (though not complete) mental records. In other words, any account of experiential remembering that distinguishes memory for personally experienced events, as opposed to memory for events that one has only heard about, requires that traces of conscious experience be laid down or sedimented in memory either at the time of experience or soon after. In the absence of such an account, there is no reason why we should not be able to remember experiences outside our own personal histories, such as those that occurred ‘years before we were born.’^{xlvii} But with such an account in hand, the right kind of continuity for genuine remembering can be specified.^{xlviii}

The state or set of states produced by the past experience must constitute a structural analogue of the thing remembered, to the extent to which [I] can accurately represent that thing.

We return below to further consideration of the nature of traces, and of this notion of a ‘structural analogue’. But immediately we can see how we must be intended to read the case of the creatures with their boxes, given that Martin and Deutscher argue that they ‘remember as we do’: the boxes somehow carry sets of traces, as our brains somehow do, which constitute structural analogues of whatever the creatures can accurately remember. The location of these traces is inessential: what matters is instead their relation to the past experience, and the role they play in driving the current activities of remembering.

Given this point, an extended mind theorist might want to challenge Martin and Deutscher’s interpretation of the case of Kent. If they are happy to accept that the creatures who rely on their boxes remember, why should they not accept that Kent can still remember the accident about which he told Gray, when Gray relates the story back to the now-amnesic Kent? After all, there is in this case still ‘a successive set of states’ causally connecting the original experience to the current remembering, even though this sequence of states loops out externally through another person.

But this is not the right deployment of the extended mind hypothesis: indeed, understanding why Martin and Deutscher correctly resist this interpretation of the case of Kent can now help us to a clearer view of that hypothesis. The extended mind theorist too should resist the idea that Kent remembers, because Kent is analogous in relevant respects neither to the creatures with their boxes, nor to the more mundane forms of socially-shared remembering illustrated by our Desert Song example (in which the couple together recovered the experiences of their honeymoon). The traces held by Gray may be appropriately related to the past events, but they do not play the right role in driving Kent’s current activities of remembering. Even if Kent can now relate accurate details about the accident, his so representing that event now is restricted entirely to the information currently provided by his external source. As Deutscher shows in discussing a different variant of the story of Kent,^{xlix} there is a clear difference between this situation, in which Kent does not now ‘grapple with some past reality’, and a situation in which the past actually does begin to return as Kent relates what Gray has told him. In the latter case, in which Kent *is* remembering, there is a bodily involvement, a sense that he is ‘on the verge of a great deal beyond that ‘full’ and ‘strict’ prompting [by Gray]’, and an entirely new realm of significance is in play, because this access to this past experience *matters*. These conditions, Martin and Deutscher admit, can be met by the creatures with their boxes. Although they do not consider cases like our Desert Song example, we suggest that such cases too can meet Martin and Deutscher’s conditions: the partial and fragmentary traces which are combined in this kind of collaborative recollection do together can play the right roles in driving the current emergent activities of remembering for such a couple. The point of the extended mind hypothesis is not that external resources (notebooks, boxes, or other people) do the remembering all on their own, no more than it entails that the black tie I wear at a funeral is doing my grieving for me.¹ Rather, the point is that in appropriate circumstances, a complementary system involving disparate inner and outer resources can give rise to emergent memories driven and shaped partly by the nature, content, and activity of traces that happen to have sedimented outside the brain or body.ⁱⁱ

