COMMENTARIES

Attachment, Caregiving, and Parental Investment

David C. Geary
Department of Psychology
University of Missouri at Columbia

Bell and Richard's position is very similar to Mac-Donald's (1992) argument that attachment involves at least two independent systems. The first is a fear-based system that is essentially the same as that originally described by Bowlby (1969), and the second is a warmth-based system that is very similar to the caregiving system described by Bell and Richard. Both systems of attachment, as related to the parent–child relationship, can be understood in terms of parental investment (Trivers, 1972, 1974), as is described in the first section. The second section addresses a few misconceptions about evolution and proximate and ultimate causes.

Parental Investment

Parent–child attachment, whether involving proximity-related systems or caregiving-warmth, is readily understandable in terms of the more general topic of parental investment; that is, parent–child attachment is a manifestation of the evolution of parental investment. Trivers (1974) defined parental investment as resources (e.g., time, food, etc.) that are provided to offspring at a cost to the parent; costs can be reproductive (e.g., a delay in conceiving the next offspring) or in terms of the health and survival of the parent (Clutton-Brock, 1991). This is not to say that each and every parental behavior is directly related to the parent's survival or later reproduction. Rather, the systems that orient parents to their offspring, as in maintaining proximity and promoting parental investment (e.g., in terms of time and material resources), are costly to parents and would not evolve unless they provided a reproductive benefit to parents. In nonhuman species, the primary reproductive benefit of parental investment is an increase in offspring survival rates (Clutton-Brock, 1991).

An evolved bias to invest in offspring does not in any way mean that all parents at all times will invest in their offspring (Daly & Wilson, 1981). For many nonhuman species, parents will often abandon offspring or otherwise reduce levels of parental investment, contingent on current conditions; for instance, if food is too scarce to ensure the survival or normal development of offspring, then parents will often abandon these offspring (Clutton-Brock, 1991). Stated somewhat differently, from an evolutionary perspective, parental investment is expected to be expressed contingent on social (e.g., population density) and ecological (e.g., availability of food) factors and on parental condition (e.g., health, social status). When parents invest in offspring, some aspects of this investment are obligate, that is, essential for offspring survival, and other aspects may be expressed more conditionally, or facultatively. For the latter, the investment may not be essential for survival, but if provided, it results in other benefits to offspring, such as an improvement in later social, and thereby reproductive, competitiveness.

The long developmental period of humans and the necessarily heavy cost of human parental investment strongly argue that this investment is an evolved feature of human social behavior, as indicated by Bell and Richard and others (e.g., Bowlby, 1969; Lovejoy, 1981; MacDonald, 1992). As with other species, it is likely that the selection pressure for human parental investment was reduced child mortality risks and perhaps improvements in the later social, and thereby reproductive, competitiveness of children (Geary, 2000). The proximity-seeking feature of attachment described by Bowlby (1969) may reflect a form of obligate parental investment, whereas the caregiving-warmth system described by Bell and Richard and by MacDonald (1992) may reflect a more conditional form of parental investment.

Features of proximity seeking, such as offspring distress calls, are found in many species of primate and mammal (Hofer, 1987) and reflect a way of soliciting parental investment that has a long evolutionary history. For instance, many features of proximity seeking, such as stranger anxiety and separation anxiety, are found in all human societies and are manifested in the same way and appear at about the same age in one of our closest relatives, the chimpanzee (*Pan troglodytes*; Bard, 1995; Eibl-Eibesfeldt, 1989). The apparently ho-

mologous attachment patterns in humans and chimpanzees suggest that this form of human parental investment has at least a 6 million–year evolutionary history, the estimated age of the ancestor common to humans and chimpanzees (e.g., Vrba, 1985). In fact, the ubiquity of proximity-related features of attachment across many species and the increased mortality risks associated with separation from the primary caregiver (e.g., Goodall, 1986) strongly suggest that this aspect of attachment predated hominid evolution.

The caregiving-warmth feature of parental investment, in contrast, is not a feature of attachment in most other mammals or primates and, in fact, is absent in many human societies (Geary, 1998; MacDonald, 1992). Although the proximate mechanisms are not fully understood, it appears that high levels of conflict within the wider society or within the family result in reductions in parental empathy and responsiveness to children and in harsh child-rearing practices (e.g., painful physical punishment). At the same time, most of these parents show the proximity-related behaviors (e.g., responding to distress signals) described by Bowlby (1969; MacDonald, 1992). Although these harsh child-rearing practices are sometimes described as abusive and pathological, the possibility that these are adaptive and facultatively expressed responses to harsh social conditions needs to be seriously considered. In fact, MacDonald argued that harsh child rearing "shuts down" the neurobiological and associated emotional systems that support interpersonal warmth and thus results in a more guarded, aggressive, and exploitative social style. Although maladaptive in some contexts, this type of social style is functional in other social contexts—in theory, those contexts that promote harsh parental child rearing.

It appears that caregiving, as described by Bell and Richard, and warmer parent–child relations are more commonly found in high-resource, low-conflict social ecologies and in settings with low mortality rates and a relatively even distribution of resources among the local population (Belsky, Steinberg, & Draper, 1991; MacDonald, 1992; Wilson & Daly, 1997). In these settings, a cooperative social style—one characterized by warm and reciprocal social relationships among adults—may be more adaptive than the guarded and aggressive social style described above. In this view, cooperative social relationships among adults, combined with living in a low-risk and high-resource environment, result in the facultative expression of the features of caregiving described by Bell and Richard. This form of caregiving, in turn, results in a bias toward more reciprocal and warmer social relationships (MacDonald, 1992).

In short, the proximity-seeking features of attachment described by Bowlby (1969) appear to be an obligate feature of parental investment—although abandonment of children would still be expected under some conditions (Daly & Wilson, 1981)—with a long evolutionary history. The caregiving-warmth feature of attachment is less common across species and, thus, likely has a much shorter evolutionary history. Moreover, the human caregiving and warmth feature does not appear to be an obligate form of parental investment in humans but rather appears to be expressed facultatively, that is, only under certain social and ecological conditions (MacDonald, 1992).

Proximate and Ultimate Causes

The ultimate selection pressures for any form of parental investment—obligate or conditional—are improvements in offspring survival rates and, in some species, including humans, an improvement in the social and later reproductive competitiveness of offspring (Clutton-Brock, 1991; Geary, 2000). The associated proximate causes constitute all of those cognitive, social, and emotional systems that result in the administration of parental investment, independently of whether this investment is subjectively comfortable or cost free to the parent. Bell and Richard argue that "no rational self-interested person would voluntarily pay the emotional and monetary costs of parenting" (this issue). This statement represents a confusion of ultimate and proximate mechanisms—even subjectively taxing proximate costs, such as anxiety, distress, and lost resources, will evolve, if they result in a reproductive advantage (Clutton-Brock, 1991). In other words, genetic self-interest—of which parental investment is but one example—and here-and-now personal self-interest (e.g., personal comfort) are not the same.

In fact, selection could support heavy emotional and other costs of parental investment if these costs resulted in behaviors that reduced the mortality risks of children. As an example, parental grief associated with the loss of a child and the associated examination of "how did this happen" could prompt behavioral changes that reduced risks to later children. Moreover, there are other mechanisms, such as fear when the child is threatened, empathy as described by Bell and Richard, and child characteristics (e.g., cute) that promote parental investment (Trivers, 1974). On a personal level, this investment often exacts emotional and monetary costs on the parent, to the benefit of the child. But if this investment increases the chances that these children will reach adulthood and have children of their own, then parental investment is, from a genetic perspective, a self-interested behavior.

Note

David C. Geary, Department of Psychology, 210 McAlester Hall, University of Missouri at Columbia, Columbia, MO 65211–2500. E-mail: gearyd@missouri.edu

References

Bard, K. A. (1995). Parenting in primates. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 2. Biology and ecology of parenting* (pp. 27–58). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Belsky, J., Steinberg, L., & Draper, P. (1991). Childhood experience, interpersonal development, and reproductive strategy: An evolutionary theory of socialization. *Child Development, 62,* 647–670.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. London: Hogarth.

Clutton-Brock, T. H. (1991). *The evolution of parental care*. Princeton, NJ: Princeton University Press.

Daly, M., & Wilson, M. (1981). Abuse and neglect of children in evolutionary perspective. In R. D. Alexander & D. W. Tinkle (Eds.), *Natural selection and social behavior* (pp. 405–416). New York: Chiron Press.

Eibl-Eibesfeldt, I. (1989). *Human ethology*. New York: Aldine de Gruyter.

Geary, D. C. (1998). *Male, female: The evolution of human sex differences*. Washington, DC: American Psychological Association.

Geary, D. C. (2000). Evolution and proximate expression of human paternal investment. *Psychological Bulletin, 126,* 55–77.

Goodall, J. (1986). *The chimpanzees of Gombe: Patterns of behavior*. Cambridge, MA: Belknap Press.

Hofer, M. A. (1987). Early social relationships: A psychobiologist's view. *Child Development, 58,* 633–647.

Lovejoy, C. O. (1981). The origin of man. *Science, 211,* 341–350.

MacDonald, K. (1992). Warmth as a developmental construct: An evolutionary analysis. *Child Development, 63,* 753–773.

Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man 1871–1971* (pp. 136–179). Chicago: Aldine.

Trivers, R. L. (1974). Parent–offspring conflict. *American Zoologist, 14,* 249–264.

Vrba, E. S. (1985). Ecological and adaptive changes associated with early hominid evolution. In E. Delson (Ed.), *Ancestors: The hard evidence* (pp. 63–71). New York: Alan R. Liss.

Wilson, M., & Daly, M. (1997). Life expectancy, economic inequality, homicide, and reproductive timing in Chicago neighbourhoods. *British Medical Journal, 314,* 1271–1274.

The Complexity of the Caregiving System: A Perspective From Attachment Theory

Jude Cassidy

Department of Psychology
University of Maryland

In one of his earliest writings, Bowlby (1956) pointed out that further understanding of attachment could be gained from examination of the mother's tie to her infant. Although Bowlby (1984) later wrote briefly about "parenting behavior" from a biological perspective as "like attachment behavior … in some degree preprogrammed" (p. 271), he devoted his attention almost exclusively to examining the attachment side of what he called the "attachment-caregiving social bond" (Bowlby, 1969/1982, p. 377). It is to his credit that his initial focus on the sole behavioral system of attachment produced such a highly generative theory that subsequent theorists examining the caregiving system have had a solid theoretical and empirical base on which to build (see Bretherton, Biringin, Ridgeway, Maslin, & Sherman, 1989; Bretherton, Golby, & Cho, 1997; Cassidy, 1999, in press; Heard & Lake, 1997; Main, 1990; Pianta, Marvin, Britner, & Borowitz, 1996; Slade, Belsky, Aber, & Phelps, 1999; Zeanah, Benoit, Hirschberg, Barton, & Regan, 1994; and most extensively, George & Solomon, 1996, 1999, and Solomon & George, 1996).

