

Linking Early Linguistic and Conceptual Capacities: The Role of Theory of Mind

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1. Introduction^{*}

The relationship between language and thought has resurfaced as a vibrant and hotly debated topic in recent research in linguistics, psychology and philosophy of mind. Especially within developmental cognitive science, much experimental and theoretical work has started looking at interrelations between purely linguistic and broader conceptual contributions to the child's growing mental capacities (for an overview of the issues, see Carruthers and Boucher 1998).

One area which seems to set a particularly promising research agenda in linking early language and thought is the ability to attribute to oneself and to others mental representations. This ability, variously referred to as "folk psychology" or "Theory of Mind" (ToM), is responsible for the fact that (normal adult) humans explain people's observable behaviour on the basis of underlying mental states such as beliefs, desires, intentions, doubts, ideas, and

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so on. There is by now evidence that the capacity to mentalise is crucial for various early achievements in language acquisition; such achievements include learning the meaning of words (Bloom 1999, Tomasello, Strosberg and Akhtar 1996, Baldwin 1991), grasping opaque reference (de Villiers and Fitneva forth.), or mastering communicative skills (Siegal 1996). Recently, several commentators have started exploring the possibility that, inversely, language development may have a causal effect on ToM development (for an overview, see de Villiers 1999).

My primary goal in this paper is to contribute to the growing body of work which suggests that central semantic and pragmatic aspects of language acquisition presuppose ToM development. I focus on two linguistic phenomena, modality and evidentiality, and argue that they implicate sophisticated aspects of ToM. My secondary goal is to address the question of whether language development can affect ToM development and to offer some reasons for being sceptical towards proposals which accept linguistic determinism. Here is how I propose to proceed. In section 2, I start out by presenting some aspects of ToM which will serve as the cognitive backdrop for the linguistic data. In section 3, I present specific arguments to show that both epistemic modals and evidentials involve thoughts about beliefs and that, consequently, their acquisition presupposes advanced ToM abilities. In sections 4 and 5, I critically discuss possible effects of language on ToM and implications for broader issues in the language-thought debate.

2. Developments in ToM

Much current work has shown that children from an early age construe others as having mental states that underlie behaviour. For instance, it has been convincingly demonstrated that even 2-year-olds can distinguish between accidental and intentional actions (Tomasello and Kruger 1992), and are sensitive to social cues such as eye gaze in detecting ostensive stimuli (Baldwin 1993). For present purposes, I will concentrate on some more sophisticated aspects of folk psychology (sometimes referred to as "representational theory of mind"; Gopnik and Wellman 1994, Leslie forth.). These mostly involve the ability to appreciate that people stand in different and variable informational relations to the world - hence beliefs can vary, they may occasionally be false, and they are often modified or updated as new evidence becomes available.¹

The most widely studied aspect of such advanced ToM capacities is false belief understanding. In one of the standard false-belief tests (Wimmer and Perner 1983), a child is shown a character - Maxi, in the original version -

¹ The term "theory" in what follows is not used literally (as in, e.g., Gopnik and Wellman 1994), but only implies a commitment to theory-like structures required to represent knowledge in different domains, such as naive biology, naive physics, or naive psychology.

who hides an object in some place and goes away. In his absence, the object is moved to a different location. Maxi comes back. The child is now asked to predict where Maxi will look for the hidden object. In order to answer correctly, the child has to realise that Maxi holds a false belief - that is, he/she has to contrast his/her own understanding of the situation with that of Maxi. This necessitates a more complex step than simply representing the state of affairs in the world: it requires the representation of someone else's (false) representation of reality. In a variation of the "unseen displacement" task, the "unexpected contents" task (Perner, Leekam and Wimmer 1987), the child is shown a familiar container, such as a Smarties box, and is asked to predict the contents of the box. Contrary to expectation, it turns out that the box contains pencils. The child is next asked what a friend who has just come in will think is in the box. Again a correct reply relies on the child's ability to understand false belief in someone else.

It appears that children standardly fail false belief tasks before the age of 4;0 or 5;0. That is, most 3-year-olds respond to both the above tasks on the basis of their own (correct) beliefs. The conclusion that children around the age of 4;0 develop a better understanding of how the mind works is further evidenced by their performance in several related tests. For instance, in the "unexpected contents" experiment, when 3-year-olds are asked what they initially thought was in the box, they reply "pencils" not "candy"; by contrast, children after 4;0 can accurately remember their own previous false beliefs (Gopnik and Slaughter 1991). In a similar way, children after 4;0 begin to appreciate the distinction between appearance and reality (Flavell 1986); for instance, they realise that something may look like a rock but is in reality a sponge.

