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The predictive moment: Reverie, connection and predictive processing

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Abstract: According to the theory of predictive processing, understanding in the present involves non-consciously representing the immediate future, based on probabilistic inference shaped by learning from the past. This paper suggests links between this neuroscientific theory and the psychoanalytic concept of reverie – an empathic, containing attentional state – and considers implications for the ways therapists intuit implicit material in their clients. Using findings from a study about therapists' experiences of this state, we propose that reverie can offer practitioners from diverse theoretical backgrounds a means to enter the predictive moment deeply, making use of its subtle contents to connect with clients.

Key words: reverie, empathy, intuition, predictive processing, mental imagery.

Introduction

Much has been written about how awareness of the moment involves situating oneself, mindfully, in the present (for example, Germer, Siegal & Fulton, 2005). And yet, there is growing evidence from cognitive neuroscience, particularly in relation to the concept of predictive processing (Clark, 2016; Seth, 2013), that seeking to understand others and ourselves in the present – as therapists do when working with clients - involves non-consciously or semi-consciously representing the immediate future, based on learning from the past and probabilistic inference. Past, present and future, in other words, interpenetrate each other in human understanding, layer by complex, shifting layer.

In this paper we consider some implications of predictive processing or PP for how therapists intuit implicit states in their clients in the present moment, with reference to a containing attentional state known in the psychoanalytic literature as reverie (Bion, 1962a). Using findings from a doctoral study into therapists' experiences of this state, carried out by the first author (McVey, 2017), we propose that the concept of reverie can provide practitioners from diverse backgrounds with a specifically intersubjective means to negotiate the moment in all its temporal complexity and unpredictability. In this way, we aim to show that reverie can

offer therapists a means to enter the predictive moment deeply, using its subtle contents to connect with clients.

Predictive processing, alpha function and reverie

PP theorists claim that our perceptions in any given moment are not simple one-to-one representations of external reality, but instead involve matching sensory responses against predictive models generated by our brains, based on prior learning and probabilistic inference (Clark, 2016; Seth & Friston, 2016). When a match cannot be made and a prediction error results, one of two things happens: either the predictive model is updated, or we take action to fit our sensory states with our predictions (Friston, FitzGerald, Rigoli, Schwartenbeck & Pezzulo, 2017).

Such a process has considerable adaptive utility. First, it is efficient, saving us from having to perceive every element of every moment afresh. Second, it enables us to use what we know to interpret situations when incoming sensory signals are 'noisy, ambiguous, or incomplete' (Clark, 2016, p.51), which, as Clark says, is 'pretty much the norm in daily life' (*Ibid*.). Take, for example, your perception of the room you are in right now. As you look around, your brain takes in exteroceptive sensory information about its shape, size and temperature, together with proprioceptive and interoceptive data about your physical position in it and the visceral and emotional state of your body as you observe it. It aligns these data with predictions about the space and the actions you might take within it, based on prior experience and probability. If the room is familiar, there will be great depth and richness within these predictions. Each item on your desk, for example, may be haloed with emotional associations, so that for you, that photograph is as bright as the day you took it and saturated with fond memories, although another person might see it as faded and unremarkable. However, even if the room is new to

you, these models will be at work, predicting everything from the position of the door behind your back to your sense of what's possible for you here.

What we perceive of the world in any given moment, then, depends, critically, on the nature of our prior learning about the world and the people and objects we relate to within it. This learning structures the probabilistic predictions we generate, moment-by-moment, to make sense of our environments, which we experience (often semi-consciously) in a variety of forms, ranging from a simple felt sense of rightness or recognition, to mental images (Moulton & Kosslyn, 2009), dreams (Dijkstra, Zeidman, Ondobaka, van Gerven, & Friston, 2017) and daydreams or fantasies (Bucci & Grasso, 2017).

PP has been used to explain not only our everyday perceptions of the physical environment, but also far more complex events, when we seek to understand others' and our own cognitive and emotional experiencing (Friston & Frith, 2015; Holmes & Nolte, 2019; Seth, 2013). Here, it has been linked with the action of the mirror neuron system (Kilner, Friston & Frith, 2007; Trapp, Schütz-Bosbach & Bar, 2017), in which 'anticipatory neural responses, and predictive coding in the context of learning, are crucial to empathetic somatosensory representations of others' experiences' (Brown & Brune, 2012, p.11). This kind of empathic, inter-relational perception is central to the therapeutic context to which we now turn, by considering another theory about thinking and relating, developed long before PP by the British psychoanalyst Wilfred Bion (1962a). We will argue that PP and Bion's theory have much in common, and that awareness of them and their mutual implications can enrich contemporary therapeutic practice, not only in psychoanalytic contexts like Bion's, but in a range of orientations.