We briefly make two further tentative points on this before continuing our discussion of memory construction and the nature of traces. Firstly, Martin and Deutscher’s treatment of the case of the creatures confirms that their analysis of memory operates at an appropriately abstract level. What we mean here is that they do not want it constrained by accidental features of the way human beings happen to remember: we would still rightly recognize clear cases of remembering which differ in merely inessential respects. This is a live issue because Robert Rupertⁱⁱⁱ has argued that the extended mind hypothesis involves an unhelpfully generic notion of memory. In contrast, for Rupert, cognitive psychology has discovered highly specific characteristics of biological memory systems which are unlikely to hold of extended systems such as ‘Otto-plus-notebook’ or ‘creatures-plus-boxes’. Martin and Deutscher’s refusal to *identify* remembering with what they think ‘fits the facts in our world’^{liii} aligns them on this point with extended mind theorists: even though they don’t happen to

consider that there are cases of extended but genuine remembering in this world, they do leave room for it. Neither is theirs an overly abstract functionalist alternative: the point that the sequence of states (wherever located) that is causally connected to the past experience must play the right kind of role in the activity of remembering is a fine-grained middle ground.

Secondly, both Martin and Deutscher's examples and the extended mind hypothesis raise and fail to solve difficult issues about the relation between different 'sorts of memory,'^{liv} in particular the relation between my direct memory of experiences and my merely factual or semantic knowledge of my own past. There can be autobiographical knowledge disconnected to personal memory. Some beliefs about my own past may be both true and justified, and yet be the result solely of testimony (such as family tradition) with no residual link to experience. I may truly say, for example, that I remember that I was stung by a bee when 18 months old: but this is factual rather than personal memory, because I do not remember *being* stung, and as Martin and Deutscher might say, I 'cannot bring it back.'^{lv} Such autobiographical knowledge in the form of factual memories does not involve the same sensory-perceptual-affective processing as does personal memory.

This much is fairly uncontroversial, and pretty much matched by Martin and Deutscher's taxonomy of sorts of memory.^{lvi} But beyond this there is little agreement about the relations between personal and factual memory at different phases of the processes involved in remembering, from encoding to retrieval. It is at least possible that factual memory about autobiographical events – more generally, beliefs about one's personal past – are causally involved in producing and shaping the content and phenomenology even of cases of personal remembering.^{lvii} This possibility suggests a further twist to Kent's tale, which also takes us on to the topic of construction in memory. Take the initial case in which Kent does not access any original traces which have endured inside him since the accident, but now imagine that he merely comes to *believe* that he had once been in the accident which his trusted friend Gray now describes. On the current view, such a belief on its own could plausibly drive (what would at least seem to be) an episode of personal remembering: it might recruit appropriate affective and imagistic materials from elsewhere in the web of belief in service of creating appropriate content and phenomenology to fit this specific belief, and Kent might well find himself accessing further plausible detail about highly significant past events, whether or not they are arising out of the usual kind of enduring traces. In some cases, these might be obviously false memories: but this need not be the case, for judicious and well-grounded imaginings and beliefs do arguably even in ordinary cases colour, shape, and fill in what are often highly fragmentary and partial sensory and event-specific details.^{lviii} But given this, can Martin and Deutscher really retain such a sharp dichotomy between the case in which all Kent can relate is what he's been told, and the case in which he actually starts to remember? When he really is remembering, after all, there are all kinds of causal influences from semantic memory and general schemas. The possibility here, which requires a new section, is that veridical recall too is constructed.

4. MEMORY TRACES AND CONSTRUCTIVE REMEMBERING

With regard to the nature of memory traces, Martin and Deutscher note the ordinary and 'inevitable recourse to metaphors about the storage of our past experience,' and that 'our idioms and thought about memory' rely on analogies such as the imprint left by a coin in wax, or the relation between music and the grooves in a gramophone record.^{lix} They do not, however, explicitly endorse such analogies, as suggested by.^{lx} For Bernecker, Martin and Deutscher's idea that a trace is a 'structural analogue of what was experienced' commits them to the view that both the mind and the world 'have a single, natural, non-arbitrary structure of elements': for this reason, Bernecker argues, the notion of 'structural isomorphism is wholly implausible.'^{lxi} But this complaint, which Bernecker revives from Malcolm^{lxii} and Heil,^{lxiii} has no bite against Martin and Deutscher. For them, the relevant notion of an analogue is merely such that the trace 'contains at least as many features as there are details which a given person can relate about something he has experienced.'^{lxiv} In other words, the claim is that for every specific detail one can recall from a specific experience, there must be a trace of that detail. They specifically suggest both that there is no sense to the idea of a 'perfect structural analogue' that mirrors, one to one, all of the features of the original, and that 'there may be no sense in the notion of all the features of anything' anyway.