In their target article, Bell and Richard claim that "attachment theory oversimplifies and further trivializes the process of caregiving" (this issue). In this article, I present a contrasting perspective and attempt to demonstrate contemporary attachment theory's focus on the multifaceted, rich complexities involved in the caregiving behavioral system. I review discussion by a number of attachment theorists who argue that the caregiving system should be examined not only as a separate system, but also in connection with other parental behavioral systems and in relation to the child's behavioral systems. These attachment theorists also consider cognition and emotion, a variety of contextual factors, both past and present influences on caregiving, a life-span perspective, and differential maternal and paternal caregiving—all aspects of a theoretical perspective that is anything but simple.

The Caregiving Behavioral System

From an attachment theory perspective, caregiving is considered within the framework of the caregiving behavioral system. Bowlby (1969/1982) borrowed the concept of the behavioral system from the ethologists to describe a species-specific system of behaviors that leads to certain predictable outcomes, at least one of which contributes to the individual's reproductive fitness. The predictable outcome of activation of the parent's caregiving system is child–parent proximity, and

the biological function is protection of the child and enhanced parental reproductive fitness. The concept of the behavioral system involves inherent motivation. There is no need to view attachment as the by-product of any more fundamental processes or "drives." Thus, Bell and Richard's claim that "attachment accounts of caregiving lack a plausible motivation for caregiving, a reason why the caregiver should choose to nurture the dependent" (this issue) dismisses Bowlby's initial thinking about the caregiving system and more recent expansions of this thinking that are solidly within contemporary biological theorizing and empirical research. The caregiving system is thought to have evolved because, during the time when humans and other primates were initially evolving, parents who provided protective care to their offspring were more likely to have offspring survive and pass on the genes for this caregiving behavior. This notion of inherent motivation is also compatible with Piaget's (1954) formulation of the inherent motivation of the child's interest in exploration.

Activation and Termination of the
Caregiving Behavioral System

Bell and Richard claim that, according to attachment theory, "the caregiving behavioral system is inactive most of the time. … [The] behavioral control system [described] by most attachment theorists … is either turned on or turned off" (this issue). Bell and Richard contrast the "on-off caregiving of attachment theories" with their own perspective, wherein "caring is conceptualized as enduring and variable" (this issue). Yet, in parallel to Bowlby's (1969/1982) revised view of the attachment system as never fully turned off, the caregiving system is viewed by attachment theorists as continually active (enduring) and variable (i.e., the interaction of a variety of factors contributes to whether caregiving behavior occurs at all and the intensity of that behavior). Bell and Richard further claim that, from an attachment theory perspective, the caregiving system "only becomes active when the dependent's distress vocalizations or excessive distance from the caregiver stimulates it" (this issue). In fact, within the framework of attachment theory, the mechanism is not so simple. There are thought to be multiple and complex factors involved in the relative activation and deactivation of the caregiving system; activation of caregiving is viewed as far more complexly determined than simple responsiveness to child attachment behavior:

> As is true for many behavioral systems, activation of the caregiving system results from both internal and external cues. Internal cues include presence of hormones, cultural beliefs, parental state (e.g., whether the parent is tired or sick), and activation of other pa-

rental behavioral systems (e.g., exploration, food-getting, fear). External cues include state of the environment (e.g., whether it is familiar, whether there is danger, whether others are present and who those others are), state of the infant (e.g., whether the infant is sick or tired), and behavior of the infant (e.g., whether he or she is exhibiting attachment behavior). (Cassidy, 1999, p. 10)

Interplay Among Behavioral Systems

Further adding to the complex nature of the caregiving behavioral system is the fact that it operates in conjunction with a variety of a parent's other biologically based behavior systems. An appreciation of the interplay among behavioral systems has always been central to attachment theory, and two examples of this interplay involving the caregiving system are noted here. For instance, just as the child's attachment and fear systems are closely linked (such that an increase in fear contributes to increased attachment behavior; Bowlby, 1973), so are the parent's caregiving and fear systems. When a parent is frightened by threat to the child, she increases caregiving behavior; conversely, when a parent is in a safe environment and perceives no threat, she is likely to decrease caregiving behavior. Similarly, the exploratory and caregiving systems are likely to be intertwined, such that activation of a parent's exploratory system may reduce activation of the caregiving system: On Super Bowl Sunday, a father may be more lax in his caregiving behavior during the game than following it. (See George & Solomon, 1999, for a full discussion of "competing behavioral systems.")

Parent–Child Conflict

The caregiving system operates not only in concert with other parental behavioral systems, but also in concert with the child's behavioral systems. Bowlby (1969/1982) considered the child's attachment system and the parent's caregiving system as "complementary" behavioral systems. In most cases, parents and children work together to maintain a comfortable, safe degree of proximity. If the child moves away, the parent will retrieve him; if the parent moves away, the child will follow or signal for the parent to return. Following Bowlby's thinking, it seems likely that when the caregiving system is relatively activated, the child's attachment system can be relatively deactivated; attachment behaviors are not needed because the parent has assumed responsibility for maintaining proximity. If the caregiving system is not relatively activated, then the child's attachment system becomes activated, should the context call for it. This "dynamic equilibrium" (Bowlby, 1969/1982, p. 236) contributes to understanding the notion of the mother's providing a

"secure base from which to explore." The mother's monitoring of child–mother proximity frees the infant from such necessary monitoring and permits the child's greater attention to exploration (Main, 1973), although there are certainly times when both partners' systems are concurrently activated and both take significant responsibility for maintaining proximity.

However, as Trivers (1974) noted, parents and children are at times in conflict because circumstances enhance the reproductive fitness of each member of the dyad differently. For instance, when an infant's attachment system is activated in the presence of the mother, the infant's sole wish is for her to respond. Although such infant behavior is usually a powerful activating stimulus for the mother's caregiving system, the mother may choose among several competing needs and may or may not provide care. The child's concern is immediate and focused; the mother's concerns may be more diffuse and long-range (Main, 1981, 1990). The mother may have to leave the infant to work to support the family, or she may have several children to whose needs she must attend. Parental caregiving to a particular child is only one of many ways a parent can increase reproductive fitness. Others include having additional children; providing care to other children; maintaining ties to a mate, kin, or peers who will help protect offspring; and gathering resources. Thus, parents juggle a variety of complex, competing factors when faced with caregiving decisions. Main (1990) has proposed that from an evolutionary perspective, maternal unresponsiveness may be useful to the mother if it maximizes the total number of surviving offspring (see also Belsky, 1999; Simpson, 1999).

The Role of Cognition

A central notion of attachment theory is that early in life, humans develop mental representations of themselves, the people important in their lives, and the workings of the world (Bowlby, 1969/1982, 1973; Bretherton & Munholland, 1999; Main, Kaplan, & Cassidy, 1985). More recent attention to attachment across the life span has led to the proposition that parents also develop representations of themselves as parents and of their children (Slade et al., 1999; Zeanah et al., 1994), as well as a "current state of mind with regard to attachment" (Main & Goldwyn, 1998). The thinking is that parental mental representations influence parenting behavior, and there is evidence that this is the case (e.g., Slade et al., 1999). Understanding the process through which this occurs (selective attention, memory, interpretative bias, expectations) will be important in future research. What factors contribute to change in representational models and the relative influence of early and later models will also be important to explore.

The Role of Emotion

The emotions linked to caregiving may be as powerful as any experienced throughout life. As I noted in a previous article (Cassidy, 1999), the birth of a first child (which establishes the adult as a parent) is often accompanied by feelings of great joy; threats to the child are accompanied by anxiety; the death of a child brings profound grief. This intertwining of the caregiving system with intense emotions may result from selective pressures of evolution: Enhanced reproductive fitness may result when, for instance, a parent's anxiety about threats to a child prompts the parent to seek effective interventions.

Explaining Parental Responsiveness

According to Bell and Richard, "attachment logic has suggested why sensitivity and responsiveness may be important for the child, but it has not been able to explain why they are important to the parent" (this issue). Yet consideration of the biological function of the caregiving system—protection of the young and enhanced parental reproductive fitness—is central to an attachment theory perspective, and such consideration leads to a biological understanding of why, for primates, responsiveness and sensitivity are "important to the parent." The case of parental soothing serves as one example. Why would a parent expend effort to soothe a child frightened of thunder when the parent correctly perceives that the child is in no danger? There are a number of possible reasons, all of which increase parental reproductive fitness. I have proposed elsewhere that soothing behaviors serve, indirectly, to facilitate the parent's monitoring of potential or real dangers to the child (Cassidy, 1999). Parental provision of contact usually comforts a distressed child. If the child continues to be distressed for a substantial time following contact, there may be another threat of which the parent in unaware. Through continuing attempts to soothe the child, the parent gains information about threat to the child. The parent may not realize, for instance, that the child has a painful splinter in her foot. Furthermore, there are many ways in which inconsolable crying (beyond infancy) can signal serious health problems; a parent will not know whether crying is inconsolable unless the parent attempts to console. Another possible reason for soothing is that it may contribute to reducing the health risks associated with chronic, unrelieved stress (e.g., Kobassa, 1979). In addition, it is likely that the child learns, through modeling, about how to soothe the distress of others. Given evidence that adults prefer romantic partners who are sensitively responsive (Pietromonaco & Carnelley, 1994; Zeifman & Hazan, 1997), having learned such behavior may increase the child's later ability to attract desirable ro-

mantic (reproductive) partners. Both reducing risk to the child's health and enhancing the child's attractiveness to desirable partners, in turn, enhance the parent's own reproductive fitness. Another reason, which is perhaps the most basic reason for soothing, may be that the species has evolved such that a child's distress is aversive to the parent (even at the level of auditory pitch and frequency), and the parent desires and acts to terminate the aversive stimulus.

