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# The Affective Origin and Treatment of Recurrent Maladaptive Patterns

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## Introduction

This book and the theoretical paper published in *Behavioral and Brain Sciences* (BBS; Lane, Ryan, Nadel, Greenberg, 2015; the LRNG model) upon which it is based have sought to articulate an integrative vision of how psychotherapy brings about enduring change by focusing on insights derived from neuroscience, particularly concerning memory reconsolidation and its interaction with emotion. A core concept in this theory is that maladaptive behavior patterns constitute the fundamental problem that psychotherapies that seek enduring change are aiming to correct. Different treatment modalities conceptualize maladaptive behavior patterns in different ways. Yet, their common features as described herein create a natural bridge for integration. A basic thesis of this chapter is that consideration of these similarities and differences creates the potential for an integrative approach to the treatment of recurrent maladaptive patterns (RMPs) that can potentially be more effective than that which is possible from the use of any one modality alone. By addressing in treatment both symptoms and the schemas from which they are presumed to arise, the possibility that symptoms will not recur will increase (i.e., there will be a greater likelihood that change in psychotherapy will be enduring).

The concept of RMPs has been foundational in psychodynamic therapy (PDT) and psychoanalysis for over a century. Typically associated with "character pathology" (i.e., personality disorders), they address the correspondences frequently observed between relationship patterns in a person's family of origin, their current adult relationships, and the transference relationship with the therapist (Malan, 1995; Menninger, 1958). Although not typically discussed as such, this concept in a broad sense is actually quite similar to that of *schemas*, which is a foundational construct in cognitive-behavioral therapy (CBT), or *schemes*, which are foundational in emotion-focused therapy (EFT).

Schemas may be defined as "superordinate knowledge structures that reflect abstracted commonalities across multiple experiences, exerting powerful

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influences over how events are perceived, interpreted, and remembered" (Gilboa & Marlatte, 2017, p. 618). From the perspective of CBT, Beck and Haigh (2014, p. 3) define schemas similarly as "internally stored representations of stimuli, ideas or experiences" that influence automatic and strategic/conscious information processing. Cognitive distortions and maladaptive beliefs about the self and the interpersonal world are thought to be the result of pathogenic schemas resulting from trauma or other adverse circumstances that, in turn, lead to maladaptive behavioral and emotional responses that are the reason for seeking care (Foa & McLean, 2016). From the perspective of EFT, which attempts to expand upon cognitive concepts like knowledge structures to include emotion, emotion schemes constitute an internal mental organization that consists in (a) an affective component with bodily/expressive elements; (b) a behavioral component (e.g., an action tendency); (c) a cognitive symbolic/conceptual representation possibly in the form of verbal statements or nonverbal representations (e.g., an image); (d) some situational and/or interpersonal context that acts as a cue or releasing component that sets the scheme in motion; and (e) the inclusion or close association with a motivational component in the form of desires, needs, wishes, or intentions (Greenberg, 2011; Greenberg & Korman, 1993). As in CBT, emotion schemes may be maladaptive also (e.g., feeling worthless, insecure or ashamed). Relatedly, the term "emotion schemas" has been used by Bucci (2011) to describe the subsymbolic and symbolic processes that must be integrated in psychoanalytic treatment, the term "person schema" has been used to describe schemas of the self, schemas of the other, and the scripts that describe interactions between them (Horowitz, 1991), and the term "early maladaptive schema" has been used to describe the emotion-based maladaptive attachments patterns that can arise from early childhood abuse and neglect (Simard, Moss, & Pacuzzo, 2011). As discussed in the following text, the concept of RMPs from a psychodynamic perspective contains all of these elements and includes mental representations of the self and others; emphasizes that the cognitive, motivational, and emotional components are typically not conscious; and focuses in particular on how these patterns play out repetitively in different interpersonal contexts. What they all have in common is that schemas (or schemes or recurrent patterns) are expressions of semantic memories that determine how situations in the moment are construed, and they vary in terms of how much emphasis is placed on the emotional, behavioral, and interpersonal concomitants that follow from these construals. As such, the psychodynamic concept of RMPs may be more closely aligned with the theoretical perspectives of other therapy traditions than has previously been appreciated.

There are at least three major reasons, however, why RMPs as described in the psychodynamic literature have remained segregated from other major psychotherapy modalities. These can be briefly summarized as a focus on etiology,

a focus on the therapeutic relationship as the context in which the main work of therapy occurs, and an orientation to conceptualization and description that traditionally does not assign high value to objective scientific validation. It should be noted that many practitioners of PDT and psychoanalysis do not see a need to alter these traditions, and indeed it is not necessary that they do. A consequence of this segregation, however, is that very important phenomena addressed in PDT do not get recognized and treated by practitioners of other modalities, who see the vast majority of clients who seek mental health care. As I describe in the following discussion, solutions exist in each of these three areas that can promote wider recognition of the phenomena of RMPs by practitioners of other modalities.

The first barrier to integration pertains to the unique and time-honored focus in PDT on the etiology of current dysfunction. Traditionally, this focus has been associated with the assumption that *understanding* the (presumed) etiology of a problem, as well as its manifestations through the years up to the present, will be a major contributor to resolving it (Brenner, 1974). This stands in contrast to the focus by other major modalities on the factors that *maintain* current dysfunction. In some ways the concept of memory reconsolidation addresses this point directly. If one accepts the foundational premise of this volume, namely, that memories are not veridical records of the past (which Freud asserted; Schimek, 1987) but instead accepts that memories of the past may have been updated through the years (which Freud also claimed; Freud, 1896), one may view recollections of the past as the current version of memories that maintain the ongoing difficulties. This is not to discount the value of recall of past experiences as informative about earlier development. The current version of the RMPs began at an early age and evolved over time. An adult's description of the early childhood environment, whether it is objectively accurate or not, can assist the clinician in identifying the specific nature of the current difficulties in relationships. What this amounts to is a developmental perspective on the factors that maintain the current difficulty. As such, this reframing of the concept of etiology in light of the phenomenon of memory reconsolidation allows for some convergence and potential overlap between psychodynamic theory and the theories underpinning other modalities.

A second major way that PDT differs from the other three modalities is in the use of the relationship with the therapist, with a particular focus on the transference as a focal point of treatment (Gabbard, 2017). As noted in the BBS article, transference includes the full range of thoughts, feelings, and actions that the client develops for and in relation to other people including the therapist and, very importantly, includes the particular maladaptive way(s) of construing and responding in relationships arising from childhood, both behaviorally and emotionally, that are believed to be the basis for the client's current difficulties.

Although all therapies require a strong therapeutic alliance for success (Horvath & Luborsky, 1993), PDT uses the emotional transactions between client and therapist as a focal point of the treatment (Brenner, 1974). A central thesis of PDT is that the current problems that bring a client to treatment are an expression of the same RMPs that arose in childhood and that get expressed currently both in terms of other relationships outside the therapy and the transference relationship with the therapist. Interactions in the here and now in the transference relationship with the therapist are thought to provide a unique opportunity to understand and alter the long-standing patterns that manifest in other contexts. Indeed, among advocates of PDT, there is the strong conviction that the most powerful way to experience, understand, and change these patterns is in the context of a relationship with an appropriately trained professional in the here and now (Gill & Hoffman, 1982). As such, there will likely always be a need for this kind of treatment in certain cases.

This broader focus on RMPs is unique to PDT and is not recognized as a necessary or important focus of other modalities, although therapists specializing in other modalities may at times use similar techniques (Blagys & Hilsenroth, 2000; Hayes, Castonguay & Goldfried, 1996). Nevertheless, as I discuss in the following text, addressing the RMP in the transference is not the only way to intervene in altering these interpersonal patterns. Addressing these interpersonal patterns in other contexts may be less powerful (assuming all goes well or optimally in PDT), but the fact is that until now there has been no empirical investigation of whether these patterns can be modified through other means. Moreover, there is a legitimate question about the time and energy devoted to the development and understanding of the transference in PDT and whether there are less costly and more efficient ways of achieving valuable if not comparable results.