Even though the period around 4;0-5;0 years has attracted a lot of experimental attention, it is interesting to see what precedes and follows this stage in terms of folk psychological development. Three-year-olds can already draw the distinction between real and mental entities, such as a real and an imagined cookie (Wellman and Estes 1986). They also seem to know more about how desires work than about how beliefs do: for instance, unlike memory of previous false beliefs, 3-year-olds are able to remember their own earlier desires (Gopnik and Slaughter 1991). Moreover, children of this age can reason not only about desires but also about beliefs in order to predict an individual's behaviour, provided these beliefs do not contradict the child's beliefs (Wellman and Bartsch 1988). Furthermore, three-year-olds show some appreciation of the link between perception and knowledge. Even though children can show objects to others and then hide them by 2;0, only after 3;0 do they understand that one who looks into a box gets to know what's in the box, and one who doesn't look doesn't know (Hogrefe, Wimmer and Perner 1986).

Still, there are many things that lie beyond the grasp of children of this age. Only after 5;0 years do children understand that people may acquire different information from the same perceptual experience depending on their previous knowledge (Taylor 1988). By 5;0, they can also remember how they found out about a certain fact (i.e. the sources of their information; O'Neill and Gopnik 1991), as well as link specific types of knowledge with the appropriate type of sensory modality (e.g. texture and touching, colour and seeing; O'Neill and Astington 1990). After 5;0, children's understanding of the mind progresses in many domains: in knowledge about the mind and brain, in knowledge related to social concepts, such as responsibility and commitment, which depend on multiple embeddings of mental states, etc.

There is some evidence that these developments in folk psychology are reflected in early language. For instance, it has been shown that the uses of mental verbs such as *know*, *think* and *remember* become more stable and reliable after the third birthday (Shatz, Wellman and Silber 1983). In the next section, I introduce two further classes of linguistic data and argue that they are directly related to sophisticated understanding of the mind.²

3. Two Linguistic Case Studies

3.1 Modality

The linguistics literature standardly draws a distinction between *deontic* modality (which deals with obligation, permission, etc.) and *epistemic* modality (which involves inference from known premises). To illustrate, *may*, *must*, *should* and *have to* in the examples in (1a)–(4a) express deontic modality, while the same verbs in the examples in (1b)–(4b) are interpreted epistemically:

- (1) a. The candidates may leave the room now.
b. You may be wondering why I disappeared.
- (2) a. She must find a way to help her son.
b. You must be tired.
- (3) a. After such a scandal, the mayor should resign.
b. Looking for "Hamlet"? It should be on the top shelf.

² It should be noted that the interpretation of the empirical findings on ToM is surrounded by considerable theoretical disagreement. Some researchers take the wide-ranging changes in children's responses in ToM tasks around age 4;0 as evidence for conceptual change (Gopnik and Wellman 1994, Perner 1991); others consider them the result of improvement of independent performance factors (Fodor 1992, Leslie 2000). I take it for granted that, regardless of how theories of ToM turn out, they will have to account for the fact that semantic and pragmatic aspects of language crucially rely on our commonsense knowledge of the mind.

- (4) a. The authorities have to stop hooliganism.
b. You have to be right; you are the expert.

Other non-epistemic modal meanings involve ability (e.g. *can*), intention (e.g. *will*), and so on; for ease of exposition, I am going to group them together with deontic meanings under *root* modality.

According to cross-linguistic longitudinal studies, epistemic modality lags behind root modality in language acquisition. Since in a variety of languages certain modal expressions are capable of communicating either epistemic or root modality on different occasions (cf. the examples in (1)-(4) above), this practically means that such modal terms are initially confined to root interpretations, while their epistemic interpretations are acquired later on.