The Active Parent: Understanding Individual Differences

Bell and Richard refer to "the essentially passive caregiving behavioral control system described in attachment theory" wherein the parent "responds mechanically to the child's crying" (this issue). Behavioral systems, however, have never been viewed as "passive" systems by ethologists or attachment theorists. Furthermore, there has been considerable recent theorizing that individual differences in parental caregiving can be viewed in part as (nonconscious) active strategic parental attempts to increase reproductive fitness. In other words, it has been proposed that parents (nonconsciously) consider a complex constellation of factors and arrive at a (nonconscious) belief about the type of caregiving likely to enhance their reproductive fitness. This parental belief, in turn, is likely to influence the parents' active choices of caregiving behaviors. Thus, although the parameters of the caregiving system are thought to be biologically based and to have evolved through the process of natural selection, the caregiving system is thought to have evolved with the capacity to flexibly adapt to environmental variation in ways that enhance reproductive fitness. For further discussion of the ways attachment theorists view the caregiving system as characterized by active parental judgment and learning rather than as either "passive" or "strictly innate," as Bell and Richard claim, see Belsky (1999), George and Solomon (1999), and Main (1990).

The Influence of Past and Present

There has long been a theoretical view that past experiences guide present parenting. Fraiberg (1980), for instance, claimed, "we do unto others as we were done to." Similarly, Sroufe and Fleeson (1986) pointed out that babies learn both sides of important early dyadic relationships—at the same time they learn what it is like to be a baby in a relationship, they learn how it is that the caregiver is. Bowlby (1979) also proposed that secure childhood attachment would facilitate an individual's later parenting. More recently, theorists have begun to examine the complex intertwining of past and present influences on parenting: What are the relative influences of past and present? Under what circumstances is one more influential? How much of a protective factor can early positive experience provide? Do relative influences vary across individuals? What is the role of biological change during adolescence? The field is in the midst of an explosion of learning about the processes through which neural pathways become established and influence later behavior, and greater consideration is being given to why, from an evolutionary perspective, individuals would be particularly influenced by early attachment experiences yet at the same time retain the ability to flexibly adapt to new circumstances (see Belsky, 1999; Cassidy, in press; George & Solomon, 1999; Siegel, 1999). Emerging data from studies using the Adult Attachment Interview suggest that when adult representations are not congruent with early attachment experiences (e.g., when an adult with negative childhood experiences has current attachment-related representations that are secure), it is adult representation rather than childhood experience that is more closely linked to the attachment quality of offspring (and presumably to parenting behavior; Pearson, Cohn, Cowan, & Cowan, 1994).

A Contextual Perspective

Rather than considering simply the parent's (past and present) contribution to the caregiving system, recent theorizing has used a complex, contextual approach, in which the parent's own characteristics are considered to play an important role yet are not viewed as solely causal. Parental characteristics are thought to operate within a larger context that includes characteristics of the child; the larger family system, including the marriage, the family size and structure, sibling characteristics and relations, and the larger kinship network; and the environment, including the safety of the neighborhood, availability of resources, and the social network. Experimental research with primates has suggested that mothering does in fact differ as a function of these contextual factors (Suomi, 1999). (For further discussion of a contextual perspective on caregiving, see Belsky & Isabella, 1988; Berlin & Cassidy, 1999, in press; Cowan, Cohn, Cowan, & Pearson, 1996; and George & Solomon, 1999.)

Mothers and Fathers

Contributing additional complexity is the fact that some caregivers are mothers and some are fathers; within the contemporary evolutionary perspective, the existence of separate maternal and paternal caregiving systems in readily understood. Both mothers and fathers are concerned with their own reproductive fit-

ness. Yet, because mothers and fathers may differ substantially in the extent to which the survival of any one child enhances this fitness, their parenting behavior may differ. Compared to fathers, mothers have more to gain in terms of reproductive fitness from each child for several reasons (e.g., mothers' certainty about parental status, shorter reproductive life span, longer interchild intervals, and greater energy expenditure per child [during pregnancy and lactation]; see Trivers, 1972). Despite these differences, there is almost surely considerable overlap between maternal and paternal caregiving systems as well.

A Life-Span Perspective

Understanding caregiving would be complex even if all parents were 25 years old and all children were infants. Yet both children and parents develop. The life-span perspective characteristic of attachment theory leads to consideration of two key questions that add further layers of complexity to attempts to understand caregiving. First, when does an adult become a parent? Becoming a parent at age 22 has advantages and disadvantages compared with becoming a parent at age 42; becoming a parent at age 14 brings still another set of considerations. Second, what age is the child who is being parented? Opportunities and challenges—and a parent's own strengths and weaknesses—differ when the child is an infant, a toddler, an adolescent.

Summary

Despite increasing theoretical attention to the caregiving system, there is as yet relatively little research related to this theorizing. Much research remains to be conducted, and the next decade should prove an exciting time on this front. Bridges across multiple theoretical perspectives may serve to further enrich our understanding of the caregiving system. The perspective from which Bell and Richard approach caregiving differs substantially from that of most contemporary attachment theorists, who instead are grounded within a framework of contemporary evolutionary biology. It is important to note, before closing, that Bell and Richard's assessment of attachment theory leads them to argue not only that there are scientific flaws in the theory's proposals about caregiving, but also that the theory is not particularly sensitive to the challenges of parenting: "Attachment theory has come close to trivializing the difficult conflicts and choices that caregivers experience" (this issue). In his clinical writings, however, Bowlby (1979, 1988) uniformly expressed considerable empathy and compassion for the difficulties and complex considerations that par-

ents face as they struggle to do the best possible job of raising their children. Finally, it is important to note that attachment theory has guided research examining some of the questions that have been most central to parents: How are children's hospital stays best handled? How will maternal employment influence children? Will parents spoil children by responding to their cries? Can children become attached to day care providers, and what qualities in the care provider contribute to the formation of a secure attachment?

Notes

Jude Cassidy, Department of Psychology, University of Maryland, Room 2123L, Biology–Psychology Building, College Park, MD 20742–4411. E-mail: jcassidy@psyc.umd.edu

References

Belsky, J. (1999). Modern evolutionary theory and patterns of attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 141–161). New York: Guilford.

Belsky, J., & Isabella, R. (1988). Maternal, infant, and social contextual determinants of attachment security. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 41–94). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Berlin, L. J., & Cassidy, J. (1999). Relations among relationships: Contributions from attachment theory and research. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 688–712). New York: Guilford.

Berlin, L. J., & Cassidy, J. (in press). Understanding parenting: Contributions of attachment theory and research. In J. Osofsky & H. Fitzgerald (Eds.), *Handbook of infant mental health*. New York: Wiley.

Bowlby, J. (1956). The growth of independence in the young child. *Royal Society of Health Journal, 76,* 587–591.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation*. New York: Basic Books.

Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.

Bowlby, J. (1984). Caring for the young: Influences on development. In R. Cohen, S. H. Weissman, & B. J. Cohler (Eds.), *Parenthood* (pp. 269–284). New York: Guilford.

Bowlby, J. (1988). *A secure base*. New York: Basic Books.

Bretherton, I., Biringin, Z., Ridgeway, D., Maslin, D., & Sherman, M. (1989). Attachment: The parental perspective. *Infant Mental Health Journal, 10,* 203–221.

Bretherton, I., Golby, B., & Cho, E. (1997). Attachment and the transition of values. In J. Grusec & L. Kuczynski (Eds.), *Handbook series: Parenting and children's internalization of values*. New York: Wiley.

Bretherton, I., & Munholland, K. A. (1999). Internal working models in attachment relationships: A construct revisited. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 89–114). New York: Guilford.

Cassidy, J. (1999). The nature of the child's ties. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 3–20). New York: Guilford.

Cassidy, J. (in press). Adult romantic attachments: A developmental perspective on individual differences. *Journal of General Psychology*.

Cowan, P. A., Cohn, D. A., Cowan, C. P., & Pearson, J. L. (1996). Parents' attachment histories and children's externalizing and internalizing behavior: Exploring family systems models of linkage. *Journal of Consulting and Clinical Psychology, 64,* 53–63.

Fraiberg, S. (1980). *Clinical studies in infant mental health: The first year of life*. New York: Basic Books.

George, C., & Solomon, J. (1996). Representational models of relationships: Links between caregiving and attachment. *Infant Mental Health Journal, 17,* 198–216.

George, C., & Solomon, J. (1999). Attachment and caregiving: The caregiving behavioral system. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 649–670). New York: Guilford.

Heard, D., & Lake, B. (1997). *The challenge of attachment for caregiving*. London: Routledge.

Kobassa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology, 37,* 1–11.

Main, M. (1973). *Exploration, play, and cognitive functioning as related to child–mother attachment*. Unpublished doctoral dissertation, Johns Hopkins University, Baltimore, MD.

Main, M. (1981). Avoidance in the service of attachment: A working paper. In K. Immelmann, G. Barlow, L. Petrinovich, & M. Main (Eds.), *Behavioral development: The Bielefeld Interdisciplinary Project*. New York: Cambridge University Press.

Main, M. (1990). Cross-cultural studies of attachment organization: Recent studies, changing methodologies, and the concept of conditional strategies. *Human Development, 33,* 48–61.

Main, M., & Goldwyn, R. (1998). *Adult attachment scoring and classification system.* Unpublished manuscript, University of Califormia at Berkeley.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I.

Bretherton & E. Waters (Eds.), Growing points in attachment theory and research (pp. 66–104). *Monographs of the Society for Research in Child Development, 50*(1-2, Serial No. 209).

Pearson, J., Cohn, D., Cowan, P., & Cowan, C. P. (1994). Earned and continuous security in adult attachment: Relation to depressive symptomology and parenting style. *Development and Psychopathology, 6,* 359–373.

Piaget, J. (1954). *The construction of reality in the child*. New York: Basic Books.

Pianta, R. C., Marvin, R. S., Britner, P., & Borowitz, K. (1996). Mothers' resolution of their children's diagnosis: Organized patterns of caregiving representations. *Infant Mental Health Journal, 17,* 239–256.

Pietromonaco, P. R., & Carnelley, K. B. (1994). Gender and working models of attachment: Consequences for perceptions of self and social relationships. *Personal Relationships, 1,* 63–82.

Siegel, D. J. (1999). *The developing mind: Toward a neurobiology of interpersonal experience*. New York: Guilford.

Simpson, J. A. (1999). Attachment theory in modern evolutionary perspective. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 115–140). New York: Guilford.

Slade, A., Belsky, J., Aber, L., & Phelps, J. (1999). Maternal representations of their toddlers: Links to adult attachment and observed mothering. *Developmental Psychology, 35,* 611–619.

Solomon, J., & George, C. (1996). Defining the caregiving system: Toward a theory of caregiving. *Infant Mental Health Journal, 17,* 183–197.