A third reason for the segregation of PDT from other modalities is that the theory and practice of PDT, in contrast to other leading modalities, did not develop with the aim of grounding fundamental concepts or practices in an empirically tractable manner (Bornstein, 2001) (with some notable exceptions (e.g., Levenson, 1995). A foundational assumption has been that the psychoanalytic or PDT consulting room provides a unique context for unearthing the unconscious forces that lead people to behave in ways that appear counterintuitive, irrational, or otherwise incomprehensible and that objective assessments may irretrievably alter for the worse and not adequately capture this context, a viewpoint that is defended to this day (Hoffman, 2009). The latter point is difficult for people grounded in the scientific method to understand or accept, but it is nevertheless the case. It rests on the premier emphasis placed in the psychodynamic tradition on the "psychic reality" of the client (i.e., the influence of subjective processes on how the client experiences the world) and much less on consensual reality and the objective "facts" of events, as well as a primary emphasis placed on the factors

that contribute to the generation of symptoms, as opposed to their alleviation (Gabbard, 2017). This disagreement about the necessity to address therapy process and outcome with objective measures is a major reason for the traditional schism between academic psychology and psychoanalysis. Moreover, a general goal of the psychodynamic approach has been to create a comprehensive model of the mind that is universal, based on clinical observations (McWilliams, 2011). Such theorizing, however, is grounded in observations of people who have chosen to be treated in psychoanalysis or PDT by practitioners who go through a very lengthy training/indoctrination process including their own therapy and in-depth training in theory, practice, and their integration. Although there is growing recognition within psychoanalysis that objective research has a potentially important role to play in advancing the clinical science (Bornstein, 2001), the relative lack of empirical validation of major concepts and mechanisms, and insufficient attention to formulating core concepts in a way that makes them empirically tractable, have contributed to the schism that currently exists between PDT and other modalities.

The central thesis of this chapter is that RMPs are an important and widespread source of difficulty in everyday functioning that are worthy of wider recognition and acceptance within academic clinical psychology and the field of psychotherapy more broadly. To be understandable to a wide audience, however, a reconsideration of basic psychodynamic concepts is needed that uses plain language and concepts that are not intrinsic to the psychodynamic tradition. A primary goal of this chapter will therefore be to review and reassess the foundational ingredients of RMPs, including unconscious processes, development, conflicts, and defenses and the malleability of those patterns in bringing about therapeutic change. As will be described, affective processes lie at the heart of psychodynamic theory, and newer ways of conceptualizing conscious and unconscious emotion create novel opportunities for reconceptualizing the fundamentals of the psychodynamic model in a way that will make them more empirically tractable and amenable to integration with other modalities.

Readers will note that I have opted to use the word "client," in contrast to the traditional use of the word "patient" in PDT and psychoanalysis. The latter inherently assumes that the therapist is providing a treatment for psychopathology, whereas "client" conveys a more neutral stance with regard to whether the problem or issue being addressed is an abnormality and, as such, is more generally applicable across a variety of modalities. This position is actually more consistent with the view of RMPs to be described, which is that they are a natural expression of self-regulatory processes in adaptation that are universal. Although they may be maladaptive in the current adult context, at one time they were highly adaptive and, as such, are not pathological in their own right.

## Recurrent Maladaptive Patterns

The LRNG model proposed that enduring change involves altering recurrent patterns of behavior that are problematic or maladaptive in the sense that they lead to symptoms or dysfunction in social or occupational settings. In the psychodynamic tradition, the triangle of insight (see Figure 14.1), as described originally by Menninger (1958) and later elaborated by Malan (1995), involves a recurrent pattern of problematic interpersonal behavior that manifests in three interpersonal contexts: the family of origin (where the pattern is presumed to have been established), other outside relationships (such as in current romantic or occupational settings that are typically the reason for seeking treatment now), and the transference relationship with the therapist. Strupp and Binder's (1984) cyclical maladaptive pattern (CMP), Luborsky's (1998) core conflictual relational theme (CCRT), and Stern's (1985) representations of interactions that have been generalized (RIGs) are different versions of this basic concept of RMPs. I use the term RMP, which closely resembles Horowitz's (1991) "recurrent maladaptive interpersonal patterns" to describe the phenomenon generically, with the goal of capturing what they have in common. In all of these theories, the recurrent pattern is thought to have started in childhood, to account for the problem for which treatment is being sought now, and to be expressed in the transference relationship with the therapist. The latter in particular makes the pattern amenable to intervention and alteration in the present therapeutic interaction. For a clinical illustration of this, see the Chapter 11 of this volume.

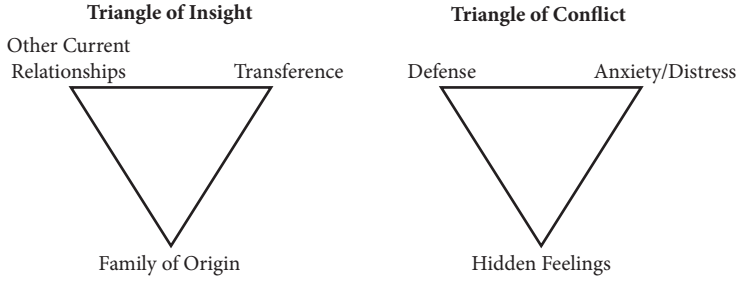


**Figure 14.1** The triangle of insight and the triangle of conflict. As described by Menninger (1958) and Malan (1995), the triangle of insight describes three interpersonal contexts in which a recurrent maladaptive pattern may be observed: the family of origin, other current relationships, and the transference relationship with the therapist. The triangle of conflict describes an intrapersonal pattern in which a feeling is kept hidden by a defense, and anxiety or other form of distress will arise if the defense keeping it hidden becomes inadequate.

All of these proposals focus on interpersonal relationships and the emotional transactions that occur within them. Beginning with Freud, psychoanalysis has developed many different schools of thought to explain different configurations of interpersonal problems (McWilliams, 2011). These include Freud's (1923) classical drive and defense model, followed by ego psychology (Harmann, 1939), object relations theory (Balint, 1968; Klein, 1935/1984; Winnicott, 1965), self psychology (Kohut, 1977) and the more recent and increasingly popular relational model (Mitchell, 1988). Although there are common principles that they share, there are also important differences among them, and, at present, there is little consensus between them.

There are many reasons for this evolution of psychodynamic thought and practice. In general, there has been an attempt to explain the basis for and to guide treatment of different types of psychopathology that were observed clinically but not addressed adequately by previous theories. Examples include object relations theory to explain and guide the treatment of borderline personality disorder and self psychology to explain and guide the treatment of narcissistic personality disorder. Here clinical observations, which might be called "practice-based evidence," drove the need for updates in theory. More recently, the move to incorporate objective research findings, such as those from early childhood development research and social neuroscience (Beebe & Lachmann, 2013; Cozolino, 2017; Schore, 2012), has contributed to this evolution of thought and a growing preference for the relational model, at least in the United States. This shift is directly relevant to the phenomenon of RMPs, and it contributes to the view that an updated conceptualization of RMPs is needed.

One important reason for updating the concept of RMPs and for the ascendance of the relational model is a relatively recent (i.e., relative to the century of psychodynamic thought) review and updating of psychoanalytic theory by the Boston Change Process Study Group (BCPSG; 2007). The BCPSG has argued that conflict, defense, and fantasy, which are foundational in classic psychoanalysis, are in fact higher level concepts that are preceded by and founded upon the implicit process of relational knowing (IPRK) that occurs in all interpersonal relations, including the three contexts addressed by the concept of RMPs. The IPRK consists of learned and unlearned expectations within interpersonal contexts that lead people to perceive the emotional signals of others and to respond automatically both behaviorally and emotionally without knowing why they perceive and respond as they do—what Bowlby (1973) called the internal working model. The internal working model is at times quiescent, but it becomes activated in the context of attachment-related dangers. In that context, it serves as a script that guides the expectations, behavior, and defensive processes that help to regulate the anxiety evoked by the attachment danger. In some ways the IPRK represents the micro expression in real time of the factors emanating from

the client that get expressed macroscopically in the RMPs. This shift to a focus on implicit processes as a foundational level of understanding occurs in the context of major recent advances within cognitive neuroscience on *unconscious* cognitive and affective processes (Bargh & Morsella, 2008).

