

CHAPTER 1

Normative Features of Attachment

This chapter is divided into five main sections. In the first, the historical development of attachment theory is described. Second, the theory's principal concepts are defined and its evolutionary and psychobiological assumptions are delineated. In that second section, I also revisit and reevaluate the central assumptions of attachment theory in light of contemporary evolutionary considerations. The third main section delineates the basic representational aspects and associated psychological defenses addressed in the theory. In the fourth section, I examine, developmentally, how the attachment system matures during the first years of life. Fifth and finally, the notion of surrogate attachment “figures”—which most attachment scholars have overlooked to date—is briefly examined in light of a developmental perspective.

THE HISTORICAL DEVELOPMENT OF ATTACHMENT THEORY

John Bowlby (1907–1990), a British child psychiatrist and psychoanalyst, was the founding father of attachment theory. Like so many developments in the history of science, attachment theory was spawned by certain practical needs. Most notably, in the post–World War II era, there was a great need to understand what effects the loss of and separation from caregivers had on child development. Bowlby was determined to find a valid conceptual framework suitable to respond to those needs. Since no such platform existed at the time—at least not in Bowlby's view—he had to develop one himself. To accomplish this, he set out upon a wide intellectually exploratory path. Attachment theory is the

product of Bowlby's creative integration of such diverse fields as ethology, psychoanalysis, cybernetics, and cognitive science (for an excellent scholarly source on the historical development of attachment theory, see Duschinsky, 2020).

Based on his clinical work as a child psychiatrist, Bowlby published an early paper ("Forty-Four Juvenile Thieves," 1944) in which he argued that losses of and repeated separations from caregivers in childhood were etiologically significant background factors leading these juvenile thieves to develop their characteristically "affectionless characters" and antisocial behavior problems. This assumption was based on noticing that separations and losses were substantially overrepresented in this particular clinical group compared to the other clinical groups available to Bowlby.

Bowlby's early conclusions about the adverse effects of disrupted relationships with caregivers received additional nourishment from some of Anna Freud and Dorothy Burlingham's (1943) findings. They learned that children who remained in the bomb shelters with their caregivers while London was being bombed during World War II fared much better than children who were separated from their caregivers and sent to families in the more peaceful British countryside. The conclusion seemed clear: Separations speak even louder than bombs in child development.

Some years later, the World Health Organization asked Bowlby to compile available knowledge on homeless children and on how their situations could be improved. That work resulted in Bowlby's book, *Maternal Care and Mental Health* (1951; later released as *Child Care and the Growth of Love*, 1953). In this book, Bowlby continued to argue for the vital importance of unbroken affectional bonds for healthy child development. His report was translated into many languages and was distributed in more copies than any prior World Health Organization report. Bowlby had gained fame.

An important reason why Bowlby's message was so widely spread was that children's experiences of separation were common at the time throughout much of the Western world. Apart from war-related separations, children were being sent to institutional care because of (alleged) maltreatment in their original homes; children were sent to boarding schools to attain proper education, while their parents could work unlimited hours; and children were separated from their parents in conjunction with hospital stays—caregivers weren't allowed at the hospitals out of fear that viruses would spread.

To extend the largely clinical and anecdotal sources of evidence for the adverse effects of separation and loss, Bowlby initiated a systematic empirical study of children's reactions to separation, conducted in hospitals and institutions. Together with two social workers—a husband and

wife named James and Joyce Robertson—Bowlby filmed 1- to 4-year-old children's reactions to those separations (see Robertson, 1963). Some of the films, most notably *John, 17 Months*, became immediate classics, presumably because of the children's dramatic reactions to separation.

This study, more than any other source, inspired Bowlby to delineate his famous separation phases—the sequence of *protest* (anxiety, searching, hypervigilance, refusal to be soothed by substitutes) and *despair* (depression, lethargy, disturbed eating and sleeping patterns), ultimately giving way to *detachment* (a defensive “shutting-down” of attachment behaviors). Although detachment may be greeted as welcome (e.g., by child nurses or boarding school staff), because the child then starts accepting care and consolation from others, it is highly defensive. When the child is reunited with his or her attachment figures, he or she typically ignores or rebuffs them and often protests against bids for closeness with them. Genuine *reorganization* requires that the defenses underlying detachment have been relaxed and it usually takes considerable time; the child has then mourned sufficiently and can develop new attachments without defensive interference. As a response to this work, the routines for hospital and extraparental care changed dramatically throughout the Western world from the late 1950s onward. For example, separations came to be avoided as part of normal hospital care. Also, placement of children in large institutions was avoided by means of supportive social work in the child's original families (see Granqvist, 2016b, for indications that such work is regrettably being reduced or eliminated at present). When supportive work failed, children were instead placed in foster care or in adoptive families where new attachment bonds could develop.

In hindsight, it is tempting to ask why mental health and child experts sanctioned children's repeated and prolonged separations from caregivers in the first place. The answer is simple: Informed by influential behaviorist-learning principles and psychoanalytic drive theories, the child's emotional bond to its primary caregiver was widely believed to be merely secondary in importance to nutrition. The mother, and in particular her breast, was believed to be a conditioned stimulus (classical behaviorism) or source of drive gratification (psychoanalysis); alternately, nutrition was viewed as a primary reinforcer of clinging (radical behaviorism) (e.g., Sears, Maccoby, & Levin, 1957/1976). In any event, as long as the child got nutrition and physical care from someone—anyone—he or she was widely believed to suffer no serious harm from maternal separation. It is safe to conclude that these “secondary drive” ideas provided an exceptionally poor fit with the data.

Harry Harlow's (e.g., 1958) research similarly threw the secondary drive ideas overboard based on a different primate species, rhesus monkeys. His studies clearly showed that infant monkeys separated from

their mothers soon after birth preferentially clung to and sought protection from surrogate wire mothers who displayed certain species-typical traits (e.g., a certain temperature, soft cloth covering, monkey-like face) rather than from surrogate wire mothers who did not display those traits but who nevertheless provided the infants' nutrition. So strong were the rhesus infants' preferences for the more species-typical surrogate mothers that the infants continued to cling to them even when the surrogate mothers subjected the infants to physical abuse (e.g., metal prods intermittently punching the infants while they were clinging).¹ This latter observation, along with many findings from naturalistic research on humans and other animals, indicates that "attachment" behavior is very difficult to extinguish, again demonstrating that behaviorist learning theory provides a poor fit with the data. It is no wonder, then, that Bowlby felt compelled to develop a theory of his own that could provide a more valid explanation for why affectional bonds develop and endure. Based on his emerging attachment theory, Bowlby argued that it was logical for infants to display attachment behaviors even to abusive caregivers. As we shall see, if the function of the attachment behavioral system is protection of the infant, via seeking and maintaining proximity to caregiver(s), particularly in situations signaling potential danger, infants should "instinctually" seek proximity when frightened.

Though a form of rapprochement between psychoanalysis and attachment theory has since taken place (see Chapter 9), psychoanalysts of his time treated Bowlby as nothing short of heretical. Indeed, even though Bowlby sought to reform psychoanalysis from within, he was virtually expelled from the psychoanalytic community, but he nonetheless remained a (passive) member of the British Psychoanalytic Association until his death (e.g., Karen, 1994). Not only was Bowlby criticized for overestimating the importance of separation at the expense of other psychoanalytic ideas, but he disputed the validity of the foundational drive theory itself and replaced it with what appeared to his psychoanalytic colleagues to be overly mechanical principles from control system theories, which had been developed in distant disciplines such as engineering and ethology.

To find an alternative explanation to those provided by secondary drive theories, Bowlby invited researchers and theorists from a number of different sciences (e.g., ethology, psychiatry, cognitive psychology, sociology, social anthropology) to a series of seminars in London (at the Tavistock) that continued for years and had a profound influence on the development of attachment theory. Ethologist Robert Hinde, who developed control systems principles for understanding animal behavior (see, e.g., 1966), was particularly important for Bowlby's thinking (and vice versa). They had been personal friends since the 1950s.

