Psychoanalysis and Motivational Systems

A New Look

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Chapter 2

Revisions and elaborations of motivational systems theory

RESPONSE TO CRITIQUES

In this chapter we respond to authors whose critiques and contributions prompt us to reconsider our original proposal of motivational systems theory. As we stated in Chapter 1, we expand our understanding of nonlinear dynamic systems theory (Shane & Coburn, 2002). In addition, we add an affiliative and a caregiving system to our prior conceptualization of five motivational systems: physiological regulation, attachment, exploratory/assertive, aversive, and sensual/sexual. Throughout this chapter, we consider fundamental aspects of psychic development: of maps and schemas, categories, affects, consciousness, regulatory capacities, and implicit and explicit affective/cognitive processing. In this way, we can establish the foundation for considering the relationship of motivational systems to one another, to the sense of wholeness of each individual, and to the intersubjective unfolding of one person's intentions (motivations) in mutual interaction with the intentions (motivations) of others. In Chapter 4, we apply the theory of fractals for this exploration of relationships. We are then able to argue that discrete affects, intentions, and goals emerge from each of the seven motivational systems. Perception, cognition, memory, affects, and recursive awareness of the occurrence of the process are postulated as providing the foundations from which the motivations specific to each system unfold (Figures 4.1 to 4.3, pp. 51–54). Finally, we delineate a nonconscious implicit level and a conscious explicit level and suggest that an affective metaphoric process makes linkages possible at each level and between each level. We believe that the significance of inference making for the unfolding of intentions and goals of each motivational system and recognition of others' intentions and goals has been understated (see Chapter 5). Finally, we emphasize that inferences are made at each level.

In an extensive essay titled "Wish, Need, Drives: Motive in the Light of Dynamic Systems Theory and Edelman's [1987] Selectionist Theory," Ghent (2002) wrote:

> My use of the term motivational systems is to be distinguished from
> that of Joseph Lichtenberg (1989), whose brilliant work on the subject,
> counts as the most systematic alternative to the dual drive-theory of
> classical psychoanalysis. My usage focuses more generically and far less
> specifically by accenting a new, and perhaps speculative, way of think-
> ing about the organization and development of motivation. (p. 765)

Along with his praise, Ghent raised two critiques. First, he proposed
a new way of conceptualizing the development of motivation based on
dynamic systems theory and Edelman's proposals. We have independently
revised and extended our original concept of systems to be in full agree-
ment. Second, Ghent noted but rejected our proposed organization of dis-
tinct discrete motivational systems, preferring to be generic rather than
specific. We do not agree. We believe Ghent's approach is too broad, simply
redefining any persistent intention as constituting a motivational system.
In consequence, without an orienting organization, motivational systems
theory becomes less clinically useful as a guide.

The thrust of Ghent's argument centered on redefining need. *Need* in
his usage is synonymous with *motivational system*. Ghent correctly notes
critically that in our original proposal we claimed that each of the five
motivational systems develops in response to a basic need. Accordingly we
used "'need' to mean something like *drive*, as used in classical psychoanaly-
sis" (p. 795). Ghent counters: "Thinking of needs in terms of motivational
systems enables us to transcend … distinctions between needs, on the one
hand, and wishes or drive derivatives, on the other, and encourages us to
think afresh about motivations" (p. 795).

If what we "need" are motivational systems (to which we concur) and
the motivational systems are not derived from needs or drives (to which
we also concur), how do they originate and develop? Nonlinear dynamic
systems theory states that based on experience, systems self-organize and
self-stabilize. Systems exist in dialectic tension with other systems, and as
perturbations approach chaos, tipping points lead to reorganizations. Both
Edelman (1987) and Damasio (1999) offer explanations of how self-orga-
nization comes about with relatively little having been preprogrammed.
Edelman states that, guided by a few intrinsic values (biases, preferences,
feelings), an infant's action selection results in each particular experience
becoming categorized and mapped. Subsequent similar repetitions become
generalized, recategorized, and associated with other mappings by reen-
trant signaling. Affects are implied in Edelman's account of arousal in the
limbic–brain stem hedonic system.

In Damasio's account affect is more explicit. He proposes a sequence
based in evolution that begins with an inducer triggering a feeling. As the
conscious or unconscious perception of a stimulus that induces a feeling is
processed, neural sites that are preset to respond to the particular category

(emotion induction sites) are activated. First-order neural maps represent changes in body state, either actual or only represented in the map, or both. Feelings (the private mental experience of an emotion) originate from first-order mappings of body state changes. Second-order neural structures map the pattern of neural activity at the emotion induction sites and "unleash the full range of body and brain responses that *constitute emotion*" (p. 283).

We regard affects as a significant component of experience at the fundamental development level and throughout all of life, and the implicit and explicit levels of psychic organization.

Edelman's selectionist theory argues against the trend toward universals preferred by Freud—the ubiquity and regularity of psychosexual stages and the Oedipus complex, for example.

> Developmental selection refers to the processes of self organizing micro-anatomical selection that occur in embryological time and lead ultimately to the formation of the large-scale neuroanatomy characteristic of any given species. Experiential selection refers to the selective strengthening or weakening of populations of synapses as a result of behavioral experience, thereby "carving out" a variety of functional "circuits" from the anatomical network. (Ghent, 2002, pp. 776–777)

The circuits or maps automatically adapt their boundaries on the basis of the unique characteristics of each individual's lived experience.