A second factor contributing to this proposed updating of the conceptualization of RMPs is the enormous expansion of knowledge about affective processes and the emergence of competing models of how emotion operates in the brain. A core concept dating back to Freud is that dangerous emotions associated with sexual and aggressive impulses are kept at bay in "the unconscious" through defensive processes such as repression (Brenner, 1974). According to this model, emotions would always be conscious if not for the operation of defenses. An alternative, more recent model, drawing upon the discovery of the importance and ubiquity of implicit processes, holds that emotions are fundamentally bodily processes that must be mapped onto emotion concepts (conceptualized) to be consciously understood and experienced as such (Pansepp, Lane, Solms, & Smith, 2017). This conceptualization arises from academic psychology and has nothing to do with psychopathology or RMPs and, as such, stands on its own without reference to defenses. It resonates with concepts put forward by the psychoanalyst Bion, who stated that the undifferentiated states of the young child (so called beta-elements) are transformed by the parents' empathic understanding (so called alpha-elements, consisting of distinct feelings, thoughts, etc.) and are then communicated back to the child (e.g., construing meaning from undifferentiated bodily states/moods; Vermote, 2019). Rather than focusing on overcoming defenses or simple uncovering of feelings to feel them, the emphasis in this more recent model is on the active construction of conscious experiences, including feelings, through conceptualization processes. The latter model is elaborated in the following discussion and has important implications for any theory of enduring change.

A third factor contributing to the need for an updated conceptualization of RMPs is the advent of computational neuroscience. Computational approaches that understand the brain as an inference machine that operates according to Bayesian principles have major implications for psychology and psychiatry (Friston, Stephan, Montague, & Dolan, 2014). A current focus of computational neuroscience, predictive processing, highlights the influential role of prior expectations on current perceptions and actions and describes the process whereby these expectations and actions are updated based on current experience. The IPRK can be understood to operate as a function of learned expectations and learned responses in prototypical situations. The concept of transference, which is so central to the psychodynamic approach (Brenner, 1974; Gabbard, 2017; McWilliams, 2011), can be seen as an example par excellence of predictive processing and learned responding, although transference as a concept preceded the

advent of computational approaches by many decades. Moreover, as described in the following discussion, the intimate and intrinsic relationship between perception and action inherent in the computational approach explains why an expanded concept of schemas to include not only construals, but also the visceromotor and somatomotor/behavioral consequences of those construals (as well as the influence of the latter on the former in a bidirectional manner) is particularly useful in the present context of an attempt to update how RMPs are conceptualized. Essentially what this means is that a more generic way of understanding the momentary process of PDT now exists that helps to explain how memories may be updated and reconsolidated as a function of the emotional transactions in the therapeutic relationship. In addition, placing the phenomenon of RMPs within this broader conceptual framework helps to justify and facilitate a more comprehensive approach to the revision of RMPs using techniques from sister psychotherapy modalities in the behavioral, cognitive, and experiential traditions.

The basic thesis of this chapter therefore is that RMPs are a foundational concept in PDT that is highly relevant to many clients treated with psychotherapy modalities other than PDT. An appreciation of the phenomenon and its relevance to all psychotherapy modalities that aim for enduring change would be greatly enhanced if their developmental origin and current nature were conceptualized in empirically tractable terms that updated classical psychodynamic concepts. Conceptual and empirical advances in neuroscience make such an updating possible. After consideration of the ingredients of RMPs and their modification in treatment, including unconscious processes, development, conflicts, defenses, and the mechanisms of therapeutic change, this chapter will conclude with consideration of how this newer neuroscientifically grounded computational perspective provides an updated approach to the integration of psychotherapy modalities in the treatment of RMPs.

## Unconscious Processes

The classical view within psychoanalysis is that the unconscious is an entity or place in the mind where forbidden sexual and aggressive impulses reside. According to this view, these impulses are constantly pressing for discharge and are kept under wraps and excluded from conscious awareness by defensive processes that are themselves unconscious such as repression. As such, the focus is on unconscious affects and impulses that are dangerous because they threaten to overwhelm a person's coping capacities, unless controlled by defenses (Brenner, 1974).

There have clearly been many advances within psychoanalysis in attempting to improve models of the unconscious—too many to review here. A notable recent contribution by Summers (2013) argues that the unconscious has mistakenly been characterized as a noun (a thing or entity) rather than as an adjective. As such, it would be more accurate to say that a variety of mental processes should be understood to be on a conscious–unconscious continuum (Summers, 2013). The BPCSG has, in fact, reframed the unconscious in terms of implicit cognitive and affective processes. This way of viewing the unconscious demonstrates the influence of contemporary neuroscience on psychoanalytic theory.

In general, there has been a revolution within cognitive neuroscience during the past 40 years that holds that almost all of cognition is unconscious and that conscious experience and awareness is the tip of the cognitive iceberg (Bargh & Morsella, 2008; Gazzaniga, 1998). Moreover, several groups, including ours, have marshalled arguments to propose that emotion can similarly be understood within this framework and that the vast majority of affective bodily responses are indeed unconscious in the sense of not being consciously experienced and recognized/understood as emotions (Smith & Lane, 2016). This is consistent with the view that conscious awareness is a limited resource and that conscious awareness of emotion requires the active construction of emotional experience (i.e., differentiated emotional feelings do not happen automatically whenever emotion is activated but must be constructed by conceptualizing the meaning of bodily responses; Barrett, 2017). The ability to detect emotional signals in the behavior of others and to respond affectively, including with motor behaviors that express emotion but without awareness that one is doing so or of how one feels at the time, is entirely consistent with the concept of an IPRK as described by the BPCSG.

Recent neuroscientific insights have provided a broader context that can explain why unconscious mental processes are the rule rather than the exception. A key advance has been the recognition that the brain operates by Bayesian principles and essentially functions as an inference machine (Friston et al., 2013). This is captured by the notion of a predictive processing framework for understanding mental processes such as perception, behavior, and decision-making, as well as emotion and other higher cognitive functions (Hohwy, 2013). The basic idea is that an internalized generative model of the world is built up over time that enables a person to efficiently navigate in that world ("generative" refers to the fact that this type of model generates explanations for how sensory inputs are generated by external events; Clark, 2016). The internal generative model of interpersonal relationships can be thought of as an elaboration in computational terms of Bowlby's (1973) internal working model. In any given situation the "priors" (beliefs) of the model provide a set of predictions, which may be unconscious, about what is happening and what will happen. Events transpire

that provide new sensory data that are then compared to the predictions. The deviation from the prior prediction is calculated, producing the so-called prediction error, and the predictions are then either updated to take account of the new information, thereby reducing prediction error and updating the beliefs (this is called the "posterior"), or a new response occurs based on the pre-existing expectation without altering it. Over time, many different experiences and circumstances contribute to a running average of what to expect and what responses are adaptive. A key goal of this internal model is to avoid surprise, because surprise (or prediction error) is an indicator that the predictions are off target. A related important feature of this framework, called active inference, is that a range of actions are possible in any given situation and that specific actions are selected in anticipation of their sensory consequences (Friston, et al., 2013), including emotional consequences, and are typically selected to minimize the deviation from the set of expectations that comprise our beliefs. Active inference may therefore play a key role in RMPs by automatically steering people away from implicitly anticipated unpleasant experiences. An implication of this is that we act before we feel, although intuitively it may seem that we feel before we act. Thus, a generative model operates in the background to guide perception and action, and mental processes only reach the level of conscious awareness when automatic processes are insufficient to deal with the situation (in the sense that the degree of insufficiency is a function of how surprising they are). Moreover, conscious mental contents of all types compete for the very limited resource of conscious processing, and only the most salient or important ones win the competition for conscious access (Dehaene, 2014).

