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**Episodic Memory, Autobiographical Memory, Narrative:
On Three Key Notions in Current Approaches to Memory Development**

By Christoph Hoerl

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1. Endel Tulving's 1983 monograph on episodic memory introduces the reader to its subject matter with the words:

“Remembering past events is a universally familiar experience. It is also a uniquely human one. [...] Other members of the animal kingdom can learn, benefit from experience, acquire the ability to adjust and adapt [...], but they cannot travel back into the past in their own minds” (Tulving, 1983, p. 1).

In a paper published five years after Tulving's book, Katherine Nelson takes up both Tulving's claim that there is a particular form of memory that is unique to humans, and the claim that exercising this form of memory uniquely involves ‘travelling back into the past in one's mind’.¹ She forges a link between Tulving's two claims by way of adding a further, developmental, claim of her own, which she summarizes as follows:

“[E]stablishing a past that can be travelled through [in one's mind] probably depends on socially shared remembering experiences [...]. Sharing memories with others is in fact a prime social activity. [T]his activity is learned in early

¹ I should already point out at this stage, though, that Nelson actually disagrees with Tulving over the correct way of characterizing the type of memory these two claims apply to (specifically the first of them, cf. Nelson 1993, pp. 7f.). I shall return to this issue shortly.

childhood, and the result of this learning is the establishment of a store of memories [...] forming a personal history that has its own value independent of the general memory function of prediction and preparation” (Nelson, 1988, p. 266).

Nelson’s account of human memory development is part of a larger group of recent theories often described as embodying a ‘social interactionist’ approach (cf. also Fivush, 1991; Pillemer & White, 1989; Reese, 2002; Sutton, 2002; Welch-Ross, 1997). Proponents of this general type of approach sometimes describe their own views in terms of the idea that a certain kind of memory that emerges relatively late in human development is ‘socially constructed’ or has a ‘social origin’ (cf., e.g. Fivush & Reese, 1992; Nelson, 1993). Perhaps a more neutral, and general, description of the central idea behind current social interactionist accounts is as follows. According to such accounts, a child’s learning to engage in (certain kinds of) conversations about the past with others marks a crucial step, simultaneously, in the child’s socio-communicative development – i.e., the emergence of a new form of social skill – and in her cognitive development – i.e., the emergence of a new type of memory.²

Part of my concern in this paper will be with a key theoretical notion appealed to by social interactionists in spelling out just how these two forms of development are connected with each other, viz. the notion of a narrative. Exactly how the notion of a narrative is understood varies a great deal between different theorists, but I think

² An anonymous reviewer queried my use of the term ‘simultaneously’ in this sentence (and the use of similar phrases elsewhere), because the social interactionist view is often framed as one according to which adult-child conversations about the past (starting at around 18 months) precede and predict later memory development. However, there need not be a substantive disagreement here, and indeed some of the very same researchers who frame the view in this way also make claims to the effect that there is a mutual interaction between memory development and socio-communicative development. There need not be a conflict here because it is typically agreed amongst developmentalists that early conversations about the past are heavily scaffolded by the adult, i.e., the child’s contribution to the conversation relies on specific questions and prompts (see, e.g., Nelson & Fivush, 2004, pp. 492f.). Thus, the relevant communicative skills have yet to develop properly at that point, and it possible to see both those skills and the child’s memory abilities developing in tandem as the child learns to take an increasingly more active role in such conversations.

it is possible to identify two broad claims that unite them. The two claims are that (a) narratives are the vehicles for a distinct kind of social-communicative interaction; and that (b) narratives provide a distinct kind of cognitive framework or format for remembering events. Roughly speaking, it is the thought that narratives themselves play this dual socio-communicative and cognitive role that typically stands behind social interactionists' appeal to the notion of a narrative in trying to explain how socio-communicative and cognitive development are linked in the case of memory.³

The most obvious challenge for a social interactionist view along these lines is probably to show how both of the above claims can be made good using a unitary notion of a narrative. Towards the end of this paper, I will try to outline one basic way of understanding the notion of a narrative, or at least one ingredient in this notion, that might help to meet this challenge. However, my proposal will also turn on considerations regarding two other key notions in current accounts of memory development, namely that of episodic memory and that of autobiographical memory. In fact, the juxtaposition of the two passages from Tulving (1983) and Nelson (1988) that I started with is somewhat misleading in this respect. Whereas Tulving's claims are couched in terms of the former notion, Nelson (along with other social interactionists) actually centres her discussion on the latter notion.

As with the notion of a narrative, there is a considerable amount of variation (often not made explicit) in the precise way in which different authors construe the two notions of episodic and autobiographical memory, and in particular their

³ Cf., e.g., Welch-Ross, 1997, p. 618: "Children learn through [conversations about the past] that talking about the past with others is an important cultural activity. Further, they learn how to organize their memories into narrative forms that outline the who, what, when, and where of experienced events." See also Eisenberg, 1985, p. 201; Fivush, Haden and Reese, 1996, pp. 356f. for further examples of similar statements.

relationship to one another.⁴ In what follows, however, I will be concerned with an explanatory issue that I believe cuts across some of the differences between different theories in this area. Note that we can think of ‘episodic’ and ‘autobiographical’, first of all, simply as two different kinds of properties individual memories can have or lack. As a first approximation, we can perhaps say that a memory is episodic in so far as it is concerned with a particular past event or set of circumstances; by contrast, a memory is autobiographical in so far as it involves a particular sort of reference to the self or personal significance. For each of those two properties, we can then ask the developmental question as to what kinds of factors must be in place in order for memories with the relevant property to emerge. As far as I can see, the dominant assumption within social interactionist theories has been that social-communicative interaction with others is important in memory development primarily because it plays a crucial role in the emergence of memories that have the property of being autobiographical. Whilst this might be one important way of locating a role for such interaction in memory development, I want to suggest that it might also have an even more fundamental role to play, quite independently of considerations about the involvement of the self in memory, in accounting for the emergence of memories that have the property of being episodic. Once this role has been recognized it might, in turn, shed new light on the notion of a narrative and the possible significance of that notion in accounts of memory development.