We want to probe in a different way at Martin and Deutscher's view that the trace which is operative in remembering must be 'a structural analogue of the thing remembered, to the extent to which [I] can accurately represent that thing.'^{lxv} But before making some critical comments, it's worth noting that their claim is consistent with all of the major theories of memory subsequently developed in the psychological literature, including Tulving's General Abstract Processing System,^{lxvi} Tulving and Markowitsch's Serial Parallel Independent account,^{lxvii} Moscovitch's Component Process Model,^{lxviii} Conway and Pleydell-Pearce's Self Memory System^{lxix}, and Schacter, Norman and Koutstaal's Constructive Memory Framework^{lxx}. So our

concerns about this view, we realize, put us emphatically in the minority.^{lxxi} They arise from a worry that this form of causal theory of memory is too strong to be compatible with the view, which is in principle just as widely accepted, that remembering is a constructive process rather than a simple replay of past experience.^{lxxii}

This concern about Martin and Deutscher's view, then, is about whether it can handle instances in which one's recollection of the past is different to the experience it is meant, or thought, to represent. In this regard memory can either deviate from the past in its entirety, or just in part, as in cases in which remembering is 'motivated'. In this regard there is now a growing consensus that the content of personal memories is motivated by one's current beliefs, goals, and desires.^{lxxiii} Deutscher himself provides a neat description of this aspect of remembering, as he notes 'how much what we call past and present owe each other':^{lxxiv}

The past does not so innocently create memories which then we deem to be valid. Perhaps half-consciously, we make nothing of aspects of our past in order to make something of other aspects. We might create a favourable past or, alternatively, one which embodies a harsh vision of our lives. What we remember is not entirely accidental.

This picture of remembering is very much in line with research conducted by Michael Ross and colleagues.^{lxxv} They demonstrate that when consistency with one's past is at stake individuals tend to distort the past in such a way that it confirms their current self-concept, whereas when improvement over time is at stake individuals have a tendency to exaggerate the difference between past and present states. Moreover work by Loftus and colleagues^{lxxvi} has demonstrated that individuals can have the experience of remembering for events that never occurred. The implications of this work on constructive aspects of remembering are sometimes overstated in false memory research, and (along with Sue Campbell and Dorothea Debus) we strongly resist the idea that construction inevitably leads to distortion and error.^{lxxvii} Our concern arises instead from seeking to apply the constructivist picture consistently across the board, so that we treat the same processes and mechanisms as operating whether or not their output happens to match the way things actually were. Veridical memories, in our view, are no less constructed than false memories.^{lxxviii}

We see this consistent constructivism as putting some pressure on Martin and Deutscher's account. If a necessary condition of remembering is that what one remembers 'did in fact happen, exist, and so forth', then what are we to say about cases in which one recalls a partially different past to that which actually occurred? The idea of 'certain limits of accuracy' crops up twice in Martin and Deutscher's analysis, both as a condition on how I represent the past event or thing,^{lxxix} and as a condition on how close must be the structural analogy between the thing remembered and the memory trace.^{lxxx} We therefore want to know what limits of accuracy and what kinds of similarity should be permitted. These are matters of degree, and thus Martin and Deutscher's analysis allows for borderline cases.

