

COMMENTARY

The widening scope of mentalising: a discussion

Peter Fonagy Ph.D., FBA.

Psychoanalysis Unit, University College London, Gower Street, London, WC1E 6BT

Anthony Bateman MA, FRCPsych.

Halliwick Psychological Therapies Service, St Ann's Hospital, St Ann's Road, London, N15 3TH

Alexandra Bateman BA.

Psychoanalysis Unit, University College London, Gower Street, London, WC1E 6BT

Correspondence address:

Peter Fonagy, Psychoanalysis Unit, University College London, Gower Street, London, WC1E 6BT

The editors of this special issue have commissioned us to bring together some of the conceptual and empirical research presented in six intriguing papers that illustrate the widening scope of mentalisation. Using our summary as a starting point, we will endeavour to identify future areas of growth. Our discussion will look at each paper in turn, but bring ideas and findings from the other papers into focus when relevant.

The Evolutionary and Ontogenetic Origins of Mentalising

Liotti and Gilbert's (in press) paper is exceptionally thought provoking. As we understand it, Liotti and Gilbert link attachment processes to mentalisation in an evolutionary rather than an ontogenetic sense: attachment processes are seen as an avenue provided by evolution for the recovery of mentalisation against a background of potential threats that can be mitigated by a relational experience of safety. This perspective, in addition to more recent empirical findings from developmental psychology, has encouraged us to revise our

views and consider alternatives. Liotti and Gilbert suggest that the activation of the attachment system does not necessarily facilitate mentalising and the relationship between the two (what we have called loosely coupled systems (Fonagy, 2000; Fonagy, Steele, Steele, & Holder, 1997)) is moderated by the context and background against which activation takes place. They helpfully identify the intense activation of the attachment system in the face of threat as a cause of inhibition rather than facilitation of mentalising. This is consistent with our theorising based on neuroscientific observations which have also guided our clinical interventions (Bateman & Fonagy, 2004).

In contrast to our attachment theory perspective, Liotti and Gilbert suggest that a feeling of 'social safeness' could be a prerequisite for successful mentalising. For them, 'social safeness' encompasses a broader range of settings than those covered by the attachment construct. Social safeness may arise from being in a position of authority, for example, which would promote mentalising according to Liotti and Gilbert's model. (Anecdotally, our encounters with Chief Executives of NHS Trusts do not confirm this hypothesized association.) The issue they raise is complex and subtle. Interestingly, the paper by MacBeth and colleagues (MacBeth, Gumley, Schwannauer, & Fisher, in press) also reports that attachment classifications relate to different aspects of patient experience other than mentalising capacity (engagement with services and quality of life respectively) suggesting the absence of isomorphism. We are in agreement with the model proposed by Liotti and Gilbert, suggesting that the background to the association between attachment and mentalising is rooted in our evolutionary past. We have suggested that the availability of the caregiver to the infant was a signal of environmental stress (Hrdy, 2009) that empowers infants to make adaptive choices depending on the circumstances in which they find themselves. Where caregivers do not have the time or resources to devote individual attention to their infant, the infant's subsequent priorities may call for physical assertion rather than the kind of social collaboration which mental state understanding of others prioritises. In environments where resources are insufficient for the population, relative inattention in the context of primary attachments prepares the child's mind and body for violent competition for

resources (Fonagy & Bateman, 2008). Alternative, but incompatible, strategies for relating to others through intra-species collaboration, are sacrificed. This, in our view, is the evolutionary background that biases those with a secure attachment towards mental state understanding.

It is not our impression that Liotti and Gilbert would disagree with the view that there is an underlying relationship between attachment in infancy and precocious social understanding. After all, this was first reported by Inge Bretherton over 30 years ago (Bretherton, Bates, Benigni, Camaioni, & Volterra, 1979). Nor would we disagree about the accumulating empirical support for an association between the quality of children's primary attachment relationship and the passing of mentalising tests (see de Rosnay, Harris, & Pons, 2008 for a critical review). We certainly agree with the general stance in their paper that exploration and safeness in the human context encompasses the exploration of minds. Epistemic safety (or epistemic trust) in this context refers to the 'social mentality' of the environment that individuals find themselves in. A secure attachment context then, where the caregiver shows interest in the infant's mental state, can be expected to engender secure attachment and advance the development of mentalisation (Sharp, Fonagy, & Goodyer, 2006; Slade, 2005). We concede that later in development it is not attachment per se but features of the social environment analogous to a secure parenting environment –particularly an adult mind taking an interest in a child's mental state– that may be critical for the robust establishment of mentalisation. Evidence shows that parenting characterized by authoritative rather than authoritarian practices and incorporating discussions involving affect, is associated with precocious understanding of mental states (e.g. Charman, Ruffman, & Clements, 2002; Pears & Moses, 2003). General characteristics of family functioning, rather than the quality of attachments per se, may be the primary vehicle whereby vulnerability to the loss of mentalisation under stress is generated (Fonagy, Gergely, & Target, 2007).