Bion proposed that thinking results from the joining of preconceptions - expectations or premonitions based on inborn instincts and previous learning - with inferential realisations to form conceptions. He suggested that this process, which he called 'alpha function' (Bion,

1962a, p.3), takes place when 'beta-elements' (Bion, 1962a, p.6) – unprocessed sensory and emotional data - are converted into material suitable for meaning-making, known as 'alpha elements' (*Ibid*.). Alpha-elements are the basis of adaptive thought and its corollary, memory. Bion believed they took a variety of subtle forms, including 'visual images, auditory... [and] olfactory patterns' (p.26) and 'dream thoughts' (Bion, 1962b, p.115) – daydreams, musings and the other transient manifestations of our everyday sense-making - and he conceived of them working, often barely consciously, to structure thought.

Alpha-function shares several features with PP. For example, both models focus on the linking of exteroceptive and interoceptive information with preconceptions, based on prior learning and inference, to produce the meaning-saturated elements of thought, which can take dream-like forms that are almost beneath consciousness. Bion acknowledged the importance of such linking and the mutual flow of information within it, and suggested that thinking functions best when the links between preconceptions and experience are flexible, rather than being frozen in maladaptive patterns (as in depression) or disrupted and fragmented (as in psychosis). Like PP theorists, he emphasised, too, the simultaneity of past, present and future within this process, whereby past responses shape our futures and change the way we see our present, so that past and present are, in a way, a 'memoir of the future' (Bion, 1991), the cumulative title under which three of his last writings were published.

We propose that Bion's work and that of his followers not only presages, however, but also adds to PP, primarily through the concept of reverie. According to Bion (1962a; 1962b), reverie is the capacity to share one's sense-making alpha-function with another, and it develops in the earliest relationship between caregiver and child. Thus, before a baby is aware of anything other than vague sense-impressions and primitive emotions (beta-elements) – before he can *think*, in other words - his caregivers share their alpha-function

with him, if they have sufficient cognitive and emotional capacity. In so doing, they transform his unprocessed experiencing into meaningful alpha-elements by proxy.

Such sharing takes place when caregivers take in empathically or *contain* the child's emotional experiencing and feel their own intuitive response to it, before processing it using alpha-function (Bion, 1962b). Bion used Klein's (1946/1986) largely *intra*subjective theory of projective identification to explain how this might be possible. Klein defined projective identification as the process by which the anxious infant attempts, in fantasy, to eliminate unbearable feelings and parts of the self by projecting them into the (m)other. Bion (1962a; 1963) developed the concept, stressing its function as an early form of thought. In his formulation, projective identification can form a realistic, *inter*subjective mechanism by which the infant conveys beta-elements to the (m)other, to give her a sense of what he's feeling. The intersubjectivity of the process rests on her participation in it in response to the child, which establishes 'a dynamic relationship between container and contained' (Bion, 1963, p.3), and for this reason it has been called projective *trans*identification (Grotstein, 2005) to highlight its locus *between* two interacting subjects.

Reverie is what enables the attuned mother to engage in this two-way exchange. It can take almost any form. A mother comforting her crying baby, for example, might experience something of her child's pain through a twisting in her own guts or feelings of anxiety or dismay when first she hears his cries, before going onto feel a growing sense of calm as she comforts him, encapsulated in the bodily sensations, daydreams or memories (alpha-elements) that stream through her, unbidden, in the moment. She conveys her experiencing to him in the slowing of her heartbeat and the softness of her voice, thereby sharing with him, in turn, what it feels like to know that all is well (a feeling that is, in itself, a prediction based on her own prior learning).

According to Bion (1962a; 1962b), this process is repeated again and again on a tiny scale, deep within the fleeting complexity of the moment, until the infant introjects and develops alpha-function and becomes able to think for himself. However, when caregivers' reverie is absent or deficient, the child's capacity for adaptive thinking is reduced or does not develop at all. Later, this lack may lead him into therapy, where he will need the therapist's alpha-function to transform his beta-elements into tolerable thoughts and dreams from which he can learn.