With regard to unconscious or implicit emotion, Ryan Smith (see Chapter 15 of this volume) has provided a broad overview of the topic. One variety of implicit emotion involves affective responses in the body that are not recognized as such—or, more specifically, automatic visceromotor (autonomic, endocrine, immune) and somatomotor (facial expressions, postures, gestures, procedures and scripts) responses that can be felt in the absence of conscious awareness that these responses/bodily feelings correspond to emotions (e.g., feeling an increase in muscle tension, but failing to recognize that this response reflects anxiety; Lane, Weihs, Herring, Hishaw, & Smith, 2015). This fits with the notion that affective responses reflect the typically unconscious evaluation ("appraisal") of the extent to which needs, goals, and values are met in interaction with the environment, leading to adjustments in one's physiology, behavior or action tendencies, cognition, and experience in response to changes in that interaction (Levenson, 1994). Visceromotor processes and somatomotor responses are related in that the visceromotor processes prepare for the metabolic needs of the motor actions. This is what we believe is happening, at least part of the time, when affective responses are unconsciously generated. Importantly, such evaluations in how

the self is doing in interaction with the environment are continuously generated, and thus affective states are in constant dynamic interaction with the internal and external circumstances of the moment. Conscious awareness of emotion, on the other hand, requires both (a) that the felt bodily expressions of emotion are conceptualized/represented as discrete emotions (e.g., inferring that a fast heart rate corresponds to fear in one context but to excitement in another; Barrett, 2017) and (b) that those discrete emotion representations then successfully compete for conscious access (Dehaene, 2014). Conceptual representations of emotions, and the self-reported experiences of emotion they correspond to, are also known to become more complex and differentiated with development. This model of emotional awareness has been elaborated elsewhere (Chhatwal & Lane, 2016).

This is a very different model of emotion than a classic psychoanalytic view, which holds that activated emotions and impulses are constantly pressing for discharge and are kept out of awareness through defensive processes. Indeed, defensive processes do exist and operate continuously but, as I argue herein, they serve an avoidance function by preventing/minimizing the activation of unwanted emotional experience rather than routinely keeping activated emotion suppressed from awareness. This view is also fundamentally different from a traditional Freudian perspective in that unconscious processes are now recognized as fundamentally adaptive, operating continuously to help navigate the world (Bargh & Morsella, 2008), as opposed to fundamentally dangerous and forbidden. This shift is quite important for purposes of integration, as avoidance behavior is central to behavior therapy and CBT (Barlow et al., 2017) and is highly consistent with the need for actively approaching and eliciting emotional experience in EFT (Greenberg, 2002). This constructivist approach to emotional experience links directly to the IPRK in the BPCSG. We may rightfully say that the internal generative model is responsible for guiding us through life automatically and that, as a general rule, conscious experience comes into play when automatic processes need to be updated to deal with unexpected conditions.

## Development

Freud was revolutionary in pointing to the importance of childhood development and the role of developmental arrests in determining the origins of adult psychopathology (Gabbard, 2017). His focus was on stages of psychosexual development that can be broadly categorized into primary narcissism (one-person psychology), pre-Oedipal (two-person psychology) and Oedipal (three-person psychology) phases of development. Object relations, including notions

about the development of self and object representations and the separation-individuation process (Mahler, Pine & Bergman, 2000), have been very helpful in understanding the origin of borderline, narcissistic, and other personality disorders (McWilliams, 2011). Bowlby (1973) discussed the critical importance of attachment in childhood; the development of an internal working model in childhood (as previously noted) that maps how self and others are expected to behave and how wants, needs and wishes are to be handled; and the emergence of secure and insecure attachment styles. The focus on childhood development has been supplemented by neo-Freudian writers such as Erikson (1993), Levinson (1978), and Blatt (2008) who recognized that developmental trajectories are altered by adverse childhood circumstances such as trauma or neglect and that development continues throughout the lifespan.

The notion that later adult difficulties have their origin in childhood has until recently been the province of psychoanalytic theorizing (with some notable exceptions; e.g., Jacobs & Nadel, 1985). Given that concepts of development have been greatly enriched and updated in light of research on early childhood development and mother/caregiver–child interactions (Beebe & Lachmann, 2013), the contemporary psychoanalytic perspective on development such as the conclusions of the BPCPSG provides a reasonable foundation for further theorizing. A key question is how to broaden understanding of the developmental origin of RMPs in a way that capitalizes on relevant advances in computational neuroscience.

To be considered a useful advance, however, such a new perspective must be able to solve problems and advance the field in a way that previous theories or models could not. A key and problematic issue is that psychoanalysis is a verbal treatment method that must somehow access prelinguistic experiences in childhood and deal with implicit processes (including those that develop later in life after language is acquired) such as the IPRK, a point that Freud appreciated given his consideration of how nonverbal behavior at times revealed unconscious motives (Freud, 1901/1960). When interpretations are made, they often involve explaining the problematic situation, the nature of conflicts and the compromise solutions to those conflicts from the standpoint of unconscious wishes or intentions that needed to be repressed for the sake of psychological survival and maintaining attachment relationships (Brenner, 1974). Concepts of unconscious intentions as articulated in such interpretations (Cabaniss, 2016) often cast unconscious thoughts and feelings as being in the same form as their conscious counterparts except that they are excluded from conscious awareness by virtue of defenses such as repression.

An alternative to this intentional view of the unconscious is to consider how action sequences and the rules or constraints for the expression of emotion are learned in early childhood. This is important as it establishes a foundation

for the more complex predictive models that develop over time. Actions that are rewarded tend to be repeated and those that are punished tend not to be (Thorndike, 1927). Knowledge about acceptable and unacceptable behavior in the family context (importantly involving being able to maintain safety, security, and attachment to caregivers) is acquired through statistical learning (Smith & Lane, 2016). In this context the distinction between model-free (MF) and model-based (MB) reinforcement learning is particularly relevant (Gershman, 2017; Lee, Shimojo, & O'Doherty, 2014). MF learning involves learning what actions to take in a situation based on a weighted average of the positive and negative experiences associated with that action when it was selected in a similar situation in the past. It does not involve anticipation, planning, or thinking about long-term consequences or goal achievement. It simply involves learning to take a particular kind of action in a particular situation. An example would be, "When I feel bad (the situation or state), go to mother (the action)." If that action leads to a good feeling, it is likely to be repeated. If it feels uncomfortable, it is less likely to be repeated. These values are stored in a cache, and a running average is kept. This is computationally very simple and reliable but also inflexible.

Contrast this with MB reinforcement learning, which involves learning a general model of a situation that enables a variety of multiple-step solutions to goal attainment. This way of acting in situations is computationally intensive as it involves considering multiple different ways to achieve a goal. It is the method to use when MF strategies are ineffective and especially useful in new or difficult situations (to the extent that they are recognized as such). The key point is that MB action sequences involve an intention to achieve goals, whereas MF actions are undertaken because they have a history of being associated with feeling good or feeling less bad than available immediate alternatives.

This distinction may be very relevant to therapist–client interactions in PDT. Based on recent developmental research, it is reasonable to assume that affective-interpersonal maturation very early in childhood creates the foundation for all later affective-interpersonal development (Blatt, 2008; Erikson, 1993). Piaget demonstrated that cognition is sensory-motor in early childhood, that early learning in childhood consists of action sequences, and that abstract thinking and language take many years to develop fully (Flavell, 1963). It is therefore difficult to capture in language what such experiences were like in childhood and, moreover, impossible to recall because of so-called infantile amnesia (Travaglia, Bisaz, Sweet, Blitzer, & Alberini, 2016). Nevertheless, this helps to explain the wisdom of the BCPSG perspective, which says that the IPRK is how development occurs and where the critical interactions in psychotherapy take place. It is difficult to disentangle MF and MB learning, but it is likely that at least some of the earliest examples of MF learning are expressed

in the therapeutic relationship with no intentionality (i.e., no MB decision-making) involved. Instead of interpretations along the lines of "You are doing this because you want or need or wish x," an arguably more accurate interpretation in many contexts is "You are doing this now because this is what was most rewarded (or least punished) on average in the past." Again, this is not a simple (inappropriate) translation of complex cognitive and emotional processes into simpler behavioral terms but a recognition of how the very young child's mind operates—that much early learning occurs in a MF manner and that the deeply ingrained patterns may still be present in adulthood. This suggest that in many cases RMPs are not due to intentions in the present as much as rewards and punishments in the past. Moreover, this has implications for the ease with which changes can occur. Because certain patterns are so ingrained, they will be difficult to change. Therefore, given these circumstances, it is useful to be aware of being prone to such action tendencies and to consider alternatives when such automatic behaviors are problematic. Patterns that are deeply ingrained due to MF processes are unlikely to be easily modified by MB interpretations about "unconscious intentions."