⁴ Put very schematically, I think it is fair to say that most accounts that make use of both of these notions fall into one of the following three camps: (i) they treat autobiographical memories as a special sub-class of episodic memories, i.e. those that involve a reference to the self or are of a particular kind of relevance to the self; (ii) they build the idea of such a reference to the self into the very notion of episodic memory and use the two notions more or less interchangeably, or opt for one of them, rather than the other, simply as a matter of stipulation; or (iii) they use the notion of autobiographical memory more generally to denote a store of information a person possesses about herself, of which episodic memory is only one possible aspect or instance. Nelson often expresses her overall views in terms of (i) (see, e.g., Nelson, 1993, p. 7, or Nelson, 1996, p. 172). Tulving, especially in his more recent writings (e.g. Tulving, 2002), might be seen as an exponent of (ii). A version of (iii) can be found articulated in Conway’s account of what he terms the Self-Memory System (cf. Conway, 2001, 2005).

In the next section, I will outline some key ingredients of Nelson's particular version of a social interactionist account of memory development, which is probably the most influential account of this type. In section three, I will argue that there is a tension in Nelson's account, in that she takes a basic form of episodic memory to be present already very early on in development (and falling outside the remit of the social interactionist element of her account, which is centred on the notion of autobiographical memory), but her own arguments about the functions served by memory at that stage in development make it quite difficult to see how this could be so. This leads me to suggest that perhaps the emergence of episodic memory itself stands in need of an explanation in social interactionist terms, an idea also suggested by some passages from Nelson's own more recent work. However, I then raise a twofold challenge that any attempt at such explanation faces: Not only does it need to make plausible the idea that the emergence of a certain kind of memory is linked to the emergence of a certain kind of socio-communicative skill; it also needs to make intelligible the sense in which that which emerges, in each case, is indeed a new type of phenomenon, rather than a mere enhancement of already existing capacities. The final two sections are dedicated to an attempt to provide an answer to this challenge, i.e. provide a sense in which the past is not just one subject matter amongst others to be talked about and remembered, but talk about the past can serve a distinctive socio-communicative purpose, and remembering the past constitutes a distinctive cognitive achievement.

Before I set out my argument in detail, though, I should perhaps add one further clarification. Many recent accounts of episodic memory emphasise, rightly in my view, the idea that episodic memory differs from other forms of memory in terms of its phenomenology. Yet, they often go beyond this basic claim and also offer a

substantive theory as to how this distinctive phenomenology is to be explained. Moreover, some of the explanatory accounts that have been offered have a tendency to obscure the distinction I have drawn above between the property of being autobiographical and the property of being episodic as two basic properties that individual memories can have or lack. Thus, for instance, both Tulving's account of the phenomenology of episodic memory in terms of 'autonoetic awareness' (see, e.g., Tulving, 1985).and Perner's related metarepresentational account (see, e.g., Perner & Ruffman, 1995) can be read as trying to account for the distinctive phenomenology of episodic memory in terms of a particular way in which the self is involved in episodic recall. My own view is that it is at least not obvious that this is the only or correct way of accounting for the phenomenology of episodic memory and, for the purposes of this paper, I want to try and remain as neutral as possible on this issue. Fortunately, one very helpful feature of Nelson's particular version of a social interactionist account of memory development is precisely that, whilst it acknowledges that episodic recall possesses a distinctive phenomenology, it provides a framework for putting questions about the nature and development of episodic memory into focus in a way that does not involve (at least not obviously) a commitment to any particular explanatory account of the phenomenology of episodic recall. This is one important reason why I will focus primarily on Nelson's work in what follows.

2. The key ingredients of Nelson's account of memory development can perhaps best be brought out by looking at her discussion of the phenomenon of childhood amnesia, i.e. adults' inability to remember events that happened during the early years of their own lives (cf. Schachtel, 1947; Pillemer & White, 1989). Nelson notes that many existing accounts of childhood amnesia implicitly conceive of infant and adult

memory in broadly similar terms, and then postulate a process of forgetting in which memories that existed in early childhood either get lost or become irretrievable.

Against this approach, she holds:

“The important question to ask is not ‘Why does forgetting [of these events] occur?’ but ‘What is the function of memory for a one-time experience?’

Clearly, memory for routines is functional in providing the infant with the ability to anticipate the sequence and content of the routine event, and to take part and even exercise partial control over it. But memory for a novel experience does not have the same functional value, unless it is repeated. The theoretical question this raises is ‘Why would a one-time experience ever be retained as such?’” (1996, p. 158).