For Ogden (1994), a contemporary reverie author and relational psychoanalyst, such overlapping of emotional experience in psychotherapy communicates itself through reverie. Thus, the 'ruminations, daydreams, fantasies, bodily sensations, fleeting perceptions [and] images' (Ogden, 1999, p.158) experienced by therapists when attending intently to their clients – no matter how trivial or subjective these may seem – can contain intersubjective truths about the therapeutic relationship. This intermingling of subjectivities in reverie has consequences for the felt temporality of the moments experienced by both parties, in which the 'shadow of the future is cast forward from the present and is cast backward from the future on to the present' (Ogden, 2003, p.595). In other words, the interacting pasts of therapist and client (their intermingled prior learnings) generate a new present (containing new perceptions, inferences and interpretations) and make possible different futures (refined, realised predictions).

PP, too, recognises the impact of 'generalised synchronisation' (Friston & Frith, 2015, p.131) of this kind, which is designed to reduce (though it cannot eliminate) prediction error and thereby increase our ability to respond adaptively to each other. As a result, material is generated that is 'neither a model of my behaviour or your behaviour - but a model of *our* behaviour' (*Ibid*., italics added). From this perspective, reverie can be understood as a transitory expression of a relational predictive model – a 'memoir of the future' (Bion, 1991),

as it were – which, if brought into awareness, can convey emergent intersubjective truths about the therapeutic relationship that may otherwise be inaccessible.

Thus far we have focused on theory, but, as Ogden (2006) points out, making sense of theory and determining its relevance to our own work involves taking in stories about it and subjecting them to our own alpha-function. In this way, we *dream* the theory within our own minds and bodies, using our capacity for reverie and PP. Let us engage in such 'collective dreaming' (p.1069), now, by exploring some tales of reverie experienced by therapists as they worked with their clients, recounted to the first author (herself a practising integrative therapist) as part of a doctoral study (McVey, 2017). First, however, we provide context by outlining the study's methodology.

Methods

Despite its universal roots in parent-child communication and relational, predictive sense-making, reverie appears in the literature as an almost exclusively psychoanalytic phenomenon, and there is little research about the clinical reveries of non-psychoanalytic practitioners.[1] To address this gap, our study sought to explore its wider application among therapists working in different modalities, by asking how they experienced, used and made sense of reverie.

Recruitment and participants

To answer this research question, we recruited an illustrative sample of seven qualified non-psychoanalytic practitioners, using a purposive sampling strategy. We explained 'reverie' to them in non-modality specific terms as a form of inner experiencing, which could include the thoughts, ideas and feelings streaming – sometimes on the edge of awareness - through

[1] We found only one example of research that explored the clinical reveries of a sample of therapists from different theoretical backgrounds: Bowen (2012).

their minds when with clients. Our sample was small, so that we could explore participants' stories in detail and analyse their data comprehensively. Table 1 summarises their basic demographic information.

Table 1 Demographic information

No. of participants	7
Age range	30s – 60s
Years since qualified	22-33 years (4 participants) 3 – 5 years (3 participants)
Sex	5 female, 2 male
Self-defined ethnicity	White British/White (5 participants). Jewish (1 participant). European-Jewish and African (1 participant).
Therapeutic modality	One participant described their orientation as 'relational' only, and the rest integrated different approaches, often combining more than two modalities including: relational, person-centred and humanistic, psychodynamic, transactional analysis and mindfulness.
Work context(s)	2 participants worked within the NHS Improving Access to Psychological Therapies service. The remaining 5 worked in educational institutions, charities and private practice. 4 worked in more than one context. 2 worked exclusively with short-term contracts, and the rest offered both short- and long-term contracts.

Data collection

We asked participants to tell us about their reverie in two semi-structured, one-to-one interviews with the first author, Lynn. The interviews were video-recorded and lasted approximately one hour. Indicative topic guides were used, informed by the phenomenological micro-analytic interviewing technique (Stern, 2004), which is designed to

elicit recollections of lived experience that are as accurate and precise as possible (whilst recognising their inevitably imperfect and partial nature). The technique involves focusing on few examples rather than many, 'parsing' examples into separate moments, and considering each moment in detail. Accordingly, in the first interviews, participants were asked to describe one or two examples of reverie from their clinical practice as comprehensively they could and to go over them in some depth.

Then, in the second interviews a few weeks later, Lynn explored those examples in even more detail with each participant by reviewing clips from recordings of the first interviews with them. Here, we were inspired by Interpersonal Process Recall (Kagan, Schauble, Resnikoff, Danish & Krathwohl, 1969), a method developed originally to study therapeutic process and help train counsellors, in which video-recordings of therapists working with clients are reviewed with both parties soon afterwards, frame-by-frame, to help them remember and understand their interactions. We were particularly drawn to an innovative application of IPR within research (Macaskie, Lees & Freshwater, 2015), which offers a way to recall and study transient relational experiencing (like reverie) by video-recording therapist-participants talking about their experiencing in qualitative interviews, and then meeting with them again to review and discuss the recordings.