Influenced and supported by Bowlby, Hinde shifted his own research interest toward mother–infant interactions in rhesus monkeys. Hinde’s naturalistic research indicated that infant rhesus monkeys showed a pattern of behaviors in relation to their mothers that was highly similar to that shown by human infants (van der Horst, van der Veer, & van IJzendoorn, 2007). Bowlby became increasingly convinced of the great potential of explaining human attachment behaviors using evolutionary and ethological theory. Not only was ethology concerned with the development of close social bonds between animal offspring and their parents, but it was firmly anchored in the usage of empirically grounded methods, such as naturalistic observations, which fit with Bowlby’s scientific ideals.

Another researcher who had a profound influence on the development of attachment theory was Mary Ainsworth. In her book *Infancy in Uganda* (Ainsworth, 1967), she provided the first systematic naturalistic observations of attachment behaviors in human infants based on Bowlby’s emerging theory. She also contributed central theoretical concepts such as *secure base* and *maternal sensitivity*. Last but not least, she designed the *Strange Situation* procedure (Ainsworth & Bell, 1970; Ainsworth, Blehar, Waters, & Wall, 1978), which thenceforward became the gold standard among infant–attachment assessment methods. That contribution also extended the theory into a consideration of dyadic, and eventually individual, differences in attachment organization (see Chapter 4).

Bowlby formally presented attachment theory in a three-volume book, *Attachment and Loss* (1969/1982, 1973, 1980). Toward the end of his life, he came full circle with a book (1988) on the clinical and therapeutic implications of the theory (discussed here in Chapter 7). As a testimony to his methodological pluralism, Bowlby’s very last book—released posthumously—was a psychobiography of an intellectual hero, Charles Darwin (Bowlby, 1992).

CENTRAL CONCEPTS AND ASSUMPTIONS OF ATTACHMENT THEORY

This section concerns the evolutionary foundations of the attachment system and its functions (see Forslund & Granqvist, 2016b). Bowlby understood the phenomenon of attachment in terms of a primary motivational system—the *attachment behavioral system*—and not as secondary to any other processes, such as psychological energies or the caregiver’s provision of nourishment. Universally, human infants form strong emotional bonds—*attachments*—to their caregivers (i.e., *attachment figures*). Children who have formed attachments protest separations

from, mourn losses of, and seek to obtain or maintain proximity to their attachment figures. They do so by means of *attachment behaviors*—any behavior designed to obtain/maintain proximity to the attachment figure. Such behaviors include positive (e.g., smiling, vocalizing) and aversive (e.g., crying, screaming) signaling behaviors as well as directed actions such as approach and reaching.

Children's proximity seeking is particularly evident in situations that provide natural clues to danger, when the attachment figure functions as a *safe haven* for the child. However, infants and young children monitor their attachment figure's whereabouts even in the absence of threat signals, using the attachment figure as a reference point, or a *secure base*, for exploration of the environment. When the child uses the attachment figure in these ways, it is important to note that he or she implicitly assesses the attachment figure as *stronger and wiser* than the self. Thus, there is an asymmetry embedded in attachment relationships; the perceptibly weaker and less knowledgeable participant "attaches," whereas the perceptibly stronger and more knowledgeable participant provides care. Hence—and common misconceptions to the contrary—caregivers do not, in terms of this theory, develop attachments to their infants and children (at least not until the children are much older), except in very rare and dysfunctional situations (i.e., when roles are reversed and young children care for a depressed or alcohol-addicted parent). The affectional ties that caregivers develop to their infants and young children are instead labeled, in the attachment literature, emotional or affectional *bonding*. Bonding or caregiving behaviors are instead believed to be organized by an evolved caregiving system, which complements and responds to the child's attachment system in important ways (as discussed further below).

Evolution of Behavioral Systems

Bowlby's theoretical starting point was evolutionary theory, based on Darwin's (1859) theory of natural selection. In fact, Bowlby (1969/1982, p. 172) explicitly stated that attachment theory is "a direct descendant of the theory outlined by Darwin in *The Origin of Species*." Moreover, Bowlby thought that ethology (the study of animal behavior) was the best application of Darwin's theory to behavioral systems, and he drew heavily from the ethological research available at the time. Indeed, it has been said that Bowlby was a psychoanalyst by trade but an ethologist at heart (Suomi, 1995). Besides being influenced by Hinde and Harlow, Bowlby was markedly influenced by Konrad Lorenz (e.g., 1937) and Niko Tinbergen (e.g., 1951, 1963).

Accordingly, Bowlby argued that insights into human behavioral systems may be gained from knowledge about the behavioral systems of

other species and that our behavioral systems, although they may seem unique to us, should be seen as modifications of prototypes and predecessors found in other species. In Bowlby's own words (1969/1982, p. 7): "we share anatomical and physiological features with lower species, and it would be odd were we not to share none of the behavioral features that go with them."

Bowlby considered Lorenz's (1937) research on birds' *imprinting* as the first findings to seriously question the behaviorists' secondary drive hypothesis. Bird offspring, who themselves had the ability to find food and thus were not reliant on their parents for nutrition, nonetheless formed strong bonds to and followed the parent wherever it went. Hence, Bowlby reasoned that proximity to the parent must have evolved because of some function other than provision of nourishment. He therefore accepted the phenomenon of imprinting in a general sense, as implying the development of a clear preference for a specific other, a preference that develops rather quickly and during a limited phase of life (i.e., *sensitive period*), and that once formed remains relatively fixed. However, and as Bowlby (1969/1982) acknowledged, drawing conclusions about behavioral systems in humans from behavioral systems in birds is problematic, as the phylogenetic lines of birds and mammals parted company early in evolution. Therefore, Harlow's and Hinde's studies of rhesus monkeys became important for Bowlby in bridging this phylogenetic gap. Indeed, Bowlby tailored attachment theory to account not only for the behaviors shown by human infants, but also those behaviors shown by our closest evolutionary relatives (Suomi, 2008).

More specifically, Bowlby (1969/1982) argued that humans, like all other species, became endowed with behavioral systems that, once evolved, were retained because they served adaptive functions in humans' ancestral, species-typical environments, which Bowlby labeled—in the singular—as the *environment of evolutionary adaptedness (EEA)*. More specifically, individuals who became endowed with certain behavioral systems presumably had increased rates of survival (i.e., natural selection) and ultimately reproduction (i.e., sexual selection). Thus, the genes of these individuals were differentially passed on to future generations, and such behavioral systems became relatively stable characteristics of our species.

Predictable Outcomes and Functional Consequences of Behavioral Systems

Bowlby (1969/1982) used the term *predictable outcome* to denote the species-typical functional consequence of the activation of a behavioral

system. Regarding activation of the attachment system, Bowlby argued that proximity to caregivers is its predictable outcome and that increased survival via protection from dangers is its functional consequence. Thus, the attachment behaviors that children show when the attachment system is triggered by internal signals (e.g., pain, illness) or external signals (e.g., predators approaching, separation from the caregiver) typically result in increasing proximity to caregivers, and proximity in turn typically promotes protection and thereby survival. Bowlby was careful to differentiate between predictable outcome and functional consequence because they do not always correspond at the individual level. In any given individual, the functional consequence (e.g., protection) may only sometimes follow from activation of a particular behavioral system (e.g., the attachment system).

In any given individual, a behavioral system becomes active, reaches a predictable outcome, and then becomes inactive, all without reference to the system's function. Bowlby (1969/1982) exemplified this sequence with infants' sucking on pacifiers, which does not result in nutrition. Another example might be sexual behaviors (e.g., oral sex, masturbation) that do not result in insemination, let alone reproduction. Regarding the attachment system, some children's proximity seeking is met by rebuff/rejection or even by potentially harmful responses (cf. Harlow's rhesus monkeys), and still proximity seeking may ensue. Bowlby therefore argued that understanding any behavioral system's function is impossible from studying only a single individual; instead, it necessitates studying a larger population.