This perspective also has implications for the therapeutic alliance (Horvath & Luborsky, 1993), which all therapies regard as essential to treatment success. The way a client relates to the therapist is likely influenced by MF learning in childhood (Clyman, 1991). PDT therapists are particularly attuned to the nuances of the process of the interaction between client and therapist. Often the pattern is detectable by the therapist by virtue of the therapist's emotional response to the client (i.e., the countertransference—broadly defined as all emotional responses of the therapist to the client). PDT therapists are trained to tune into their own feelings and formulate what is happening in the transaction to explain these feelings (Gabbard, 2017). Being aware of such feelings decreases the likelihood that they will be expressed in action before being understood by the therapist and applied to the client, although such enactments are inevitable. The automatic emotional response to the client is the IPRK in action and the very context in which therapeutic benefits can occur. Wachtel (2009) has described how recurrent patterns are maintained by the emotional responses induced in others (e.g., being fearful and suspicious; based on past experience) in an otherwise neutral context may evoke resentment and even hostility in the other—exactly what was feared (and appearing to justify the fearfulness) but not present before the encounter. PDT therapists aim to construct and reflect upon the feelings activated by such patterns rather than act on them in an automatic manner as described by the BCPSG. To the extent that the therapist can understand such responses as an expression in the transference of the RMP, the more likely it is that such processing will lead to helpful and corrective interventions that facilitate the client's development (Lane, 2018).

## Conflicts

In the previous sections, we have made the case for the origin of RMPs without reference to conflicts. Yet, conflicts are the fundamental basis of psychopathology in classic psychodynamic theory (Brenner, 1974; Gabbard, 2017; Malan, 1995; McWilliams, 2011) and can be between drives, between mental agencies (e.g., id, ego, superego), or between wishes and reality. Classically, this involved having sexual or aggressive urges of which the person was unaware, but these urges nevertheless were thought to remain active and result in compromise formations or symptoms. Examples include the classic Oedipal conflict that entailed loving and murderous feelings toward the same-sex parent; the feelings or impulses, if translated into action, were unacceptable to the person, the other people involved, and to society at large and, therefore, needed to be banished from consciousness. The conflict was thought to be the basis for self-defeating behavior that was believed to be due to unconscious guilt and resulted, for example, in a failure to reach one's potential occupationally.

Although conflicts are ubiquitous, in the proposed alternative framing they do not hold the critical place in pathogenesis as in the Freudian model. Summers (2013) pointed out that conflict is ubiquitous, but what explains why some conflicts are more problematic than others and do not get resolved is that something gets in the way of resolving the conflicts. Here, the focus is on individual development and growth and the idea that successful adaptation is a function of the versatility and complexity of the internal generative model. This is consistent with the view of the BCPSG, which is that conflict is a higher level concept founded on the IPRK. It is also consistent with a new nosology within psychoanalysis and psychodynamic circles called the operationalized psychodynamic diagnosis system (Zimmermann et al., 2012) that distinguishes between psychological problems due to maladaptive solutions to conflicts and problems in adaptation due to "structural" abnormalities corresponding to deficits in the development of psychological functions due to trauma and other adverse circumstances. The concept of RMPs suggests that this conflict is not an isolated incident but has parallels in the family of origin and the transference relationship with the therapist. What is being added here is that what prevents resolution of conflict is intolerable emotion that is being avoided. Growth and development in the capacity to experience and use emotion more flexibly makes it possible to overcome conflict. Or, one might say, overcoming intractable defenses requires a certain kind of growth and development that goes beyond simply "overcoming defense."

Conflict is ubiquitous for at least three reasons. Early in development, we respond to the environment in MF ways based on past experience with what is rewarded and what is punished. Survival requires adaptation to the environment. These patterns get deeply ingrained through statistical learning. The

contexts and response patterns are not coordinated and thus will inevitably conflict. These conflicts can be overcome to an extent with MB decision-making, which is difficult and requires value-based prioritizing. MB problem-solving, however, requires awareness of the problem and the goal to be attained, which is prevented by emotionally driven avoidance patterns.

Another source of conflict is the fact that, from a biological and evolutionary perspective, humans (like all species) are in the first instance individuals who must survive to procreate. Success as individuals requires agency and the ability to compete effectively, which often means defeating others (survival of the fittest). Since those same motivations apply to everyone else as well and each person is unique, conflict between people is inevitable.

A third source of conflict is that human beings are simultaneously social creatures who strive for intimacy and connection. Affiliative tendencies are inborn and are the basis for attachment relationships (Bowlby, 1973). Our goals as individuals and our goals as social creatures seeking connection will at times conflict (Blatt, 2008). It is hard to conceive of success in any domain without integrating agency and affiliation, and yet such integration (and associated success) is difficult.

The dual nature of humans, as individuals and as social creatures, has profound implications for our lives today. In terms of personality development, Blatt (2008) argues that the major goals of personality development are (a) promoting self-definition and self-actualization (agency) and (b) promoting relatedness and the capacity for intimate attachment (communion). These two dimensions are interrelated in that throughout the course of development progress on one dimension requires successful interaction and engagement with the other. As human beings, we are required to balance these two agendas all the time, and our ability to do so requires ongoing growth and development. If blocks or blind spots occur based on early adversity or other strong avoidance tendencies, conflicts and the patterns they engender may become recurrent.

This may be illustrated in the case of Becky, the client treated by Hanna Levenson (2010) in an APA video (also see Chapter 12 of this volume). Becky wanted closeness with her boyfriend but was ignored and not responded to as she wished. She longed for him to be more responsive but felt that if she spoke up he would abandon her because he would conclude that she was too much trouble. She had her own career needs as well that created challenges in making time for her relationship with him and coordinating her life with his. She therefore suffered in silence and at times cried herself to sleep at night.

In therapy, it became clear that in her family of origin she needed to sacrifice her own wants and needs to ensure that she stayed in the good graces of her parents (i.e., she needed to not be too much trouble). Her mother was alcohol dependent, and Becky at times needed to tend to her and on one

occasion in particular was terrified of losing her when mother vomited and then lost consciousness, creating the potential for aspiration pneumonia and its complications. With experiences such as this, she learned that her own needs were of secondary importance and that she shouldn't burden others with them.

She therefore had a conflict: she *wanted* to be loved by her boyfriend but was *afraid* to speak up and convey what she wanted and needed for fear of rejection. It is potentially clarifying to frame the conflict in terms of these two opposing emotional trends. What kept her stuck was avoidance of the possible rejection she feared, which was based on a lack of confidence in her own worth and value including the importance of honoring what she wanted and needed. She had learned to put aside her own needs, and this is what was being played out automatically and implicitly in her interactions with others. Part of what made it possible to change this RMP was bringing the opposing action tendencies to the level of conscious emotional feeling and holding the two emotions in mind at the same time: I am *afraid* of rejection, and I am a valuable person who *deserves* to be loved.