> The evolution in each person of new capacities and, with them, new motivations is emergent and nonlinear, a function of a complex array of inputs and environing circumstances that are actively engaged by the developing person. What appears to be a regularity in development, a maturational sequence of prescribed stages is, instead, the resultant of a vast number of individual microcosmic solutions and achievements, leaving room for a great range of variability from one individual to another in the acquisitions of capacities and motivations. (Ghent, 2002, p. 782)

We agree with Ghent and Edelman: no narrowly fixed universals, no drives that force development to take a predestined course. *Development is an intrinsically active process that creates its own categories, meanings, intentions, and goals or*—as we also agree—*its own emergent motivational systems*. Ghent asks: Does a singular hierarchy of motivational systems develop in the human infant (not our view) or a variety of hierarchies (our view), or a limitless variety with no generalization possible (not our view)? The thrust of Ghent's discussion and his clinical examples indicate he advocates a position that states: As expressions of a need, wish, or desire, a motivational system is any immediate *ad hoc* emergence of an

intention without a general ordering of categories or groupings. Starting with Edelman's concept of values as biases or preferences that induce affect (Damasio's "private feelings"), *we believe groupings of similar biases and affects exist in the neonate and form the basis of discrete but interrelated interacting motivational systems*. Some of these very early "values" are a direct innate given from human evolution. Many early values are so quickly learned (memory linked) that any distinction between genetic and environmental factors is irrelevant for their effect on the development of motivational systems. Both the evolved innate values and the quickly learned memory-linked values remain operant as strong *dispositions* throughout the life span (Damasio, 1999; Liotti, personal communication).

Physiologically, we note nutritional intake, sucking rhythms, proprioceptive movements, breathing rhythms, seeking warmth, maintaining equilibrium, eliminating, gentle rocking, and sleep and awake cycles. Attachment values include proximity at times of stress, eye contact, familiar sounds, especially of a higher-pitched speech, and a smiling face. Affiliative values tend toward inclusion of multiple individuals (the family group) and cooperation with them. Exploratory biases are toward light displays, rhythmical sounds, visual stimuli with the contours of a human face, predictable contingency, shiny objects, the neonate's own hands crossing the midline, and being the predictable initiator of an action or display. Aversive responses are triggered by a looming head, an acrid odor, a blocked airway, pain, overagitating stimuli, a startling noise, or a breach of expectation, such as a mother's face becoming frozen. Sensual values are fondling, rocking, kissing, cuddling, gentle tickling, and music. In addition to the observable values we have referenced that we regard as formative aspects of specific motivational systems, Ghent cites two values that apply to all motivational systems: a preference for capacities once formed to be reactivated, and a preference for perceptual and cognitive coherence.

Similarities and overlaps in each set of values noted above provide the basis for the groupings (categories) of the specific motivational systems we propose. Overlaps between values in each set provide the basis for generally nondisruptive shifts from dominance by one motivation system. In Chapter 4, we will discuss the similarities in intentions and goals that justify our groupings and the range of similarities and dissimilarities that govern the interaction, continuity, and discontinuity between different motivational systems as mental states shift in dominance.

Adherents of intersubjectivity and the relational perspectives, which include Ghent and us, can easily object to the tilt possibly implied in theorizing about self-organizing—where is the matching significance of the "other." Emphasizing the person as an active agent in his or her own development involves "the advent of a new form of one-person psychology having nothing to do with its classical homonym, but everything to do with the infant's intrinsic capacity to integrate outer experience with inner

constraints and create solutions sui generis" (Ghent, 2002, p. 181). In the "new form of one-person psychology," a person expresses his or her emergent active agency and sense of autonomy through developing motivational systems that are in constant interaction with both his or her own other motivational systems and the motivational systems of others.

To summarize, Ghent argued that Lichtenberg (1989) retained elements of a drive theory by basing the origin of motivational systems on needs. Subsequently, along with Ghent, we advocate a nonlinear dynamics systems theory of self-organization based on intersubjective lived experience. We do not agree with Ghent that equating motivational systems with need has the same clinical utility as the categorical maps we offer. If each expression of need, wish, or desire is a motivational system, we are left clinically without a way to recognize continuity in the recurrence of motivational states that center on specific intentional organizations.

The Boston Change Process Study Group (BCPSG) describes intentions as the basic unit of psychological meaning. "Intentions fit into the larger movements of orientation and directionality given by motivational systems" (2008, p. 129). They refer to an intention unfolding process comprising a preexecution forming phase, execution, and aim: "The intention unfolding process arises from a fundamental psychological process that chunks the flow of motivated human behavior into intentions" (p. 129). Forming intentions and motives is a socially adaptive innate mental tendency connecting the perception of intentional behavior in others with that which is felt in oneself. The intentional unfolding process acts as a reference to both the nonverbal implicit level and the level of language. Brain imaging observations have identified intention-detecting centers that "get activated in the person when he or she observes behaviors that lead him or her to infer an intention in another person (Ruby & Decety, 2001)" (p. 130). The intention–detection capacity is able to distinguish between the same action carried out by a human and a robot. Human intentions "are felt to have a thrust or leaning forward toward their goal" (p. 131), whether presented in action, speech, or emotion. Stern (2004) suggested that the subjective present moment is organized around intentions. Even though lasting only between 1 and 10 seconds, intentions are embedded in an emotional narrative that are grasped intuitively while the intention process is unfolding. The authors regard the intention unfolding process as the link between the implicit and reflective-verbal domains. The process itself is a nonverbal "process-representation of motivated experience that is grasped implicitly" (p. 129). Both the nonverbal implicit local level and the level of language "share the same grasp of intentionality" (p. 130).