The old empiricist hope that there would turn out to be internal markers to distinguish true from false memories is still alive in false memory research.^{lxxxi} but we think it's a fair bet that, in general, both veridical and false remembering involve the same psychological processes and the same detailed phenomenology.^{lxxxii} The concern about this is not just that restricting an analysis of memory to instances in which memory maintains a certain degree of accuracy will then impose unhelpful methodological limits. Rather, we think that for personal memory at least it is plausibly the norm that some details crop up in remembering an experience which have not been encoded in the same trace as that experience: indeed, that the idea of one trace per experience is both conceptually and empirically highly dubious.^{lxxxiii}

Stressing, with Martin and Deutscher, that remembering is an activity, we suggest that it is often an activity more like collage than realist photography: even where there are causal connections between events and traces, and between traces and remembering, these connections are multiple, indirect, and context-dependent. Since this is arguably the normal situation, we need both broader notions of accuracy^{lxxxiv} and an awareness of the other adaptive roles of remembering besides representing the past, relating especially to social, motivational, and action-oriented functions.^{lxxxv} But we also need greater sensitivity to the diverse pragmatic contexts in which remembering occurs. The kind of similarity in memory which matters in legal contexts, for example, often differs dramatically from the relevant notion of similarity in the context of ordinary social exchange, or therapy, or reminiscence about shared experiences.^{lxxxvi}

There is a further way in which the constructivist research puts pressure on Martin and Deutscher's account. If memory traces are defined as (at least partial) structural analogues of past events, then how can memory traces come to misrepresent the past? Given that memory traces are thought to be the basis for the content of memory experiences, how can false memories arise when a continuous causal chain of traces exists between an experience and remembering?

The answer of course again refers to deviant causal chains, namely memory traces from other experiences that either corrupt or displace existing memory traces some time between experience and recall. But if this is true, there is no principled reason why such deviations could not increase the accuracy of recall.^{lxxxvii} Say for example that one witnesses a car crash in poor lighting, and comes to remember one of the cars in the crash as blue, when in fact it was green. Upon being informed that one of the cars was green, one can later come to remember that the car was in fact green: notably and understandably, we tend to yield more often to such suggestions when they are offered by people we trust. In such instances, traces that do not extend back to the event itself but rather are acquired after the event can come to *increase* the accuracy of one's recollection. According to Martin and Deutscher's criteria, such cases would not count as remembering, since the content of one's memory cannot be connected by a continuous causal chain to the remembered experience itself. So here we end up in the odd position that the 'memory' with the right causal history is less accurate than the memory resulting from the deviant causal chain. To accommodate such cases, Martin and Deutscher's definition of remembering might have to give up either one of its necessary conditions, namely either accuracy, or memory traces with a continuous causal chain.

Both these considerations about construction in memory, and our earlier notes on external loops within a causal analysis, raise extremely difficult questions which remain unresolved in contemporary theory. In particular, we suspect that further clarification of the different kinds of 'prompting' within Martin and Deutscher's analysis^{lxxxviii} might assuage our concerns. But we close on a different note. In contrast to some work on causal theories in other areas of analytic philosophy of mind, Martin and Deutscher's analysis of memory was as we noted clearly driven in part by their awareness of the rich role of causal thinking and experience in the weave of our lives. As in Wollheim's subsequent extensions of Martin and Deutscher's causal theory,^{lxxxix} attention to the affective force and affective tendency of our activities of remembering is never far below the surface of the analysis. The particular sort of remembering in which we re-engage with specific events and experiences in the personal past has live significance for us in the present and future: it is not simply there to provide bare informational access to generic past events, but precisely to access irrevocable actions and experiences that cannot now be repeated. As Wollheim puts it, the past affects people in such a way that they become creatures with a past.^{xc} So in Martin and Deutscher's work, at the very dawn of what would come to be called the 'cognitive revolution', there is never a tendency for cognition and emotion to be divided. So, in our age of affective neuroscience and cultural cognition, theorists across the broad fields of memory studies can thus fruitfully look back at their work to help go better forward.

REFERENCES

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ⁱ C. B. Martin and M. Deutscher, "Remembering," *Philosophical Review* 75 (1966): 161-196.