The Environment of Evolutionary Adaptedness

In tracing the functions of behavioral systems, and the attachment system in particular, Bowlby argued that their functions must be sought in the environment in which a species has historically evolved (i.e., EEA), which has provided the pertinent selection pressures. This assumption and associated terminology was later picked up as an important guiding principle in evolutionary psychology and its emphasis on the "adapted" mind (see Laland & Brown, 2011; Tooby & Cosmides, 1990). Bowlby argued that in our species' ancestral environment, humans were living as nomads in small hunter-gatherer societies, in environments comparable to those of other large ground-living species of primates. A key threat in our ancestral environments, according to Bowlby, was the risk of falling prey to predators. Thus, a behavioral system that helped to increase and maintain proximity to expectably protective caregiver(s) should have served an important function that increased the offspring's chances of survival (and ultimately reproduction) in view of this threat.

Human neonates are indeed very vulnerable and thus dependent on their caregiver's support for an extended period of time largely unparalleled in other species. Bowlby (1969/1982, p. 143) noted that "because immature organisms are usually very vulnerable they are commonly endowed with behavioral equipment that produces behaviors specifically likely to minimize risk, e.g. behavior that maintains proximity to a parent." Thus, Bowlby argued that proximity to caregivers is the singular predictable outcome of the attachment system, as proximity to caregivers has specifically reduced the risk of predation and other dangers, via protection of the infant. In other words, Bowlby argued for a narrow definition of the functional consequence of proximity, and he explicitly argued against alternative explanations, such as proximity to caregivers also facilitating the function of learning fitness-related skills from caregivers. We return to this point later in this chapter when we revisit attachment theory from the perspective of contemporary evolutionary science.

Bowlby also offered adaptationist interpretations of the characteristic sequence of children's reactions to separation from their caregivers, referenced above. Protest, shown by aversive signaling behaviors, presumably aids in pulling the caregiver's attention back to the offspring and may prevent further separation (i.e., proximity maintenance). Evolutionarily, children left unattended in our EEA were likely more susceptible to predators. In times of despair, children's motor activity typically declines and they become quieter. Evolutionarily, this may have been an adaptive "secondary" strategy, as excess movement and loud protests could increase the risk of predation, especially when the attachment figure is not available. During detachment, infants become more receptive toward other individuals, which may facilitate the formation of new and potentially protective attachment bonds.

Furthermore, Bowlby referred to attachment behaviors as "instinctual" in a descriptive sense, pertaining to behaviors that show marked regularities within a species; are not a simple response to a stimulus but a sequence of behaviors; have had obvious adaptive value; and typically develop even when most opportunities for learning are absent. Bowlby also argued that the similarities between humans and other animals was likely due to convergent evolution since many species have shared the same EEA, including a risk of predation.

Interestingly, attachment theory, as outlined by Bowlby, has been successfully applied to ethological research on rhesus monkeys. As reviewed by Suomi (2008), infant rhesus monkeys show some patterns of relationships with their mothers that parallel the attachment patterns observed in human infants. Just as with humans, monkeys' attachment patterns depend on their caregivers' patterns of responding to infant bids

for proximity and protection. Similarly, the “secure base” phenomenon (exploring the environment more confidently when in the presence of an attachment figure) has also been observed in infant rhesus monkeys. Furthermore, rhesus infants’ inability to use the mother as a secure base is related to troubled socioemotional development. Not surprisingly, similar observations have been made of infant chimpanzees adopted by human caregivers (van IJzendoorn, Bard, Bakermans-Kranenburg, & Ivan, 2008). Thus, among other developments, attachment theory has come full circle, via human psychology, from the ethological animal research that inspired it back to animal research.

Nature versus Nurture and Behavioral Systems

Bowlby sought to avoid a misleading debate as to whether the attachment behavioral system was innate *or* learned—the old and dated nature *versus* nurture issue. In line with Bowlby’s position, most developmental scholars no longer take that dichotomy seriously, nor its corollary of *how much* of a trait (or of variance in a trait) is explained by nature (genes) or nurture (environments), respectively. Instead, and in keeping with the nature–nurture interactionist framework adopted in this book, contemporary developmental scholars typically seek to understand how nature and nurture jointly shape development, in this case of behavioral systems (e.g., Granqvist & Nkara, 2017; Overton, 2013). Incidentally, Bowlby did the same, in advance of the field more generally.

Drawing on Hindé (1966), Bowlby thought of behavioral systems on a continuum of more or less “environmentally stable or labile,” with marked environmental effects and learning most pertinent to more labile systems. Bowlby (1969/1982, p. 46) also argued that what is inherited is not an instinct *per se*, but a *potential to develop* certain sorts of behavioral systems, and that “the forms . . . differ in some measure according to the particular environment in which development takes place.” Furthermore, Bowlby claimed that the human attachment system is a moderately stable system. The system’s stability does not stem from genes alone, however, but also from the fact that its surrounding environment remains in the range of species-typical environments (cf. “experience expectancy”; Greenough, Black, & Wallace, 1987). Importantly, the species-typical environment of mammalian offspring includes caregivers who respond to infants’ signals. If not for them, attachment would presumably not develop.

Indeed, Bowlby (1969/1982) argued that the attachment system is complemented by a caregiving system in adults, which makes (most) caregivers responsive to their children’s signals. Thus, child attachment develops through a collaborative and synchronized process, with

children being socially biased and prepared to attach to their caregivers by actively drawing their attention through signaling behaviors, and with caregivers being biased to respond to their children's signals by providing a safe haven and secure base (Simpson & Belsky, 2016). Thus, children are both active evokers *and* recipients of care.

Moderate stability implies that the attachment system can also be described as moderately labile. Although labile systems typically have a disadvantage of taking time to mature and become functional, Bowlby (1969/1982) argued that the advantage of such systems, which are highly open to learning, is that they permit modifications to suit the particular local environment. However, no system can be suited to work in all environments, and if a system is “programmed” for a particular environment, it may not work well in radically different environments. Regarding attachment, openness to learning is most notably seen in the relation between the quality of caregiving (e.g., sensitivity) that children receive and the different patterns of attachment they develop as a consequence (see Chapter 4). In sum, Bowlby's attachment theory represents a nature–nurture interaction framework. The attachment system, though designed by selection pressures in ancestral environments, is co-sculpted by the environments encountered by the developing person.

A “Control” Systems Approach to Behavioral Systems

As noted, Bowlby (1969/1982)—again inspired by Hinde (1966)—drew from control systems theory for understanding the basic structure of the attachment system. Any system serves a particular function (i.e., has an instruction/plan), a “set goal” that it is preprogrammed to achieve. Bowlby argued that the set goal of the attachment system is continuous rather than time-limited, as the task of the system is to control an ongoing relationship (i.e., continuous maintenance of spatial relations with reference to the attachment figure over time).

Apart from having a set goal, *feedback* is an important part of more complex control systems—the attachment system included—that distinguishes such systems from simpler ones, such as reflexes and fixed action patterns (which govern, e.g., nest-building among birds and the collection of pollen by bees; Bateson & Hinde, 1976). With feedback, and using machines (e.g., thermostats, guided missiles) as an analogy, Bowlby (1969/1982, p. 42) referred to processes “whereby the actual effects of performance are continuously reported back to a central regulating apparatus whereby they are compared with whatever instruction the machine was given; the machine's further action is then determined by the result of this comparison and the effects of its performance are thus brought ever closer to the initial instruction.”

The attachment system's degree of activation varies depending on sensory input. In Bowlby's view, natural clues to danger (e.g., a predator approaching) provide activating signals for the attachment system, and natural clues to safety (most notably physical proximity to an attachment figure) provide terminating signals. In other words, and unlike fixed action patterns, which are often rigidly organized as chains of behaviors in a specific order, Bowlby (1969/1982) argued that complex systems like the attachment system are "goal-corrected." Such goal-corrected systems are typically organized by means of plans in plan hierarchies (in today's cognitive neuroscience, often called executive functions). Bowlby drew from Tinbergen (1951) and Miller, Galanter, and Pribram (1960) in suggesting that goal-corrected systems can make use of varying behaviors depending on situational constraints, and that they can perform behaviors in different orders. For example, following activation of the attachment system, a child can cry in one situation, approach in another, and cling to the caregiver in a third. The advantage of such systems is that the predictable outcome can be achieved by various means and in a variety of situations. In line with humans' renowned flexibility, many human behavioral systems are complex and goal-corrected, although some are simpler (e.g., reflexes; Bowlby, 1969/1982).