We share the BCPSG's concept of intentions as the basic unit of psychological meaning and their formulation of an intention unfolding process that chunks the flow of motivations into motivational systems. We share the significance they place on the intuitive grasp of the intentions of oneself

and others. We also agree with the rapidity of the intuitive process (or, as we will describe in Chapter 5, inference making) in the 1 to 10 seconds of the present moment. *We will describe a two-phase experience: a rapid nonconscious affective inference-making phase followed by a conscious verbally organized symbolic phase of forming intentions and goals.* Consequently, we prefer to look clinically at three- to five-minute segments during which the unfolding of both phases allows analysts (and patients) to draw more elaborate inferences about emergent themes, intentions, and goals (motivational system) and the intersubjective realm of analyst and patient.

Motivational systems theory has been discussed extensively in a series of articles by a group of authors who apply an evolutionary perspective (Cortina & Liotti, 2005; Liotti, 1995; Liotti & Iannucci, 1993; Migone & Liotti, 1998):

> Lichtenberg's use of systems theory, affect theory, and infant research was a groundbreaking approach to understanding and conceptualizing motivation…. The main difference between Lichtenberg's and our model is that Lichtenberg uses developmental research (and more particularly infant research) to propose a taxonomy of basic motivational systems, while we have combined a lifespan developmental approach with an evolutionary approach toward the same end. (Cortina & Liotti, 2005, pp. 6–7)

Also, "the advantages of thinking in terms of motivational systems, in substitution for the outdated concept of the instinct, have been convincingly stated by Bowlby (1969) and Lichtenberg (1989)…. Lichtenberg's theory … is only marginally concerned with neurobiology, and not at all with ethology and evolutionary epistemology" (Migone & Liotti, 1998, p. 1082, fn. 7).

As the authors indicate, their and our approach have many areas of agreement. Cortina and Liotti (2005) describe processes of activation and deactivation to explain why a motivational system will appear in the foreground and the next moment recede into the background. The activation/deactivation is based on emotional and cognitive appraisals—what we will discuss in Chapter 5 as inferences. "Appraisals go through different phases of processing information. Information can remain automatic and non-conscious or with further processing become conscious" (p. 5). Or as described in Migone and Liotti (1998):

> The distinct motivational systems intervene in varying sequences and combinations moment by moment … the various motivational systems may operate simultaneously and in parallel; in a way, they could be compared to music, where the five main groups of motivational systems (as described, for example, by Lichtenberg 1989) are the lines of a musical staff. The parallel processing of information regulated

by the motivational systems takes place without conscious awareness. Consciously, we tend to perceive only the operations of one system at a time. (p. 1083)

Unlike Ghent, who preferred to remain generic rather than specific, these authors discuss and describe discrete systems of motivation based on their evolutionary perspective. For some of their proposed designations, we believe the difference lies more in the language source than in the conception; for others, the conceptions are disparate.

An attachment motivational system is fully appreciated by the evolution-based authors and by us. However, the authors tend toward a view of attachment more narrowly defined as a system expressive of intentions to close proximity with a caregiver to achieve a secure base experience of safety at times of danger. They identify a separate motivational system of intersubjectivity constituted by prosocial behaviors of cooperation, empathy, and sensitivity to others. In our view, along with seeking a secure base, the attachment motivational system also includes experiences of a mirroring smile, a sense of closeness and commonality, an admiration for an attached other's capabilities, as well as being known by and knowing attached others. That is, *we view safety and all of the positive emotions of intimacy characteristic of dyadic and triadic close relationships as together forming the attachment motivational system*. The thrust of the ability of attachment research to distinguish between secure and forms of insecure attachment requires observations of experiences of positive interactions as well as those of safety. *We use the term* intersubjectivity *to refer to a broad grouping of experiences, intentions, and goals involving others that are essential to the development of all motivational systems—a domain-general adaptive capacity*. Intimacy, a sustaining affective mental state, is the goal of the attachment, affiliative, and sensual/sexual motivational systems. We distinguish the special qualities of intimacy between the child and his or her mother and father, siblings and best friends, and later adult attachment loves from the sense of affiliation to family, school, race, social class, ethnic clan, religious group, age cohort, political party, and country. In 1989, Lichtenberg placed an affiliative system as a later development, a specialized outgrowth of the attachment system. *Today we regard the affiliative motivational system as separate*. First, research on the family triangle (Fivaz-Depeursinge & Corboz-Warnery, 1999) revealed that children as early as three months work to include a parent who is not in their immediate attachment interaction, indicative of the earliest stages of the family as group. Second, the early distinction made between the familiar group as safe and the racially or ethnically other as questionable is guided by the parent's affiliative biases. In addition are evolutionary pressures for intragroup cooperation and nonintragroup competition and territoriality.