ⁱⁱ F.C. Bartlett, *Remembering: a study in social and experimental psychology* (Cambridge: Cambridge University Press, 1932), 212.

ⁱⁱⁱ M. Deutscher, "Remembering 'Remembering.'" in J. Heil (Ed.), *Cause, Mind, and Reality: essays honoring C.B. Martin* (Dordrecht: Kluwer, 1989), 53-72. And M. Deutscher, "Memory," in E. Craig (Ed.) *The Routledge Encyclopedia of Philosophy*, Vol.6 (London: Routledge, 1998), 296-300.

^{iv} J. Sutton, "Memory" *Stanford Encyclopedia of Philosophy*, (2003). URL <http://plato.stanford.edu/entries/memory/> And J. Sutton, "Memory" in D.M. Borchert (Ed.), *The Encyclopedia of Philosophy*, Vol.5 2nd edition (Farmington Hills, MI: Macmillan Reference/ Thomson Gale, 2006): 122-128.

^v T. Senor, "Epistemological Problems of Memory" *Stanford Encyclopedia of Philosophy*, (2005). URL: <http://plato.stanford.edu/entries/memory-episprob/>

^{vi} J. Sutton, *Philosophy and Memory Traces: Descartes to connectionis*. (Cambridge: Cambridge University Press, 1998), Chapter 16.

^{vii} J. Bermúdez, *The Paradox of Self-Consciousness* (Cambridge, MA: MIT Press, 1998), 179.

^{viii} Compare J. Perry, "Personal Identity, Memory, and the Problem of Circularity" in J. Perry (Ed.), *Personal Identity* (Berkeley, CA: University of California Press, 1975), 135-155; And R. Wollheim, "Memory,