Nelson’s remarks, here, are informed by the results of earlier research on children’s memory abilities. In the course of this research, she had found that young children were quite good at recounting how certain routine events, such as going to a fast food restaurant, usually unfold. At the same time, however, they seemed to be surprisingly poor at recalling what had happened on specific past occasions – e.g. an outing to the park the previous day (Nelson 1978; Nelson & Gruendel, 1981; see also Eisenberg, 1985). Her suggestion is that this combination of findings, as well as the phenomenon of childhood amnesia, can be explained on the assumption of a developmentally basic memory system whose primary function is that of “support[ing] action in the present and predict[ing] future outcomes” (Nelson, 1996, p. 174). If this assumption is correct, it is not surprising that young children do not retain memories of particular past events. Rather, their memory will be geared specifically at the acquisition of what Nelson calls ‘generic event memories’, i.e., the retention of information about recurring events in the form of a general schema or ‘script’ for the type of event in

question, which can inform action or expectations on a variety of occasions. Thus, very crudely speaking, the reason why adults cannot remember any particular events that happened during their early childhood is that their own memory, at the time, was not geared up for retaining memories of such particular events.

Yet, on the face of it, the idea of a developmentally basic memory system that is designed specifically to retain information about recurrent events might also be seen to leave us with a puzzle. Nelson (1993, p. 11) puts the point as follows. How, she asks, “is the basic memory system to know whether a novel event is the first of a recurrent series of events that should therefore be remembered [...] or is an aberration that is of no functional significance?” Assume, for instance, that a child experiences, for the first time, a type of event that is quite different from any it has come across before, for which it therefore has yet to form a script. Clearly, there has to be some way for the child to retain information from novel experiences, in this sense, or else new scripts could not be established (i.e. any further recurrence of the same type of event would again be treated as novel). Yet, at the same time, the experienced event may in fact remain a one-off and thus be of no actual significance for future action or expectations.

In addressing this issue, Nelson makes use of a distinction between episodic memory, on the one hand, and autobiographical memory, on the other. According to her, what happens when a child experiences a novel event is that information retained from that experience, is kept “in a separate, temporary, episodic memory space for a given amount of time to determine if it is the first of a series of recurrent events and thus should become part of the generic system” (1996, p. 175). Thus, Nelson thinks that, in this limited sense, we must credit even young children with a form of episodic memory. However, there are, on her view, at least two crucial differences between

this early form of episodic memory and adult forms of episodic memory. First, functionally, the workings of this early form of episodic memory are entirely subordinated to the acquisition of generic, script-like knowledge. As Nelson puts it, the early episodic memory simply acts as a “holding pattern” (p. 175) in which information is stored to allow the formation of a script if further events of the same type are encountered. Secondly, this early form of episodic memory is short-lived. Unless further instances of the same type of event are encountered, the information is not retained over significant amounts of time.

This is the theoretical background against which we have to understand Nelson’s contention that one of the key questions to be answered by an account of human memory development is ‘Why would a one-time experience ever be retained as such?’ The answer to this question, for Nelson, lies in the notion of autobiographical memory as a new form of memory that emerges within the context of social interaction. In fact, Nelson’s developmental proposal comes in two interconnected parts, each turning on one sense in which the emergence of this new form of memory is made possible by the acquisition of narrative abilities. As she summarizes it, Nelson’s proposal is that “sharing memory narratives is necessary to establish the new social function of autobiographical memory as well as to make reinstatement [of such memories] through language possible” (1996, p. 179). I shall take these two aspects in reverse order.

The notion of ‘reinstatement’ refers to a process or mechanism that, according to Nelson, underlies the persistence of individual memories. Thus, a memory for a certain routine, for instance, can be said to be reinstated whenever the child encounters further occurrences of the same routine (or parts thereof), or re-enacts that routine. And the idea is that, without such reinstatement, the memory will be lost over

time. Prior to the emergence of language, however, reinstatement can only take the form of such actual re-encountering or re-enacting events of the same type, leading to the persistence only of generic memories in the form of scripts for the relevant type of event. By contrast, the emergence of language, and, more specifically, the development of narrative abilities, provide for the possibility of quite a different form of reinstatement that can also explain the persistence of memory for particular past events. A Nelson puts it, “the process of sharing memories with others becomes available as a means of reinstating memory” (1993, p. 12) – a form of reinstatement that does not turn on the actual reoccurrence of the type of event remembered, but on the representation of the particular event remembered through language. And it is through acquiring the ability to engage in such verbal reinstatement, according to Nelson, that it becomes possible for us to retain certain episodic memories over long periods of time – indeed often for a lifetime.

Nelson, of course, acknowledges that reinstatement of memories of particular past events later in life can often also take the form of solitary reminiscing about times gone by. However, her proposal is that such reinstatement is first learnt in the context of sharing memories with others, and also that its initial function is a social one. Memory sharing, she explains, “serves a significant social-cultural function; the acquisition of such sharing means that the child can enter into the social and cultural history of the family and community” (ibid., p. 178). This is what she calls the ‘functional part’ of her proposal, according to which “memories become valued in their own right, not because they predict the future and guide present action, but also because they are shareable with others” (ibid., p. 177, cf. also Nelson, 1993, p. 12). The basic idea here seems to be that the child comes to value memories of particular past events because they come to be seen as part of a history that is shared with

others, and sharing memory narratives can serve as a way of establishing and communicating their own position within that history. The result is a type of memory that Nelson and Fivush (2004, p. 488) characterize as “declarative, explicit memory for specific points in the past, recalled from the unique perspective of the self in relation to others”. This is their suggested definition of autobiographical memory.