Both evolution-based authors and attachment theorists (George & Solomon, 1999) support the conception of a separate caregiving system. George and Solomon regard the woman's caregiving system as remaining in an immature form until adolescence. During puberty hormonal and neurological changes combine with external stimuli and prior experience to form a sensitive period that initiates transformations in the caregiving system that press toward maturity. George and Solomon point to the dilemmas mothering encounters. Mothers must not only ensure their infant's survival, but their own reproductive fitness. To maximize their reproductive fitness, mothers must raise a child to become increasingly independent so they can invest in their mate, other offspring, and personal life goals.

George and Solomon regard early experiences of being mothered as a necessary precondition for the development of a mother's caregiving motivational system. However, early experience is neither a sufficient nor a limiting determinate. They note that mothers who were insecurely attached may develop the capacity to have securely attached babies. Additionally, the power of some babies to elicit and organize positive caregiving responses creates experiences that can serve as catalysts for change. Other babies, however, elicit and organize negative caregiving responses. Rutter (2008) reports on a Colorado adoption study (O'Connor, Deater-Deckard, Fulker, Rutter, & Plomin, 1988) in which children born to antisocial mothers were compared with children whose mothers had not shown antisocial behavior or drug problems. "The children who were genetically at risk experienced more negative parenting from their adoptive mothers than the other children. Detailed analyses went on to show that this was because the children's behavior evoked different responses in the adoptive parents" (2008, p. 5). Thus, the mode of expression, the regulation, the playing out of the intentions and goals of the caregiving motivational system (as with the other six motivational systems), are cocreated.

We had treated the manifestations of caregiving as a specialized form of attachment rather than a separate system. *We now regard caregiving as a distinct motivational system constituting more generalized goals than that confined to maternal childcare.* The distinctive characteristic of caregiving—focusing primarily on the intentions, needs, desires, and mind states of another with relative suppression of self-interest—can occur in many instances other than child rearing. The evolutionary development of a long period of dependency for human infants necessitates a long period of tilted balance between caregivers' altruistic "surrender" and their self-interest. The young child's caretaking of his or her stuffed animals, pets, and another child in distress are all evidence of an early caregiving system. Maternal hormonal priming is a factor for caregiving preoccupation, but not a requirement, as evidenced by the successful caregiving preoccupation of adoptive mothers and male caregivers, including many fathers who share

baby care in contemporary homes, househusbands, single fathers, and gay male couples.

Studies of functional neuroimaging of neural substrates of parent-infant attachment confirm specific brain responses that would substantiate the existence of a caregiving motivational system:

> First, key parenting sensory signals, including crying, visuals as well as touch and smell, must be organized in sensory cortices, which appraise the input and interact with sub cortical memory and motivation structures. With sufficient motivation, brain circuits are activated, that are designated as corticolimbic modules that we have designated as reflexive caring impulses…. In addition, cognitive circuits would be brought online, including those that regulate "mirroring," empathy, planning and further cognitive flexibility including the inferior frontal, insular, and superior-temporal parietal cortical regions…. Finally other alarm/emotion-preoccupation-anxiety systems might be activated to increase arousal and regulate parental worries and habitual responses. (Swain, 2008, pp. 33–34)

Consequently, we believe the evidence supports our recognition of a separate caregiving motivational system. The intention of the caregiver is to promote the thriving of the dependent child through the caregiver's practical and emotional responsiveness. However much in poetry and art we idealized maternal/Madonna nurturing, the caregiving system, as with other human motivational systems, contains its own dialectic tension between the caregiver's focus on the infant as primary other, her focus on other attachment figures, and her self-interest. And, as with any other motivational program, successful completion of an intention brings emotional rewards, while lack of success activates negative emotions. The responses of the particular infant, the support available for the caregiver, and his or her procedural memories all affect the degree of success or failure.

Evolution theory strongly supports a ranking motivational system centering on dominance, power, and competition for resources. In animals, evidence of ranking behavior is striking. Great male apes thump their chests, howl, and grimace threateningly, and male elephants flare their ears, raise their trunks, and trumpet loudly to establish their alpha position with respect to resources and sexual mates. Dogs roll over on their backs and expose their necks and jugular to indicate submission. In humans, evidence of rank as an organizing principle likewise abounds—president, chief, boss—who's up, who's down. Nonetheless, the narrowly specific instrumental ritualized ranking behaviors of animals differs greatly from the general multipurposeful symbolized ranking of humans. Accordingly, we take a different approach to dominance, power, and competition. *We see different aspects of competition, dominance, and power in the exploratory and*

in the aversive motivational systems. We view infants as having a powerful inclination to explore their surround—the animate and inanimate world in which they find themselves. Guided at first by a few inborn preferences, they quickly integrate their innate biases with the possibilities for exploration in the surround. Guided by the arousal of interest, infants eyes', hands, feet, and mouth all assert actively an attempt to master and give meaning to the challenges of the environment. Once a capacity emerges, infants work to achieve efficacy in every aspect of their life, from sucking and chewing, to grasping and moving. The push for efficacy will continue until competence is achieved—clearly a form of dominance that is often tension filled but not antagonistic. As toddlerhood is reached, first parallel play and then interactive play involves learning turn taking, cooperation, and how to regulate possessions and possessiveness. Ranking can occur as a natural flow of competitive ability and competence without domination and submission.