However, before conceding the possibility of a direct link between attachment and mentalising, we would challenge Liotti and Gilbert to provide a more

detailed and coherent account of recently emerging biological data, to which they allude, firmly linking the biological systems underpinning attachment to interpersonal understanding in terms of mental states. Oxytocin, which they briefly mention, appears to perform a mediating function between mentalisation and attachment (Heinrichs & Domes, 2008). A rapidly accumulating body of empirical findings has suggested that oxytocin specifically improves performance in mentalising tasks. (e.g. Domes et al., 2008; Guastella, Mitchell, & Dadds, 2008). Intranasally administered oxytocin also appears to improve trust, generosity and emotional attunement to observed suffering (Barraza & Zak, 2009; Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005). We know also from both rodent and human studies that oxytocin plays a major role in attachment and pro-social behaviour in both animals and people (Insel, 2003; Insel & Fernald, 2004). Oxytocin is present at significantly elevated levels in women around childbirth and during breastfeeding (Macdonald & Macdonald, 2010). More specifically, work from our lab suggests that mothers coded as securely attached on the Adult Attachment Interview prior to the birth of the child manifest higher levels of oxytocin when in the presence of their child (Strathearn, Fonagy, Amico, & Montague, 2009). Similar associations were reported in experimental studies exploring the impact of oxytocin on the experience of attachment security (Buchheim et al., 2009). Our own study monitored maternal brain activity in response to distressed as well as happy affect expression on the part of their infants and revealed that expression of sadness on the part of the infant appeared to generate less brain activity associated with attachment in insecure mothers, and more activity consistent with a subjective experience of sadness. It is possible that oxytocin permits the individual to distance him/herself more from the affect they observe, and become *aware* of the mental state revealed by the other's expression, as opposed to simply resonating with that state. In other words, it enables the caregiver to offer marked, contingent mirroring, showing the infant through her facial expression that she is aware of his state of distress but that she is coping with it rather than feeling it. By contrast, trauma and maltreatment appear to reduce oxytocin levels (Fries, Ziegler, Kurian, Jacoris, & Pollak, 2005; Heim et al.,

2008) and is known to be associated with impaired mentalising (de Rosnay et al., 2008).

Thus we would suggest that the social mentalities model advanced by Liotti and Gilbert could be expanded further to incorporate the impact of neuro-active hormones such as oxytocin that impact on brain areas associated with emotions and social behavior and no doubt they would have done so if space permitted. We suggest that increased oxytocin in secure parental attachment while in the presence of the infant, will ensure a more mentalising parental stance, characterized by marked and contingent responses to the infant when the latter is in a state of high emotional arousal. This in turn increases the likelihood of robust symbolic representations of self states being created in the child's mind. Second-order representations of constitutional self states ensure better affect regulation in interpersonal interactions. This will contribute to creating a social mentality around the child that facilitates the development of mentalising. Ultimately the child will show increased resilience to stressful social experience.

By contrast, insecure parental attachment, linked to reduced oxytocin levels in the parent, may lead to non-mentalising (unmarked, non-contingent) parental responses to distress expressed by the infant. We see such responses as undermining the natural process of maturation for mentalising by violating the infant's and young child's expectation of basic principles of reciprocity, fairness and rational action. The infant's failure to internalize self-states through interactions with the parent, creates a potential vulnerability. Mentalising can more readily go awry for these individuals, particularly under conditions of high arousal and threats to attachment. Mental states will then be 'enacted' rather than experienced. Such actions will have a destructive effect on the child's social environment. The individual's actions can disrupt and distort social interactions, potentially undermining future opportunities for the development of mentalising and ultimately creating environments in which the social mentality does not encourage mentalising. This may be a source of concern in situations where the child's mentalising resources are particularly called upon when caregivers and others are behaving in ways that violate

'healthy' expectations. The child needs extra resources if she or he needs to understand the motivations, thoughts and feelings of those who expose him or her to interpersonal adversity, ie attachment trauma (Allen, 2004).

Mentalisation as a transdiagnostic concept

Two papers in the special issue link mentalisation deficit to schizophrenia (Lysaker et al., in press; MacBeth et al., in press), one to borderline personality disorder (BPD)(Lecours & Bouchard, in press), one to obsessive-compulsive personality disorder (OCPD) (Dimaggio et al., in press) and one to psychosomatic conditions (Vanheule, Verhaeghe, & Desmet, in press). Other mental disorders could have been included, such as eating disorders (Skarderud, 2007), panic disorder (Rudden, Milrod, Aronson, & Target, 2008) or depression (Luyten, Fonagy, Lemma, & Target, in press). In a unique empirical study Angus MacBeth and colleagues demonstrated that first episode psychosis (FEP) was not as strongly linked with insecure attachment as has been observed in samples of chronically mentally ill patients (MacBeth et al., in press). Mentalising in the FEP group was unsurprisingly below what may be expected from normally developing individuals. Importantly, mentalising was negatively correlated with quality of life. The latter association is interpreted by the authors as linking social functioning and mentalisation supported by other studies indicating difficulties in understanding mental states and impaired social and neurocognitive performance (Brune, Abdel-Hamid, Lehmkamper, & Sonntag, 2007; Lysaker, Dimaggio, Buck, Carcione, & Nicolo, 2007).