Exactly how the notion of a narrative is to be fleshed out in detail, in the context of this proposal, is not always entirely clear from Nelson’s writings. But it seems evident that the work the notion of a narrative is meant to do is to serve as the crucial linking-notion between the two parts of her proposal. In other words, one part of the idea is that narrative abilities are those abilities which make the child’s own memories socially accessible and, in turn, also allow the child to locate events she remembers within a common history, thus making it possible for memory to serve its new, social role. However, in acquiring the ability to integrate her own memories of particular past events within a socially shared framework in this way, the child at the same time also acquires just the kind of representational means that makes reinstatement of such memories possible. It is in this sense that narratives, on Nelson account, also provide a crucial cognitive framework for remembering past events.

3. In the first section of this paper, I mentioned that most social interactionist accounts are, like Nelson’s, centred on the theoretical notion of autobiographical memory, rather than that of episodic memory. That is to say, whilst they may view autobiographical memory as a species of episodic memory,⁵ its episodic character, as such, is not typically seen as falling within the remit of an explanation in social interactionist terms. The main reason why I have subsequently discussed Nelson’s

⁵ As I have pointed out above, this is just one of several theoretical options. However, I will set aside this issue for the purposes of what follows.

particular theory in some detail is that I believe that key elements of the general framework for thinking about memory development that she puts forward might actually be seen to cast doubt on the viability of this approach.⁶

When it comes to the question as to what episodic memory is, Nelson follows Tulving (1983) in appealing to phenomenological criteria to distinguish episodic recall from other forms of remembering. Thus, she says, “an episodic memory has the phenomenal characteristic of referring to something that happened once at a specific time and place” (Nelson, 1993, p. 7). As she makes clear, this is not meant to imply that episodic recall of an event is always accompanied by the ability to give a date and/or location for it. Rather, the idea is that such recall involves “the sense that ‘something happened one time’ [and *could* thus be identified by its date and location] in contrast to the generic ‘things happen this way’” (ibid.). What I want to argue in the following is that, if this is an appropriate description of what makes an instance of remembering a case of episodic recall, Nelson’s own theory gives us little reason to expect that episodic memory is present in children before the emergence of narrative capacities.

One type of challenge here comes from empirical work on children’s acquisition of scripts. Above, I have tried to show how Nelson’s view that the developmentally primitive memory system she describes includes a ‘temporary, episodic memory space’ is motivated by the thought that the child’s establishing new scripts seems to depend on her being able to retain information from novel experiences. Thus, it seems that what is meant to licence talk about the existence of episodic memories, even at this developmentally early stage, is the fact that some of

⁶ Indeed, passages in Nelson & Fivush, 2004, suggest that Nelson’s own position regarding the explanatory remit of social interactionist theories has shifted somewhat. I will discuss her more recent position in the second half of this section.

the child's memories are based on experiences of types events it has, so far, only encountered one instance of. It is far from obvious, however, that such considerations about the causal origin of the child's memory state are enough to licence talk about two quite different types of memory state the child can be said to be in. In fact, Schank and Abelson (1977, p. 225), who first introduced the term 'script', already hypothesised "that children, upon encountering a new event, immediately assume it to be a script", and provided some anecdotal evidence for this hypothesis. Subsequent studies have confirmed that children's ability to form scripts is not dependent on repeated exposure to events of the same kind, as Nelson's view would seem to suggest (see, e.g., Ratner, Smith and Dion, 1986). Even if they have experienced a certain type of event only once, children seem to be in possession of "a general framework such that they expect future occurrences of the event to conform to the first experience in important ways" (Fivush, 1997, p. 150). If this is correct, it points to a crucial ambiguity in Nelson's use of phrases such as "memory for a novel experience" (Nelson, 1996, p. 158). On one reading, the phrase indicates a specific kind of memory different from 'memory for routines', i.e. a form of episodic rather than generic memory. On another reading, the phrase simply indicates that there is a specific type of event the child has retained information from, and the child has so far encountered that type of event only once. Yet, as we have just seen, this latter reading seems compatible with the relevant information having been retained in the form of a script. Thus, talk about 'memory for a novel experience', in this sense, need not indicate a psychological state that is qualitatively different from 'memory for routines'.

The kind of argument just sketched is basically a variant of an argument sometimes made in the literature on animal memory, which is that one-trial learning is

not sufficient evidence for the existence of episodic memory (cf., e.g., McCormack, 2001; Morris, 2001). However, I believe that the general framework for thinking about memory development that Nelson puts forward actually helps us pinpoint just what the crucial issue in the background here is. As mentioned above, Nelson describes the primary functionally based memory system as one in which “memory as such has no value in and of itself, but takes on value only as it contributes to the individual’s ability to behave adaptively” (Nelson, 1988, p. 265). Part of the idea here is clearly that, for the child, the significance of information retrieved from memory is exhausted by its practical value, i.e., its capacity to inform behaviour and expectations. Yet, we might also want to ask about the epistemic value the child can be said to assign to information retrieved from memory, i.e. what, from the child's own point of view, this information is answerable to for its correctness. I want to suggest that Nelson’s claim that a limited form of episodic memory is already present in young children, in effect, tries to put a wedge between these two issues, in a way that seems rather problematic. To say that a child has (at least short-lived) episodic memories involving the sense that ‘something happened one time’ suggests that the child takes those memories to be answerable for their correctness, not to what is or will be the case, but to what was the case in the past. But this assumes a capacity to appreciate that information retrieved from memory can be correct, on the one hand, even if it is of no use for guiding present behaviour and expectations, on the other, say, because circumstances have changed since then. Yet, the presence of such a capacity seems denied by the view that, for the child, memory takes on value only in so far as it can guide the latter.