Traditionally, IPR involves reviewing an entire video-recorded session, an undertaking that requires at least two to three hours per 50 minute meeting (Larsen, Flesage & Stege, 2008). We considered this too much to ask of busy practitioners, and therefore reviewed only two or three clips from the first interviews, in accordance with the detailed, idiographic focus of the study. Both participants and the researcher were able to select the clips (although only one participant did so), concentrating on moments in which reveries had been described comprehensively and vividly and/or where we needed to clarify understandings of what had taken place in the first meetings.

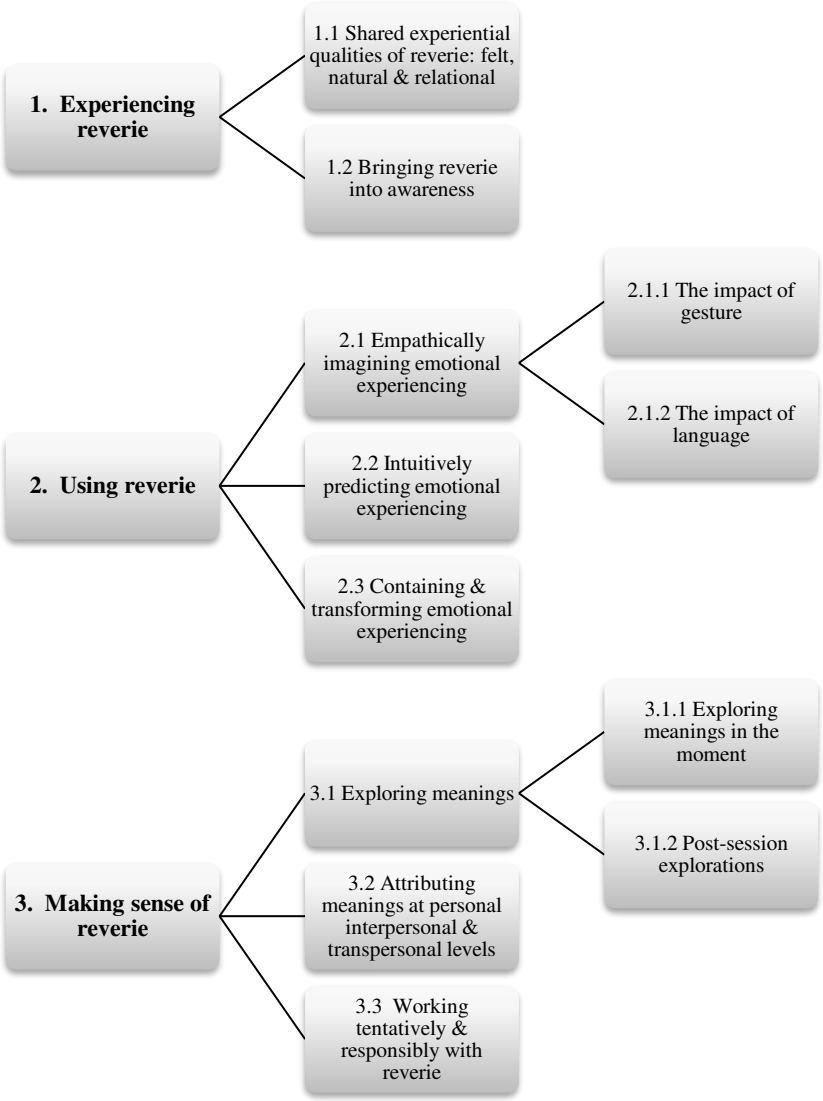
Data analysis

Lynn transcribed the interviews verbatim as a form of immersion in the data. Interpretative Phenomenological Analysis or IPA (Smith, Flowers & Larkin, 2009) informed the analysis, owing to its emphasis on the minute phenomenological detail of individuals' experiencing. IPA involves comprehensive textual analysis of transcripts, focusing on descriptive, linguistic and conceptual issues; developing emergent themes for each case; and linking case-specific emergent themes to construct cross-case superordinate themes.