Lysaker and colleagues (Lysaker et al., in press) have made an exceptionally clinically helpful contribution by presenting a clinically readily accessible assessment scale for metacognition (metacognition assessment scale or MAS). The MAS may serve as a useful guideline for therapeutic interventions, which will help psychotherapists to avoid the iatrogenic potential of demanding a level of mentalising competence from a patient which the patient feels unable to reach (Fonagy & Bateman, 2006). At low levels of MAS, where patients may not recognize their thoughts as their own or may be

unable to distinguish and differentiate cognitive operations, it should suffice to intervene with reflections on the fact that patients have specific thoughts which belong to them, that they have intentions related to these thoughts, and to reinforce the clients thinking about their own minds. At higher levels of MAS, therapists may create a safe yet provocative environment, conducive to a therapeutic dynamic which assumes that patients are capable of recognizing and reflecting on different cognitive operations. Where patients attain even higher levels of MAS, therapists are advised to encourage patients to recognize and distinguish different emotions. Only at high levels of MAS should cognitive therapists support patients in challenging their own thinking and trying to distinguish it from reality.

Both of these papers on psychosis raise questions about the trans-diagnostic character of mentalising. It seems that shortcomings in mentalising characterize a range of disorders and bearing the patient's capacity for mentalisation in mind may be just as helpful in psychotherapy for psychosis as for BPD (Bateman & Fonagy, 2010). Of course, psychotherapy and mentalizing capacity are closely interlinked, and given the presence of a mentalising deficit, a therapeutic intervention based on symbolic communication which fails to take such limitations into account, is likely to be of limited value. Yet seeing mentalising deficit as trans-diagnostic does indicate the need to consider its respective role in generating symptoms which are characteristic of a wide range of disorders. In a Freudian model, anxiety has trans-diagnostic aspects as it is seen as a generic response of the patient's ego to internal threat arising out of conflict (Freud, 1926). We can conceive of mentalising problems as being a generic indication of mental disorder, regardless of the nature of the symptoms. Vanheule and colleagues (Vanheule et al., in press) begin their fascinating paper with the observation: "A substantial number of psychiatric patients find it difficult to understand what is going on in their own mind and body" (p. XX). This statement may indeed be challenged. Is it not the case that *all* patients with mental disorder present specifically because they find it difficult to understand what is happening in their mind or because those around them draw their attention to their difficulty in understanding social requirements that involve taking the mental states of

others into account (e.g. in ASPDBateman & Fonagy, 2008)? Dysfunctional mentalising leading to disorders of self-experience occurs in all severe conditions that lead to referral for psychological therapy. In *Mentalising in Clinical Practice* (Allen, Fonagy, & Bateman, 2008) we boldly invited clinicians to consider mentalising as a foundation of psychotherapeutic treatments, arguing that this apparent audacity was justified since mentalising addresses the fundamental human capacity to apprehend our own and others' minds as minds. Patient's hope that therapy will enable them to recover a 'calibration of their self perception through understanding others' views of them. A generic aspect of mental disorder is the mind's sense of lost capacity for coordination and processing in relation to the experiences it is generating both in terms of behaviour and phenomenological experience. All the papers in this issue speak to this phenomenon in different ways. The phenomenon is obvious in relation to first episode psychosis and the patient's surprise and sometimes terror at their inability to attain a metacognitive understanding of the experiences generated by their own minds (Lysaker et al., 2005). Perhaps the phenomenon is least obvious in the case of alexythymia (Dimaggio et al., in press; Vanheule et al., in press), where patients fail to develop appropriate emotional experiences in response to events in their lives and therapy generates a circumstance where they become conscious of and motivated to address this manifestation of their 'loss of calibration of subjectivity'.

If we accept that mentalisation is a core facet of psychological treatment, then it follows that we need to take patients' experience of their own mental states into consideration, and with this we must also take on board their experiences of the thoughts and feelings of others around them. Finding one's own mind in the mind of one's therapist will invariably play a part in any mental health intervention. No patient is likely to undergo therapy without harbouring certain expectations in relation to the intentions of their treater. Maintaining a sense of this process matters, regardless of therapist's orientation or treatment approach. Psychotherapists across modalities necessarily use this capacity, whether or not they conceptualize this explicitly in their theories, and good outcomes may be conceptualized in terms of improvements in mentalising ability. Without attention to the patient's need to see themselves through our

eyes as mental health professionals, we risk harming the individuals who we have committed ourselves to protect.