- experiential memory, and personal identity” in G.F. Macdonald (Ed.) *Perception and Identity* (Ithaca, NY: Cornell University Press, 1979), 186-234.
- ^{ix} S. Bernecker, *The Metaphysics of Memory* (Dordrecht: Springer, 2008), 2010.
- ^x M. Deutscher, “Remembering ‘Remembering’.”
- ^{xi} C. B. Martin and M. Deutscher, “Remembering” 161-162.
- ^{xii} M. Deutscher, *Judgment After Arendt* (Aldershot: Ashgate, 2007), 29-39.
- ^{xiii} M. Deutscher, “Remembering ‘Remembering’,” 62.
- ^{xiv} *Ibid.*, 63.
- ^{xv} M. Deutscher, “Memory” 297.
- ^{xvi} C. B. Martin and M. Deutscher, “Remembering” 172.
- ^{xvii} G. Ryle, *The Concept of Mind*. (Harmondsworth: Penguin, 1949), 272; And R. F. Holland, “The Empiricist Theory of Memory.” *Mind* 63 (1954): 464-486.
- ^{xviii} C. B. Martin and M. Deutscher, “Remembering” 173; compare S. Bernecker, *The Metaphysics of Memory*, Chapter Two.
- ^{xix} E. Straus, “Memory Traces” in E. Straus, *Phenomenological Psychology* (New York: Basic Books, 1966: 75-100: 99.
- ^{xx} J. Sutton, *Philosophy and Memory Traces*. Chapters 15-16.
- ^{xxi} M. J. Watkins, “Mediationism and the Obfuscation of Memory” *American Psychologist* 45 (1990): 328-335.
- ^{xxii} S. E. Braude, “Memory without a Trace” *Anti-Matters* 1 (1) (2007): 91-106.
- ^{xxiii} A. Gauld, “Memory” in E. F. Kelly and E. W. Kelly (Eds.), *Irreducible Mind* (Lanham, MD: Rowman and Littlefield, 2007), 241-300.
- ^{xxiv} W. L. Randall, “From Computer to Compost: rethinking our metaphors for memory” *Theory and Psychology* 17 (5) (2007): 611-633.
- ^{xxv} M. Deutscher, “Remembering ‘Remembering’,” 71.
- ^{xxvi} *Ibid.*, 65.
- ^{xxvii} *Ibid.*, 61.
- ^{xxviii} C. B. Martin and M. Deutscher, “Remembering,” 166.
- ^{xxix} *Ibid.*, 191.
- ^{xxx} *Ibid.*, 179.
- ^{xxxi} *Ibid.*, 186.
- ^{xxxii} C. Windhorst, “The slave model of autobiographical memory,” *Cognitive Processing*, 6 (4) (2005): 253-265.
- ^{xxxiii} See for example R. Wollheim, “Memory, experiential memory, and personal identity.”
- ^{xxxiv} J. Lave, *Cognition in Practice* (Cambridge, UK: Cambridge University Press, 1988); E. Hutchins, *Cognition in the wild*, (Cambridge, MA: MIT Press, 1995); Bruno Latour, “‘Cogito ergo sumus!’ Or, psychology swept inside out by the fresh air of the upper deck: review of Hutchins 1995,” *Mind, Culture, and Activity* 3 (1996): 54-63; Bruno Latour, “A Collective of Humans and Nonhumans” in *Pandora’s Hope: essays on the reality of science studies* (Cambridge, MA: Harvard U.P., (1999): 174-215.
- ^{xxxv} A. Clark and D. Chalmers, “The extended mind,” *Analysis* 58 (1998): 7-19; S. L. Hurley, *Consciousness in Action* (Cambridge, MA: Harvard University Press, 1998); M. Rowlands, *The body in mind: understanding cognitive processes*. (Cambridge, UK: Cambridge University Press, 1999).
- ^{xxxvi} M. Donald, *Origins of the Modern Mind*, (Cambridge, MA: Harvard University Press., 1991); J. Sutton, “Exograms and Interdisciplinarity: history, the extended mind, and the civilizing process,” in Richard Menary (Ed.), *The Extended Mind* (Cambridge, MA: MIT Press, 2009).
- ^{xxxvii} A. Clark, *Natural-born cyborgs: Minds, technologies, and the future of human intelligence* (Oxford: Oxford University Press, 2003); J. Sutton, “Porous memory and the cognitive life of things” in D. Tofts, A. Jonson, and A. Cavallaro (Eds.), *Prefiguring cyberculture: an intellectual history* (Cambridge, MA and Sydney: MIT Press and Power Publications, 2002), 130-141; J. Sutton, “Remembering” in P. Robbins and M. Aydede (Eds.), *The Cambridge Handbook of Situated Cognition* (Cambridge: Cambridge University Press, 2009), 217-235.
- ^{xxxviii} D. M. Wegner, “Transactive memory: A contemporary analysis of group mind” in B. Mullen and G. R. Goethals (Eds.) *Theories of group behavior*, Springer Series of Social Psychology (New York: Springer-Verlag, 1985), 185-208.
- ^{xxxix} D. M. Wegner, T. Giuliano, and P. T. Hertel, “Cognitive interdependence in close relationships” in W. Ickes (Ed.) *Compatible and incompatible relationships*, Springer Series of Social Psychology (New York: Springer-Verlag, 1985), 253-276; R. A. Wilson, “Collective memory, group minds, and the extended mind thesis” *Cognitive Processing* 6 (4) (2005): 227-236; D. P. Tollefsen, “From extended mind to collective mind” *Cognitive Systems Research* 7 (2006): 140-150; A. J. Barnier, J. Sutton, C. B. Harris, and R. A. Wilson, “A Conceptual and Empirical Framework for the Social Distribution of Cognition: The Case of Memory” *Cognitive Systems Research* 9 (2008): 33-51.