Sroufe, L. A., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hartup & Z. Rubin (Eds.), *The nature and development of relationships* (pp. 51–71). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Suomi, S. J. (1999). Attachment in rhesus monkeys. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 181–197). New York: Guilford.

Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man, 1871–1971* (pp. 136–179). Chicago: Aldine-Atherton.

Trivers, R. L. (1974). Parent–offspring conflict. *American Zoologist, 14,* 249–264.

Zeanah, C., Benoit, D., Hirschberg, L., Barton, M. L., & Regan, C. (1994). Mothers' representations of their infants are concordant with infant attachment classification. *Developmental Issues in Psychiatry and Psychology, 1,* 1–14.

Zeifman, D., & Hazan, C. (1997). Attachment: The bond in pair-bonds. In J. A. Simpson & D. T. Kendrick (Eds.), *Evolutionary social psychology* (pp. 237–263). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Parent–Child Emotional Bonds: Loving or Caring?

Patricia Noller and Judith A. Feeney

School of Psychology
University of Queensland, Australia

The key proposition of Bell and Richard's thought-provoking article is that attachment theorists have tended to focus on the needs and motivations underlying infants' attachment behavior, rather than on the motivation of the adults who nurture them. From the perspective of these authors, attachment theory explains infant attachment behavior in terms of the infant's needs for protection and felt security, but it says little about why parents (particularly quality caregivers) respond in ways that increase the security of the

91

child. We agree that this aspect of the development of the parent–child bond (i.e., the motivation of parents for caregiving) has tended to be downplayed by attachment theorists.

Bell and Richard expound a "connection theoretical orientation" to the infant–caregiver relationship, with a focus on the emotion of caring as the primary motivation for nurturing behavior toward infants (or *dependents,* to use their term). Rather than arguing against the basic principles of attachment theory, their approach seeks to expand the theory to incorporate this new perspective. In other words, as the authors acknowledge, "the ideas presented here are not an alternative to the attachment theoretical orientation. In fact, they are compatible with most of the logic that Bowlby and his successors have articulated" (this issue).

Emotion and Caregiving

In our response, we would first like to acknowledge several important strengths of Bell and Richard's theoretical approach. We agree that attachment theorists have not paid enough attention to the importance of emotion in parent–child relationships, especially from the perspective of the parent. Emotion is clearly relevant as a motivation for caregiving, as well as being central to the maintenance of parent–child relationships. In particular, Bell and Richard's emphasis on positive emotion provides a balance to attachment theorists' primary focus on negative emotions such as fear, anxiety, and distress. In addition, we agree with the authors that because parents have the monopoly on resources in the parent–child relationship, it is particularly important to focus on understanding what motivates them to care for their children and what factors may impede quality caregiving.

What Emotion Underlies Parental Caregiving?

Bell and Richard suggest that attachment theory fails to provide a motivation for parental caregiving. Specifically, they note that, from the perspective of current evolutionary theory, the protection of children (and hence the survival of the child's genetic inheritance) is an unintended consequence of the existence of the attachment and caregiving behavioral control systems, rather than the goal of these systems. In other words, evolutionary processes cannot explain why these control systems operate. According to the authors, the dependent's attachment behavior can be explained in terms of the desires for security and protection. They go on to argue that these desires are consistent with social scientists' prevailing emphasis

on self-interest as a motivating force, but that parents' nurturing behavior is less easily explained. That is, if self-interest were the only principle operating, very few people would be prepared to take on the demanding role of parent.

Based on these considerations, the authors propose the "emotion" of caring as the primary motivation for parental caregiving. They regard the dyadic emotion of caring as an autonomous motivation that can successfully compete with self-interest; this emotion is oriented toward the needs of the dependent, rather than the pleasure of the caregiver. This approach to parent–child relationships grounds caregiving in emotion, rather than cognition, as highlighted by the authors' vivid description of the parent's first moments with the newborn child.

Although we agree that emotion deserves a more central place in our understanding of parent–child relationships, we have several concerns with this perspective. First, we are not convinced that attachment theory explains parental responses in terms of cognition, to the exclusion of emotion. Bell and Richard acknowledge that Bowlby (1969, 1973, 1980) regarded attachment relationships as the source of our most intense emotions; however, they argue that attachment theorists perceive these emotions as the outcome of the attachment bond, rather than its cause. From our perspective, however, it is impossible to separate the attachment bond from the emotions associated with it.

Second, we are not convinced that care is the relevant emotion, or even that it is an emotion. We would tend to argue that the primary emotion is love, and that caring is the behavioral expression of that love. Bell and Richard's article gives us the impression that they choose the term *care* because of their concerns about the diverse connotations of the word *love* in Western culture. We have some sympathy with this point of view, and we recognize that their choice of terms may have more to do with semantics than with a particular theoretical position.

Shaver, Morgan, and Wu (1996), however, presented compelling arguments for conceptualizing love as an emotion. They suggest that it is important to distinguish between two forms of love: momentary surges of affection (similar to joy) and enduring relational love. Momentary surges of affection, in particular, appear to meet the criteria for a basic emotion. In the case of parent–child relationships, we would argue that most parents experience enduring relational love for their offspring, but that they also have momentary surges of love and affection (e.g., when they look with adoration on their sleeping child). In other words, we would argue that parental love is the critical emotion and that it produces caring behaviors. This formulation is consistent with several theoretical models of love (e.g., Buss, 1988; Noller, 1996;

Shaver & Hazan, 1988) that describe behavioral tendencies associated with love (such as doing things for the other).

How Does the Emotion Underlying Caregiving Develop?

We also have some doubts as to whether Bell and Richard's account of parental caregiving explains how the emotion underlying caregiving behavior develops. The authors place emotion as the central issue in caregiving and attachment relationships, arguing that emotion is causal, rather than simply a signal of the state of the behavioral control system. Caring is seen as deriving from the caregiver's relational feelings toward the particular dependent, rather than as a constant need within the caregiver. As we noted earlier, however, it does not seem feasible to try to distinguish between the attachment bond and the associated emotions. Hence, it is virtually impossible to establish the extent to which an emotion such as love (or care) causes caring behavior and the extent to which caring behavior produces the emotion.

Bell and Richard claim that attachment theory fails to explain why attachment bonds are lasting and irreplaceable. However, we are not convinced that the explanation offered by these authors adds anything to current thinking about this issue. It seems tautological to say that "the caregiving bond endures because it is the enduring emotion of caring" (this issue). To fully understand parental caregiving and its motivation, it may be necessary to go further back in a causal chain and to propose parental investment as a cause of the emotion underlying caregiving.

Evolutionary psychologists such as Buss seem to argue, for example, that parental investment in the offspring plays a causal role in the evolutionary process, with the potential to provide a motivation for caring. Specifically, Buss (1988) argued that adults' needs for intimacy (including sexual relationships) and their tendency to develop caring and supportive attitudes toward sexual partners and their shared offspring can be best understood from an evolutionary perspective.

On a more specific point, it is also interesting to note that Bell and Richard, in describing the development of the emotion of caring, seem to imply that the parent's connection with the child commences with the parent's viewing of the child at birth and the child's looking at the parent. There appear to be some shortcomings to this approach. For example, in the early weeks of life, babies are not very responsive, with eye movements being not yet under voluntary control (Peterson, 1989). On the other hand, for most parents (although perhaps especially mothers), the feeling of connection and attachment to the child begins during pregnancy (Condon, 1993). And although it may be rather simplistic to see women's nurturing behavior to their own infants as "natural," such behavior probably does result, at least in part, from a whole range of natural processes, some of which involve hormonal changes. In short, parental love (or care) is likely to develop through a series of complex processes that begin long before birth. Similarly, Buss (1988) suggested that both proximal causes (e.g., culture, physiology) and ultimate causes (related to our evolutionary past) are needed to fully explain acts of love.

Conceptualizing Quality Caregiving

Bell and Richard criticize attachment theory for its failure to explain how responsiveness and sensitivity are produced and why they are important from the parent's perspective. They also argue that attachment theorists portray parental responsiveness as mechanical and reactive and as operating like an on-off switch in response to the attachment behaviors of the dependent. Although it is true that schematic representations of attachment as a behavioral control system tend to imply this mode of operation, it is difficult to reconcile this view with Bowlby's recognition (noted earlier), that attachment bonds are intensely emotional in nature. Perhaps the problem is that any diagrammatic representation of complex processes is likely to oversimplify those processes to some extent. Further, the idea that parents are purely reactive in terms of their caregiving (providing care only in direct response to attachment behaviors from the dependent) does not fit with our understanding of attachment theory. Rather, the theory suggests that quality caregivers are "available" to the child; they monitor the child's needs and are actively involved in meshing their own needs and behaviors with those of the child (e.g., Isabella & Belsky, 1991).

The authors propose that quality caregiving can be better understood in terms of empathy (emotional intention to know the other) and responsibility (emotional intention to help meet the other's needs), which they see as two direct results of the caregiver's caring for the dependent. They acknowledge strong similarities between sensitivity and empathy and between responsiveness and responsibility. However, they see responsibility as much more proactive than responsiveness, and they argue that the former concept also has the advantage of explaining how the competence and autonomy of the child are promoted.

Again, we see some limitations to these arguments. First, as noted above, we are not convinced that attachment theorists see parental responsiveness as totally reactive. Second, we find it rather tautological to say that "within the caregiving process of the connection theoretical orientation, [empathy and responsibility] are two *direct results* [italics added] of the caregiver's

caring for the dependent" (this issue). How do these characteristics emerge from the caregiving process? How can quality caregiving occur if these characteristics are not present from the beginning? These questions remain unanswered. Further, although empathy and responsibility may be important aspects of parental caregiving, these concepts do not help to clarify the origins of specific forms of problematic caregiving, such as compulsive caregiving, parental overindulgence, and parental overprotection.

Summary

In summary, Bell and Richard suggest that current formulations of attachment theory pay little attention to the emotions and motivations involved in parental caregiving and are limited in their potential to explain variability in caregiving. We agree that emotion is clearly relevant as a motivation for caregiving and that parents do face important choices and conflicts in their caregiving role. We also see value in Bell and Richard's emphasis on positive emotion rather than on negative emotions such as anxiety and distress, which are often the focus of attachment theorists. In addition, we acknowledge the importance of focusing on understanding the behavior of the caregiver as well as that of the child. At the same time, we believe that some of their criticisms of attachment theory are somewhat overstated and that some of their proposed explanations verge on the tautological. Nevertheless, we believe that further refinements of their connection theoretical orientation are likely to add to our understanding of the bond between parent and child.