Thus, each transcript was analysed in turn and exploratory notes and emergent themes were developed. Then we looked for patterns across cases to identify shared themes, as well as noting where experiences diverged. This process involved subsuming some previously separate emergent themes to create new superordinate themes and abstracting others. To gain different perspectives, Lynn discussed the progress of analysis and thematic structure regularly with the second and third authors, her doctoral supervisors, taking their comments into account in subsequent iterations. She also sent draft theme descriptors to each participant, illustrated with examples of data from their own interviews and invited feedback. The participants expressed support and did not suggest any changes to the thematic framework.

The result was a set of eight superordinate themes and four sub-themes, grouped under the three broad headings of the research question, namely: (1) experiencing reverie; (2) using reverie; and (3) making sense of reverie: see Diagram 1.

Diagram 1 Summary of themes



Within (1) *experiencing reverie* were two superordinate themes concerning: (1.1) the felt, natural and relational experiential qualities of reverie that were common to all participants (whilst highlighting too reverie's immense diversity); and (1.2) how participants brought such ephemeral experiencing into awareness. Within (2) *using reverie* were superordinate themes about: (2.1) how participants used reverie to imagine their client's emotional experience empathically, with sub-themes examining the impact of gesture and language on this process; (2.2) how they used reverie to intuit or 'predict' client's experiencing; and (2.3) how reverie

was used to contain and transform such experiencing. And finally, three superordinate themes encapsulated findings about (3) how participants *made sense of reverie*, covering ways in which participants explored the meanings of their reverie (3.1), with sub-themes about meaning-making during and after sessions; (3.2) how they attributed meaning to reverie at personal, interpersonal and transpersonal levels; and (3.3) how they worked with reverie tentatively & responsibly, in ways that respected clients' otherness and autonomy.

In this paper we focus on superordinate theme 2.2, which concerns the use of reverie to intuit clients' emotional experiencing. We have selected this theme for elaboration owing to its links with PP - which we consider to be a highly relevant and useful concept for therapists, when considered alongside notions of reverie – but we believe all the findings have the potential to inform practice within diverse modalities, and plan further dissemination in other papers.

We end this section on a tentative note. As qualitative researchers, we seek understanding through analysis and categorisation, but there is always a risk of reductionism. In response, we want to emphasise the immense complexity, diversity and interconnectedness of the experiencing that participants generously shared with us, such that, for example, while they did indeed describe using reverie to empathise imaginatively with (theme 2.1), intuit (theme 2.2), and contain (theme 2.3) clients' emotions, these uses were neither separate nor simple. Like petrol mixing with water in a puddle, empathy and imagination spilled into intuition, which, in turn, ran into containment and made transformation possible. We seek to illustrate this ordinary-extraordinary human relational process below.

Ethical approval

Ethical approval for the study was granted by the University of Leeds' School of Healthcare Research Ethics Committee (reference number: SHREC/RP/533). The participating

therapists gave their written consent to take part and for fully anonymised material pertaining to themselves and their work to be included in papers like this, from which they and their clients cannot be identified.[2]

Findings: Using reverie to intuit or 'predict' clients' implicit emotional experiencing

All participants in the study, regardless of their theoretical backgrounds, had experienced something akin to Bion's (1962a) concept of reverie with their clients. In line with Bion's account, they associated their experiences with containment of clients' material. 'Seth' (who described his theoretical background as relational within a person-centred frame), for example, described it as 'a sort of feeling of the containment of the container', while 'Grace' (an integrative practitioner) regarded her reverie as 'a really whole-being experience, a visceral, intellectual, spiritual experience that is reflective of a share of the person's dynamic or […] what they're holding in their story'.

One way in which all participants talked about using reverie was to intuit or predict implicit states in their clients: a process we sought to encapsulate within superordinate theme 2.2, as outlined above. Like the mother who 'can discern a state of mind in her infant before the infant can be conscious of it' (Bion, 1962a, p.34), such experiencing sometimes occurred before clients had mentioned the feelings themselves. For example, 'Sam', who described his therapeutic orientation as relational, talked about a mental image (alpha-element) of a match being struck and immediately extinguished, which came to him while working with a young man whose partner had left him. The image was accompanied by a feeling of anger, so sudden and momentary that it was almost beneath consciousness, which Sam did not mention explicitly to his client. However, just afterwards, the client became '*really* physically

[2] Participants' and clients' anonymity are protected in this paper by omitting or disguising potentially identifiable data and by referring to them using pseudonyms.

agitated' and, instead of suppressing his feelings as he had done before, experienced his anger strongly and then discussed it with Sam.