A breakthrough in therapy involved becoming aware of these feelings and overcoming the defense or avoidance strategy—because her fear of speaking up kept her from having her need for connection met. Importantly, she took measured risks to open herself up to different responses. At the suggestion of her therapist, she tried speaking up with a friend, expressing her desire to have her own experiences attended to as well as the friend's, and this new strategy had a positive outcome. She also had a poignant exchange with her therapist, in which her value as a person who deserved to be loved was affirmed, in stark contrast to her deeply held conviction that she was not. These corrective emotional experiences were mutative. Simply overcoming the defense to become aware of her emotions (desire for love, fear of rejection) was not enough, however, because the old pattern was embedded in her IPRK and was part of her automatic behavior. She had to grow emotionally (to feel more worthwhile and better able to withstand possible rejection) to alter that pattern of automatic behavior to become more flexible and be able to speak up for herself when appropriate.

## Defenses

As previously noted, a foundational theory that may be the bedrock of psychoanalysis is that forbidden impulses, urges, and wishes are held in abeyance in the unconscious due to defenses (Brenner, 1974; Cabaniss, 2016; McWilliams, 2011). These defenses classically include repression most prominently but also include projection, displacement, reaction formation, isolation of affect, and sublimation, as well as more primitive defenses such as splitting, projective identification, and dissociation. A fundamental technical concept is that in the conducting of

PDT it is important to address defense first (i.e., to address what gets in the way of thought or feeling, before getting to the thought or feeling itself; Malan, 1995).

This principle of treatment makes sense when defenses interfere with the experiencing of affect. However, given that we have proposed that affect is not routinely held in abeyance by defenses, in contrast to classic psychoanalytic theory, a focus on defense may not be necessary at all times. According to this alternative view, affects may not be experienced at times because something other than defense gets in the way of their being constructed (Lane, Weihs, Herring, Hishaw, & Smith, 2015; Panksepp et al., 2017).

As with the other core constructs addressed in this chapter, a slight adjustment in the conceptualization of the "defense before content" rule will facilitate integration with other modalities. One such adjustment is expanding the scope of the definition of defense. It is recognized within the psychoanalytic literature, for example, that any thought or behavior can serve a defensive function (Brenner, 1974). Thus, expanding the conceptualization of defense to include any avoidance behavior that interferes with the experiencing of affect (including but not limited to the classic list of unconscious defense mechanisms compiled by Anna Freud, 1936/1992) would be consistent with the opinions of respected psychoanalysts such as Brenner and would permit building bridges to therapists using other modalities who view affect avoidance as a major issue. For example, overcoming avoidance of distressing affect is seen by Barlow as a defining feature of CBT and the primary focus of the unified protocol for the treatment of anxiety and depressive disorders (Barlow et al., 2017; Smith, 2017).

A second adjustment is to propose that although it is necessary for defenses or other avoidance behaviors to be dismantled, inactivated, or bypassed if they interfere with the experiencing of affect, this will not always be necessary. Therefore, an alternative viable strategy may be to only address defense or avoidance behavior if it appears to be the reason for difficulty in experiencing affect only after attempting to promote expression of affect. For example, Les Greenberg encourages clients in EFT to experience affects as fully as possible first and only addresses what gets in the way and how clients keep themselves from feeling if there is a problem in doing so (Greenberg & Watson, 2006). Encouraging the experiencing, expression, and processing of affect without always addressing defenses first likely increases the frequency and intensity of such authentic affective experiences in therapy.

These are important issues because they relate directly to what it is we are trying to change with therapy and how we go about changing it. Psychoanalysis began with the study of hysteria and the concept that when a traumatic event occurred in the past, the affect at the time was repressed but continued to live on and remain active, and expression (catharsis) of the strangulated affect was needed to overcome its pathogenic effects (Breuer & Freud, 1895/1955). According to this

view, overcoming the defense was needed so that the fully formed affect could be liberated and then interpreted.

An alternative perspective is that when trauma occurs the affect is unformulated in the sense that it was not conceptualized, experienced, or understood at the time (Stern, 2013; for complex brain-based reasons that we discuss in the BBS paper; Lane, Ryan et al., 2015). Revisiting the trauma in the safety of therapy through hindsight makes it possible to consider meanings of the original context and therefore feelings that were not previously possible. For example, fear may have been experienced but anger might not have been possible until it could be formulated and experienced later in life in a safer context. Until that safer context became available the anger did not exist (i.e., it was not fully formulated and held in abeyance due to defense). Moreover, unbearable experiences in childhood due to trauma, neglect, or other repeated undesirable circumstance can lead the child to avoid similar experiences again at all costs because of their intensity and aversive nature. For example, a child may learn to not consciously experience wanting or needing love because the acknowledgment of that need could lead to unbearable feelings of unfulfilled longing and hurt.

This then has a major influence on the trajectory of development, as a pattern of avoidance and constriction of adaptive behavior sets in that can continue into adulthood. What was highly adaptive in the family of origin, permitting survival in a psychological and perhaps biological sense, the maintenance of key attachment relationships, and the minimization of distress, can be maladaptive as an adult after leaving the family of origin. To put it in predictive coding terms, the priors established in childhood minimized prediction error in the early family environment but generated considerable prediction error and distress in the adult environment. These adaptations to avoid intolerable affect may be a fundamental cause of RMPs.

As previously noted, Menninger (1958) and Malan (1995) discussed the triangle of insight as the three *interpersonal* contexts in which the repetitive patterns play out. Menninger and Malan also described an additional triangle, namely, the triangle of conflict, which is an *intrapersonal* context (see Figure 14.1). This consisted of a hidden feeling, a defense, and the anxiety (or other distress) resulting from the activation of a hidden feeling in circumstances in which defensive or avoidance processes were inadequate. According to this model, the onset of symptoms such as anxiety or distress is thought to occur when defensive processes are inadequate. The two triangles are related in that the triangle of insight, which involves interpersonal processes, can be thought of as serving the function of keeping the hidden feeling hidden in an intrapersonal context (and thus avoiding or minimizing anxiety; i.e., "primary gain"). This often involves active reversal of passive experience (e.g., "I won't be dependent and weak, I will be strong and independent"; Klein, 1976).

This could mean that when typical defensive or coping behaviors that serve an avoidance function are compromised or no longer available to a person, distress may increase. This may be a common context in explaining why a client decides to come to therapy when they do. This is a good example of where the focus on RMPs and the focus on symptoms dovetail.

This may also serve to illustrate the additional element—one may call it a deficit—that explains why some conflicts tend to remain unresolved and the associated defenses tend to stay intact. In general, defenses are associated with or consist of habits of thought and behavior (the IPRK) that keep the RMP in place. In the case of Becky, dislodging the defense (which had served to minimize the intolerable experience of rejection) involved adjustments of thought and behavior that opened her up to the possibility of rejection in social interactions where that possibility had previously been avoided. It also involved developing the capacity or willingness to endure or tolerate the feelings associated with rejection should that occur. Consistent with an expanded concept of "schema" that goes beyond cognition only, and which follows from the predictive processing and active inference perspectives (see Figure 14.2), this may also illustrate the inherent interrelation between construals, emotions, and interpersonal behaviors and

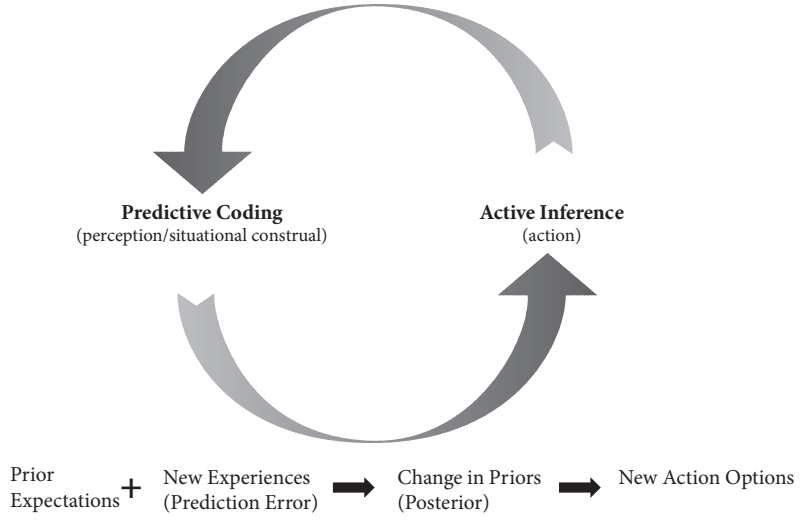


**Figure 14.2** The inherent interaction between predictive coding and active inference. The way situations are perceived is influenced by the action options available. Conversely, the action selected is influenced by the anticipated sensory consequences of the action, including emotional consequences. Therefore, when new experiences in psychotherapy update priors and change how a situation is construed, the action options in that situation change as well.

how all three may need to change in a coordinated manner if enduring change is to occur.