- ^{xl} C.B. Harris, P.G. Keil, J. Sutton, and A. J. Barnier, "Collaborative remembering in older couples" (2009). Submitted.
- ^{xli} S. Bernecker, *Memory: a philosophical study* (Oxford: Oxford University Press, 2010), Chapter 5.
- ^{xlii} C. B. Martin and M. Deutscher, "Remembering," 181-2.
- ^{xliii} A. Clark, "Memento's Revenge: the extended mind extended" in *The Extended Mind*. R. Menary (Ed.) (Cambridge, MA: MIT Press, 2009).
- ^{xliv} C. B. Martin and M. Deutscher, "Remembering," 182.
- ^{xlv} Ibid.
- ^{xlvi} Ibid., 189.
- ^{xlvii} Ibid.
- ^{xlviii} Ibid., 191.
- ^{xlix} M. Deutscher, "Remembering 'Remembering,'" 65-70.
- ^l R. Harris, "Integrationism, Language, Mind, and World" *Language Sciences* 26 (2004):727-739: 729.
- ^{li} J. Sutton, "Remembering."
- ^{lii} R. Rupert, "Challenges to the hypothesis of extended cognition" *Journal of Philosophy* 101 (2004):389-428.
- ^{liii} C. B. Martin and M. Deutscher, "Remembering," 181.
- ^{liv} Ibid., 161.
- ^{lv} Ibid., 162.
- ^{lvi} Ibid., 162-166.
- ^{lvii} C. Windhorst, "The slave model of autobiographical memory;" C. Windhorst, *Believing the Past: the psychological mechanisms responsible for the construction of autobiographical memories*. PhD thesis, (Department of Philosophy, Macquarie University, Sydney, 2008).
- ^{lviii} M. A. Conway, "Memory and the self" *Journal of Memory and Language*, 53 (4) (2005): 594-628. And see section 4.
- ^{lix} C. B. Martin and M. Deutscher, "Remembering," 190.
- ^{lx} S. Bernecker, *Memory: a philosophical study*. Chapter five.
- ^{lxi} Ibid.
- ^{lxii} N. Malcolm, "Memory and Representation" *Nous* 4 (1970):59-70.
- ^{lxiii} J. Heil, "Traces of things past" *Philosophy of Science* 45 (1978): 60-72.
- ^{lxiv} Ibid., 190.
- ^{lxv} C. B. Martin and M. Deutscher, "Remembering," 191.
- ^{lxvi} E. Tulving, *Elements of Episodic Memory* (New York: Oxford University Press, 1983).
- ^{lxvii} E. Tulving and H. J. Markowitsch, "Episodic and declarative memory: role of the Hippocampus" *Hippocampus*, 8 (3) (1998): 198-204.
- ^{lxviii} M. Moscovitch, "Memory and working-with-memory: a component process model based on modules and central systems" *Journal of Cognitive Neuroscience*, 4 (3) (1992): 257-267. And M. Moscovitch, "Memory and working with memory: evaluation of a componentprocess model and comparisons with other models" in D. L. Schacter and E. Tulving (Eds.), *Memory systems 1994* (Cambridge, MA: The MIT Press, 1994), 269-310.
- ^{lxix} M. A. Conway, and C. W. Pleydell-Pearce, "The construction of autobiographical memories in the self-memory system" *Psychological Review*, 107 (2) (2000): 261-288; M. A. Conway, "Memory and the self;" M. A. Conway, "Remembering: a process and a state" in H.L. Roediger, Y. Dudai and S. M. Fitzpatrick (Eds.), *Science of memory concepts* (New York: Oxford University Press, 2007), 237-242.
- ^{lxx} D. L. Schacter, K. A. Norman and W. Koutstaal, "The cognitive neuroscience of constructive memory" *Annual Review of Psychology*, 49 (1998): 289-318.
- ^{lxxi} J. Sutton, *Philosophy and Memory Traces*, 308; C. Windhorst, "The slave model of autobiographical memory; C. Windhorst, *Believing the Past*.
- ^{lxxii} F. C. Bartlett, *Remembering*; D. L. Schacter, *Searching for memory: the mind, the brain, and the past* (New York: Basic Books, 1996).
- ^{lxxiii} M. A. Conway, "Memory and the self."
- ^{lxxiv} M. Deutscher, "Remembering 'Remembering,'" 299.
- ^{lxxv} M. Ross, "Relation of implicit theories to the construction of personal histories" *Psychological Review* 96 (2) (1989): 341-357; M. Ross and A. E. Wilson, "It feels like yesterday: self-esteem, valence of personal past experiences, and judgments of subjective distance" *Journal of Personality and Social Psychology*, 82 (5) (2002): 792-803; M. Ross and A. E. Wilson, "Autobiographical memory and conceptions of self: getting better all the time" *Current Directions in Psychological Science*, 12 (2) (2003): 66-69.
- ^{lxxvi} E. F. Loftus, "Make-believe memories" *American Psychologist*, 58 (11) (2003): 867-873; E. F. Loftus and J. E. Pickrell "The formation of false memories" *Psychiatric Annals* 25 (12) (1995): 720-725.
- ^{lxxvii} S. Campbell, "Models of Mind and Memory Activities" in P. DesAutels and M. U. Walker (Eds.) *Moral psychology: feminist ethics and political theory* (Lanham, MD: Rowman and Littlefield, 2004),119-137; D.