Bowlby also maintained that behavioral systems operate not in isolation from, but in close interaction with, one another. For example, expressions of the infant's attachment system activate the caregiver's caregiving system. Such interaction occurs not only between individuals but also within them. For example, activation of the infant's attachment system deactivates the infant's exploratory system. We return to this idea in Chapter 4.

Attachment Theory Vis-à-Vis Contemporary Evolutionary Sciences

Many of Bowlby's core ideas regarding attachment have proved sustainable. For example, there is wide consensus that attachment is a universal feature of primate species; that it may profitably be viewed as governed by an evolved and adaptive behavioral control system (i.e., the attachment system); and that this system is co-sculpted by the developing individual's relational experiences. In view of how quickly most tables turn in science, Bowlby has made an exceptionally enduring scientific contribution, especially considering the vibrant research and theory developments that have since taken place in the evolutionary sciences. Nonetheless, and as Cassidy (2016, p. 18) has recently pointed out, "because attachment theory is so firmly based in evolutionary theory, continuous revision of evolutionary theory brings with it a need to rethink some

components of attachment theory.” When rethinking the components of attachment theory, later developments in evolutionary science do suggest some important modifications. I argue throughout this book that a common denominator among these needed modifications—and in line with the “wider view” adopted here—is that Bowlby’s evolutionary reasoning was unnecessarily narrow.

Inclusive fitness theory may now be regarded as the current superordinate theory of evolution (Simpson & Belsky, 2008), encompassing Darwin’s notion of fitness according to one’s own survival and reproduction, as well as Hamilton’s (1964) notion of kin selection (i.e., fitness also includes successful reproduction by genetic relatives). Theories addressing specific adaptive problems (or domains) that humans have faced are placed one level below and called “middle-level theories.” Today attachment theory is generally seen as one such middle-level evolutionary theory.

Based on sociobiological “gene’s-eye view” reasoning, it can be argued that Bowlby’s attachment theory fails to distinguish between the different genetic interests of parents and offspring (see Trivers, 1974). In Robert Trivers’s view, there is an inherent genetic conflict of interest between them, which can be understood as a simple derivative of the facts that a given offspring carries merely 50% of a given parent’s genes but 100% of the self’s genes, and yet this offspring requires plenty of parental resources (i.e., investment) to survive and reproduce. Thus, from a given offspring’s “gene’s-eye view,” the parents’ investment should be maximized to the self, insofar as siblings and other related gene carriers merely survive and reproduce. Yet parents must distribute their limited resources across tasks and (often) multiple offspring, thus yielding the parent–offspring conflict. In contrast, in Bowlby’s view, there generally was (in evolutionary history) and still is harmony between the child’s attachment system and the caregiver’s caregiving system insofar as these systems share the same predictable outcome and evolutionary function: physical proximity and protection of offspring (see George & Solomon, 2008). In the second edition of *Attachment* (1969/1982), Bowlby addressed this seeming incompatibility between his and Trivers’s perspectives. While crediting Trivers’s (1974) contribution (e.g., for understanding sibling rivalry), Bowlby concluded that his own theory could be left basically unadjusted, side by side with that of Trivers.

Nonetheless, Trivers’s perspective—more so than Bowlby’s (and later Ainsworth’s) more “idealistic” portrayals—may serve as a sobering reminder that protection of a given offspring is by no means the be-all and end-all of caregiving relationships. Moreover, Trivers’s perspective should strike a chord for every parent who has had to juggle the demands posed not just by one infant but by several children of different

ages, along with work, domestic chores, and the time needed for rehabilitation.

However, in support of Bowlby's behavioral systems approach to caregiving and quite contrary to Trivers's principles, humans and other animals sometimes develop strong emotional bonds not just to their own biological offspring but also to genetically unrelated infants and children—indeed, even to offspring of other species (for charming examples, see Holland, 2013). If they did not do so, adoption would be a very bad idea, which it evidently is not (e.g., van IJzendoorn & Juffer, 2006). Thus, in the end, the validity of Bowlby's behavioral systems approach remains unchallenged, which by no means implies that it provides a comprehensive model of caregiving or relationships from an evolutionary perspective.

In view of inclusive fitness considerations, it has also been argued that Bowlby focused too much on the survival function (i.e., natural selection) of attachment in early offspring development and that he did not sufficiently address its role in differential reproduction (i.e., sexual selection; e.g., Kirkpatrick, 2005; Simpson & Belsky, 2016). Consequently, and drawing on a behavioral ecology framework (e.g., Davies, Krebs, & West, 2012), researchers have reported that childhood attachment and associated environmental variability are related to different reproductive strategies later in development (e.g., Belsky, 2007). For example, Belsky, Houts, and Fearon (2010) found that insecure attachment among toddler girls is predictive of early pubertal maturation, over and above the heritability of such maturation, perhaps encouraging earlier menarche and reproduction, which might have once been adaptive in dangerous or scarce environments. Findings like these are important in further illustrating that attachment is not merely about the “adapted mind” (e.g., Barkow, Cosmides, & Tooby, 1992)—that is, a mind adapted to selection pressures in past environments (cf. Bowlby's EEA). It is also about the “adapting” mind: The developing person adapts to his or her current, local relational environment, which in turn forecasts his or her future reproductive bets. If anyone had the impression that attachment theory merely reflects a “Stone Age mind” idea (cf. Buller, 2005), then that person failed to read Bowlby properly. The recent attachment-related developments in evolutionary thinking represent a further move away from such an idea.

Bowlby has also been criticized for advocating a notion of EEA in the singular (Simpson & Belsky, 2016), despite human evolution having taken place—and continuing to take place (e.g., Laland, 2017)—in very different ecological niches, spanning from the arctic to the desert, and in the context of very different caregiving arrangements (e.g., Hrdy, 2011). For these reasons, Bowlby may have underestimated the developing

person's degree of plasticity and consequent behavioral flexibility in adapting to variable local conditions. This flexibility may in turn be a direct reflection of the marked variation in humans' environments—in the plural—of evolutionary adaptation. I return to this topic in Chapter 4 and elsewhere in this book.

By the same token, Bowlby probably had an unnecessarily narrow understanding of both the selection pressure(s) underlying the evolution of the attachment system and this system's functional consequence(s). In the former case, primate neonates and infants—human ones in particular—have not only risked falling prey to predators, which Bowlby (1969/1982) claimed was the selection pressure par excellence in the evolution of the attachment system. As Bowlby (e.g., 1991) was well aware, human neonates and infants have been vulnerable to a host of additional natural dangers, including starvation, sudden temperature changes, strangers (i.e., conspecific kidnappers), infections, hazardous falls, suffocation, poisoning, and other kinds of injuries (see also Hesse & Main, 2006). All of these dangers may have figured in the selection pressures to which the *hominin* version of the attachment system provided an answer. Indeed, all of these threats and dangers tend to yield attachment behaviors in human infants, such as crying (e.g., James-Roberts & Halil, 1991). Notably, that selection pressures for attachment were likely in the plural, not in the singular, implies that the attachment system may have been an even more important solution than Bowlby realized. Just as infant crying serves the all-purpose function of alerting caregivers that something—anything—is wrong, the attachment system in human infants appears to function as a “domain-general” system for keeping infants safe and sound.

Regarding the attachment system's functional consequence(s), I contend that Bowlby restricted his attention unnecessarily to (merely) protection at the expense of other vital functions, a position he came to significantly qualify toward the end of his life (Bowlby, 1991). Yet he restricted his attention for what was a good reason at the time: distinguishing attachment theory from behaviorism. This narrowing of attention also increased the specificity of attachment theory. Besides providing protection, however, proximity to the caregiver is an important platform for the child's exploration and learning—including social learning from the caregiver. That the attachment system yields—and has presumably always yielded—more than one functional consequence increases the system's importance. For example, learning from caregivers and other attachment figures in the child's local environment or culture is vital not only for survival (e.g., aiding in the identification of “unnatural” clues to danger), but it can also promote the developing person's adaptation to local pressures resulting from cultural circumstances and demands.