I do not mean to suggest that this criticism of Nelson’s theory goes very deep. As I said above, I have focused on her theory primarily because I believe that she

offers a framework for thinking about memory development that actually helps to bring out just what the key challenge in accounting for the development of episodic memory consists in. Indeed, in a more recent review paper, Nelson and Fivush (2004), whilst reiterating the basic ingredients of the developmental account outlined in the previous section, also make a link with the idea that young children may lack a sense of the past, understood as an ability to place remembered events at specific times in the past (*ibid.*, p. 499f.). Again they argue that children's developing language and narrative skills acquired through participation in conversations about the past with others play a central role in making it possible for such a sense of the past to emerge. As they put it, "[t]alking about experienced events with parents who incorporate the child's fragments into narratives of the past not only provides a way for organizing memory for future recall, but also provides the scaffold for understanding the order and specific locations of personal time" (*ibid.*). In particular, they suggest that "[n]arrative adds layers of comprehensibility to events above and beyond what is available from direct experience by linking events together through causal, conditional and temporal markers" (*ibid.*, cf. also pp. 499f.). In the second half of this paper, I will make a proposal about the relevance of narratives in memory development that could be framed in quite similar terms. However, before doing so I want to bring out what I think is a fundamental twofold challenge that any such proposal faces.

Consider the case of a child who grows up in a family of chess grandmasters. The likelihood is that this child will acquire excellent skills at retaining, organizing and expressing knowledge about chess. And, arguably, we can point to (broadly speaking) social-communicative factors in explaining this development; indeed, there are two different sets of such factors to consider. First, in talking with other members

of her family, the child will be provided with a rich linguistic scaffold for capturing facts about chess, ultimately providing for sophisticated ways of understanding such facts, say, in terms of concepts such as ‘castling’, ‘Alekhine’s defense’ or ‘Vienna gambit’. Secondly, part of the function of the child’s acquiring this understanding will arguably be a social one, i.e. to facilitate engagement with those other members of her family.

I take it that social interactionist theories of memory development are looking for a type of explanation that cuts deeper than this, and that they would agree that our interest in talking about and remembering past events is not just a matter of contingent cultural preference akin to the interest in chess in the above example.⁷ At the beginning of this paper I gave a general characterization of social interactionist theories by saying that, according to them, a child’s learning to talk about the past with others marks a crucial step, simultaneously, in the child’s socio-communicative development – i.e., the emergence of a new form of social skill – and in her cognitive development – i.e., the emergence of a new type of memory. I believe what the above story brings out, in particular, is that the key challenge, in each case, consists in making intelligible the sense in which the emerging phenomenon is indeed ‘new’, i.e., a phenomenon distinct in kind from more developmentally primitive ones.⁸

⁷ This is not to deny that there can be cultural differences in the shape this interest in the past takes, and in particular which features of the past are remembered and recalled. Nelson & Fivush (2004, p. 506) report on unpublished work by Leichtmann, who studied "residents of a rural Indian village who claim not to remember events from their early lives and to deny the value of such remembering [...] Things that happened “long ago” are said to be of no interest, and therefore are not remembered." In a series of studies, Qi Wang and her colleagues (e.g., Wang, 2004) have demonstrated subtle ways in which the nature of parent-child conversations about the past across different cultures is influenced by cultural values, and how, in turn, this shapes how children recount their own past experiences. In particular, she has demonstrated significant differences in the way in which children growing up in different cultures frame their own role in events they recount.

⁸ Sutton (2002) can be seen as pressing a similar question as to the general role of language in memory development. He notes that social interactionist accounts generally stand in opposition to what he calls 'expressivism', i.e., the view that the function of language is simply to communicate thoughts, but that the emergence of language does not itself make a substantive difference to the thoughts a subject can entertain. He points out, though, that this leaves the social interactionist with the task of providing an account of just how the emergence of language might make a difference to a subject's

Thus, one challenge, here, is to give substance to the idea that the acquisition of narrative skills can be seen to make possible a new form of memory, in the sense of a distinct form of psychological state. An alternative view of the relevance of narrative skills for memory development might more simply have it that acquisition of such skills enables children to encode more information about events (say, information about temporal and causal relation between them), or that it enables them better to recall such information by integrating such recall in a social practice. Both of these claims are compatible with the idea that development takes the form of a mere enhancement of already existing forms of memory, rather than the emergence of a new one.

I do not want to pretend that the distinction I am trying to get at here, between the enhancement of an existing form of memory and the emergence of a new one, is easy to make precise. However, I believe that the degree to which a social interactionist account does meet the challenge of accounting for the emergence of a genuinely new form of memory can also be measured against its success in meeting the other challenge that follows from the characterization of social interactionism I have given above – namely, to make good the idea that the acquisition of narrative abilities equips children with a new form of social skill. Again, this can be contrasted with a weaker alternative, which would simply hold that the acquisition of such abilities adds to the range of topics of conversation available to children, but does not

cognitive capacities and draws a contrast between two such accounts, which are often not distinguished in the social interactionist literature. According to what he calls ‘lingualism’, language plays a role in memory development because it enables the acquisition of memories whose format is itself linguistic. The ‘supra-communicative’ view of language favoured by Sutton, by contrast, has at its heart the idea that “the rendering of a thought in linguistic form helps us turn the thought into an object, making it more stable, to be considered, reconsidered, and utilized on future occasions” (ibid., p. 383).

fundamentally change the nature of the type of socio-communicative interaction they are capable of entering into.