Mentalising as a therapeutic technique

The focus on mentalising being a core principle of psychological therapies is in no sense coterminous with identifying a common set of techniques to assist in the recovery of this capacity. In fact, it follows from the approach we have taken to mentalising that there can be no emergent set of techniques which limit the approach. In this issue, Dimaggio and colleagues (Dimaggio et al., in press) outline an exciting new approach to treating Cluster C PD patients, a group generally regarded as difficult to access. Meta-cognitive inter-personal therapy (MIT) shares many commonalities with MBT (Bateman & Fonagy, 2006); but, whereas MIT is designed specifically for clients with poor emotional awareness (Dimaggio & Lysaker, 2010), MBT is tailored for patients whose affect dysregulation represents problems. Yet both approaches highlight a constant attentiveness to facilitating a cooperative alliance, creating a collaborative relationship and retaining a focus on moment-to-moment changes in the nature of self-other understanding. The approaches also overlap in looking to the therapeutic relationship as the most likely source of difficulty if the patient's problems have not been adequately addressed. Just as in MBT, a structured, step-by-step procedure is provided for the therapist to follow. Eliciting detailed autobiographical episodes, elaborating and clarifying these and gradually digging deeper in search of feelings and ideas as motivations for actions within the episode, suggests a very similar technique to that routinely used with borderline patients in MBT.

There is a difference in aiming to elicit episodes as material to generate hypotheses about underlying interpersonal patterns. It is not that MBT would not attempt to identify common patterns, perhaps driven by common relationship schemas, but MBT would not consider the generation of relation hypotheses as appropriate ends in themselves, but rather as vehicles for 'rehabilitating' the patient's capacity for mentalising. MIT proposes that a change-promoting macro step of the therapy involves encouraging patient's to

take a critical distance from their schemas and find different ways to think about their problems (Dimaggio & Lysaker, 2010). The aim, as with MBT, is the creation of more nuanced and varied self-with-other representations or, to put it another way, the enrichment of internal working models of relationships with more mental state contents. At first sight this aspect of the work in MIT appears to hold the danger of precipitating pretend mode in the patient. This is something we have cautioned against in BPD and it is also likely to be unhelpful in OCD. So it is important to note that Dimaggio and colleagues state that the aim of the stage setting procedure, is to develop episodes 'until previously unnoticed aspects of subjective experience appear'. The general stance outlined by Dimaggio and colleagues (Dimaggio et al., in press) describes well the attitude that should be adopted by a therapist aiming to encourage the person they are with, to abandon rigid, schematic, two-dimensional ways of seeing themselves and others, and to achieve a more complex internal set of intra-psychic experiences.

It is exciting to read Dimaggio's paper alongside the paper by Vanheule and colleagues (Vanheule et al., in press). The roots of the Ghent approach are Freud and Lacan creatively integrated with modern attachment theory (Verhaeghe, 2004). They identify a three step logic which is on the surface almost identical to the one proposed by the Rome cognitive therapy group. They suggest putting into words the chain of events that makes up the difficult situation, making the patient's appraisal of the difficult situation explicit, and addressing effective responses and discussing the patient's way of handling the challenging situation. Asking open questions, summarizing the patient's utterances, creating an 'elementary narrative' are almost identical to the technical recommendations that MBT considers acceptable to borderline patients. Only in the third step of this therapeutic progression are bodily experiences, conflicts and self-reflection related to the conflict systematically addressed. The beautiful clinical work included in the paper illustrates the tentative way with which the therapist approached Emma's experience of distress and exploring alternative ways to fleeing troubling events. The reported approach to these patients also overlaps with ideas about the use of a mentalising approach for patients with eating disorders.

In patients with eating disorders, mental states are unable to achieve representation as ideas or feelings and therefore come to be represented in the bodily domain: “Physical attributes such as weight come to reflect states such as internal well-being, control, sense of self-worth, and so on, far beyond the normal tendency for this to happen in adolescence” (Fonagy, Gergely, Jurist & Target, 2002, p. 405). Mentalising treatment suggests an initial focus on the body, to stimulate the patient to investigate his/her experiences with body and food and gradually connect them with emotional, cognitive and relational experience, with the aim to translate them into a language which reflects upon them *both as physical reality and as metaphor for mind* (Skårderud, 2007). In our psychotherapeutic work with eating disorders, we explore triggers for bodily feelings with greater attention than with most other patient groups, identify small changes in mental states that can unsettle the patient physically as well as psychologically highlight patient’s and therapist’s differences in perceptions of the same physical events and bring awareness to the intricacies of the relationship between action and meaning. This process has the potential to generate changes in bodily experiences and place affect relating to these into a causal chain of concurrent mental experience.