Consequently, understanding social and cultural learning has become important in evolutionary science, especially since the introduction of behavioral ecology (Davies et al., 2012), cultural evolution (Cavalli-Sforza & Feldman, 1981), and gene–culture coevolution (Boyd & Richerson, 2008) models. Social learning is thus no longer the province of behaviorist psychology, as it was when Bowlby formulated attachment theory. In line with the “wider view” adopted in this book, I argue that attachment has facilitated important aspects of cultural learning and evolution (in particular, see Chapters 5 and 10). This potential of attachment theory has remained hidden largely because of Bowlby’s position on protection as the singular functional consequence of the attachment system.

Finally, attachment theory has been criticized for placing too much emphasis on mothers as the “principal” attachment figures (e.g., Hrdy, 2011). Bowlby did clarify that a particular biological sex was not a necessary condition for an attachment figure, but he also asserted a monotropy principle (i.e., one attachment figure is principal in importance for the child, others secondary, tertiary, etc., in importance; Bowlby, 1969/1982). Although the empirical jury on that matter is still out, Sarah Hrdy’s (e.g., 2011) cooperative breeding theory emphasizes that cooperative parenting, involving other adults and older siblings (alloparents) beyond mothers, has likely been the norm throughout our ancestral history.

The widespread practice of alloparenting serves as my final example that Bowlby was unnecessarily narrow in some of his foundational assumptions. Ironically, this shortcoming was probably intimately linked to Bowlby’s strengths as a theorist: his ability to cut nature at its joints while carving out theoretical principles that freed his theory from the shackles of psychoanalytic drive theory and behaviorist psychology. Without the specificity that Bowlby sought with his theory, he could have left us with just another vaguely formulated object-relations theory or, perhaps, some version of “Stone Age mind” nativism. Thus, in the end, Bowlby may have been wise—considering what was available and at stake at the time—to restrict his attention from the plural possibilities to the singular definitives.

REPRESENTATIONAL ASPECTS AND ASSOCIATED PSYCHOLOGICAL DEFENSES

In this section, I elaborate on the representational and defensive processes that, in Bowlby’s and other attachment theorists’ views, are associated with the hominin version of the attachment system and with

attachment relationships more generally. These representational and defensive components add more layers of complexity to the attachment system on top of the general psychobiological principles outlined in the preceding sections. Moreover, Bowlby's portrayal of the occasionally defensive nature of attachment-related mental representations implies that his analogies to simple mechanical systems, and to principles of cognitive science more generally, can be taken only so far. This portrayal also indicates that Bowlby was indeed not only an ethologist at heart but also a psychodynamic theorist after all.

Internal Working Models

For goal-corrected systems to be serviceable, organisms must be able to organize pertinent sensory input ("feedback") and store such input in memory. In other words, they need to be able to form relevant representations of the world. As was typical for Bowlby, he did not make do with the most widely used concepts available at the time to denote such representations, whether it be "schema" from cognitive psychology or "object representation" from psychoanalysis. In Bowlby's view, those concepts were too static and passive. Instead, he borrowed the term "internal working models" (IWMs) from early artificial intelligence theory (Craik, 1943; Young, 1964) to denote the active, predictive, and prescriptive nature of mental representations. Part of our flexibility, adaptability, and complexity as a species is contingent on our ability to conduct small-scale mental experiments (i.e., based on our IWMs) to guide our behavior in future situations that are to varying degrees similar to ones that have already been encountered. Bowlby argued that we construct an organismic model (a model of ourselves, our worth, and our abilities) and an environmental model (including a model of others and what to expect from them). These models, which are often referred to as models of "self" and "others" in attachment theory, are thought to be complementary. In order to function adaptively and not become too rigid, these models must be open to learning so that they can be continuously updated; hence the idea of *working* models.

Importantly, IWMs not only involve models of self and others in strictly interpersonal situations. In early artificial intelligence theorizing (Craik, 1943; Young, 1964), as well as in Bowlby's (1973, 1980) theory, IWMs were used to denote all sorts of functionally important mental representations that complex organisms—and other conceivable intelligences—form of the world. Thus, IWMs apply to our general models of how the world works. Although this has understandably received far less attention in the attachment literature than models of self and others, one of Bowlby's core insights was that attachment-related

experiences affect people's broader view of the world as well. Accordingly, Bowlby wrote about "the working model of the world" (1973, p. 203) and even claimed that "every situation we meet with in life is construed in terms of the representational models we have of the world about us and of ourselves" (Bowlby, 1980, p. 229).

Drawing from Piaget (e.g., 1954/2013), Bowlby argued that we typically make only slight corrections to our models, and that IWMs gain increasing stability in large part owing to (1) information *assimilation* into the current models and (2) increasing *automaticity* of processing and behavior. One consequence of the child bringing his or her increasingly corroborated predictions into the world and into later relationships is that these expectations will often be perceived as verified. For example, a child expecting others to be controlling or punishing will often learn to conceal what he or she is doing, paradoxically increasing the likelihood of being punished for both misbehaving and concealing it. In a very real sense, relational life is in part a self-fulfilling prophecy. Naturally, environmental stability—as in the caregiver's sensitivity over time and situations—contributes even further to the stability of IWMs.

Given sufficiently strong new or disconfirming input, however, substantial change in IWMs may occur through a process of *accommodation* (Piaget, 1954/2013). That would be predicted, for example, if a child's caregiver changes markedly and permanently from having been characteristically highly sensitive to being highly insensitive, or vice versa. In Bowlby's (1973) view, IWMs are thus in principle always open to modification, especially in transitional periods (e.g., shifting of caregivers, adolescence), although their plasticity naturally diminishes with increasing age. Bowlby's stance with regard to the stability versus lability of IWMs can hence be summarized as an expectation of *general continuity* and *lawful* (i.e., predictable or interpretable) *discontinuity*.

Furthermore, Bowlby (1969/1982) argued that IWMs are hierarchically organized, with the top level comprising highly general models of self, others, and the world. In line with his monotropy idea, the child's real, early interaction history with its principal (usually its primary) attachment figure will have unparalleled influence on these general-level models. The child will typically try out these models in relation to other (later) relationship partners and situations, but will ultimately form new models of them based on the real characteristics of those relationships and situations (see also Ainsworth & Marvin, 1995). This is how the child comes to develop distinct IWMs related to his or her relationships with mother, father, and other caregivers, and then to other attachment figures later in development. The general, top-level IWMs of self, other, and the world will ultimately reflect the sum total of an individual's attachment-related experiences, though with unparalleled

weight assigned to early experience (cf. the “prototype” hypothesis; e.g., Ainsworth & Marvin, 1995; Fraley, 2002; Fraley, Vicary, Brumbaugh, & Roisman, 2011).

Although the level at which IWMs operate is largely a matter of speculation, it seems likely, as a minimum, that people maintain both (1) IWMs of attachment figures in general and (2) IWMs specific to particular relationships. Collins and Read (1994) have suggested that one level below the highly generalized models of self, other, and the world, there is a second level comprising models of parent–child relationships as distinct from peer relationships, and so on (cf. Overall, Fletcher, & Eriksen, 2003). Whether or not various levels of attachment-relevant mental representations are arranged in this precise hierarchical structure—they can also be thought of as nodes in an attachment-related neural network (e.g., Mikulincer & Shaver, 2016)—it seems certain that IWMs of various levels of generality are interconnected to some degree (e.g., Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013; Overall et al., 2003; Roisman, Sroufe, Madsen, & Collins, 2001). In later chapters, we examine how working models may extend or generalize to people’s representations of God (and other religious personages) in relation to themselves (in particular, see Chapter 5).