However, for all children, alongside exploratory interest and assertiveness in pursuit of efficacy and competence, the potential for aversiveness is omnipresent. Insecurely attached children are more vulnerable to activation of the aversive motivational system—the frustration of their attachment needs easily carries over. But why conceptualize an aversive motivational system rather than a ranking system? As a term, *aversive* is what we feel under particular conditions; *ranking* is how we organize many situations, both peaceful and oppositional. We have stated that once aversiveness is triggered, either externally by provocation or threat, or internally by association, inference, or fantasy, intentions will take the form of antagonism or withdrawal, fight or flight. Domination and the assumption of overt power or submission and the relinquishment of overt power are then expressed by ranking of relational roles, such as a dominating or submissive spouse. In contrast, context-sensitive accommodations and negotiations may lead to momentary shifts in ranking without aversive arousal. Consequently, we argue that both exploration and the assertion of preferences and aversiveness, antagonism, and withdrawal, and the many symbolic forms both motivational systems take, are more fundamental in humans than animal-like ranking postures.

Jones (1995), in *Affects as Process*, approached this topic by emphasizing territoriality rather than rank. Jones agreed with our emphasis on affect and used motivational systems as a way to organize his placement of affect as central to psychoanalysis. He regarded our statement that affects provide the principal means of identifying moment-to-moment shifts in motivational dominance as "the Rosetta stone" (p. 49) for developing a theory of affects. "Not only are affects a non-symbolic language, they are *the* language of motivational systems. They provide the affective signal, not only to the organism itself but to others as well, indicating what motivational system is operative" (p. 49).

Jones argued that fear and rage represent different motivational systems. Fear is a signal of a system designed to protect physical safety. Rage serves as the monitor of what Jones calls the competitive/territorial system. Aggression serves to allocate scarce resources—food, mates, and territory—among the same species. Fighting occurs, but more often its threat leads to its avoidance through the establishment of dominance hierarchies (ranking). "In humans, swaggering pride conveys a clear message, 'I can beat you;' while the eye avoiding emotion of shame conveys a gesture of submission, 'You are right, I won't fight with you'" (p. 50). Taken together, aggression and rage constitute what Jones calls the competitive/territorial motivational system.

Jones's argument rests on large-scale behaviors appropriate to animals dealing with predator inclinations, or humans in affect states of rage, panic, searing shame, humiliation, embarrassment, depression, and physical pain, or in traumatic situations of terror, abuse, and warfare. We believe the aversive motivational system provides a way to consider the behaviors that Jones regards as dominant organizing experiences of latency children—the schoolyard bullies, mean girls, and sissy victims of both sexes. Of equal importance, the aversive motivational system provides a way to consider the moment-to-moment regulation of consciousness and conceptual and attentional focus via classical defense mechanisms of suppression, repression, isolation, denial, disavowal, and dissociation. The "small" measures of regulating responses to aversiveness are foundational for early development and the cocreated form taken by the aversive system. During the first year of life, caregiver recognition and constructive response to the infant's aversive signals limit the duration, intensity, and disruption of painful affective states. An infant's trust that a caregiver will respond to and, to a reasonable extent, relieve an aversive state, and a caregiver's confidence in the ability to respond and relieve, is the foundational experience for aversive responses remaining flexible rather than concretized. The foundation of trust establishes the basis for managing the inevitable encounters of contradictory and oppositional agendas beginning characteristically in the second year and crystallizing in adolescence. The balance between a sense of power derived from mutual attachment trust and the sense of power derived from effective mutual opposition forms early and continues to rebalance throughout life. We believe the attachment, affiliative, caregiver, physiological, exploratory, and aversive motivational systems provide basic concepts needed to appreciate intersubjectivity, competition, ranking, and territoriality.

The contributions of Edelman and Damasio inform psychoanalysts about the manner in which maps and schemas, what has been called the representational world, are formed, continuously added to, and revised. Both emphasize differences between the presymbolic and symbolic periods of development. Other authors we will discuss contribute to our understanding of the two

different operational levels by which information is processed—one non-linear and parallel, the other linear and sequential. The nonlinear parallel processing level is the infant's mode of responding to stimuli and then, once linguistic-centered symbolic processing comes on line, remains as a mode of rapid here-and-now processing throughout life. As Damasio (1999) describes it:

> All our memory of things, of properties of things, of persons and places, of events and relationships, of skills, of biological regulations … exists in dispositional form (a synonym for *implicit, covert, non-conscious*), waiting to become an explicit image or action. Note that dispositions are not words. They are abstract records of potentialities. (p. 332)

We will consider the two levels, one implicit, the other explicit, from the standpoint of emotion, consciousness, and modes of processing information.

Lane (2008), in a presidential address to the American Psychosomatic Society, describes the implicit and explicit levels of emotional processing. Primary emotion is the phylogenetically older behavioral and physiological expression of an emotional response. It occurs automatically without conscious processing. It provides successful adaptation to immediate environmental challenges and the physiological adjustments needed to meet the challenges. Lane notes: "The time saved by having behavior directed by implicit processes could potentially mean the difference between life and death in life-threatening situations" (p. 221). Implicit emotions include sensory, motor, memory, and cognitive imagistic and inferential aspects that precede the emergence of a conscious affective intentional state. Along with nonconscious implicit emotions, Lane describes background feelings, focal attention to feelings, and reflective awareness.