The therapeutic approaches included in this issue, including our own, represent a minor subset of the unlimited number of strategies that therapists could adopt in the face of a non-mentalising patient. In some ways this is the strength of mentalisation based therapies. The approach is pluralistic and the methods described in this set of papers illustrate this. Varied as they are, they all focus on the detailed subjective experience of the patient and do so in a measured way that is in keeping with the patient’s own mentalising capacity. Just comparing the three approaches presented here, we find a number of shared features which may well be necessary aspects of successful mentalisation-enhancing strategies for severe mental disorders:

- 1) A structured, graded approach that holds the therapist in check and prevents them from making unwarranted assumptions about the patient's processing capacities measured against their own mentalising ability.
- 2) A focus on episodic memory as the most productive material to use in elaborating the patient's self-understanding and understanding of others.
- 3) An encouragement that the therapist makes few assumptions about the patient's constructions, asks questions, encourages the patient to create a picture of inter-personal interactions and checks his or her understanding of the patient's constructions by paraphrasing and putting into words a description of the patient's experience.
- 4) Therapists create alternative perspectives on mental experience, whether by addressing their relationship with the patient or by working with the patient to recover from misunderstandings or ruptures of the therapeutic alliance.
- 5). There is a particular concern by therapists to generating a safe and sensitive interpersonal environment that may relate to the social mentality of the developmental phase of acquisition of mentalisation (Liotti & Gilbert, in press).
- 6) Using the patient's emotional response as a guide for focusing interventions on increasingly more difficult situations.
- 7). Using normative understanding of behaviour rather than a theory-driven understanding of behaviour as the reference point for interventions.
- 8) The therapist offers assistance with the patient's regulation of affect in many ways, but mostly by implication through contingent marked responding to the patient's affect and by creating a safe and sensitive interpersonal environment (Gergely, 2007).
- 9). Some characteristics of individual interventions may run across modalities. Such characteristics include: (a) simple and easy to understand, (b) affect focused, (c) actively engage the patient, (d) focus on the patient's mind rather than on their behavior, (e) relate to current events or activities – whatever is the patient's currently felt mental reality (in working memory), (f) make use of the therapist's mind as a model (by therapists).
- 10) Therapists flexibly adjust the complexity and emotional intensity of their interventions in response to the intensity of the patient's emotional arousal (withdrawing when arousal and attachment are strongly activated).

The assessment of mentalising

A feature of all the mentalisation-based approaches presented in this issue, was the tailoring of the therapeutic intervention to the individual patient's mentalizing abilities, at each moment and at each stage of treatment as described in earlier literature (Bateman & Fonagy, 2006)(Dimaggio et al., in press)(Lysaker et al., in press). Two of the papers in this issue dealt with how to measure mentalisation. Macbeth and colleagues (MacBeth et al., in press), as we have seen, used the Adult Attachment Interview (Hesse, 2008) in combination with the Reflective function coding (Fonagy, Target, Steele, & Steele, 1998)(Fonagy & Target, 1997). In this respect, it is essential to realize that mentalisation is not a static and unitary skill or trait, and the AAI will only yield an indication of a potential for mentalisation which may or may not be fulfilled depending on the context (or social mentality Liotti & Gilbert, in press) in which the individual finds himself. Clearly, mentalisation is a dynamic capacity that is influenced by contextual factors such as stress and arousal, particularly in the context of specific attachment relationships (Allen et al., 2008).

Even more crucial to an adequate theoretical model is the recognition of that mentalization is a multi-faceted capacity. A most sophisticated demonstration of the complexity of the construct was introduced by Lecours and Bouchard (in press). The ingenious model they presented enables the clinician to obtain an indication of explicit mentalisation in terms of verbal elaboration of discrete affects and implicit mentalisation in terms of the proportion that these affects may manifest in verbal expression. The paper demonstrated an impressive association between the extent of verbal elaboration of a specific affect (sadness) and the endorsement of BPD symptoms by the patient. The proportion of hostility directed against others as part of the narrative, appeared to be an implicit mentalising indicator of BPD symptoms. It is of course striking that the two affect domains to yield significant associations with BPD symptoms, are indeed those that are most commonly suggested to be core to this type of personality disorder: aggression/hostility (Kernberg,

Goldstein, & Carr, 1981) and affective disorder/sadness [McKiskal??]. Although the theoretical framework from which the measurement approach derives is independent and was quite separately developed from ours (Bouchard et al., 2008), we see much in common between the respective consideration of emotion organization. For example, the notion of non-mentalised affect as unsymbolized and more closely linked to the bodily core (Marty, 1991) links to our assumptions concerning the embodied origin of cognitions (Fonagy & Target, 2007). What we are particularly indebted to these authors for, is their presentation of the possibility that a patient might sufficiently mentalise/insufficiently mentalize one specific emotional sphere, while doing well in another (e.g. mentalising the patient may mentalize well in relation to shame but not in relation to anger). This kind of affect related specificity is not open to global methods of measurement such as AAI based measures, but is obviously linked to the domain and context specific theoretical model advanced by Liotti and Gilbert in this issue. Like all measurement systems, Bouchard and Lecour's (Lecours & Bouchard, 1997; Lecours, Sanlian, & Bouchard, 2007) approach has limitations in that the quality of verbalization can only be judged on affect that is brought into discourse and thus it remains unknown whether affect that is not present in the discourse would have been verbally elaborated well or poorly, had it been mentioned. This does not detract, however, from the richness offered by the approach in this report elegantly identified core features associated with BPD regardless of more trait like measures such and alexithymia and demographic variables such as age having been controlled for.