Note

Patricia Noller and Judith A. Feeney, School of Psychology, University of Queensland, Brisbane, Queensland, 4072, Australia. E-mail: p.noller@psy.uq.edu.au.

References

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment.* New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger.* New York: Basic Books.

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss.* New York: Basic Books.

Buss, D. M. (1988). Love acts: The evolutionary biology of love. In R. J. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 100–118). New Haven, CT: Yale University Press.

Condon, J. T. (1993). The assessment of antenatal emotional attachment: Development of a questionnaire instrument. *British Journal of Medical Psychology, 66,* 167–183.

Isabella, R. A., & Belsky, J. (1991). Interactional synchrony and the origins of infant–mother attachment: A replication study. *Child Development, 62,* 373–384.

Noller, P. (1996). What is this thing called love? Defining the love that supports marriage and family. *Personal Relationships, 3,* 97–115.

Peterson, C. (1989). *Looking forward through the life span.* Sydney, Australia: Prentice-Hall.

Shaver, P. R., & Hazan, C. (1988). A biased overview of the study of love. *Journal of Social and Personal Relationships, 5,* 473–501.

Shaver, P. R., Morgan, H. J., & Wu, S. (1996). Is love a "basic" emotion? *Personal Relationships, 3,* 81–96.

Understanding What Motivates Sensitive Parenting

Theodore Dix
Department of Human Ecology
University of Texas at Austin

Fundamental to harmonious and beneficial interactions between parents and children is the parents' motivation to promote children's wants and needs. By seeking to promote children's interests, parents minimize parent–child conflict; meet children's legitimate needs; develop parent–child relationships; and promote children's sense of trust, competence, and well-being (Ainsworth, Blehar, Waters, & Wall, 1978; Dix, 1992; Lamb & Easterbrooks, 1981; Tronick, 1982). Yet, acting for children's interests is seldom accomplished without cost. To read to or comfort children, to help them resolve conflicts, or to help them find and play with toys requires effort and means that at such moments parents cannot work, relax, or attend to others. How do parents decide at each moment which outcomes to seek and whether children's interests should have priority over parents' or others' legitimate interests? Although important aspects of children's development may depend on how parents' make these choices, the motivational processes responsible for them have rarely been studied.

Several recent analyses, however, give a central role to the processes that regulate which concerns or motives parents seek to promote with children (Dix, 1991, 1992; Hastings & Grusec, 1998). These analyses suggest that, to be effective, parents must be motivated

for particular kinds of outcomes, specifically, for outcomes (a) that handle children's fundamental needs; (b) that children actively seek themselves; (c) that children are able and willing to promote; (d) that, if promoted, would benefit children; and (e) that balance the multiple wants and needs of individuals in the family (Dix, 1991, 1992; see also Kochanska, 1997; Rocissano, Slade, & Lynch, 1987; Tronick, 1982). How and why do effective parents choose to seek outcomes that over time benefit children rather than those that may directly benefit parents themselves?

Connection Theory and the Motivational Basis of Parenting

Bell and Richard's *connection theory* confronts this motivational issue by positing an emotion, caring, that is thought to motivate sensitive parenting, by designating the goal of meeting the child's needs as the underlying motivational principle directing sensitive parenting, and by distinguishing several components of the processes that regulate sensitivity, notably caring, empathy, and responsibility. This position contributes to analysis of parental competence, first, because it recognizes that parents' emotions are principal, directing, and motivating forces behind sensitivity to children. Traditional models of parenting, with their emphasis on learning principles or stable childrearing values and attitudes, have been slow to integrate advances in emotion research into analyses of parent behavior. That parenting must arise "from an autonomous motivation that can successfully compete with self- interest" (this issue) is an important insight that has only recently influenced analyses of parent–child interaction (Dix, 1991, 1992; Hastings & Grusec, 1998).

Second, the connection position makes useful distinctions among components of the regulatory processes underlying parenting. Notable among these is *responsibility,* "the caregiver's intention to help the partner meet his or her needs" (this issue). Although presented as an individual difference variable, this concept alludes to processes that have been ignored by parenting researchers but that have been important in action control theory and in social psychology generally (e.g., Ajzen, 1985; Gollwitzer, 1999; Kuhl & Beckmann, 1985). The concept implies that action does not follow directly from appraisals of or emotional reactions to events but must be organized by immediate situation-specific processes. Sensitive parenting does not emerge automatically from caring or from empathic cognitions and emotions; rather, it requires executive processes, that is, processes that translate appraisals and emotional tendencies into situation-specific behavioral intentions and action plans (Dix & Gershoff, in press). Even parents who are car-

ing and empathic may act insensitively if the sensitive behavior that may normally flow from their caring or child-oriented affect is disrupted by arousal, lack of confidence in their ability to control an interaction (Bugental, 1992), or difficulty discerning actions that may handle the child's needs. Knowledge of the processes that generate parents' behavioral intentions and action plans and of the factors that facilitate and undermine these processes is very much needed.

An Alternate View of the Motivational Basis of Parenting

Several aspects of connection theory, however, need clarification and development. First, although it gives needed attention to positive, child-oriented emotions as motivators of sensitive responses to children, its analysis of these affective processes is as yet undeveloped and at times does not mesh well with recent advances in knowledge of emotions. *Caring,* for example, is said to be "an enduring dyadic emotion that continues over the long term" (this issue). By suggesting that caring emotions are enduring over the long term, the connection view implies that caring does not possess the properties that define emotion for most emotion researchers. That is, at any moment a parent who is high in caring need not (a) be aroused, (b) have phenomenological experiences of emotion, (c) have strong motivational inclinations, (d) have emotion-linked behavioral tendencies, or (e) display expressive behaviors (e.g., Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983; Frijda, 1986; Izard, 1991; Lazarus, 1991; Mandler, 1984). Can caring emotion be present when my daughter is neither present nor in my thoughts? Can caring emotion be present at the same moment that I am angry at her? Such questions reveal the difficulty of thinking of caring both as enduring and relatively unchanging and yet as an emotion.

Guided by recent advances in emotion research, an alternate view depicts sensitivity as the result not of an enduring emotion caring, but of a complex set of motivational predispositions that regulates how parents set priorities, interpret events, and react emotionally to the child (Dix, 1991, 1992). In this view, caring or child-oriented emotion arises in part because parents are predisposed to value children's well-being highly, relative to other outcomes, and therefore to process information that is relevant to children's well-being, to experience emotions when children's well-being is significantly affected, and often to act to improve children's well-being (Dix, 1991, 1992). These child-oriented predispositions compete with a multitude of other concerns, motives, or desires that parents bring to interactions with children, most of which may have little to do with children's interests. At each moment the parents' problem is to determine which concerns relevant to immediate interaction are most important and

95

thus toward which concerns cognition and action should be directed. To determine which outcomes should have priority, parents must continually appraise, often automatically and without conscious deliberation, the interests of children, of parents themselves, and of others in the interaction. At each decision point, caring or sensitive parents give considerable weight to the child's immediate interests, but even caring parents often will determine that the child's interests are secondary and often will not act to promote those interests. In fact, even quite early in development, it is critical to socialization that parents help children understand and act appropriately when others' wants and needs are more important than children's wants and needs.

Within this analysis, the motivational tendencies that underlie parental competence are seen to be influenced by a complex set of factors that include both stable and unstable aspects of parents, children, and circumstances. Parents probably differ reliably in their tendencies to value children's well-being over other things, but at any moment their motivation to promote children's interests depends as well on the parents' mood, immediately preceding events, parents' appraisals of the costs of promoting children's interests, their appraisal of the probability that particular concerns can be promoted, and their assessment of children's moods and abilities to integrate into particular plans of action. Although over time, sensitive parents ought to experience greater affection, warmth, sympathy, and related transient emotions than will insensitive parents, these child-oriented emotions are determined by situational factors, characteristics of children, and motivational predispositions that need not involve phenomenological affective experience, physiological arousal, motivational intensity, immediate behavioral inclinations, and expressive actions. Such emotional phenomena are the parents' reactions when attempts to promote important concerns go awry or are fulfilled. Thus, although parents possess dispositions that bias the likelihood that they will experience particular emotions, child-oriented emotions themselves are not enduring and long-term; rather, they occur at moments when immediate events undermine or promote the parent's enduring concerns for and interest in the child.

This analysis has several advantages. First, it accounts for child-oriented motivation while retaining a conception of emotion that is consistent with modern emotion research, that is, the view that emotions are transient, organizing, and energizing states that regulate immediate action plans (e.g., Campos et al., 1983; Dix, 1991; Frijda, 1986; Izard, 1991; Lazarus, 1991; Mandler, 1984). Modern emotion research provides a rich foundation for understanding how parents' emotions are activated, what changes emotions bring to parents once aroused, and what processes parents use to regulate them (Dix, 1991). From this vantage point,

deficits in motivation to promote children's interests can be understood as motivational-affective processes that are influenced by stress; support; children's behaviors and temperaments; and parents' skills, attitudes, and dispositions. Second, the analysis can account not only for variations in sensitivity across parents, so often emphasized in parenting research, but also for variations in sensitivity across situations. By positing an ongoing process by which parents discern the immediate motives or concerns that should have priority, this analysis can explain why even a caring parent who can be acutely sensitive to a child's interests on one occasion can be relatively unmotivated by similar child interests on another.

This approach yields a somewhat different view than that of connection theory of the roles parents and children play in parent–child interaction and of the motivational processes underlying sensitive parent behavior. Although Bell and Richard recognize that parents have needs and face multiple demands, their analysis nonetheless emphasizes that children are principally the ones with needs, while parents are principally the ones with resources to meet those needs. Often, when children's needs are pressing and parents' needs are not, this view captures a critical aspect of early parent–child functioning. But particularly when children's fundamental needs are routinely met, it is often parents' needs that are pressing—they need to complete important work, get to a doctor's appointment, or attend to an angry neighbor—and children's needs that are not—they simply want candy, a particular toy rather than others like it, or yet another turn at a game that they have been playing for some time. At these moments, it is the parent whose needs are critical; children are simply participants in an interaction in which they must integrate into a plan that involves their interests only secondarily. Understanding parent–child interaction requires knowledge of how parents assess from moment to moment the relative importance of multiple wants and needs, how they balance the legitimate needs of children with the legitimate needs of parents and others, and how they integrate children into ongoing plans in which children's interests are secondary. Although children's wishes usually should be recognized, accepted, and, when possible, addressed, often it is not in the best interests of the dyad, the family, or even, over the long haul, the child to orient interaction around children's immediate needs. Parents' ongoing difficulty reconciling strong demands from stressful environments with strong needs from their children is an important determinant of insensitive parenting in many distressed families. The motivational, affective, and cognitive processes that parents employ to manage complex and changing concerns that parents, children, and others bring to family interaction are as yet poorly understood.