Background feelings are bodily states that color a conscious experience but are not noticed unless focused on. They are generated by internal regulatory functions and external stimuli and provide information about one's current state of well-being. They constitute peripheral awareness of emotions when focal attention is directed elsewhere. Thus, while background feelings constitute a conscious experience of emotion without awareness, focal attention to feelings refers to the condition in which one's own subjective emotional state is the object of direct attention. "Reflective awareness involves thinking about the contents of conscious emotional experience, typically after it has been the object of focal attention" (p. 221).

Both Edelman and Damasio described consciousness as two tiered. Primary (Edelman) or core (Damasio) consciousness occurs in neonatal life as a here-and-now awareness. Higher-order (Edelman) or extended (Damasio) consciousness involves symbolic processing, including language, imagery, and a representation of self.

In Edelman's view, human primary consciousness involves forming an ongoing complex scene via the simultaneous linking of the categorization of a current perception (the thalamocortex) with memories of relevant value categories (affects) (the brain stem–limbic system). Continual reentrant signaling between affective memory and the ongoing global mapping in each sensory modality creates perceptual categorization in real time, a scene in the here and now ("present moment," Stern, 2004). Reentry is a complex exchange of parallel signals between the neural maps corresponding to perceptual categories and the neural maps corresponding to other activated functions, such as actions, affects, memory, and inference making. A neonate or preverbal infant can utilize long-term affective memory, but cannot be aware of "remembering" a past, or of applying the information to an extended future.

Damasio (1999) states *"core consciousness occurs when the brain's representation devices generate an imaged, nonverbal account of how the organism's own state is affected by the organism's processing of an object and when this process enhances the image of the causative object thus placing it saliently in a spatial and temporal context"* (p. 169). In Damasio's view, the nonverbal image or scene of core consciousness includes an account of the object-organism relationship—the source of the sense of self in the act of knowing. He adds "stepping into the light" (p. 3) is also a powerful metaphor for core consciousness, for the birth of the knowing mind, for the simple and yet momentous coming of the sense of a proto-self into the world of the mental. We believe Damasio's account of the "sense of self in the act of knowing" provides an understanding of *recursive sensing as a fundamental property of the human psyche*. Recursive sensing at the beginning of core consciousness underlies reflective awareness of one's own conscious experiencing, empathy as vicarious introspection, and mentalizing the mind states of others (Fonagy, 2000).

In higher-order or extended consciousness, concepts of self, past, and future can be connected to here-and-now awareness. Consciousness of differing states of consciousness and reflective recognition of cognitive-affective-intentional states become possible. Edelman (1987) proposes an evolutionary view of two "bootstrappings." The infant's level of brain functioning bootstraps into primary consciousness through value-guided categorization mapping and reentrant signaling. The older child's more complex level of symbolic brain functioning bootstraps into higher-order consciousness with self-reflective potential via speech and language. "Language or its neural precursor is required for the robust emergence of higher order consciousness, just as primary consciousness is required for the acquisition of language" (p. 172).

Bucci's (1985, 1997, 2002) multiple code theory describes a nonverbal system consisting of subsymbolic and nonverbal symbolic systems, a verbal system, and a referential process that links them.

> Emotions are major organizing structures of the nonverbal system, composed of all the elements of the system—including sensory and motoric representations as well as visceral experience. The emotional schemata include images of the object of the emotion, the person we hate or fear or desire, and representations of actions associated with the emotion—attacking, fleeing, caressing. These emotional schemata constitute expectations or beliefs about how people will act toward us, and how we will act toward them. (pp. 5–6)

Bucci describes nonverbal organizing principles such as similarity of perceptual features, or function, or contiguity in time and place. "The nonverbal schemata are massively parallel, taking in and processing information in many channels simultaneously; they have their own intrinsic organization, independent of language, but may also be redirected and regulated by connection to language" (p. 5).

The verbal system is the code of language and logic. It is both the internal code used to regulate one's attention and behavior, and the external code of communication with others. Unlike the parallel processing of the nonverbal system, the elements of the verbal system are words connected sequentially in sentences. Verbal knowledge is organized in hierarchical categories of increasing generality and abstraction.

The two differently organized systems are joined and affect each other through referential links that develop in infant-caregiver interactions. "The making of a referential connection requires joining the multichanneled, parallel and analogic contents of the nonverbal schemata, which are often private and unique to an individual's life, to the discrete, sequential, and logically organized verbal modality, which is the shared communicative code" (p. 7).

Rumelhart, McClelland, and the PDP Research Group (1986) describe a framework for the modeling of cognitive processing that does not involve the storage of prototypes, rules, or scripts. The connectionist framework or parallel distributed processing (PDP) (Bucci's "subsymbolic processing") assumes that information processing is accomplished through the simultaneous activity of a network of simple processing elements. Each element is connected to the next by excitatory and inhibitory signals. The signals operate to strengthen or weaken connections between the units. While any unit might be connected to a variety of other units, some of the connections become stronger than others due to repetitions of a particular interaction. Knowledge is implicit or built into the system by virtue of the strength or weakness of connections. Expectations that guide interactions are regarded as patterns of reactivations of affective units that have developed strong connections between them due to repetition.