We have therefore described how RMPs arise in early development to avoid the experience of intolerable affect. These patterns manifest as automatic behaviors in relationships—what the BCPSG describes as the IPRK. To the extent that this pattern manifests in the transference, this relates directly to the BPCSG focus on the IPRK and would consist of the expression of this recurrent problematic pattern including the defensive or avoidance process in relatively pure form in the transference.

## Treatment

Classic notions of how treatment works in PDT are that it involves making the unconscious conscious, promotes insight and understanding through work in the transference relationship about the previously unconscious motivations leading to recurrent problems, and works through alternative approaches to problems based on a better, conscious command of the issues (Brenner 1974; Malan 1995). This can be understood as working at the conceptual level to change patterns that are basically implicit and relational (i.e., helping the client to attend to and become aware of those patterns). Newer approaches such as the relational school place less emphasis on interpretations, put much more emphasis on experiences in interaction with the therapist, and view the therapy as taking place in the intersubjective emotional field between client and therapist, as opposed to within the client's mind only (McWilliams, 2001; Safran 2012; Mitchell, 1988).

The BPCSG, as part of the relational approach, stated that conflict, defense, and fantasy were concepts that were derived from and superimposed upon the IPRK (BCPSG, 2007). This can be understood within the framework developed here. Conflict, as we have seen, is hypothesized to result from action patterns related to emotion acquired earlier in life that are not integrated and at times work at cross-purposes. Fantasy may be the expression of wishes that may not actually be present as verbalizable preferences if learning is MF; more generally, fantasy as described in language may provide a coherent synthesis of action tendencies that only achieve coherence as fantasy when remapped to the symbolic level of linguistic expression in therapy. As previously noted, defense can be broadly understood as avoidance behaviors (in either the cognitive or motoric sense) that serve to keep distressing affect from being experienced. The latter may be an expression of the concept of "active inference" (Clark, 2016; Friston et al., 2013; Hohwy, 2013), which means that actions are chosen to fulfill beliefs and ensure that sensory input (exteroceptive, interoceptive, or proprioceptive) conforms to predictions. Such action selection serves the purpose of avoiding "surprise"

(which is a specific mathematical construct from information theory and, in computational concepts of cognition, is often approximated by a construct called "free energy"; Carhart-Harris & Friston, 2010) associated with prediction error, which in this case would take the form of distress requiring further adaptation, coping, and mental effort. In other words, active inference ensures that behavior patterns are selected for the purpose of avoiding prediction error (and minimizing free energy; i.e., to keep the mind clear of distressing emotions). As such, we can understand how conflict and defense are ways of abstractly conceptualizing the automatic behavioral adaptations that aim to keep emotional experience on an even keel and are instantiated as the IPRK.

As noted in the BBS article, the core process of enduring change is hypothesized to involve the reconsolidation of emotional memories (Lane, Ryan, Nadel, & Greenberg, 2015). While old memories and old feelings are activated and are expressed in the IPRK, corrective emotional experiences provide new input that can alter the old memories through reconsolidation. Corrective emotional experiences can be understood within this computational framework as well. The IPRK involves the client acting in ways that pull the therapist to behave in a certain way, consistent with the RMP and Wachtel's (2009) concept of cyclical psychodynamics. The therapist, by virtue of his or her training, does not act upon this "invitation" as others do in the client's life and instead notices this implicit invitation, reflects upon it, tries to understand it in relation to the client's past experience, and tries to identify what the client needs. Here the therapist is resisting the forces (interpersonal communications) resulting from the mechanisms of active inference in the client, expressed by the client in an unknowing (and perhaps unintentional way, if based on MF learning) "attempt" to repeat the old patterns. The ensuing interaction with the therapist is therefore contrary to the client's expectation and is surprising for the client. Typically this involves a much more positive, empathic, nonjudgmental, and caring response from the therapist than the client anticipated. Although it is highly therapeutic, in computational terms this constitutes a "prediction error" for the client, requiring that prior expectations be updated. Stern (2004; who contributed to the BPCSG) emphasized the importance of critical moments in therapy when something unexpected happens and the client has an affective experience that is particularly memorable. This is entirely consistent with this computational account and with the core notion of the BBS paper, which is that corrective emotional experiences update old problematic memories through the process of memory reconsolidation.

This perspective helps to explain why affective experiencing is an essential ingredient of enduring change in psychotherapy. The recurrent patterns that are problematic in themselves serve the function of avoiding intolerable affect. The sharing of personal information with the therapist and the therapist's empathic responses activate mood-congruent memories of related situations, heightening

the likelihood that old schemas or behavior patterns associated with that intolerable affect will get activated in the therapy relationship. The treatment situation and the therapeutic alliance, however, are designed to create a new context such that the support, encouragement, and positive regard provided by the therapist reduce the anticipated probability that the same old intolerable distress will be experienced again. Over time, the anticipated affective quality of the therapeutic interaction gradually becomes more positive. At a certain point, the barrier to allowing the intolerable affect to be experienced in real time is sufficiently lowered so that it can be consciously experienced during the therapy and in relation to the therapist. When the therapist responds in an unexpectedly positive way, this induces a felt experience in the client that is particularly memorable. This surprise or prediction error is registered and contributes to the updating of the memories that led to the original transference expectations. Just as affective experience itself constitutes an overcoming of the avoidance behavior or defense, another reason why affect needs to be experienced in therapy is that affect is a particularly potent way of updating the old problematic memory associated with intolerable affective distress (Schwabe, Joëls, Roozendaal, Wolf, & Oitzl, 2012).

The affective potency of such an intervention raises the important issue of what the conditions must be for memory updating to occur in this context (i.e., for it to be "corrective" of the original memory), as opposed to the intervention creating a new memory. As discussed in other chapters (see Chapters 2, 10, 15, and 16), if the intervention is experienced as too different or unrelated to previous experience (i.e., the latent causal structure of the experience is different; Gershman, Monfils, Norman & Niv, 2017), it will create a new memory (as opposed to updating or transforming the original transference expectation). Updating is likely to occur if the unexpectedly positive experience occurs during a moment when previously intolerable emotions associated with the original transference expectation are being experienced. This will help to ensure that the new experience is delivered to the "affective location" within memory banks (i.e., hippocampal-cortical complexes; see Chapter 16 of this volume) where the original transference expectations are stored. Moreover, the therapeutic relationship must be sufficiently developed to be similar enough to previous experiences in other relationships, yet sufficiently genuine in its own right, such that the intervention is experienced as relevant to and capable of updating beliefs about relationships generally. Thus, although it is often time-consuming to develop a transference relationship with the therapist that is both similar enough to yet different enough from previous relationships, a potential advantage of this approach is that it increases the likelihood that the original memories will be transformed, as opposed to creating new memories that will be much more difficult to generalize.

As we discussed in the BBS paper, a third ingredient in therapeutic change is the working through process conceptualized as converting episodic memories to semantic memories. By having a series of episodic experiences both in the therapy and outside the therapy, the anticipated associations between situations and anticipated affective responses of self and other are updated. Having such experiences outside therapy is essential as the range of situations to which the new set of expectations needs to be applied is quite large. What is changing here are the memories that influence how the various situations are construed. The changing construals alter the emotions that are experienced. The end result is that the therapy "changes emotion with emotion" as Les Greenberg, Antonio Pascuale-Leon and colleagues (Greenberg 2002; also see Chapter 9 of this volume) might say. According to the current framework, this happens by way of changing the original problematic memories, which alter construals associated with the original set of problematic affects. Shifting to an updated set of construals is associated with a different set of predictions that lead to a different (more adaptive) set of affects.