In another example, 'Martha' (who trained originally in person-centred therapy and transactional analysis) repeatedly 'saw' in her mind's eye an old but intensely sexual image of her first partner while working with a client who was 'talking about something […] *completely* different. *Nothing* to do with their sexuality'. After reflecting carefully on the memory and its potential relevance for the client and concluding that her ex-partner was not 'somebody I'm *yearning* for or *think* about', she found a way to bring the topic of sexuality into the conversation (though not the specific episode from her own life). In so doing, she gave the client an opportunity to explain that sexuality was a significant, though previously unshared, concern. In both cases, the reveries seemed to function as intuitive predictions of clients' unspoken emotional experiencing.

Participants experienced reverie in deeply idiosyncratic ways, fitted specifically to them and their relationships with clients. Often – as in the above examples - this involved fleeting feelings, images, memories or thoughts, which seemed to figure and *pre*figure clients' process, although in other cases it was non-figurative. Seth, for example, described his reverie as a containing, loving state, which did not 'necessarily link with previous memories'. He illustrated the point by telling a story about a time when, emerging from that state, a sudden and instinctive sense came to him that he should hold out his hand to a client whose father had died. This intuition, unaccompanied by any imagery or other representations, seemed to be exactly what the client needed in that moment, releasing her to begin processing her grief:

> And in that *moment* somehow her *father came* to her […] and when she held *my* hand she was holding the hand of her father. It was mind-blowing, but it was completely cathartic, you know? Afterwards she was *completely free*, *clear*, it was like *amazing* for her.

These examples give a flavour of the ways in which participants intuited their clients' feelings in reverie (and also hint at how closely the process was linked with imaginative expressions of empathy, theme 2.1, and with containment and transformation, theme 2.3), but they condense what were detailed accounts into a matter of lines. To convey such experiencing in more depth, we provide below a longer clinical vignette from another participant, 'June' (who described her training as integrative and relational), to help readers take in the predictive moment more fully.

A predictive moment? The attic room

The moment we are about to explore came in the tenth session of June's short-term work with a young adult client, 'Megan', whom she was seeing at the time of the research interviews. Megan lived with frail, elderly parents and had few friends or interests outside the home, spending much of her time playing video-games in her bedroom. During the work so far she had appeared placid and rather unemotional, but in this session she said something new. She told June that she wondered what her life would be like when her parents died, and admitted: 'I'm worried about being on my own'.

As June listened intently to Megan, images, thoughts and memories (alpha-elements) chased, fleetingly, through her mind. One such image featured the client's cluttered attic bedroom, with computer and games alongside the bed. Picturing the attic room in her mind's eye seemed unremarkable to June, given that, as she said, 'She's told me she's in an attic', but one element did seem unusual: an odd detail that she thought she must have invented, somehow. When asked what the attic room looked like in her imagination, June explained that it was reached by exceptionally narrow stairs, resembling a ladder: 'I always imagine her in the attic, in her attic room. I imagine very tiny stairs […] like a ladder, going into […] the attic'. She went on: 'I don't know why, I know it wouldn't be like this', adding that she knew the attic would, in fact, have a conventional staircase. She concluded: 'Her parents are

downstairs […], so I imagine her there *alone*', emphasising the word 'alone' and the client's lonely, cut-off state.

We were soon to find out, however, that the ladder was not the only 'odd' element of June's attic image. When she and Lynn met again to review the video-recording of their first interview in more detail a fortnight later (during which time June and Megan had met again too), June made a rather bemused announcement. Although she'd been *sure* Megan had told her that her bedroom was in an attic, in the session after the first interview the client revealed that her bedroom was in fact on the first floor of the family home, alongside her parents' room.

Discussion

What are we to make of this? Given the tenor of the paper so far, we might have expected that June's attic image would 'predict' the client's reality more or less accurately, but did it, in fact, misrepresent it? Might we even see the image as an example of why we should ignore our own 'stuff', lest it leads us away from the client, and pay attention, instead, only to those aspects of our responses that align directly with the client's account? And yet, as Ogden (1994) points out:

> a view of the analyst's experience that dismisses this category of clinical fact leads the analyst to diminish (or ignore) the significance of a great deal (in some instances, the majority) of his experience with the analysand. (p.83).

For Ogden, such dismissal threatens to impoverish the therapeutic relationship, and he recommends, instead, paying deep attention *both* to the client's expressions *and* one's own inner responses to them. This work involves 'intuiting the psychic reality of a moment' (Ogden, 2015, p. 294), a process that is 'true to the emotional experience' (Ogden, 2003, p.603) of each second of the therapeutic interaction, and points to *clinical* if not *material*

facts. Taking this perspective, we suggest that June's alpha-image of the attic, while changing the physical location of Megan's room, predicted aspects of her emotional or psychic reality with great accuracy, aspects that were hidden within her apparently carefree presentation.