In the remainder of this paper, I will try to show how a theory that uses a social interactionist approach to account for the emergence of episodic memory might be able to address this twofold challenge.

4. Michael Martin (2001) has recently put forward an account of episodic memory as ‘retained acquaintance with the past’ according to which episodic memory involves the preservation of the particular kind of ‘cognitive contact’ with events originally made available through experience. Cognitive contact, he explains, comes in two varieties: knowledge and experience. Thus, for instance, I may know that the No. 12 bus stops outside my house. In this case, cognitive contact takes the form of a standing condition, which has a fact as its object. Alternatively, I may also see the No. 12 bus stopping outside my house. Here, cognitive contact takes the form of a specific occurrence, an individual experience, which has an event as its object. Memory, in general, according to Martin, consists in the preservation of cognitive contact. However, as he puts it, “[j]ust as we can differentiate the kinds of cognitive contact, and the objects that they have, so too we can differentiate the kinds of memories that result” (p. 266). To say that I remember that the No. 12 bus stops outside my house, for instance, is to say that I have retained a piece of knowledge I acquired at some point in the past. Of course, one way in which I might have acquired that knowledge is through seeing the bus stopping there. But if my memory only traces back to the standing condition of knowledge, independently of how it was acquired, my memory will only amount to what is typically called factual or semantic memory. Episodic memory, by contrast, traces all the way back to experience itself. Specifically, it

inherits from experience what Martin calls its ‘intrinsic particularity of content’. Thus, for instance, I can only be said to remember a particular past occasion of the No. 12 bus stopping outside my house, if I have in fact witnessed that event and my memory inherits its content from that very experience. Only experience makes available cognitive contact with events, and it is this contact that is preserved in episodic memory.

Part of what I have tried to show so far in this paper is that, if Nelson is right in claiming that the developmentally basic function of memory is that of guiding practical behaviour and expectations, we should not expect episodic memory, understood along the lines Martin sets out, to be a developmental primitive. Thus, the question arises what it takes for children to acquire the ability to have memories that trace back to experience in the way Martin describes. This is what Martin himself has to say about development:

“The infant needs to make sense of how there can be specific, and hence actual, events of which it has [...] conscious awareness, but which are nevertheless not part of the present scene. We can point to two things which might help it in this predicament: first, a grasp of a concept of time as a causal structure in which earlier events cause later ones; secondly, an understanding of itself as located within that causal structure” (Martin, 2001, p. 280).

In what follows, I will take Martin’s developmental claim to be that it is the emergence of episodic memory as such that is tied to the development of the kind of causal understanding he describes, which centres on possession of a certain concept of

time.⁹ This is not to go back on the picture of episodic memory as involving the preservation of cognitive contact with events. Rather, on this reading, the conscious awareness Martin speaks of in the passage just cited is precisely the distinctive conscious awareness involved in episodic memory that results from the preservation of such cognitive contact. However, the developmental claim would be that having such conscious awareness is only possible in the context of certain cognitive abilities, in particular the ability to employ a concept of time in the way Martin describes.

I think we can perhaps make this latter idea more concrete and plausible if we look at some of the existing claims about how episodic memory, or, at any rate, memories of particular occurrences in the past, might be demonstrated in children.¹⁰ For instance, Perner and Dienes (2003, p. 69) suggest that delayed imitation, which is found at 12-15 months (with first signs as early as 9 months), can be seen as a sign that children "are consciously aware of past events". One set of studies they refer to is that carried out by Meltzoff (1990), in which children saw an adult touching the top of a box with his forehead, whereupon a light came on inside the box. The children saw this action only once, and the box was removed as soon as the adult had performed the action, without giving the child the chance to touch the box herself. It was found that 14-month-olds, when re-introduced to the box after one week's delay, faithfully reproduced the action they had seen the adult perform. In a similar vein to Perner and Dienes, Meltzoff claims that these results demonstrate "some sort of embryonic, non-verbal episodic-like memory" (1990, p. 19), by which he seems to mean that, at any

⁹ Given the context in which the passage just quoted appears, I am not sure Martin himself would agree with this interpretation. One key challenge for the resulting view, in particular, is to explain how being in a mental state with a certain phenomenology can be dependent on the possession of certain cognitive capacities. Hoerl & McCormack (2005) try to explain the kind of dependence at issue, in the case of episodic recall, by reference to the idea that episodic recall involves the exercise of a particular form of attention.

¹⁰ I am grateful to an anonymous referee for prompting me to be more explicit at this point about how my discussion relates to actual empirical work in developmental psychology.

rate, the children do remember the particular occasion on which they first saw the box and what happened then – the qualification 'episodic-like' being used primarily to leave open whether further elements of Tulving's particular theory of episodic memory also apply to this type of memory.

It seems to me that these claims suffer from the same basic difficulty that I identified at the beginning of the previous section regarding Nelson's theory. An alternative reading of the results of Meltzoff's experiments would have it that what the children remember is simply how one activates the box.¹¹ In Nelson's terminology, this would be more akin to generic, rather than episodic, memory. In other words, it might strike us as interesting that the children in Meltzoff's studies acquire the relevant memory already after one demonstration. Yet, as before, it is far from obvious why this fact about the aetiology of the memory should lead us to think that the memory itself is different in kind from memories acquired through numerous similar experiences.