-
- Debus, "Perspectives on the past: a study of the spatial perspectival characteristics of recollective memories" *Mind & Language* 22 (2) (2007): 173-206; A. J. Barnier, J. Sutton, C. B. Harris, and R. A. Wilson, "A Conceptual and Empirical Framework for the Social Distribution of Cognition"; J. Sutton, "Between Individual and Collective Memory: interaction, coordination, distribution" *Social Research* 75 (1) (2008): 23-48.
- ^{lxxviii} C. Windhorst, *Believing the Past*.
- ^{lxxix} C. B. Martin and M. Deutscher, "Remembering" 166.
- ^{lxxx} *Ibid.*, 191.
- ^{lxxxi} D. M. Bernstein and E. F. Loftus, "How to tell if a particular memory is true or false." *Perspectives on Psychological Science* 4 (2009): 370-374.
- ^{lxxxii} K. J. Mitchell and M. K. Johnson, "Source monitoring: Attributing mental experiences" in E. Tulving and F. I. M. Craik (Eds.), *The Oxford handbook of memory* (London: Oxford University Press, 2000), 179-195; C. Windhorst, *Believing the Past*.
- ^{lxxxiii} D. C. Rubin, "The Basic-Systems Model of Episodic Memory" *Perspectives on Psychological Science* 1 (2006): 277-311; J. Sutton, *Philosophy and Memory Traces*.
- ^{lxxxiv} S. Campbell, "Our faithfulness to the past: reconstructing memory value" *Philosophical Psychology* 19 (2006): 361-380.
- ^{lxxxv} N. Alea and S. Bluck "Why are you telling me that? A conceptual model of the social function of autobiographical memory" *Memory* 11 (2003): 165-178.
- ^{lxxxvi} J. Sutton, "Truth in Memory: the humanities and the cognitive sciences" in I. McCalman and A. McGrath (Eds.) *Proof and Truth: the humanist as expert* (Canberra: Australian Academy of the Humanities, 2003), 145-163; S. Bernecker, *The Metaphysics of Memory* Chapter 10.
- ^{lxxxvii} C. Windhorst, *Believing the Past* Chapter 9.
- ^{lxxxviii} C. B. Martin and M. Deutscher, "Remembering," 182-9.
- ^{lxxxix} R. Wollheim, "Memory, experiential memory, and personal identity;" R. Wollheim, *The Thread of Life* (Cambridge, MA: Harvard University Press, 1984).
- ^{xc} *Ibid.*, 224.