In the second research interview, June reflected more on that hidden terrain, focusing on the sense of distance encapsulated by her image of the attic room, so far from Megan's parents downstairs, whose physical frailty would render ladder-climbing quite impossible. June saw the image as a powerful way of representing Megan's isolation, which was already a feature of her lonely life, but which she feared would be intensified intolerably when her parents died. It gave her a visceral taste of how Megan might experience that aloneness: a felt journey, in a way, up the narrow ladder into the dark, cramped space above.

Clark (2016) notes that it is in the nature of predictive representations to occur just before the action they make us ready for, comparing the process to a surfer who rides a wave by staying '"in the pocket": close to, yet just ahead of the place where the wave is breaking' (xiv). Bearing this in mind, it is interesting that Megan made the location of her room clear to June only after June had 'predicted' the attic. Perhaps Megan needed her to experience that image of isolation and contain, in reverie, the particular feelings of abandonment, loneliness and fear within it before she could do so. The process that took place between them may have been timed – non-consciously but quite precisely - to achieve just this empathic end, highlighting again the interrelatedness of empathy (theme 2.1), intuition (theme 2.2) and containment (theme 2.3) in reverie.

For Grotstein (2005), this process involves a 'mutual inductive resonance' (p.1055), whereby 'the container/contained function shifts by reversal' (p.1056). In other words, within the transference-countertransference matrix, something not only passes from projecting client to

containing therapist, but *back the other way*, when the therapist processes the projected material and communicates it – transformed and detoxified - back to the client. This 'continuum in reverse' (p.1051) or 'projective *trans*identification' (p.1059) takes place when a resonance is established between the emergent internal images (predictive models) of both projector and projectee, causing the therapist to 'dream' in reverie a corresponding but processed image. Such resonance is generated by reverie, by the empathic functioning of the therapist's mirror neuron system and her intuitive capacity for PP. Viewed this way, we can interpret Megan's and June's interaction as one in which Megan projected her own prediction of fearful isolation onto her image of June, who took it into herself, imag(in)ed and felt the pain of it, and gave it back. But she gave it back *changed*, because although the attic was isolated, it contained an (albeit still rickety) means to reconnect with others: a ladder.

In this way, we can understand June's mental image of the attic – like the images, memories and feelings experienced by the other participants in the study – as both a reverie and a relational predictive model in the process of forming and re-forming over time. The reverie seems to have converted Megan's unprocessed beta-elements into alpha-elements, containing her as her emotional state was transformed within a new present, in which her parents were not dead yet, but only in the next room.

Clinical implications

Drawing on the neuroscientific theory of PP and the psychoanalytic theory of reverie, we have suggested that the most fleeting and apparently inconsequential aspects of our inner experiencing as therapists can offer a degree of access to the relational predictive models or reveries that shape our intuitive and empathic responses to clients. In the literature, such experiencing has tended to be associated with psychoanalysis. Whilst we acknowledge that the particular conditions of psychoanalysis may enhance the capacity for reverie, we contend,

along with PP theorists, that it is a universal component of relational sense-making, and our findings suggest it is experienced by practitioners from a range of modalities.

The key to accessing these relational models appears to lie not in psychoanalytic training *per se*, then, but in *attention* (in which analysts – as well as many other practitioners - are finely trained): noticing not only every aspect of the client's communication that is available to us, but also the minute exteroceptive and interoceptive cues within ourselves of which PP theorists write. As Ogden (1994) points out, some of these cues may seem to be precisely what the therapist should 'get through, put aside, overcome, and so forth, in his effort to be emotionally present' (p.82). However, as we have seen, emotional presence involves drawing inferentially on the past to predict the immediate future, thereby generating new 'opportunities for action and intervention' (Clark, 2016, xv), as June and the other participants in the study did in their work with clients.