Mentalisation is clearly a complex capacity with multiple components which, in our view, are organized into balanced pairs of oppositions or polarities that underlie the quality of mentalising at any one time. Patients may show impairments in some of these polarities, but not necessarily in others (Fonagy & Luyten, 2009; Luyten et al., submitted) as a function of situational considerations, especially the social context they find themselves in. Hence, impairments in mentalisation come in many variants, which necessitate partly different measurement and treatment approaches and affect and domain foci. A detailed knowledge of the specific types of impairments in mentalisation –

and particularly the specific attachment contexts in which these impairments are manifested – may not only inform the focus of treatment, but may also inform the assessor and therapist of the type of relationship and associated mentalising difficulties that are likely to develop, and thus may serve as an important “transference tracer” later in treatment (Bateman & Fonagy, 2006; Luyten, Fonagy, Lowyck, & Vermote, in press).

In our view, mentalisation is underpinned by four functional polarities. each of which are related to relatively distinct neural systems. These polarities are: (1) automatic – controlled, (2) internally-focused – externally-focused, (3) self-oriented – other-oriented, and (4) cognitive – affective, with (Luyten et al., submitted). These polarities offer a framework for understanding the way mentalisation relates to overlapping constructs such as theory of mind, empathy, mindfulness, alexithymia, emotional intelligence, psychological mindedness, and insight. For example, while empathy is largely other-focused, and builds on affect more than cognition, mindfulness tends to be self-focused and has more cognitive components. These oppositions represent balanced systems where a dysfunction at one pole may manifest as the unwarranted dominance of the opposite polarity. For example, a dysfunction at the cognitively focused pole of mentalisation may manifest as excessively emotion focused mental representations. Thus, in terms of manifest distorted representational content, inappropriate representations of emotional mental states may reflect normal affective mentalising that is not balanced by appropriate cognitive considerations. Therefore, an evaluation of an individuals’ mentalising/mentalizing capacity, depends on detailing their mentalising profile –that is their functioning with respect to each of the complimentary pairs of components of mentalising, particularly since there may be dissociations between these polarities (e.g., impairments in one polarity, but not along other polarities)(Luyten et al., submitted).

Conclusion

This discussion and the papers in this volume point towards an almost endless research agenda. Our knowledge about the extent of human

mentalising remains rudimentary. The enthusiastic researcher can expand our understanding of the core polarities of mentalising itself, or increase our knowledge about its attachment and socially related development, neurobiology, and application to a range of disorders, either for the purpose of furthering our general understanding or for treatment itself. An easily applied measure of mentalising capacity is urgently needed. Finally it seems our bold claim that mentalising is not only a basic human psychological process, but also a core feature of talking therapies, is supported by the papers in this volume.

- Allen, J., Fonagy, P., & Bateman, A. (2008). *Mentalizing in clinical practice*. Washington: American Psychiatric Press.
- Allen, J. G. (2004). *Coping with Trauma: A Guide to Self-Understanding* (2nd ed.). Washington, DC: American Psychiatric Press, Inc.
- Barraza, J. A., & Zak, P. J. (2009). Empathy toward strangers triggers oxytocin release and subsequent generosity. *Ann N Y Acad Sci*, 1167, 182-189.
- Bateman, A., & Fonagy, P. (2010). Mentalization based treatment for borderline personality disorder. *World Psychiatry*, 9(1), 11-15.
- Bateman, A. W., & Fonagy, P. (2004). Mentalization-based treatment of BPD. *J Personal Disord*, 18(1), 36-51.
- Bateman, A. W., & Fonagy, P. (2006). *Mentalization Based Treatment for Borderline Personality Disorder: A Practical Guide*. Oxford: Oxford University Press.
- Bateman, A. W., & Fonagy, P. (2008). Comorbid antisocial and borderline personality disorders: mentalization-based treatment. *J Clin Psychol*, 64(2), 181-194.
- Bouchard, M.-A., Target, M., Lecours, S., Fonagy, P., Tremblay, L.-M., Schachter, A., et al. (2008). Mentalization in adult attachment narratives: Reflective functioning, mental states, and affect elaboration compared. *Psychoanalytic Psychology*, 25, 47-66.
- Bretherton, I., Bates, E., Benigni, L., Camaioni, L., & Volterra, V. (1979). Relationships between cognition, communication, and quality of attachment. In E. Bates, L. Benigni, I. Bretherton, L. Camaioni & V. Volterra (Eds.), *The emergence of symbols: Cognition and communication in infancy* (pp. 223-269). New York: Academic Press.
- Brune, M., Abdel-Hamid, M., Lehmkamper, C., & Sonntag, C. (2007). Mental state attribution, neurocognitive functioning, and psychopathology: what predicts poor social competence in schizophrenia best? *Schizophr Res*, 92(1-3), 151-159.
- Buchheim, A., Heinrichs, M., George, C., Pokorny, D., Koops, E., Henningsen, P., et al. (2009). Oxytocin enhances the experience of attachment security. *Psychoneuroendocrinology*, 34(9), 1417-1422.
- Charman, T., Ruffman, T., & Clements, W. (2002). Is there a gender difference in false belief development? *Social Development*, 11, 1-10.