Psychological Defenses

Bowlby, like Freud and subsequent psychoanalysts, was convinced that humans possess psychological defenses that protect them against anxiety and contextually maladaptive behaviors. Such defenses were in Bowlby’s view intimately tied to IWMs. Again characteristically, Bowlby did not merely accept the classically named psychoanalytic defenses (e.g., denial, projection, splitting, repression), but instead formulated attachment-related defenses in terms of information processing and memory functions, following Dixon (1971) and Norman (1976). He suggested that attachment-related defenses should be understood in terms of the development of certain cognitive–affective strategies that deal with threatening information regarding attachment (Bowlby, 1980).

Specifically, Bowlby (1973, 1980) argued for two mutually dependent strategies: *defensive exclusion* and *shifting of attention*. The idea of defensive exclusion was based on the well-established principle of selective exclusion in cognitive psychology; organisms exclude irrelevant information to liberate processing capacity for dealing with task-central information. “Defensive” exclusion is based on similar processes, but with the goal of shielding the organism from thoughts and feelings that would cause overwhelming anxiety and suffering at the experiential level and maladaptive functioning at the behavioral level. Thus, attachment-related

information (e.g., about a separation) might be excluded in the service of (defensive) exploration. Alternatively, exploration-related information (e.g., about novel toys) might be excluded in the service of attachment (i.e., remaining hypervigilant about the caregiver's accessibility even when there are no signs of danger).

Defensive shifting of attention is intimately connected to defensive exclusion. It is seen, for example, when a child—in spite of attachment-system activation—shifts his or her attention away from attachment and instead focuses attention on other aspects of a situation (e.g., toys) or on persons other than the attachment figure (e.g., Main, 1990). While such attentional shifting is an observable aspect of child behavior in specific situations (such as in the Strange Situation procedure; see Chapter 4), over time and maturation, it can become a habitual strategy for approaching attachment-related information (cf. Main, Goldwyn, & Hesse's [2003] concept, "state of mind" regarding attachment).

Bowlby (e.g., 1973, 1980) and others (e.g., Main, 1990) have suggested that the development of psychological defenses stems from untoward early relational experiences with caregivers. Memories of these interactions become organized as part of the person's (implicit) IWMs of self and others. Relatedly, Bowlby and other attachment theorists have assumed that repeated experiences with insensitive caregiving leads to the development of structurally incoherent (or multiple) IWMs. This is seen, for example, when a person says one thing but does the opposite. Technically, the later emerging explicit (or declarative, semantic, conscious) components of IWMs differ from the implicit (procedural, episodic, unconscious) components. The young child (approximately 0–3 years) is particularly vulnerable to developing structurally incoherent models because the child has not yet mastered appearance–reality distinctions (Main, 1991). Thus, if the caregiver says "I love you" but consistently acts in a rejecting manner toward the child when the child is afraid or sad, the child will receive two incompatible messages and will treat both as true (i.e., "I am loved," conscious processing; "When distressed, I should avoid my caregiver and distract myself," unconscious processing). When asked about such a caregiver later, the person may well declare that the caregiver was loving and sensitive (explicit/semantic processing) and yet will fail to provide convincingly converging examples from lived experience (implicit/episodic processing).

Bowlby (1973) and Main (1981, 1990) further argued that these defenses may be adaptive in the short run, for example, in allowing the child a conditional form of proximity to a rejecting caregiver—being in sufficient physical proximity that the attachment figure may come to the child's aid in the case of real alarm. Also, the continued display of attachment behaviors would run the risk of causing further frustration

to the already rejecting attachment figure. By the child inhibiting those displays (i.e., deactivating the attachment system), the risk that the attachment figure would permanently abandon, maltreat, or even kill the child (see Hrdy, 1999) should decrease (cf. Main, 1981).

However, these defenses risk being maladaptive in the long run, as the attachment system may become more or less chronically deactivated or hyperactivated (Mikulincer & Shaver, 2016). In the former case the child might miss real signs of danger, and in the latter the child might miss many opportunities to explore and learn from the environment.

Bowlby (1980) briefly elaborated on a third process yielding structural incoherence in IWMs, which had some overlap with defensive exclusion but was discussed particularly in the context of traumatic events, such as loss of an attachment figure, namely, *segregated systems*. The underlying idea was that if a stressor is sufficiently severe, and especially if it originates in one's relationship with an attachment figure, the individual may be unable to process that event in an integrated fashion. The phenomenon bears a striking resemblance to what psychoanalytic theory identifies as "dissociation." However, true to his character, Bowlby instead picked his preferred "segregated systems" term from systems theory as employed in ethology. Hinde (1966) had described numerous examples of conflict behavior in other animals, thought to result from simultaneous or sequential activation of competing behavioral systems (e.g., fight-flight conflict).

One attachment-related traumatic event that readily yields segregated processes is the loss of an attachment figure. This event is not only highly stressful in its own right, thus yielding protest and despair, but it also eliminates the availability of the very person from whom the individual would usually seek support when distressed. Hence, this is a "double blow" to the attachment system. Consequently, acute bereavement often manifests itself in the form of behavioral and cognitive disorganization or disorientation. For example, the bereaved individual may continue to display searching behaviors for the lost person, which implies that this person is still represented as (somehow) alive. Segregation is thus expressed in the form of incompatible representations; in this case, the deceased person is simultaneously represented as both dead and not dead. According to Bowlby (1980), reorganization following loss requires that the bereaved individual eventually accommodates information regarding the lost person's permanent inaccessibility, which can take months, sometimes years, post-bereavement (see also Fraley & Shaver, 2016).

Experiences of being physically abused by an attachment figure, such as a parent or a spouse, is another example that readily yields segregated processes (Bowlby, 1980). Like loss, abuse is itself distressing,

indeed highly frightening, which potently activates the attachment system. What creates segregation here is that the individual also represents the abusive partner as an attachment figure, that is, someone to turn to when distressed and frightened. Perhaps this happens for good reasons; the attachment figure is not just a target for the individual's attachment system but may also have displayed comforting behaviors on numerous occasions in the past. Most perpetrators are not abusive 24 hours a day, 7 days a week. The dilemma, however, is that the attachment figure will come to be represented in a fundamentally incompatible fashion: as perpetrator to flee from and as attachment figure to approach (cf. some of Harlow's rhesus infants, referenced above). In later chapters (particularly Chapter 8), we see how such segregated processes may be expressed in people's religious and spiritual experiences.

Importantly, like other ethologists—and unlike many psychoanalysts who view dissociation as a defense mechanism (e.g., a mental “escape” from threat)—Bowlby did not necessarily imply that segregation should be viewed as defensive, let alone adaptive. Segregation may be defensive and adaptive, of course, but it may just as well express or contribute to system breakdown (Liotti, 2009), and perhaps in some instances indicates temporary confusion before the organism has settled on an organized course of action (i.e., one behavioral system has trumped a competing one; see Reisz, Duschinsky, & Siegel, 2018).

More on Internal Working Models and Psychological Defenses Vis-à-Vis Psychoanalysis and Cognitive Science

Although Bowlby evidently distanced his theorizing on IWMs and defenses in many ways from psychoanalysis, he was also careful to point out that IWMs were “none other than the internal worlds of psychoanalysis seen in a new perspective” (1969/1982, p. 82). As a further point of convergence with psychoanalysis, Bowlby regarded psychopathology (cf. neurosis) as due in no small part to rigid, inaccurate, and contextually maladaptive IWMs, which were originally based on real, lived experiences in which they may have been contextually adaptive.

Bowlby's approach to IWMs and defenses may profitably be viewed as an attempted rapprochement between psychoanalysis and cognitive science. While Bowlby obviously drew heavily on cognitive principles and employed terminology borrowed from the cognitive sciences, he also brought psychoanalytic ideas of defenses and affect—both of which have been notoriously overlooked in cognitive science—to bear upon his understanding of the nature and workings of attachment-related mental representations. Regrettably, in my view, cognitive scientists have not paid sufficient attention to the wisdom of Bowlby's move regarding

affects and defenses (see Chapter 10 for the consequences this neglect has had for the cognitive science of religion).