There is an additional element of the change process that involves the interpersonal behaviors that shift when the construals and emotions change. New ways of interacting that follow from the experience in therapy need to be developed that constitute more adaptive behavior and potentially enable more gratification in interpersonal relationships, but also involve greater openness to the possibility of experiencing previously intolerable emotions. As these new behaviors come to be associated with positive interpersonal experiences, they are reinforced and tend to be repeated. Over time they become more automatic. As such, what had been implicit and maladaptive (the IPRK) gets transformed by virtue of explicit corrective emotional experiences, leading in turn to more adaptive patterns of thought and behavior that follow from them, which over time get practiced and refined until they become automatic and implicit.

An important issue to consider next is how to conceptualize what role, if any, interpretation or understanding plays in the change process. According to the computational perspective, much of the learning that takes place to generate and guide the IPRK is MF learning and updating. Understanding, however, constitutes MB learning such that the client learns the map of the problematic situation: what the old responses were, how they came about, what behaviors or defenses were employed to manage the distress, how the recurrent pattern manifested itself in previous relationships, why problematic decisions were made in the past, how the situations can be construed differently now, how the altered responses lead to much better experiences now, and how adaptation in the previously problematic areas can be significantly improved. Having such a map makes it possible to deal with new, unanticipated situations, as well as to overcome MF inclinations through conscious intention, improving the likelihood that the

changes will be enduring and relapse will not occur. In addition, improved understanding leads to the further differentiation of emotional feelings, which enlarge the behavioral repertoire and reduce prediction errors, enabling the client to be more attuned and better regulated. Thus, MB learning helps to consolidate and understand the gains achieved through MF learning and promotes further development. A corollary implication of this is that MF learning through emotional experiencing in therapy may be sufficient in and of itself, whereas MB learning (interpretation and insight) is not, consistent with the conclusions of the BPCSG.

## Discussion

The goal of this chapter has been to reconceptualize RMPs in terms that extend beyond the psychodynamic tradition so that they can be more widely appreciated and addressed by psychotherapists from theoretical backgrounds other than PDT. From the perspective of affective science and computational neuroscience, unconscious processes are manifested in stereotyped behaviors that are executed automatically in social contexts. Multiple behavioral repertoires develop over time, but problems arise because of innumerable sources of conflict, not least of which is that every person has goals as an individual and a social creature that will at times inevitably conflict. If children are recurrently exposed to situations that cause unavoidable emotional distress, behavioral patterns of avoidance will develop to minimize the chance that the emotional pain will recur (Paivio & Laurent, 2001; Simard, Moss, & Pascuzzo, 2011). These patterns often become deeply ingrained and continue into adulthood. When circumstances arise that make continued avoidance of painful distress impossible, because the adaptations are suited to the childhood rather than the adult environment, symptoms may occur and the person may seek treatment. Treatment consists of establishing a bond with the therapist that, among other things, makes it possible to tolerate experiencing the avoided distress and integrate it with other more consciously accessible feelings. Improvement occurs when the therapist provides soothing comments and actions that assuage the distress by counteracting it in a corrective manner. This interaction with the therapist is more positive than typical for the client and provides strength and support to try new, more adaptive ways of solving the problems than those that arose earlier in life. These new behavioral patterns have the potential to create new, more positive experiences in a variety of contexts that can change the automatic behaviors for the better through the process of reconsolidation. Thus, there is a consistent thread in this scenario whereby problems arise because of emotional factors and the treatment consists of interventions that promote alternative, more positive emotional

experiences, combined with promoting explicit awareness of these and other experiences, that in turn permit an expansion and normalization of a person's affect-based behavioral repertoire.

A goal of all psychotherapies is to provide relief that is enduring. Traditionally, the goal of PDT has been to get to the root of the problem such that it does not recur. As previously noted, what had been previously conceptualized as the etiology of the problem can be reconceptualized as the current manifestation of the core problem that serves to maintain the problem. Moreover, the IPRK can be understood as the micro or momentary expression of the larger macro problematic pattern or schema that manifests across temporal contexts because it is an expression of the client's internal generative or working model. To the extent that the IPRK is an expression in the here and now of schemas rooted in semantic memory, their activation in the moment with the therapist makes the memories labile and available for updating and reconsolidation. Thus, the emotional transactions with the therapist create the opportunity for transforming memories or problematic patterns so that they become better adapted to the current environment. To the extent that PDT is successful in promoting reconsolidation of problematic memories from the past by updating pre-existing schemas with new episodic experiences and is associated with changes in automatic behaviors such that the IPRK becomes more adaptive, it is more likely to result in changes that are enduring relative to treatments that do not promote memory reconsolidation.

Awareness of RMPs could help non-PDT therapists promote or improve the therapeutic alliance when needed. One need not work in the transference as the focus of psychotherapeutic work to recognize when it might be occurring (e.g., when a client interacts with the therapist in ways that seem to be overly rigid or based on misinterpretations). Awareness that RMPs manifest in three temporal contexts can help identify the pattern involved. Understanding of the RMP can promote empathy, an ability to avoid enactments in the therapy relationship that repeat the pattern and perhaps motivate supportive (as opposed to insight-oriented) interventions to improve the alliance when needed.

A second application is in relapse prevention. If one accepts the assumption that the RMP if left intact contributes to recurrence, one can recognize the various manifestations of the RMP and potentially intervene in therapeutic, albeit nonpsychodynamic ways. If the RMP is understood it can be broken down into behavioral components and addressed in other modalities. For example, if one recognized that a client was afraid to speak up because of a fear of rejection, one could potentially provide assertiveness training in combination with exposure therapy to better tolerate the fear of and possible experience of rejection. One can even imagine that a PDT therapist could identify the RMP in a series of interviews and then refer to therapists in other modalities to define therapeutic tasks that could alter the pattern. Conversely, practitioners of PDT may focus on the transference

but could incorporate other techniques like CBT or exposure therapy in an integrated treatment to promote the working through process (e.g., as illustrated by Hanna Levenson's case [see Chapter 12 of this volume] in which she recommended homework consisting of standing up for herself with her friend).

Another potential benefit of this broader perspective is that it could advance research on the origin, maintenance and treatment of RMPs. One of the most challenging issues regarding RMPs is understanding how it is that people repeatedly find themselves in abusive or otherwise unsatisfactory relationships. A predictive coding framework highlights that people will tend to perceive new situations based on previous experiences even if the objective circumstances differ from expectation. In the event that circumstances deviate too much from expectation, "Bayesian brain" ideas suggest that people will tend to either act in ways that bring about the predicted experience (active inference) or will instead need to take the new circumstances into account and update their internal model (predictive coding). The latter may involve entering psychotherapy, which itself can be very challenging as it often involves confronting the problematic experiences and patterns of the past. In cases of abuse early in life, a common mode of adaptation is to avoid distress rather than engage in emotion-approach coping (Stanton, Kirk, Cameron, & Danoff-Burg, 2000). Given that, an examination of how people make choices that bring about recurring abusive relationships would benefit from a fresh interdisciplinary perspective that does not assume that mistreatment is an unconsciously intended goal. Such research could potentially lead to new therapeutic innovations. For example, how can people who are used to abuse and mistreatment be taught to be feel comfortable and accept repeatedly being treated well?

In conclusion, the theory that enduring change in any modality occurs through reconsolidation of emotional memories was an important step toward the creation of an integrated framework that aims to provide clients with interventions that fit their goals and needs. A primary aim of this chapter has been to extend this further by describing an important context for treatment, RMPs, that contribute to symptoms and relapse regardless of one's theoretical orientation. By defining targets of intervention that go beyond symptoms in terms that are not specific to a particular theoretical orientation, a variety of therapeutic modalities may be used to bring about better and more enduring therapeutic outcomes.

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