Conclusion

The motivational basis of parenting—the processes that at each moment lead parents to direct action toward children's interests or toward other ends—is poorly understood. Often researchers assume that during parent–child interaction parents' purposes or concerns are given or consensual: They seek to respond to children's signals, to meet children's needs, to get children to comply, or to encourage particular childrearing values. Yet what parents are motivated for with children, the purposes toward which their behavior is directed, vary widely across parents and situations and may determine how parents appraise and react to children's behavior (Dix, 1992; Hastings & Grusec, 1998). In this article I suggest an approach, in many ways compatible with Bell and Richard's connection theory, to understanding the processes parents use to set ongoing priorities. These poorly understood processes may be important determinants of how sensitive parents are and thus how well children develop.

Note

Theodore Dix, Department of Human Ecology, University of Texas at Austin, Austin, TX 78712. E-mail: t.dix@mail.utexas.edu

References

Ainsworth, M., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachments.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11–39). New York: Springer-Verlag.

Bugental, D. B. (1992). Affective and cognitive processes within threat-oriented family systems. In I. E. Sigel, A. V. McGillicuddy-DeLisi, & J. J. Goodnow (Eds.), *Parental beliefs systems: The psychological consequences for children* (2nd ed., pp. 219–248). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Campos, J. J., Barrett, K. C., Lamb, M. E., Goldsmith, H. H., & Stenberg, R. (1983). Socioemotional development. In P. H. Mussen (Series Ed.), M. Haith, & J. J. Campos (Vol. Eds.), *Handbook of child psychology: Vol. 2. Infancy and developmental psychobiology* (pp. 783–915). New York: Wiley.

Dix, T. (1991). The affective organization of parenting: Adaptive and maladaptive processes. *Psychological Bulletin, 110,* 3–25.

Dix, T. (1992). Parenting on behalf of the child: Empathic goals in the regulation of responsive parenting. In I. E. Sigel, A. V. McGillicuddy-DeLisi, & J. J. Goodnow (Eds.), *Parental belief systems: The psychological consequences for children* (pp. 319–346). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Dix, T., & Gershoff, E. T. (in press). Measuring parent–child relations. In J. Touliatos, B. F. Perlmutter, & G. Holden (Eds.), *Second handbook of family measurement techniques.* Newbury Park, CA: Sage.

Frijda, N. (1986). *The emotions.* Cambridge, England: Cambridge University Press.

Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans. *American Psychologist, 54,* 493–503.

Hastings, P. D., & Grusec, J. E. (1998). Parenting goals as organizers of responses to parent–child disagreement. *Developmental Psychology, 34,* 465–479.

Izard, C. E. (1991). *The psychology of emotion.* New York: Plenum.

Kuhl, J., & Beckmann, J. (1985). *Action control: From cognition to behavior.* New York: Springer-Verlag.

Kochanska, G. (1997). Mutually responsive orientation between mothers and their young children: Implications for early socialization. *Child Development, 68,* 94–112.

Lamb, M. E., & Easterbrooks, A. (1981). Individual differences in parental sensitivity: Origins, components, and consequences. In M. E. Lamb & L. R. Sherrod (Eds.), *Infant social cognition* (pp. 127–153). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Lazarus, R. S. (1991). Emotion and adaptation. New York: Oxford University Press.

Mandler, G. (1984). *Mind and body: The psychology of emotions and stress.* New York: Norton.

Rocissano, L., Slade, A., & Lynch, V. (1987). Dyadic synchrony and toddler compliance. *Developmental Psychology, 23,* 698–704.

Tronick, E. (1982). *Social interchange in infancy: Affect, cognition, and communication.* Baltimore: University Park Press.

Motivation for Caregiving From an Ethological Perspective

Mary Dozier
Department of Psychology
University of Delaware

Bell and Richard are accurate in saying that attachment theorists have given less attention to the caregiver's motivation for providing care than to the infant's motivation for seeking proximity when distressed. This is not, however, to say that attachment theorists have neglected caregiving itself, as implied by the target article's title. Caregiving is indeed developed in attachment theory and research. The nature of the caregiving system as a complement to the infant's attachment system has been developed, starting with Bowlby (1969/1982) and extending to contemporary theorists (e.g., Solomon & George, 1996); the essential components of a caregiver's behavior that lead to different attachment organizations of the infant have been carefully researched (Ainsworth, Blehar, Waters, & Wall, 1978); and the characteristics and life histories of

caregivers that lead them to behave in different ways and to have babies with different types of attachment behavioral strategies have been carefully described (Main & Goldwyn, in press).

Motivation for Caregiving

The motivation for the baby's attachment to the caregiver has seemed of more pressing interest and concern than the motivation for the caregiver's providing care. Attachment theory is basically an ethological theory, accounting for attachment behavior in terms of maximizing survival of the infant and the infant's genes (Bowlby, 1969/1982). The theory suggests that the infant was less likely to fall off cliffs, get eaten by predators, or experience other such calamities if he or she stayed close to the parent when danger presented itself. Although such danger may be rarely present in the same form for the contemporary infant, the system continues to operate in basically the same way: The infant is biologically prepared to react to threats by seeking out the caregiver. Few have questioned the evolutionary roots of this behavior or the motivation for the behavior.

But what of the caregiver? Although Bowlby (1969/1982) did not give much attention to the caregiver's motivation for providing care, others, particularly comparative psychologists studying nonprimates as well as nonhuman primates (Hinde, 1982; Levine, Lyons, & Schatzberg, 1999), have developed the motivation for caregiving extensively. Indeed, the issue of motivation for caregiving is applicable cross-species. We do not ask why the sea turtle bothers to dig a hole in the sand and buries her eggs there; we do not ask why the mother chimpanzee allows her baby to attach ventrally for months after birth; but we ask here why the human mother moves to pick up the crying baby. These various caregiving behaviors have evolved to maximize the likelihood that these caregivers' genes survive. Each of these mothers behaves as she does because a number of systems support her behaving in this way. Human caregiving is so closely tied to the biological needs of the infant and to the biological drives of the mother that conscious motivation in the form of cognitive appraisal or affect is hardly a necessary concept.

Biological Basis of Caregiving

From a biological perspective, hormones associated with pregnancy and lactation appear important in regulating caregiving, with oxytocin in particular playing a central role (Pedersen, 1999). Oxytocin is produced in much higher than usual quantities during pregnancy and lactation (Carter, 1998; Carter et al., 1999). Re-

sponsiveness to infants can be facilitated among virgin female rats by the introduction of increased oxytocin in the system and can be inhibited by the introduction of oxytocin antagonists (Pedersen, 1999; Van Leengoed, Kerker, & Swanson, 1987). Higher levels of oxytocin are associated with global changes that may facilitate caregiving, including a greater calmness and a higher tolerance for stress (Carter & Altemus, 1999), more tolerance for monotony (which may accompany caregiving activities), and greater tolerance for unusual sensory experiences (Levine, 1983).

At a more specific level relative to caregiving, higher levels of oxytocin are associated with changes in sensitivity to infants' cues and proclivity to engage in caregiving activities. For example, lactating rat mothers are more sensitive to infants' cues of distress than nonlactating females are, although they are less sensitive to other non–infant-related stressors (Smotherman, Brown, & Levine, 1977). Thus, their systems appear designed to respond to infant distress. Further, mothers respond specifically to their own infants' signals of distress. For example, squirrel monkey mothers have been found to react very specifically to audiotapes of vocalizations of their own infants but not to vocalizations of other infants (S. Levine, personal communication, August 18, 1999). Most species of primate mothers tend to be disturbed by separations from their infants. For example, rhesus and squirrel monkey mothers show striking elevations in plasma cortisol when separated from their infants (Coe, Mendoza, Smotherman, & Levine, 1978; Levine, 1983; Mendoza, Smotherman, Miner, Kaplan, & Levine, 1978).

Bell and Richard suggest that attachment theory views the caregiving system as entirely reactive, that is, operating only in response to infants' calls. Several types of evidence suggest, however, that the mother is not only reactive, but proactive as well. For example, when the mother squirrel monkey is separated from the infant and cannot hear the infant's vocalizations, she nonetheless shows increases in cortisol (Coe et al., 1978). Also, when reunited with her infant following a brief separation, the squirrel monkey mother shows a quick drop in cortisol although her infant remains disturbed. Levine (1983) suggested that this rapid recovery by the mother is adaptive in that it helps her to provide adequate care for the infant, particularly during times of stress. Thus, caregiving behaviors are not only reactive to infants' signals, but proactive in the sense of anticipating needs in the absence of signals. Further, the caregiver often seeks greater proximity with her young when her infant strays beyond what is comfortable for her.

Thus, there is strong evidence from the comparative literature that the primate mother is evolutionarily prepared to provide care for her young. The caregiving and attachment systems have evolved to promote close

contact between mother and infant, particularly when the infant is threatened.

There are examples of caregivers who provide adequate care despite not being biologically prepared to provide care, however. Among humans, adoptive mothers and foster mothers, for example, are usually unrelated biologically to the children for whom they care. Although there is an increased incidence of abuse and neglect among unrelated dyads (Carter, 1998), many biologically unrelated parents provide nurturing care that leads to the establishment of secure infant–caregiver attachments (Dozier, Albus, Stovall, & Bates, 1999; Singer, Brodzinsky, Ramsay, & Waters, 1985). Squirrel monkeys left without their mothers are sometimes "aunted" (Levine, 1983) by nonlactating females in the group. Although biology has not specifically prepared these individuals to care for these infants, other systems nonetheless function to support caregiving.

The Role of Cognition and Affect in Caregiving

Appraisal of Need

According to Bowlby (1969/1982), the caregiver's appraisal of the infant's need for protection is the primary conscious motivator of the caregiver's behavior. The caregiver is biologically prepared to reestablish contact with the infant when the infant is threatened and to maintain proximity even under conditions of low threat. Thus, it is the assessment of the need for protection (as codetermined by conditions of proximity; conditions external to the infant, such as presence of predators or environmental strangeness; and by conditions internal to the infant, such as vulnerable health) that motivate caregiving behavior. Bowlby asserted that appraisal, rather than affect, was primary here. For example, he suggested that a distracted mother could provide an infant with protection when appraising the need for protection, even though she did not experience any particular affect relevant to caregiving.