But is there any other body of evidence we could point to that might give us a better indication as to the stage at which children can be credited with memories of particular past events of the type described by Martin? Meltzoff (1990, p. 19) seems to think the main problem here is that “[o]ne cannot directly ask preverbal infants whether they are accessing a ‘specific personal past experience’ (Weiskrantz, 1987), which would be helpful for establishing episodic memory”. However, I believe that the objection I have raised locates the difficulty with Meltzoff's study elsewhere. To

¹¹ Perner and Dienes (2003, p. 69) consider an objection along those lines, but reject it because "there is evidence from amnesic patients that suggests involvement of explicit memory in delayed imitation tasks". As I understand it, though, the point of the objection is not that the memories in question might be merely implicit rather than explicit, but rather that they might be concerned with a general feature of the box (i.e., that it is activated a certain way), rather than with what happened at a certain time in the past. A study by Gergely, Bekkering and Király (2002) might be seen to lend further support to this interpretation. They repeated Meltzoff's original experiment, but with a modified condition in which children could see that the demonstrator's hands were occupied when she activated the box by touching it with her forehead. In this condition, children did not tend to imitate the demonstrator's actions, but rather activated the box by touching the box with their hands.

see exactly where, it might be helpful to come back to Martin's (2001, p. 280) idea that a crucial stage in the development of episodic memory is the child's "making sense of how there can be specific, and hence actual, events of which it has [...] conscious awareness, but which are nevertheless not part of the present scene". If this idea is along the right lines, the key difficulty with studies like Meltzoff's lies in the fact that the experimental set-up in question can not show us whether the children can give any significance to the difference between the past and the present because passing the task does not necessarily seem to require distinguishing between the way things once were (i.e., how the box worked then), and the way they continue to be (i.e., how it works now), because, in this case, there is no difference.

Yet, describing the difficulty with Meltzoff's study in this latter way might also make it easier to see at least one possible way of unpacking, and giving empirical significance to, the idea that being able to turn one's mind back to particular past events requires a grasp of a concept of time as a certain causal structure. The basic idea would be that children can only be said to give substance to the relevant difference between the way things once were, on the one hand, and the way they continue to be, on the other, if they can engage in a particular form of causal reasoning. Roughly speaking, what makes intelligible the idea that things were once one way, but might no longer be that way, is the thought of something having happened in the meantime that has changed how things are.¹² Povinelli et al. (1999)

¹² An obvious clarificatory issue here is how exactly the kind of causal reasoning ability I have just described is to be distinguished from the type of reasoning involved in grasping a script, since, clearly, there is a sense in which a script, too, involves a sequence of events where what is the case at the beginning of the script differs from what is the case at the end. I think the relevant difference, here, goes back to what Nelson describes as the generic nature of scripts, and their function in informing action an expectation. A script might (and typically does) encompass a sequence of events, but the child's understanding of the relationship between those events is exhausted by the ability to anticipate what comes next whenever such a sequence is instantiated. There is some indication that children are sensitive to causal relationships in the constructions of scripts. Yet, the question here is in what sense, if any, the child can appeal to these relationships in making intelligible to herself why things are no longer the way they once were. One plausible requirement on the latter might be that it involves some

have referred to the type of grasp of causality that this involves "understanding that the recent past is causally bound to the present" and have provided evidence that children below the age of five have difficulties with this type of understanding. In both their study, and in one by McCormack & Hoerl (2005) that yielded similar results, children had information that two events had happened and also, separately, information about the order in which the two events had happened. To pass the task, children had to appreciate that the event that happened later had the power to change or obliterate the effects of the event that happened earlier. Thus, in as far as children fail the tasks, they fail to mobilize one very basic way of understanding of how it can be that a particular circumstance did actually once obtain (i.e., the first event did happen and leave its effect on the world), even though it no longer does so (i.e., the second event undid or changed the effects of the first one).

The proposal I now want to make is that a fruitful way of explicating the notion of a narrative, or at least a central ingredient in that notion, might be in terms of the idea that a narrative structure is a structure that embodies this latter kind of causal understanding. At the beginning of this paper, I suggested that part of what was in the background of the appeal to the notion of a narrative within the context of social interactionist accounts of memory development was the claim that narratives provide a distinct kind of cognitive framework for remembering events. Basically, it is this claim that has to be made good if we want to address one part of the twofold challenge I raised in section three, i.e., to explain the sense, if any, in which the acquisition of narrative abilities might be seen to make available a qualitatively new form of memory. The import of the argument offered in the present section, I believe, is that, we can see how the notion of a narrative might play a crucial role in

capacity to engage in counterfactual reasoning, which does not seem to be required for script construction.

explaining the emergence of a new type of memory by thinking of that notion as one that captures the particular form of causal understanding I have described. Narratives, on this view, embody an understanding of how the overall outcome of a sequence of events depends not just on what happened at one point in the sequence, but also on what happened subsequently. It is this understanding, in turn, however, that allow the child to give substance to the distinction between the past and the present in remembering particular past events.¹³

5. But what about the other part of the twofold challenge that I raised in section three, i.e., to explain the sense, if any, in which the acquisition of narrative abilities might also be seen to make available a new form of socio-communicative skill? Can the conception of narratives developed in section four, according to which narratives embody a particular kind of causal understanding, also help us address this part of the challenge? I take it that the challenge here is to bring out a sense in which the specific types of temporal-causal relationships that this form of causal understanding is concerned with are not, as it were, just one possible topic of conversation amongst others, but that there is a specific type of exchange that involves understanding of such relationships. In this final section, I will explore one way of trying to flesh out and make good this latter idea.