- de Rosnay, M., Harris, P. L., & Pons, F. (2008). Making links between emotion understanding and developmental psychopathology in young children In C. Sharp, P. Fonagy & I. Goodyer (Eds.), *Social cognition and developmental psychopathology*. Oxford: OUP.
- Dimaggio, G., Carcione, A., Salvatore, G., Nicolo, G., Sisto, A., & Semerari, A. (in press). Progressively promoting metacognition in a case of obsessive-compulsive personality disorder treated with Metacognitive Interpersonal Therapy. *Psychology and Psychotherapy: Theory, Research and Practice*.
- Dimaggio, G., & Lysaker, P. H. (Eds.). (2010). *Metacognition and severe adult mental disorders: From basic research to treatment*. London: Routledge.
- Domes, G., Czeschnek, D., Weidler, F., Berger, C., Fast, K., & Herpertz, S. C. (2008). Recognition of facial affect in Borderline Personality Disorder. *J Pers Disord*, 22(2), 135-147.
- Fonagy, P., & Target, M. (2000). Playing with reality III: The persistence of dual psychic reality in borderline patients. *International Journal of Psychoanalysis*, 81(5), 853-874.
- Fonagy, P., & Bateman, A. (2006). Progress in the treatment of borderline personality disorder. *Br J Psychiatry*, 188, 1-3.
- Fonagy, P., & Bateman, A. (2008). The development of borderline personality disorder-a mentalizing model. *J Personal Disord*, 22(1), 4-21.
- Fonagy, P., Gergely, G., & Target, M. (2007). The parent-infant dyad and the construction of the subjective self. *J Child Psychol Psychiatry*, 48(3-4), 288-328.
- Fonagy, P., & Luyten, P. (2009). A developmental, mentalization-based approach to the understanding and treatment of borderline personality disorder. *Development and Psychopathology*, 21(4), 1355-1381.
- Fonagy, P., Steele, H., Steele, M., & Holder, J. (1997). Attachment and theory of mind: Overlapping constructs? *Association for Child Psychology and Psychiatry Occasional Papers*, 14, 31-40.
- Fonagy, P., & Target, M. (1997). Attachment and reflective function: Their role in self-organization. *Development and Psychopathology*, 9, 679-700.
- Fonagy, P., & Target, M. (2007). The rooting of the mind in the body: New links between attachment theory and psychoanalytic thought *Journal of the American Psychoanalytic Association*, 55, 411-456.
- Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). *Reflective-Functioning Manual, version 5.0, for Application to Adult Attachment Interviews*. London: University College London.
- Freud, S. (1926). Inhibitions, symptoms and anxiety. In J. Strachey (Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 20, pp. 77-172). London: Hogarth Press.
- Fries, A. B., Ziegler, T. E., Kurian, J. R., Jacoris, S., & Pollak, S. D. (2005). Early experience in humans is associated with changes in neuropeptides critical for regulating social behavior. *Proc Natl Acad Sci U S A*, 102(47), 17237-17240.
- Gergely, G. (2007). The social construction of the subjective self: The role of affect-mirroring, markedness, and ostensive communication in self