To take the example of English, the first modals to appear are *can* and *will*, which are first used between 1;10 and 2;6 to communicate ability/permission and "intention"/volition respectively (Shatz and Wilcox 1991, Wells 1979). Later on, *will* extends from volition to prediction and tends to refer to events which lie beyond the child's control, or belong to the distant future. At this stage, *gonna* takes over the space of events in the near future or events that the child can control (Shepherd 1982, Gee and Savasir 1985). By 3;0, *hafta*, *needta* and *wanna* have appeared with root meanings in child language (Gerhardt 1991). *Could* emerges later than *can* and is used much less frequently for ability and permission; similarly, *may* is used for permission much less frequently than *can* (Wells 1979). *Should*, *must* and *had better* have root interpretations which are present before 3;6. Epistemic interpretations, by contrast, first appear after 2;6 and have negligible frequencies till about the fourth year, or even later (Kuczaj 1977). Uses of *must* to convey certainty have not yet stabilised at 5;0 years, while the use of modal adverbs and adjectives such as *possibly*, *necessarily*, *it is possible/necessary that*, etc. still progresses between 6;0 and 12;0 years (Wells 1985, Perkins 1983).³

Similar acquisitional patterns have been observed for other languages:

(a) *German*. According to research reported in Stephany (1993), *wollen* ("will") and *können* ("can") appear before *müssen* ("must") and *sollen* ("should"), and root interpretations generally precede epistemic ones.

(b) *French*. Between the ages of 2;0 and 4;0, root modal utterances are the first to appear and far more frequent than epistemic utterances in Bassano's (1996) study. The first reliable spontaneous epistemic productions appear at 2;3. Until 4;0, there is a steady developmental progression in epistemic interpretations with a sharp increase after 2;8.

(c) *Modern Greek*. The verbs *boro* ("can/may") and *prepi* ("must") are restricted to conveying root modality in children's speech (Stephany 1986; although the main expressions of root modality in early child data are the uses

³ For more extensive reviews, see Stephany (1986), Shatz and Wilcox (1991), Papafragou (2000).

of the subjunctive to convey wish, promise, permission, etc. as well as the imperative). Some epistemic uses of *bori* ("may") are noted after 3;9.

(d) *Polish*. Expressions of root modality in Polish appear before 2;0. Their use becomes more frequent during the third year to communicate obligation/root possibility and prohibition/permission. Epistemic uses of modal verbs appear later, although some epistemic modal particles emerge around 2;0 - *chyba* ("probably"), *na pewno* ("for sure"; Smoczyńska 1993).

(e) *Antiguan Creole*. Shepherd (1982) reports on uses of modals between 3;2 and 5;0 in this English-based creole spoken in the West Indies. *Mosa* ("must"), which is used exclusively in epistemic environments in adult language, appears initially with deontic meaning; its epistemic interpretation emerges after 5;0. *Go(n)* ("going to") is the form most children used earliest for volition, followed by *kyan* ("can") for ability and permission. Both are in use by 3;0, while *hafu* ("have to") and *mos* ("must") are used for obligation by 3;5. Epistemic uses of *hafu* occur even later.

(f) *Korean*. In the speech of three children time-sampled between roughly 1;8 and 3;0/4;0 years by Choi (1995), there are scarce occurrences of epistemic modal auxiliaries. Of the five epistemic modal auxiliaries in the adult system, only *-na pwa* (indicating inference) appears productively (between 2;8 and 3;0) in the data. By contrast, around the third birthday almost the whole of the root system is in place.

(g) *Mandarin Chinese*. Guo (1994) provides evidence that expressions of volition and ability precede other modal expressions; deontic modality follows, while epistemic modality is acquired still later on.

Although a full explanation of the root-epistemic discrepancy in the acquisition of modality requires reference to a variety of factors (e.g. input, mapping problems, syntactic aspects of modality, etc.), I want to focus on the role of ToM in the acquisition of modal concepts. First, I want to argue that there is an obvious sense in which epistemic modality hinges on metacognition. Second, I wish to point to non-epistemic modal interpretations which involve a considerable degree of mentalising. I will use English data to illustrate throughout.⁴

Consider what is involved in standard epistemic interpretations of a modal sentence such as (1b). The speaker does not possess adequate information so as to produce a non-modal utterance, such as *You are wondering why I disappeared*. So, after accessing and processing a relevant subset of her beliefs, she draws a conclusion which is supported by the evidence she has, or at least is compatible with it. In (1b), for instance, the speaker presents a conclusion (the embedded clause) which is compatible with the relevant subset of her beliefs (and may turn out to be true). In (2b), the conclusion is entailed by the subset of the speaker's beliefs which bears on it. Therefore, in order for one to master the epistemic interpretations of the English modals, one needs to

⁴ The arguments in the next paragraphs build on Papafragou (1998a, 1998b).

have a grasp of (a) the inferential component of the modals (broadly, the notions of compatibility and entailment which underlie those of possibility and necessity), and (b) the premises (beliefs) required for the inferencing. Consequently, the successful use and comprehension of epistemic modal operators involves actively considering one's beliefs as representations of reality, as well as assessing their adequacy and accuracy as representational means. These processes jointly presuppose a representational theory of mind.