Consider the following thought-experiment developed by Jonathan Bennett (1989), which involves the idea of a creature he calls ‘the Describer’. As Bennett explains, “[w]hat the Describer does is to describe – accurately, in plain lucid English,

¹³ One reviewer suggested that there might be affinities between the line of thought presented here and Bartlett's notion of 'rationalization'. Bartlett asked participants in his famous *War of the Ghosts* study to verbally reproduce a folk-story that they had been given to read, and he found that they tended to insert "[w]ords such as 'therefore,' 'for,' and 'because,' [...] where they had been absent from the original" (Bartlett, 1920, p. 43, see also Bartlett, 1961, ch. V). Bartlett's study, of course, is concerned with recall of a fictional series of events, but in as far as it suggests a general tendency to impose a causal structure on a recalled sequence of events, it is compatible with the claims I want to make.

viva voce – such aspects of its surroundings as a moderately attentive human would be aware of if similarly placed” (1964, p. 94). More specifically, “[t]he point about the Describer is that it adds nothing to what is before it: everything it tells us is right there in the bit of the world which confronts it” (ibid., p. 96). Bennett’s own main interest is in providing a plausible account of what rationality consists in (on which the Describer comes out as lacking rationality in the relevant sense). More importantly in the present context, however, he also considers limits to the kinds of communicative interaction into which we could enter with a creature like the Describer. The Describer, he argues, “can tell us things which we might acknowledge by saying ‘I hadn’t noticed that’ but not things which we could acknowledge by saying ‘I hadn’t thought of that’” (p. 98). It “cannot act as an extension of our intelligences, only as an extension of our senses” (ibid.).

I think the key idea behind the distinction Bennett draws here can perhaps be spelled out as follows. There is a basic sense in which communication can sometimes simply consist in others alerting us to features of our environment that we cannot observe ourselves or might not have noticed. As you are trying to back your car into a narrow parking space, for instance, a friend standing on the pavement might give you a running commentary on how close you are to the cars on either side. Here, communication is basically a matter of information transmission, and your friend’s words simply come to stand in for your own observations of the relevant states of affairs. Compare this, for instance, with a case in which you discuss with your friend what would be the quickest way to drive to the University at a particular time of day. Suppose that you rule out taking one route because every time you took that route recently, you got stuck in a traffic jam. Your friend might hold against this that the traffic jams were probably just due to road works that have since ended and should

thus not count against using that route. In an exchange of this kind, the point of your friend's words is not just to provide you with further information (indeed, you may have known about the road works all along, but not seen how they might be relevant). Rather, their point is to get you to reconsider your interpretation of the available information, i.e. they aim to influence your reasoning.

Part of what Bennett's story of the Describer helps to bring out, I believe, is that the latter kind of communicative exchange, which might be said to involve a form of interpersonal rationality, turns essentially on participants' ability to make and understand statements about particular past events and circumstances. Clearly, though, this can't be the full story. Suppose, for a moment, that Bennett's Describer's abilities also extended to being able to give a complete description of road conditions, etc., on each of the various routes to the University, for each day over the last twelve months. Arguably, this modification would still not make it the case that the Describer could 'act as an extension of your intelligence' in the way your friend might be said to in the above example. As I indicated above, what is at issue in the communicative exchange between you and your friend is not so much the information available, but how that information is to be interpreted.

What I would like to suggest, instead, is that the kind of communicative exchange at issue here turns also on both participants possessing the kind of causal understanding I sketched in the previous section. In short, what your friend is trying to make plausible to you, in the above example, is an instance of the idea that whilst things were once a certain way, they may no longer be that way. The point of his contribution to the conversation, and your grasp of that point, is tied up with the idea that what is the case now depends not just on what was the case at a certain point in the past, but also on what has happened in the meantime. It is only against the

background of a shared grasp of this idea that we can understand the particular rational force that your friend's appeal to certain past events (esp. the cessation of the road works) has within this conversation.

In the previous section, I suggested that one way of thinking of the notion of a narrative is in terms of the idea that the notion of a narrative is trying to capture precisely the particular form of causal understanding at issue here, that turns on the way in which events later in a sequence can change or obliterate the effects of earlier events. I originally made this suggestion in the context of trying to shed light on the idea that the acquisition of narrative abilities plays a crucial role in children's developing a particular form of memory that involves an appreciation of the difference between the past and the present, i.e. episodic memory. If what I have said in this section is along the right lines, however, fleshing out the notion of a narrative in this way might also help us shed light on the idea that the acquisition of narrative abilities plays a crucial role in children's becoming capable of entering into a particular type of social-communicative interaction with others, which I have described as involving a form of interpersonal rationality.

I have not made any specific suggestion as to how those two forms of development are related to one another. The suggestions I have made, however, are at least compatible with the fundamental social interactionist intuition that there is a particular form of memory that first emerges in the context of children's learning how to participate in a particular form of social-communicative interaction with others, and at least one function of which is a social one. More to the point, though, in contrast to most current social interactionist accounts that are focused primarily of the role of the self in memory development, my discussion has focused on the, at least conceptually separate, question as to what it takes for memories to emerge that have

the property of being episodic. And, by showing how episodic memory is a distinctive kind of cognitive achievement that draws on a specific type of causal understanding, and how the same kind of causal understanding is also mobilised in a specific kind of socio-communicative activity centred on talk about the past, I hope to have shown how social interaction might have an even more fundamental role to play than is typically recognized, in accounting for the emergence of the very ability to turn one's mind to the past in memory.

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