Rosemary Balsam (2009), in a book essay on sexuality and shame, presents a positive assessment of Lichtenberg's *Sensuality and Sexuality Across*

the Divide of Shame (2008). The book presents a line of development of the sensual/sexual motivational system and relates the unfolding of that system to other motivational systems, particularly the attachment, caregiving, and aversive systems. Balsam states that "Lichtenberg beautifully elucidates how a cocreated interaction is instantiated" when a person experiences "multiple interactions encoded from caretakers who are shame-inducing due to their own psychopathology" (pp. 727–728). She adds: "Shame's maintenance or re-creation as coconstructed in the past and manifesting in the present treatment is illuminated in the long cases he presents" (p. 728). Balsam notes: "Shame invoked as an inherent, almost unilaterally produced component of a child's instinctual life at the inevitable and unproblematic 'civilizing' hands of parents, as in Freud's drive theory, is not Lichtenberg's conception. He argues that the environment aids regulation that can be absorbed by the child gradually" (p. 727). Balsam states that she worked to grasp a "preconception of 'sensuality' as a fundamental regulator of the psyche; 'sexuality' is now seen as distinguishable by shame from 'sensuality'" (p. 727).

After her appreciative appraisal, Balsam states: "My criticism is not about Lichtenberg's book, or its execution but about the limits of this theory as I understand it, and its execution" (p. 727). She asks: "How can we distinguish 'sensual' and 'sexual' on the basis of the shame that may or may not be present, if not either from the subject's own conscious vantage point, or its absence, without some theory that openly acknowledges unconscious conflict?" (p. 730). As Balsam recognizes, ours is a theory of regulation—regulation of systems organized and categorized and reorganized and recategorized based on an individual's experience embedded in the matrix of others. The difference is that rather than "an inherent almost unilaterally produced component of the child's instinctual life," we envision regulation as a complex intersubjective process. Our "preconception" based on observation is that the universal pursuit of many body sensations of pleasure, that is, sensuality, is often accepted, approved, and shared by parents, society, and the culture. And the pursuit of other bodily sensations of pleasure is disapproved and prohibited by inducing shame. The prohibition and shaming results in a category of experience we call sexuality, a category of experience that is intrinsically associated with further arousal from the added excitement of transgressing the restrictions and subverting the pronouncements of authority. These proposals are meant to be a general hypothesis about *development* that we believe is supported by observations about experiences during childhood, adolescence, and adult life. Clinically, we mean them to serve as a general guide to be held lightly in an analytic session. Thus, when Balsam argues, "For me the conscious and unconscious meanings assigned them (sensuality and sexuality) by an adult analysand in the course of free association are what differentiate them" (p. 727), we fully agree. Balsam believes our intersubjective model

blunts our interest "in distinctions between what is conscious and what is unconscious" (p. 729) and therefore requires "an analyst to be more sure of what he hears and knows than those who see themselves as exploring conflicts" (p. 730). Consequently, the analyst becomes an arbiter of what is sensual and not shame determined and what is sexual and shame derived. "How can we distinguish 'sensual' and 'sexual' on the basis of a shame that may or may not be present?" (p. 730). In our view, neither self psychology, a relational perspective, nor motivational systems theory diminishes our attentiveness to the distinction between conscious and unconscious (or, as we develop further in this book, an implicit and explicit level of awareness), or an appreciation of conflict. The important distinction lies in how we view conflict, or in systems theory, the inevitability of dialectic tension and complexity. The conflicts that center on shame are for us aspects of the dynamics of the aversive motivational system. In the clinical situation, the patient regulates shame influenced by context (the dyadic system of the treatment) using whatever means have historical or immediate precedence—denial, projection, dissociation, or reversal by activating contempt and disdain, or covered over by hauteur, bravado, and a rebellious enactment. We don't believe that clinically our developmental hypothesis of a distinction between culturally accepted sensuality and culturally unsanctioned shame-linked sexuality places us in the position of being theory-based arbiters. We look for what is explicit in any communication (the message contains the message) and try to discern what intentions and goals are dominant in the patient's (and our) mental state. But like Balsam, we would be open to the possibility "that in clinical situations there are many described moments of tender sensuality that may also turn out to involve problematic or destructive unconscious motivations" (p. 729). In Chapter 6, we will describe the multilayered, multifaceted contribution of motivational systems to sensual, sexual, and aversive intentions and goals.

We can understand Balsam's concern that the shift we make in the theory of sensual/sexual development can skew the inferences we make in the moment-to-moment appreciation of the presence, or especially the absence, of conscious awareness of shame. We believe an analyst's judgment-based inferences are inevitable, and that their recognition can be a powerful tool for progress (Lichtenberg, 1983). In his book Lichtenberg indicated the pressure of shame-derived judgments that inevitably color an area as sensitive to morality as the varied forms of sexual expression (Dimen, 2005). However, we don't see ourselves as having less skill for discerned listening than those who follow a "theory that openly acknowledges unconscious conflict" (p. 730). Our shift from a drive-centered conflict theory to a mutual regulation motivational systems theory retains a rich appreciation of unconscious and conscious conflict (for example, as between motivational systems for dominance). A full appreciation of conscious and unconscious conflict and the richness of fantasy guide our inferences, especially

about dysregulation in the clinical moment. We believe our appreciation of an implicit and an explicit level and the links between is borne out in our many clinical writings.