The first uses of epistemic modals in English coincide with the emergence of mental terms such as *think*, around the second half of the third year. Initially epistemics are probably used as expressions of speaker certainty/uncertainty without a full grasp of their inferential component. This is a simpler process than the attribution of false belief; hence its earlier occurrence in development. After 4;0, expressions of epistemic modality (especially epistemic possibility) become more frequent. According to experimental evidence (Hirst and Weil 1982), children are capable of distinguishing differences in "strength" between epistemic modals by 5;0. For instance, they can recognise that *must* conveys greater speaker certainty than *should* and *should* greater certainty than *may*, whereas a non-modal utterance conveys a higher degree of certainty than epistemic *must*. Still, in order for the full content of an epistemic interpretation to be acquired, the child needs to be in a position to grasp the logical potential of the modals as well as their mentalistic aspects. For instance, the full mastery of epistemic *must* requires mastery of the notion of necessity, a step which is not completed before 11;0 to 12;0 years of age. By that time, the child's use of epistemics has reached the level of adults.⁵

The discussion so far should not be taken to imply that ToM development affects only one side of the root-epistemic distinction. This brings me to the second point: mentalising is subtly implicated in some of the earliest stages of the modal system. Recall that, in language after language, the first modal notions to be expressed in children's speech are (physical) ability and volition. In English, ability in the first uses of *can* does not seem to involve an understanding of the mind but it does depend on an initial conception of the self and of the interaction with the environment. Volition and intention as expressed by *will* rely on the concept of desire (and a family of related states), which has been shown to belong to the active cognitive repertoire of the 2-year-old. Ability and volition/intention at this stage are perceived as simple causal links or forces between the child and the world. Other desire-based predicates such as *wanna* and *needta* also emerge at this period. The child's

⁵ The use of observational data to motivate the analysis is subject to the caveat that such data suffer from problems of interpretation. Still, the cross-linguistic regularity in the acquisitional pattern of modality offers more than suggestive evidence for the ToM hypothesis for epistemics. An additional piece of evidence comes from recent experimental work: Moore, Pure and Furrow (1990) showed that there is a correlation between the comprehension of the relative "strength" of modals and performance on false-belief, belief change and appearance-reality tasks.

first deontic expressions appear before or around 3;0. It is worth noticing that *hafta/have (got) to* - the most common means of expressing obligation in early child speech - has predominantly non-performative uses, as evidenced by the fact that it mostly appears in the first person. That is, it is used to state a norm rather than impose an obligation. This is to be expected, since genuine performative deontics involve some consensus on the part of the interlocutors as to social relations, issues of power, authority, duty and commitment, and these are aspects of social cognition which rely heavily on complex attribution of mental states. There is evidence that accurate use of deontics starts around 7;0 years and develops till much later. Among the last members of the modal set to appear are *ought to* and *should*, which probably make heavier demands on representational resources having to do with the domain of ideals and morality.

In sum, then, it appears that modal language is driven to a considerable extent by developments in the employment of ToM. From a cognitive perspective, the root-epistemic discrepancy is linked to the fact that early root interpretations presuppose simpler (or no) conceptions of the mind than early epistemic interpretations.

3.2 Evidentiality

Evidentials broadly involve the speaker's assessment of the propositional content of the utterance in terms of its informational source (memory; observation; communication; inference) and/or the degree of speaker certainty (strong/weak). Some categories of evidentiality, therefore, seem to be particularly good candidates for an analysis in terms of ToM. An apt example comes from evidentials in Turkish. For all past tense expressions in Turkish there is an obligatory choice between two verb suffixes: *-di* is used if the speaker was an eyewitness to the event; *-miş* is used if the speaker has only indirectly experienced the event (through hearsay or inference):

- (5) Ahmet gel - di.
Ahmet come - di.
"Ahmet came dir/exp"
- (6) Ahmet gel - miş.
Ahmet come - miş.
"Ahmet came/ must have come"
 - (i) inference: The speaker sees Ahmet's coat hanging in the front hall but hasn't seen Ahmet.
 - (ii) hearsay: The speaker has been told that Ahmet has arrived but hasn't seen Ahmet.