Perhaps equally unsurprisingly, psychoanalysts were largely dumbfounded by Bowlby's seemingly schematic and mechanistic understanding of mental representations and associated defenses, which seemed to offer no place for ideas about fantasy and imagination (e.g., Karen, 1994). Although many psychoanalysts have since become much more compelled by attachment theory—and in no small part due to Mary Main's contributions (e.g., Main, Kaplan, & Cassidy, 1985; Main & Solomon, 1990; though see also Bowlby, 1988)—the defenses postulated within attachment theory and research still appear somewhat schematic and mechanistic, especially if viewed from the vantage point of psychoanalysis, in which the plethora of postulated defenses is quite intricate indeed.

As a specific case in point reflecting the poverty of suggested defenses within attachment theory, attachment theorists have not been compelled to theorize about possible defense mechanisms operating among children who are “securely” attached (an issue further dealt with in Chapter 4). It is as if the interaction histories leading to secure attachment have been understood in such rosy colors that no defense would be called for. In view of psychoanalytic and parent–offspring conflict theories, both of which portray relationships as inherently conflictual, attachment theorists surely paint an overly positive portrayal of “secure” relationships and, consequently, of how the mind works in such relationships (cf. Gullestad, 2001; Wulff, 2006). After all, even characteristically sensitive caregivers may occasionally get the blues, becoming frustrated, spanking their children, yelling at them, and the like. Accordingly, securely attached offspring should also have to erect defenses when such occasions arise.

Notably, however, Bowlby was again trying to cut nature at its joints rather than to engage with all particularities of nature. And he did so rather successfully. For example, there should be no doubt that receiving sensitive and responsive caregiving (i.e., the pathway par excellence to secure attachment) calls for relatively less defensive processes—and less *rigid* defenses—than does insensitive and unresponsive caregiving. Similarly, sensitive and responsive caregiving facilitates reparative opportunities for children to resolve conflict with their caregivers, which also attenuates the need for rigidly organized defenses.

Furthermore, it is important to note that Bowlby did not make his own principal task that of theorizing about specific attachment types—whether secure or insecure—as did many later attachment theorists and researchers. Thus, it was not Bowlby who pinned particular defenses to particular insecure forms of attachment (again, see Chapter 4). Finally,

unlike psychoanalysis, attachment theory was not offered as a comprehensive theory of the mind but, rather, as a considerably more narrow and precise theory specifically about attachment (cf. Wulff, 2006). Hence, the fact that attachment theory postulates a certain few defensive processes in the attachment domain does not imply that there are no other defenses besides those discussed by Bowlby that are operative in other domains of mental life, including domains of relationships other than attachment.

HOW ATTACHMENT UNFOLDS AND TRANSFORMS IN EARLY DEVELOPMENT

In this section, I provide a brief outline of how attachment develops in humans during the first few years of life and discuss the general principles Bowlby believed to underlie this development. In later chapters (especially Chapter 3), this outline will be supplemented with an overview of how attachment develops beyond the early years.

General Principles

Bowlby (1969/1982) introduced a useful, general way of thinking about development in which development is understood as resulting from increases in the *differentiation*, *integration*, and *complexity* of evolved neural systems, one of which is the attachment system. Due to the marked immaturity and plasticity of the human newborn's brain, many of these increases take place during the first few years of life. Importantly, maturation is understood as accomplished in no small part by environmental co-sculpting of the evolved systems. In other words, the maturation of attachment emerges partly from life experiences, as well as from concomitant motoric and cognitive developments. Thus, although attachment theory is a maturational theory of the development of a neural system, it should not be confused with any form of "nativism" in which heredity is portrayed as providing the bread and butter of development while environmental factors merely fill in some (less important) content details.

After reviewing a number of observations of human and other mammalian infants, Bowlby (1969/1982, p. 222) concluded that "the development of attachment behavior in human infants, though much slower, is of a piece with that seen in non-human mammals. Much evidence supports that conclusion and none contradicts it." He noted, for example, that once an attachment has formed, infants prefer the attachment figure to other individuals; this preference typically persists even in the face of

separations. Like other mammals, human infants are also born with the capacity to cling and show a narrowing of responsiveness to relationship partners (i.e., increased differentiation), which with development becomes more directed toward a few partners, especially their caregivers. Human infants also show a marked bias toward responding to particular stimuli (such as human faces), and the more experience with a particular person the infant has, the stronger the infant's preference for that person.

As noted, Bowlby argued for a maturational developmental perspective on goal-corrected systems. But the attachment system, he argued, is not a functional goal-corrected system at birth; rather, it develops into one with maturation. The reason is that the operation of goal-directed systems is mediated by various other systems and is thus dependent on how those other systems develop (i.e., increased integration). Therefore, Bowlby (1969/1982) maintained that behavioral control systems tend to be simple and rigidly organized as simple chains among neonates but that they become more complex and goal-corrected (i.e., increased in complexity) over time as simpler systems become integrated under higher-order systems.

For example, reliance on sensory feedback makes the attachment system dependent on the development of the sensory organs. Behaviors also need to be oriented, and effector equipment such as locomotor ability is therefore important for goal-corrected behavior. A child who has acquired the abilities required to crawl or walk is more able to independently regulate proximity to the caregiver in a goal-directed manner than is a child who has not acquired such abilities.

The Maturation of Attachment during the First Few Years of Life

In the process of developing selective attachments to caregivers, the infant moves from a kind of socially "promiscuous" responsiveness (e.g., smiling) to whomever happens to interact with the infant during his or her first few months of life. Bowlby (1969/1982) described this phase as the "preattachment" phase. Although much research on neonates has since shown that they have a clearer preference for their familiar caregivers (e.g., those individuals' voices, their smell) over unfamiliar interaction partners than Bowlby realized, it usually takes more than 6–7 months before a full-fledged attachment relationship with caregivers has been established ("prototypical attachment," in Bowlby's [1969/1982] words).

The maturation of attachment during the second half of the first year of life is seen in an increasingly salient preference for the familiar caregivers, coupled with separation anxiety when parted from those caregivers

and wariness of interacting with strangers. Although the intensity of expressions of separation anxiety and stranger wariness is notably variable across children and cultures—in part due to temperamental factors and cultural caregiving practices—both phenomena are strongly normative (i.e., species-typical), indeed probably universal (Bowlby, 1973). Attachment formation also coalesces with infants' increased physical mobility (as evident in crawling and walking) and cognitive developments, most notably object permanence (i.e., the understanding that an object, such as the attachment figure, will continue to exist even when not perceptibly present). Jointly, these developing motoric and cognitive abilities enable infants not just to actively seek proximity to their caregivers and to search for them when they are absent (such as during a brief separation), but also to venture off into potentially dangerous territories. At this age, the attachment system kicks into high gear and becomes visibly functional. Much of the infant-toddler's life—at roughly 9–18 months of age—is thenceforward organized around the principal task of establishing and maintaining reasonable proximity to attachment figures while also exploring the surrounding world with all its appealing objects and settings.

Thus, the infant-toddler actively turns to attachment figures as safe havens when alarmed (e.g., frightened) by danger cues. Even more tellingly, the infant-toddler increasingly uses attachment figures as secure bases for exploration, which is particularly important in situations of uncertainty. By means of social referencing—using the attachment figure's emotional and gestural expressions as a cue—the infant-toddler puts his or her newly acquired gross motor abilities to use and is especially open to treading new exploratory terrain when in the presence of a secure base (e.g., Sorce, Emde, Campos, & Klinnert, 1985).