Emotions as Motivating Caregiving

Emotions researchers (e.g., Ekman, 1994; Izard, 1992, 1994) hold affect as primary, suggesting that the experience of affect is key to motivating caregiving, as well as other behaviors. From the perspective of emotions researchers, the caregiver experiences various affects, which motivate caregiving behaviors. For example, the caregiver may feel distress when the child becomes frightened, with this distress motivating the caregiver to provide care for the child. According to emotions theorists, the distracted caregiver described

previously nonetheless experiences some affect, however low in intensity (perhaps including mild distress or even anticipatory guilt), that motivates her caregiving behavior (C. E. Izard, personal communication, August 16, 1999).

In addition to affect's serving as a stimulus for caregiving, it also serves to reward and perpetuate caregiving behaviors. When caregivers' behaviors result in the reduction of their own or their infants' distress, that experience is often rewarding. More specifically, caregiving behaviors are negatively reinforced by the reduction in parents' own distress (if that is what is experienced) and in their infants' distress, and positively reinforced by the pleasant feeling of having had their children respond to their care.

Bell and Richard suggest that attachment theory has neglected the role of affect in caregiving, and they propose that the primary motivator for caregiving behavior is the affect of caring. Bowlby's position was not that affect was unimportant to the caregiving system, but only that it was not an explicit motivator of behavior. Regardless of the primacy of affect versus appraisal, affect, as well as appraisal, are components of the caregiving system that assure that most infants are afforded care. I consider Bell and Richard's proposal that caring is *the* key to motivating caregiving problematic for several reasons. Introducing caring as affect stretches the definition of affect beyond what most emotions scholars are comfortable with (e.g., Ekman, 1994; Izard, 1992, 1994). Although caring is surely emotional, it is much too complex and interpersonal to be termed an emotion (Izard, 1994). Most important, I have argued that caregiving is multiply determined by a host of factors, starting with a maternal biology that favors caregiving. To argue that there is any single motivator of caregiving behavior is simplistic.

Notes

Mary Dozier, Department of Psychology, University of Delaware, Newark, DE 19716. E-mail: mdozier@udel.edu

References

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic.

Carter, C. S. (1998). Neuroendocrine perspectives on social attachment and love. *Psychoneuroendocrinology, 23,* 779–818.

Carter, C. S., & Altemus, M. (1999). Integrative functions of lactational hormones in social behavior and stress management. In C. S. Carter, I. I. Lederhendler, & B. Kirkpatrick (Eds.), *The integrative neurobiology of affiliation* (pp. 361–371). Cambridge, MA: MIT Press.

Carter, C. S., DeVries, A. C., Tayman, S. E., Roberts, R. L., Williams, J. R., & Getz, L. L. (1999). Peptides, steroids, and pair bonding. In C. S. Carter, I. I. Lederhendler, & B. Kirkpatrick (Eds.), *The integrative neurobiology of affiliation* (pp. 169–182). Cambridge, MA: MIT Press.

Coe, C. L., Mendoza, S. P., Smotherman, W. P., & Levine, S. (1978). Mother–infant attachment in the squirrel monkey: Adrenal response to separation. *Behavioral Biology, 22,* 236–263.

Dozier, M., Albus, K. E., Stovall, K. C., & Bates, B. (1999). *Maternal state of mind predicts foster infant attachment.* Manuscript in preparation.

Ekman, P. (1994). Strong evidence for universals in facial expressions: A reply to Russell's mistaken critique. *Psychological Bulletin, 115,* 268–287.

Hinde, R. A. (1982). Attachment: Some conceptual and biological issues. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behavior* (pp. 60–76). New York: Basic.

Izard, C. E. (1992). Basic emotions, relations among emotions, and emotion–cognition relations. *Psychological Review, 99,* 561–565.

Izard, C. E. (1994). Innate and universal facial expressions: Evidence from developmental and cross-cultural research. *Psychological Bulletin, 115,* 288–299.

Levine, S. (1983). A psychobiological approach to the ontogeny of coping. In N. Garmezy & M. Rutter (Eds.), *Stress, coping, and development in children* (pp. 107–131). New York: McGraw-Hill.

Levine, S., Lyons, D. M., & Schatzberg, A. F. (1999). Psychobiological consequences of social relationships. In C. S. Carter, I. I. Lederhendler, & B. Kirkpatrick (Eds.), *The integrative neurobiology of affiliation* (pp. 83–92). Cambridge, MA: MIT Press.

Main, M., & Goldwyn, R. (in press). Adult attachment rating and classification system. In M. Main (Ed.), *A topology of human attachment organization assessed in discourse, drawings, and interviews.* New York: Cambridge University Press.

Mendoza, S. P., Smotherman, W. P., Miner, M. T., Kaplan, J., & Levine, S. (1978). Pituitary–adrenal response to separation in mother and infant squirrel monkey. *Developmental Psychobiology, 11,* 169–175.

Pedersen, C. A. (1999). Oxytocin control of maternal behavior: Regulation by sex steroids and offspring stimuli. In C. S. Carter, I. I. Lederhendler, & B. Kirkpatrick (Eds.), *The integrative neurobiology of affiliation* (pp. 301–320). Cambridge, MA: MIT Press.

Singer, L. M., Brodzinsky, D. M., Ramsay, D., Steir, M., & Waters, E. (1985). Mother–infant attachment in adoptive families. *Child Development, 56,* 1543–1551.

Smotherman, W. P., Brown, C. P., & Levine, S. (1977). Maternal responsiveness following differential pup treatment and mother–pup interactions. *Hormone Behavior, 8,* 242–253.

Solomon, J., & George, C. (1996). Defining the caregiving system: Toward a theory of caregiving. *Infant Mental Health Journal, 17,* 183–197.

Van Leengoed, E., Kerker, E., & Swanson, H. H. (1987). Inhibition of postpartum maternal behavior in the rat by injecting an oxytocin antagonist into the cerebral ventricles. *Journal of Endocrinology, 112,* 275–282.

How (Pro-)Social Is the Caring Motive?

Catrin Finkenauer and Wim Meeus
Department of Child and Adolescent Studies
Utrecht University

Drawing on their criticisms of attachment theory, Bell and Richard present their connection theory orientation, arguing that caregiving is motivated by the emotion of caring. Caring is defined as an enduring emotion that motivates caregivers to meet and gratify the needs of a specific dependent. It is oriented toward the dependent's needs, rather than those of the caregiver. The authors emphasize that their theory, in contrast with many theories in contemporary social science, "does not consider any self-interest explanation adequate to account for caregiving, neither reciprocity nor social norms.… these explanations are logically unpersuasive … and violate the internal experience of caregiving" (this issue). It may be useful to shift attention of attachment researchers and theorists from one partner in the dyad (i.e., the dependent) to the other (i.e., the caregiver) and to emphasize other-directed (i.e., prosocial) emotions. However, Bell and Richard may be "pushing the needle a bit too far." To enhance our understanding of why parents take care of their children (or people of people in

general), we discuss two issues Bell and Richard discard from their analysis of the caregiving process. First, we address the issue of self-interest in attachment and caregiving. Second, we suggest that caregiving has to be considered as a dynamic interaction happening between people rather than within or for one person.

Self-Interest in Caregiving

The most striking and important contribution of the target article is its demonstration that the caregiver must be studied in the context of her or his motivation to take care of a specific dependent. Bell and Richard suggest that this motivation is the entirely other-oriented caring of the caregiver for the dependent (who has "a monopoly on need," this issue). The caregiver, when holding the dependent for the first time, experiences the feeling of caring for the specific dependent. The dependent's (real or imagined) responsiveness to the caregiver, that is her or him personally, then initi-

ates the caregiving bond (cf. Feeney & Noller, 1996; Reis & Patrick, 1996). Bell and Richard point out that a dependent who does not respond or who is perceived as not responding, as may occur, for example, when the dependent is born blind, may significantly obstruct the creation of a caring bond. Although the authors restrict their analysis of the caring bond to the parent–child relationship, they suggest that the caregiving logic of the connection theoretical orientation holds for other social interactions as well (e.g., children caring for aging, tired, or disabled parents). The question arises, however, if the caregiver's caring is entirely prosocial, why is it necessary, perhaps even sufficient, that the dependent is responsive and "gives something back"? One possible answer is that the caring motive may not be as other-oriented as Bell and Richard suggest. Rather, it seems necessary to additionally consider self-interest or self-oriented gains.

The literature offers different self-oriented motives that may be important in explaining attachment and caregiving processes. A first motive has its roots in evolutionary theories. Although Bell and Richard dismiss the evolutionary function of caregiving as inconsequential to the caring process, we contend that a theory on caregiving that neglects evolutionary functions has to remain incomplete. Both survival and reproductive benefits derive from successful caregiver–dependent interactions (e.g., Bowlby, 1969/1982; Baumeister & Leary, 1995; Zeifman & Hazan, 1997). Children who succeed in motivating adults to care for them are more likely to survive and reach reproductive age. Parents who succeed in providing adequate care for their children increase the chance that their offspring will reach maturity and reproduce in turn. In this sense, a strong and enduring mutual bond between caregiver and dependent is clearly adaptive and consequential. The innate quality of caregiving may have originally evolved to serve evolutionary functions, and caring is likely to be partly (but not necessarily consciously) motivated by evolutionary self-interest.

Another important motive for caregiving may be found in the human need for belongingness (Baumeister & Leary, 1995) or relatedness (Reis & Patrick, 1996). People appear to have to an innate drive to form and maintain at least a minimum quantity of lasting, positive, and significant relationships (Baumeister & Leary, 1995). They go to great lengths to feel they belong and to avoid feeling lonely. In their elegant review, Baumeister and Leary made a convincing argument and gathered a large amount of evidence to show that people form relationships easily and readily and that they generally resist losing or breaking off interpersonal relationships, even if these relationships are painful or distressing. Emotional and cognitive patterns show many links to belongingness. For example, cognitive processing gives priority—in terms of quantity as well as quality—to information that concerns attachment figures rather than strangers (Sedikides, Olsen, & Reis, 1993). People who have social bonds are better off in a broad variety of ways (for reviews, see Finkenauer & Baumeister, 1997; Stroebe & Stroebe, 1996). Such people show a lower mortality rate, less depression, and fewer psychological and physical health problems than people with weak social networks and people who are alone. Thus, there is ample evidence to suggest that people are motivated to feel belongingness to others and that they have good reasons to do so. Conversely, people are highly motivated to avoid loneliness, which predisposes them to mental and physical problems and unhappiness (Baumeister & Leary, 1995; Reis & Patrick, 1996). Enduring social bonds, including caregiving relationships, provide people with a feeling of belongingness and relatedness, thereby helping them to maintain their mental and physical well-being. Consistent with the suggestion that caregiving relationships may help to satisfy the need to belong is the finding that one of the major reasons people report for having children is the fear of being lonely when being old (Blake, 1979). Thus, again it appears that caregiving may, in part, serve to meet self-oriented needs of the caregiver.