Such presence does not require therapists to appreciate fully the potential meanings of their reveries in the moments in which they experience them, as June was not aware of the full meaning of her attic image until she talked about it with Lynn (and was likely still not fully aware of it then). In this study we found (as outlined in theme 3.1) that the complexity and speed of momentary experiencing makes full understanding of this kind impossible, frankly, but, like June and the other participants, we can feel the feelings our reveries contain all the same, and respond to our clients from within the heartfelt, intersubjective contexts those feelings generate. Attention remains important, because it enables us to bring into awareness a wider range of potentially rich intuitive, relational information, whilst also encouraging us not to dismiss what we experience. In this way, we can make space for new, shared meanings to emerge with our clients. As June said:

> It helps you […] to get a connection, to get more understanding and then check: yes, no. Is it this way: no? So it helps you to make the path towards what your client is experiencing.

Here, June highlights another important point about using reverie within the predictive moment: the need to be tentative and to check: 'yes, no'. All therapists in the study emphasised strongly the importance of taking a tentative approach to such work, noticing their inner experiencing and being open to its potential intersubjective meanings, but not *assuming* or *imposing* links between their own and clients' feelings. In so doing, they recognised that their understanding of clients was fallible, flowing from an interpretative process that was subject to prediction error or distortion from their own concerns and defenses, and was likely to require refinement. This point was encapsulated within theme 3.3 of the study, which addressed the need to work tentatively and responsibly with reverie.

For all participants, taking such an approach included self-reflection and discussion with their clinical supervisors about the extent to which their reveries told them about themselves as well as - and sometimes more than - the other (linked with theme 3.2, concerning ways in which meaning is attributed to reverie at subjective and intersubjective levels). It also involved checking the accuracy of their intuitions with clients regularly. Although some participants talked directly (but lightly) about their experiencing with those clients they judged to have the emotional and cognitive capacity to work with it, most did so indirectly, engaging in what Ogden (1999) calls speaking *from* reverie, rather than directly *about* it, so as not to move the focus of the work from clients onto themselves. We saw an example of this earlier, in Martha's work, when she talked with her client about the theme of sexuality, rather than about the specific memory that prompted her to wonder if that theme might be relevant. In other words, if we are to connect with clients deeply, it is essential that we work

with reverie in a flexible, non-dogmatic way, struggling to remain open to what is emerging *now* between us, and to the universe of possible predictive inferences that entails.

Strengths and limitations

The findings in this paper come from a small-scale, exploratory study that did not aim to produce generalisable outcomes as such. Rather, we sought to illustrate a sample of non-psychoanalytic practitioners' experiences of reverie to generate learning that readers can apply to their own practice if they judge it appropriate. Within this context, we sought to avoid over-privileging our own perspectives by involving participants as co-researchers, especially when reviewing clips with them in the second interviews. However, because only one participant accepted our invitation to select clips (with the others explaining they did not have time), we acknowledge that our own selection of clips dominated the second interviews. Although participants were able to discuss these clips in detail and several said they would have chosen the same ones, on reflection we think it might have been more appropriate to insist they selected the clips themselves.

A further strength of the study was its moment-by-moment phenomenological focus, which enabled us to gain a detailed impression of this most ephemeral phenomenon. Yet, by focusing so strongly on the moment, we did not always follow up with participants how they checked out their experiencing with specific clients, or the longer-term effects on their work, which limits evidence for the transformative impact of reverie and relational PP. We did not ask June, for instance, precisely how she checked out her attic reverie with Megan (although she emphasised that this was her practice in general), or return to her later to ask how their work ended. Future studies could address this limitation by undertaking a follow-up at the end of participants' work with clients, to find out what impact their interactions had, if any.

Conclusion

In this paper we have argued that the imagery and feelings therapists experience when seeking to understand clients may constitute predictive relational models in the process of unfolding: means by which we non-consciously align sensory cues (in the *present*) with (*past*) knowledge of clients and of our craft to fill in or predict (from a *future* perspective) that which is 'noisy, ambiguous, or incomplete' (Clark, 2016, p.51) in the therapeutic relationship. We have also suggested a link between such generative models and reverie: a rich intuitive expression of empathy for clients' emotional experiencing, in which our perceptions of past, present and future are intricately overlaid and potentially transformable.

To illustrate these points, we considered findings from a study about therapists' experiences of reverie, including an example of a moment in which a therapist experienced an image of her client's attic bedroom. Romanyshyn (2002) calls the attic a 'place of reverie' (p.110), in which the 'small epiphanies of the world' (*Ibid.*) emerge and where 'the hard edges of the world are dissolved as things reveal their secrets and announce their dreams' (*Ibid.*). We suggest that awareness of reverie and PP can extend therapists' access to 'secrets and dreams' like these, enabling them to use the predictive moment to connect with clients and begin, together, to understand and transform their experiencing.

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Declaration of interest statement

The authors report no conflicts of interest.

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