At roughly the ages of 3–5 years, the preschooler's relationships with attachment figures gain further flexibility and depth. This is presumably a function not just of repeated interaction sequences corroborating the child's working models of self and other but also of increased language abilities and further cognitive developments. The child's ability to “mentalize” (e.g., Fonagy, Gergely, & Jurist, 2004), that is, to represent the minds of others (“mind reading”) and to distinguish others' minds from that of one's own, is an especially important developmental achievement in this regard (e.g., Fonagy & Target, 1997). Regarding flexibility, the child can now understand that in most situations, such as during separations in familiar settings, there is no need to resort to overt attachment behaviors (such as crying or following) because of an internalized representation of the attachment figure as someone who, for example, “plans” or “intends” to come back or who “cares about” how the self is feeling (Bowlby's [1988] “internalized secure base”). Consequently, the

child can now endure somewhat longer separations from caregivers—say, a full day at preschool—in a manner that is less resource-taxing than during the first and second years of life (Bowlby, 1973).

Regarding depth, the preschooler can engage in mind-related conversations with his or her caregivers (and others), which, when not deceptive, has the potential to considerably expand the child's understanding of self and others and to facilitate relational repair when things have temporarily gone sour. A caregiver of a terrified 3-year-old who has been lost in the supermarket may tenderly declare, upon reunion, that "I am SO sorry, honey; I didn't *mean* to walk away on you! I *thought* you *noticed* where I was going and that you *planned* to follow me." Along with comforting hugs, mentalizing utterances (*italicized*) like these can effectively restore the child's sense of confidence, not just in the parent's accessibility and the self's continued worthiness of care but also in the good intentions of the parent's mind. The child of preschool age may also realize that the parent's mind is the "real deal" and is what's driving the parent's behaviors, so even if the behaviors happen to fall short of perfection from time to time, the parent's mind may still be represented as reliable and loving. Because of the increased flexibility of the relationship that ensues, Bowlby (1969/1982) referred to this final phase of attachment relationship development as the "goal-corrected partnership."

SURROGATE OBJECTS OF ATTACHMENT

Of special interest for the application of attachment theory to religion and spirituality is the observation that attachment behaviors may be directed not just to an individual's regular, "animate" attachment figures—most notably caregivers and, later in life, spouses and close friends—but also to a host of other surrogate relationship partners. The founders of attachment theory briefly discussed the possibility that individuals who have been inadequately cared for or whose regular attachment figures are currently unavailable for one reason or another may select certain other persons or person-substitutes as surrogate targets for their attachment systems (Ainsworth, 1985; Bowlby, 1969/1982). However, subsequent attachment researchers largely neglected to pursue the use of attachment surrogates in their research. Instead they focused primarily on principal attachments and their socioemotional correlates in later development (often via presumed continuity and generalization of working models). This left a major gap in the literature on people's use of attachment surrogates. This gap is an important part of what has inspired my colleagues and me to engage in attachment research on religion.

Bowlby wrote, on the use of attachment figures, that

whenever the “natural” object of attachment behaviour is unavailable, the behaviour can become directed towards some substitute object. Even though it is inanimate, such an object frequently appears capable of filling the role of an important, though subsidiary, attachment “figure.” Like the principal attachment figure, the inanimate substitute is sought especially when a child is tired, ill, or distressed. (1969/1982, p. 313)

Bowlby then went on to exemplify such substitute objects with teddy bears, pacifiers, and comforting blankets. Such objects have been termed “transitional” objects by psychoanalysts (Winnicott, 1953) because they may aid a child in temporarily transitioning from his or her primary objects of attachment to other situations and persons, say, to a day at day care and to the day care staff. Understood in this way, such objects may indeed correctly be understood as transitional.

However, and presumably because of the effectively soothing effects of these objects, children may develop surprisingly strong—indeed rigid—ties to them. For example, young children commonly refuse to have their blankets and teddy bears washed, as it may change the objects’ appearance, and they often react with intense protest when the object is misplaced or, even worse, lost. Should the latter happen, it is common for parents to go out of their way to replace the lost object. If it is out of stock in the local store, the parent may drive a long way to find a replacement and then “rough it up” to make it look more like the old one. Even then, the child may say, “It doesn’t smell right” and reject the hard-won replacement. Similar stories about difficulties involved in getting children to stop using their pacifiers are commonly heard among parents.

Young children may become so dependent on their surrogate objects that those objects may trump or supersede the significance of children’s actual caregivers in certain situations. Such “idolatry,” to use a religious term, is known to make attachment assessments (described in Chapter 4) somewhat challenging, as when a child fails to calm down after a separation–reunion sequence with a parent until the child is finally reunited with his or her true object of affection: the pacifier!

My point here is not to say that such a child has an attachment to the pacifier but not to its parent, let alone a “stronger” or more secure attachment to the pacifier (cf. Hong & Townes, 1976; van IJzendoorn et al., 1983). Rather, I wish to indicate that attachment behavior may be directed to convenient targets that we usually do not—and for good reason (see Chapter 2)—think of as attachment figures proper. Thus,

Bowlby was probably right to term such objects attachment “figures” in quotation marks (see the quotation above). A related point is that such surrogate objects may be much more than transitional (from parent to surrounding) for an individual child. Indeed, they may actively interfere with the child’s display of attachment behavior to his or her regular attachment figures.

Although infants’ and toddlers’ use of attachment surrogates is typically directed to concrete objects, from preschool age onward—and via the cognitive developments described in the preceding section—the child’s cast of surrogate objects may come to include a whole new set of abstract, invisible, and noncorporeal characters. Thus, as children experience themselves thinking and planning, and imagine the intentions of their social interaction partners, they may begin to apply their mentalizing ideas to abstract, symbolic—yet typically highly anthropomorphized—others.

For example, the child starts to elaborate and interact with “imaginary”—to use adults’ terminology—companions (e.g., Taylor, 2001). Although not the typical scenario, in some children’s minds, especially children experiencing low levels of psychological well-being (Bonne, Canetti, Bachar, De-Nour, & Shalev, 1999; Hoff, 2005), these imaginary companions take on a “real” existence and may be viewed as some of the principal relationship partners in the child’s mind. It seems reasonable to conjecture that this is particularly likely when the child’s primary attachment figures are unavailable, for whatever reason (cf. Hong & Townes, 1976).

Such imaginary figures often exit from children’s minds as suddenly as they entered them, and most have exited by middle childhood. At least that is the way it seems among children from the white, educated, industrialized, rich, and democratic parts of the world (WEIRD; e.g., Henrich, Heine, & Norenzayan, 2010). Piaget (1954/2013) attributed their exit from children’s minds to cognitive maturation; as children outgrow “preoperational egocentrism,” they also say farewell to “animistic thinking” in general and to imaginary figures in particular. However, as I have pointed out elsewhere (Granqvist, 2014b), this analysis is problematic for two reasons. First, preschool children’s somewhat elevated tendencies for animistic (or “magical”) thinking is partially due to incomplete object knowledge and not to animistic thinking per se (e.g., Jipson & Gelman, 2007). Second, as illustrated by the widespread historical and global presence of religion, mythologies, and folk beliefs, animistic (or magical) thinking is rarely fully outgrown. Rather, such thinking usually becomes focused on other entities that, for one reason or the other, have found acceptance in the cultural milieu and historical era surrounding the individual (cf. Boyatzis, 2005, 2017). With those

final remarks, we are ready to start addressing matters of religion and spirituality from an attachment viewpoint.

CHAPTER SUMMARY

In this chapter, I have outlined the historical development of attachment theory, from Bowlby's early work as a child psychoanalyst to the extended work required to formalize his ethological attachment theory. Next, the theory's principal concepts were defined and its evolutionary and psychobiological assumptions delineated. We revisited the central assumptions of attachment theory in the light of contemporary evolutionary considerations, and I concluded that, although attachment theory has by all reasonable criteria been a remarkable scientific contribution, Bowlby was unnecessarily narrow—or singular—in some of his central assumptions. In particular, I contend that attachment has always had functional consequences beyond protection and survival. Key among these consequences, at least for the present book, is social or cultural learning: Attachment is an effective platform for cultural transmission, and thereby facilitates the child's incorporation into a given culture. I also delineated the basic representational aspects and psychological defenses addressed in the theory, and I drew evaluative parallels to cognitive science and psychoanalysis. In the developmental section of the chapter, I described how attachment matures during the first few years of life and according to what principles. Finally, "surrogate" attachment objects were discussed from a developmental perspective.