In *Mapping the Mind* (1991), Levin notes that metaphors "surprise the listener in part because of their novelty. The improvable and therefore unexpected combinations of ideas, sensory modalities, meanings and so forth arouse the patient's interest, without it I do not believe synthetic activity can occur" (p. 6). The ambiguity of metaphor allows "for simultaneous relevance at multiple levels of experience and meaning" (p. 8). Metaphors arouse activity in the left hemisphere linguistically and the right hemisphere nonlinguistically, and "thus come close to being simultaneous translations of themselves" (p. 29).

Modell (2003, 2005) extends the role of metaphor even further by ascribing to "a metaphoric process" the ability to transfer meaning between dissimilar domains and, through recombining, transform meaning. Modell sees the metaphoric process as a fundamental mode of cognition, a form of pattern detector of potential similarities (see Chapters 4 and 7). The metaphoric process originates in bodily sensations and feelings and forges links to language and categorical memory. Modell (2005) breaks down the usual distinction between affect and cognition in his "key idea that *emotional experience is unconsciously and involuntarily processed metaphorically*" (Barnett & Katz, 2009, p. 1). The expanded conception of metaphor has clinical application. Shared metaphor, what Lichtenberg (2009) has called the clinical power of metaphoric experience, enhances the sharing of empathy. Modell points out that the creation of new meaning within the transference replaces automatic invariant responses, expands self-agency, and opens to further expansion of the metaphoric capacity. *Consequently, the metaphoric process operating both unconsciously and consciously provides a powerful link between the implicit and explicit levels of functioning for each partner in the therapeutic dyad, and in the connection between them.*

CONCLUSIONS

Each motivational system facilitates the process of unfolding similar affects, intentions, and goals in interaction with the affects, intentions, and goals of others. Each motivational system is one of a group of seven systems, each of which is composed of multiple subsystems (see Figure 4.1, p. 51). The seven motivational systems and the multiple subsystems are interactive with each other. Each individual's motivational systems lean toward interactions with others, providing an intersubjectively originated and informed subjectivity (see Figures 4.2 and 4.3, pp. 52, 54).

We have revised our original formulation of five motivational systems and now identify seven systems: physiological regulation, attachment to individuals, affiliation with groups, caregiving, exploration and assertion of preferences and capacities, aversive responses of antagonism and withdrawal, and sensuality and sexuality. Each system self-organizes and self-stabilizes as a loose assembly of categorized experiences having similar but not identical affects and purpose. A predominant similarity of affect, intention, and goal provides the basis for our proposal of each motivational system as a conceptual entity. Once self-organized and self-stabilized, each system remains in dialectic tension with other intentions and goals within the same system, with other systems of the individual, and with convergent and divergent intentions and goals that arise from immersion in an inter-subjective matrix. Dialectic tensions can result in activation or deactivation of dominance of the individual's mental state by one or another motivational system. The shifting of dominance generally proceeds smoothly, often without notice, and usually without any alteration in the sense of self-identity. We will discuss our understanding of what makes this frequent but not invariant smooth transition possible in Chapter 4.

The functioning of each motivational system in infancy is organized differently from the organization that takes place after symbolic process, language, and speech. The parallel distributed processing of perception, affect, memory, attentional focus, inferences, and unfolding motives during infancy persists as an imagistic subsymbolic nonconscious level along with the later developing verbal/imagistic symbolic conscious and reflective level. In both the implicit and explicit modes of processing, inferences about the intentions and goals of one's self and others are critical to the outcome of any interaction and the expectations that follow. We will discuss in Chapter 5 our belief that inference making at both levels is an invariant component of empathy and the interpretation of affects, actions, and verbal and nonverbal communication. Inferences are based on a theory held in memory that can be as simple as "You like me, so what you did was well meant," or as complex as psychoanalytic conceptions of motivation.

Similar to Bucci (1992), we (Lichtenberg, Lachmann, & Fosshage, 1992) described the process in analysis of patients sensing inward to pick up the bits and fragments of feelings, bodily sensations, inferences about self, their situation, and the mind state and intentions of others. In introspective moments patients communicate their attempt to pick up the subsymbolic level through pauses, "ers," "ahs," stammers, and visual disconnects. Similarly, analysts have rapid inward-outward moments of empathic inference making about their self-state and the self-state of the patient, as well as occasional longer duration periods of reverie. Analytic processing of the streams of verbal associations and themes expressive of a particular motivational system comprise the work of longer periods of time. We consider three to five minutes to be representative of the duration in which

many explicit understandings occur, often made possible by a metaphoric process. Analysts, who hold a theory such as that of motivational systems loosely in the back of their mind, may then recognize the dominance of a particular system, the operant theme, and infer the analysand's intentions and goals, or, in the case of an enactment, infer the roles that are being played out by themselves and the patient. Affective metaphoric processes are major contributors to linking the analysand's (and the analyst's) past and present and implicit and explicit levels, and increase the potential for their empathic sensitivity to each other. Forming inferences that enable recognition of emergent affects, intentions, and goals of both analysand and analyst is enhanced and enriched by the orienting map of motivational systems (see Chapter 7).