Aksu-Koç (1986) studied the acquisition of these suffixes by Turkish children. In one of her experiments, she showed children from 3;0 years up either illustrated stories in which a target event (e.g., the popping of a balloon) was explicitly shown or a sort of puppet show in which the event was hidden from the child but could be inferred from the perceived outcome of the story (e.g., the popped balloon). She reports that, when asked to relate the story, even children as young as 3;0-3;8 appeared to prefer *-dl* for directly perceived events and *-mİş* for inferred events. After 3;8 the reliability of the distinction in child language improved considerably so as not to differ significantly from that achieved by the oldest children in her sample (slightly over 6 years).

To test whether the use of evidentials was accompanied by genuine understanding, Aksu-Koç asked children to judge whether a doll who reported an event using either of the two suffixes had seen the event or was told about it. Performance in this task improved considerably after 4;0 years. Only 3 out of 24 children younger than 4;3 answered correctly, while all but one of the 36 older children passed the test.

It is interesting to interpret these results in light of ToM developments. As mentioned in section 2, one of the characteristics of improved ToM performance around the age of 4;0 is success in recognising the source of one's beliefs. Recall that even though 3-year-olds understand that seeing leads to knowing, they have no deep grasp of the causal relation between them. For instance, if asked to justify how they know what is in a box after having seen the contents, most 3-year-olds fail to answer correctly (their performance is low even if they are explicitly given a forced-choice question). Four-year-olds are successful in the same task. The linguistic data of this section suggest that advances in the child's commonsense theory of belief (which includes information about how beliefs are formed, updated etc.) make possible advances in the acquisition of the semantics of evidential terms.⁶

4. Alternative Hypotheses

So far, I have considered a unidirectional relationship from ToM to aspects of language. In particular, I have drawn a link between language development and the prior development of relevant cognitive resources. At this stage, it is worth asking whether the order of explanation could in some cases be reversed, or whether language development may have an effect on ToM. My purpose in what follows is to propose and examine various ways of construing and answering this question.

There is an obvious way in which language facilitates ToM development since language (linguistic communication) is an important source of

⁶ It is known, however, that appreciation of inference as a source of knowledge may not appear consistently till after 5;0 years. It would be interesting to pursue the parallel with evidentials in tracing more specific connections between language and folk psychological knowledge.

information about people's mental states. For instance, verbal expressions of someone's hope, disappointment, surprise, intention and so on, can be instrumental in supporting inferences about underlying cognitive states. What is far more controversial is whether the representational and computational resources provided by language might have substantive effects on developing ToM performance, and, accordingly, what sort of implications such facilitation effects might have for the language-thought issue. Two main possibilities are worth considering.

(a) Development in language may affect the representational resources of ToM.

Different models allow different amounts of linguistic interference with the workings of ToM. On a modular account adopting a ToM mechanism (e.g., along the lines of Leslie 2000), linguistic input can only function as a trigger as far as the representational means available to ToM are concerned. On a "theory theory" account of ToM (Gopnik and Wellman 1994), linguistic input may contribute along other kinds of input to the child's construction of a model of the mind. According to the modular position, language plays a weakly causal role in the development of ToM. By contrast, the "theory theory" view allows for a strongly causal role of language in the acquisition of folk psychology. Within this framework, it is typically held that our understanding of ToM development will crucially depend on our understanding of how this development relates to the development of language (see, e.g., Bartsch and Wellman 1995: 209).

Notice that the latter account - unlike the former - seems to leave room for the possibility that cross-linguistic differences may give rise to differences in the development of ToM. For instance, according to the "theory theory", it is in principle possible that false-belief reasoning will be enhanced (and possibly developed earlier) in speakers of languages which have specific false-belief terms. Preliminary evidence offered in Shatz, Martinez, Diesendruck and Akar (in prep.) shows that this is incorrect. More generally, it seems that, even though the "theory theory" account is committed to the existence of a single developmental sequence in ToM development, it can tolerate age differences within that sequence due to linguistic (or other) influences. This position is hard to reconcile with the remarkable uniformity in children's performance in ToM tasks across different communities and languages (see, among others, Avis and Harris 1991). So, even though we still lack conclusive empirical evidence, it seems that the development of ToM is not substantively affected by crosslinguistic differences. This conclusion is in accordance with modular accounts but is unexpected if ToM development is truly equivalent to theory-building.