- development. In L. Mayes, P. Fonagy & M. Target (Eds.), *Developmental science and psychoanalysis*. London: Karnac.
- Guastella, A. J., Mitchell, P. B., & Dadds, M. R. (2008). Oxytocin Increases Gaze to the Eye Region of Human Faces. *Biological Psychiatry*, 63, 3-5.
- Heim, C., Young, L. J., Newport, D. J., Mletzko, T., Miller, A. H., & Nemeroff, C. B. (2008). Lower CSF oxytocin concentrations in women with a history of childhood abuse. *Mol Psychiatry*, 14(10), 954-958.
- Heinrichs, M., & Domes, G. (2008). Neuropeptides and social behaviour: effects of oxytocin and vasopressin in humans. *Prog Brain Res*, 170, 337-350.
- Hesse, E. (2008). The adult attachment interview: Protocol, method of analysis, and empirical studies. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of Attachment Theory and Research* (2nd ed., pp. 552-558). New York: Guilford Publications.
- Hrdy, S. B. (2009). *Mothers and others: the evolutionary origins of mutual understanding*. Cambridge, MA: Belknap/Harvard.
- Insel, T. R. (2003). Is social attachment an addictive disorder? *Physiol Behav*, 79(3), 351-357.
- Insel, T. R., & Fernald, R. D. (2004). How the brain processes social information: searching for the social brain. *Annu Rev Neurosci*, 27, 697-722.
- Kernberg, O. F., Goldstein, E., & Carr, A. (1981). Diagnosing borderline personality. *Journal of Nervous and Mental Disease*, 169, 225-231.
- Kosfeld, M., Heinrichs, M., Zak, P. J., Fischbacher, U., & Fehr, E. (2005). Oxytocin increases trust in humans. *Nature*, 435(7042), 673-676.
- Lecours, S., & Bouchard, M.-A. (1997). Dimensions of mentalisation: Outlining levels of psychic transformation. *International Journal of Psycho-Analysis*, 78, 855-875.
- Lecours, S., & Bouchard, M.-A. (in press). Verbal elaboration of distinct affect categories and BPD symptoms. *Psychology and Psychotherapy: Theory, Research and Practice*.
- Lecours, S., Sanlian, N., & Bouchard, M. A. (2007). Assessing verbal elaboration of affect in clinical interviews: exploring sex differences. *Bull Menninger Clin*, 71(3), 227-247.
- Liotti, G., & Gilbert, P. (in press). Mentalizing, motivation and social mentalities: Theoretical considerations and implications for psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice*.
- Luyten, P., Fonagy, P., Lemma, A., & Target, M. (in press). Mentalizing depression. In A. W. Bateman & P. Fonagy (Eds.), *Mentalizing in Mental Health Practice*. Washington, DC: American Psychiatric Press.
- Luyten, P., Fonagy, P., Lowyck, B., & Vermote, R. (in press). The assessment of mentalization. In A. W. Bateman & P. Fonagy (Eds.), *Mentalizing in Mental Health Practice*. Washington, DC: American Psychiatric Press.
- Luyten, P., Fonagy, P., Mayes, L., Vermote, R., Lowyck, B., Bateman, A., et al. (submitted). Broadening the scope of the mentalization based approach to psychopathology.
- Lysaker, P. H., Buck, K. D., Carcione, A., Procacci, M., Salvatore, G., Nicolo, G., et al. (in press). Addressing metacognitive capacity for self-

- reflection in the psychotherapy for schizophrenia: A conceptual model of the key tasks and processes. *Psychology and Psychotherapy: Theory, Research and Practice*.
- Lysaker, P. H., Carcione, A., Dimaggio, G., Johannesen, J. K., Nicolo, G., Procacci, M., et al. (2005). Metacognition amidst narratives of self and illness in schizophrenia: associations with neurocognition, symptoms, insight and quality of life. *Acta Psychiatr Scand*, 112(1), 64-71.
- Lysaker, P. H., Dimaggio, G., Buck, K. D., Carcione, A., & Nicolo, G. (2007). Metacognition within narratives of schizophrenia: associations with multiple domains of neurocognition. *Schizophr Res*, 93(1-3), 278-287.
- MacBeth, A., Gumley, A., Schwannauer, M., & Fisher, R. (in press). Attachment states of mind, mentalisation and their correlates in a first episode psychosis sample. *Psychology and Psychotherapy: Theory, Research and Practice*.
- Macdonald, K., & Macdonald, T. M. (2010). The peptide that binds: a systematic review of oxytocin and its prosocial effects in humans. *Harv Rev Psychiatry*, 18(1), 1-21.
- Marty, P. (1991). *Mentalisation et Psychosomatique*. Paris: Laboratoire Delagrangue.
- Pears, K. C., & Moses, L. J. (2003). Demographics, parenting, and theory of mind in preschool children. *Social Development*, 12, 1-20.
- Rudden, M. G., Milrod, B., Aronson, A., & Target, M. (2008). Reflective functioning in panic disorder patients: Clinical observations and research design. In F. N. Busch (Ed.), *Mentalization: Theoretical considerations, research findings, and clinical implications* (pp. 185-205). New York: Analytic Press.
- Sharp, C., Fonagy, P., & Goodyer, I. (2006). Imagining your child's mind: Psychosocial adjustment and mothers' ability to predict their children's attributional response styles. *British Journal of Developmental Psychology*, 24(1), 197-214.
- Skarderud, F. (2007). Eating one's words, part I: 'Concretised metaphors' and reflective function in anorexia nervosa--an interview study. *Eur Eat Disord Rev*, 15(3), 163-174.
- Slade, A. (2005). Parental reflective functioning: An introduction. *Attachment and Human Development*, 7(3), 269-281.
- Strathearn, L., Fonagy, P., Amico, J., & Montague, R. (2009). Adult attachment predicts maternal brain and oxytocin response to infant cues. *Neuropsychopharmacology*, 34(13), 2655-2666.
- Vanheule, S., Verhaeghe, P., & Desmet, M. (in press). In search of a framework for the treatment of alexithymia. *Psychology and Psychotherapy: Theory, Research and Practice*.
- Verhaeghe, P. (2004). *On being normal and other disorders*. New York: Other Press.