(b) Development in language may affect the computational efficiency of ToM.

This proposal seems true even though its details remain to be spelled out. In particular, it is reasonable to assume that cognitive mechanisms such as ToM may profit from the computational resources made available by a rich and highly articulated symbolic system such as natural language. For instance, it is possible that the packaging of conceptual material in lexicalised concepts such as *belief*, *idea*, *doubt*, and so on, enhances the focus and speed of processing resources and permits subtle distinctions between different mentalistic concepts. The separation of such concepts through linguistic labels arguably helps their stabilisation in working memory and enables the mind to isolate and retrieve them in their own right. Beyond the lexical level, it seems plausible that the child relies on language to efficiently and speedily handle the semantic specificity and detail needed to represent embedded propositional attitudes (especially in multiple embeddings of the type "John thinks that Mary suspects that Andy hopes...").⁷ Similar "performance" effects of language have been demonstrated in other areas, such as memory for complex or schematic visual stimuli (Schooler and Engstler-Schooler 1990, Gentner and Loftus 1979, respectively).

Let me turn to a set of studies which directly addresses the issue of linguistic influence on ToM. Jill de Villiers has argued on syntactic and semantic grounds that the properties of complementation in natural language provide particularly good scaffolding for understanding false belief (de Villiers 1999, de Villiers and de Villiers 2000). One argument offered for this position is that, in complementation, the truth value of the complement is independent of the truth value of the proposition in the main clause (cf. *She says/believes that the earth is flat*). Furthermore, it is argued that sentential complementation mainly occurs with communication and mental state verbs, thus providing a good entry for the child into talk about the mental life of others. In a series of studies, performance on false belief tasks was found to be predictable from knowledge of syntactic complementation; the latter was assessed by preschoolers' spontaneous speech and their ability to correctly interpret complex *wh*-questions in scenarios of the sort in (7):

- (7) The girl saw something funny at a tag sale and paid a dollar for it. She thought it was a toy bird but it was really a funny hat.
What did she think she bought?

One concern raised by these studies is that the metric of mastery of complementation in (7) already involves false belief attribution, albeit of a

⁷ It could be argued that the "computational enhancement" view can be taken one step further: the promotion of computational performance through the resources of the linguistic system may be so dramatic as to enable the organism to entertain (and handle) complex forms of mindreading that might have been unattainable without language. It is unclear how this position differs, if at all, from the version in (a).

simpler form than the usual tasks testing false belief understanding. In an extension of these studies, which partly addresses these worries, it was found that oral deaf children are profoundly impaired in false-belief understanding. This finding has been taken as strong support for the position that children are breaking through to ToM reasoning through considerable linguistic anchoring. However, there are still several ways of interpreting the results from oral deaf subjects. De Villiers herself (1999) considers the strong versions of linguistic determinism as summarised in (a), as well as some variants of the position in (b). The data at present do not point to a unique explanation but they open up interesting possibilities for further work.

5. Concluding Remarks

In this paper, I provided some conceptual motivation and a set of suggestive data to support the hypothesis that the acquisition of certain classes of linguistic items (epistemic modals and evidentials) presupposes advancements in ToM. Furthermore, I argued that, so far, there is little evidence for linguistic determinism in ToM development, although a variety of hypotheses about the relation between language development and ToM development are worth exploring further. This way of drawing the connection between language and thought is familiar from a variety of domains beyond folk psychology. For instance, an exactly parallel argument holds in the domain of space, since spatial language is generally considered to depend and draw upon previous advances in spatial cognition. Interestingly, there is no evidence for linguistic determinism in spatial reasoning, despite some recent claims to the contrary (see Li and Gleitman 1999 for some anti-Whorfian arguments).

There is still a lot to be learned about the developmental relationship between language and ToM, and empirical work has just begun in this area. As I argued above, a powerful source of new data will be crosslinguistic differences, which can prove crucial in assessing competing theoretical accounts of mentalising. Pathological cases, such as oral deaf and autistic individuals, are another important testing ground for establishing the ontogenetic contributions of linguistic and ToM resources. Since linguistic and cognitive factors that are confounded in normal development are disentangled in these cases, data from atypical development are expected to be instrumental in the next stages of research on language and ToM.

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