In contradiction to this suggestion is that fact that the literature consistently shows that parenthood reduces parents' happiness and increases feelings of strain and stress (for a review, see Baumeister, 1991). Marriage seems to increase happiness and well-being, but having children seems to considerably decrease these feelings. Despite the price parents seem to pay, parenthood appears to be worth it. Most parents describe that having had children represents one of their greatest accomplishments and report not regretting the experience (Veroff, Douvan, & Kulka, 1981). Also, they generally feel that children bring parents closer together by giving them a shared task and providing shared joys (Hofman & Manis, 1978). In this sense, parenthood appears to be a powerful source of meaning and purpose in the caregiver's life (Baumeister, 1991).

Taken together, there is abundant evidence to suggest that caregivers' motivation of in caring may not be as prosocial or other-oriented as Bell and Richard propose. The literature shows that caregiving is quite compatible with the idea that caring, at least in part, involves self-interests, including evolutionary gains, feelings of belongingness, and the provision of meaning and purpose.

Caregiving as a Dynamic Interaction

Although Bell and Richard have come to focus on the extent to which the caregiver cares for the dependent, they neglect the fact that the caregiver–dependent relationship is interactive and mutually transformative. Caring occurs as part of an ongoing social interaction between caregiver and dependent,

and both interactants contribute to the success of the attachment and caregiving process. Both caregiver and dependent continuously interact to influence each other (e.g., Bowlby, 1969/1982). Experimental studies have showed not only that parents' responsiveness influences children's behavior (e.g., Ainsworth, Blehar, Waters, & Walls, 1978), but also that children's responsiveness influences parents' behavior as well (e.g., Bugental, Caporael, & Shennum, 1980; Cantor & Gelfand, 1977; Schreibman & Koegel, 1996). Schreibman and Koegel, for example, report a series of studies examining the effectiveness of a training program for parents of autistic children. These children are characterized by severe impairments in communicative and social skills, which places enormous strain and stress on the caregiver–dependent relationship. In this program, special attention is paid to increasing the child's responsiveness to (social) cues in the environment. The studies showed that increasing the autistic child's responsiveness leads parents to spend more pleasant time with their child. More important, parents themselves reported being happier and less stressed than parents who received a treatment that focused on improving their behavior toward their autistic child. The results suggest that caring is not entirely unconditional but depends—in part—on the child's responsiveness to the parent. In this sense, caring is an inherently social phenomenon, in that the caregiver influences the dependent, and the dependent, in turn, influences the caregiver. Although Bell and Richard mention this contingency (i.e., parents feel unloved and uncared for when children are unresponsive), this aspect of the parent–child interaction is not included in their analysis of caregivers' caring. Considering attachment and caregiving processes from the caregiver's perspective does not seem to do justice to the dynamic and mutual nature of the caring relationship. Conversely, it does not seem adequate to consider attachment processes only from the dependent's perspective. Rather, the ongoing process of interaction between caregiver and dependent needs to be included in theories on attachment and caregiving.

Conclusion

Although Bell and Richard's connection theoretical orientation draws attention to important issues surrounding the dependent–caregiver relationship, their case rests on an inadequate consideration of the (pro-)social aspects of the caregiving relationship. First, the connection theoretical orientation seems to overrate the prosocial nature of the caring motive. The literature suggests that self-interest motives are powerful mechanisms in interpersonal relationships that need to be considered to enhance our understanding of attachment and caregiving processes. Second, the connection theoretical orientation seems to underrate the truly social nature of the caregiving relationship. Bell and Richard's suggestions are limited to an independent analysis of one partner in the caregiving relationship, namely the caregiver. More studies and theories are needed that consider attachment and caregiving as reciprocal, dynamic, and mutually transformative, in that each partner's behavior, thoughts, and emotions influences the other's behavior, thoughts, and emotions.

Note

Catrin Finkenauer and Wim Meeus, Department of Child and Adolescent Studies, Utrecht University, 3508 TC Utrecht, The Netherlands. E-mail: c.finkenauer@fss.uu.nl or w.meeus@fss.uu.nl

References

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Walls, S. (1978). *Patterns of attachment: Assessed in the strange situation and at home*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Baumeister, R. F. (1991). *Meanings of life*. New York: Guilford.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin, 117,* 497–529.

Blake, J. (1979). Is zero preferred? American attitudes toward childlessness. *Journal of Marriage and the Family, 41,* 254–257.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.

Bugental, D. B., Caporael, L., & Shennum, W. A. (1980). Experimentally produced child uncontrollability: Effects on the potency of adult communication patterns. *Child Development, 51,* 520–528.

Cantor, N. L., & Gelfand, D. M. (1977). Effects of responsiveness and sex of children on adults' behavior. *Child Development, 48,* 232–238.

Feeney, J., & Noller, P. (1996). *Adult attachment*. Thousand Oaks, CA: Sage.

Finkenauer, C., & Baumeister, R. F. (1997). L'effet des variables subjectives sur le bonheur: Résultats de la recherche et implications pour la thérapie [The impact of subjective variables on happiness: Empirical findings and their implications for psychotherapy]. *Revue Québécoise de Psychologie, 18,* 99–118.

Hofman, L., & Manis, J. (1978). Influences of children on marital quality and family interaction. In R. Lerner & G. Spanier (Eds.), *Child influences on marital and family interaction: A life-span perspective* (pp. 165–213). New York: Academic.

Reis, H. T., & Patrick, B. C. (1996). Attachment and intimacy: Component processes. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 523–563). New York: Guilford.

Schreibman, L., & Koegel, R. L. (1996). Fostering self-management: Parent-delivered pivotal response training for children with autistic disorder. In E. D. Hibbs & P. S. Jensen (Eds.), *Psychosocial treatments for child and adolescent disorders: Empirically based strategies for clinical prac-

tice (pp. 525–552). Washington, DC: American Psychological Association.

Sedikides, C., Olsen, N., & Reis, H. T. (1993). Relationships as natural categories. *Journal of Personality and Social Psychology, 64,* 71–82.

Stroebe, W., & Stroebe, M. (1996). The social psychology of social support. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 597–621). New York: Guilford.

Veroff, J., Douvan, E., & Kulka, R. A. (1981). *The inner American: A self-portrait from 1957 to 1976.* New York: Basic Books.

Zeifman, D., & Hazan, C. (1997). Attachment: The bond in pair-bonds. In J. A. Simpson & D. Kenrick (Eds.), *Evolutionary social psychology* (pp. 237–263). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Do We Need to Invent Another Emotion?
The Role of Caring in Attachment

Eric Youngstrom

Department of Psychology
Case Western Reserve University

The attachment model initially articulated by Bowlby (1973) has proven to be a powerful metaphor for human behavior. Attachment has captured the imagination of ethologists and psychologists, and it has informed research in developmental psychopathology (e.g., Cicchetti, 1994; Cicchetti & Barnett, 1991; Egeland, Pianta, & Ogawa, 1996) as well as in normal development (e.g., Egeland & Hiester, 1995). More recent work has focused on the internal working models and attachment styles of adults, exploring the way that these correlate with other measures of psychosocial functioning. Bell and Richard's treatment of attachment is consistent with this trend: Their conception of attachment pertains to social connections generally and not solely to the caregiver–child relationship. In contrast to much previous attachment literature, Bell and Richard concentrate on the behavior of the caregiver (and not the dependent), developing an active role for the caregiver. They accomplish this shift in focus and role by introducing the concept of *caring* as a sustained emotion that motivates caregiver empathy, sensitiveness, and responsibility. These in turn motivate the caregiver's attachment behaviors, according to the connection theoretical orientation.

Bell and Richard are careful to define their terms, using explicit—if somewhat idiosyncratic—definitions of each of these constructs. Their treatment of "caring" as an emotion represents a departure from the main schools of thought about emotion. To their credit, the authors acknowledge this (see Footnote 3, Bell & Richards, this issue). They base their decision to categorize caring as an emotion on the view that "episodic emotions do not seem capable of performing as motivations for ongoing and enduring action (such as parenting)" (this issue). This position raises several related questions, beginning with, "Is *caring* an emotion in any accepted technical sense of the term?" If not, then are there other generally accepted emotion constructs that could fill the role assigned to caring in the connection theoretical model? Finally, how best should we conceptualize caring behavior in a way that is consistent with established constructs in psychology? These questions form the basis for the rest of this commentary.

Is Caring an Emotion?

Bell and Richard acknowledge a large body of emotion literature before dismissing it and asserting that caring is an emotion. The number of discrete emotions and the canon of different human emotional experiences has been widely debated. More evolutionarily oriented models of emotion (e.g., Izard, 1972; Plutchik, 1980; Tomkins, 1963) have identified various discrete emotions. These are posited to have evolved with different motivational functions and distinct neurophysiological pathways and expressive behaviors. Other emotion experiences are construed as either a blend of the more "basic" or primary emotions (Plutchik, 1994) or as involving complex interactions between emotions and cognition (Izard, 1993). In contrast, cognitive-constructivist models of emotion (Lazarus, 1991; Mandler, 1990) concentrate on dimensions of affective experience and the role of cognitive appraisal in eliciting emotion activation. Interestingly, caring has not been identified as a discrete emotion, nor has it played a prominent role in constructivist models of emotion. This omission is clearly at odds with the pivotal role that Bell and Richard assign to caring, placing it at the center of affiliative processes.

The fact that caring has not figured prominently in the major past approaches to emotion does not necessarily exclude caring from being classified as an emotion. The number of emotions identified as separate constructs depends on methodology and level of analysis, as well as theoretical allegiance. For example, it

has been difficult to identify clear peripheral autonomic processes that differentiate between emotions (cf. Ekman, Levenson, & Friesen, 1983; Lang, Greenwald, Bradley, & Hamm, 1993; Schachter & Singer, 1962). Factor analytic approaches to self-reports of trait emotionality generally identify two (or sometimes three; Russell & Mehrabian, 1977) dimensions of emotionality (Feldman, 1995; Tellegen, Watson, & Clark, 1999). Approaches that concentrate on facial expressions identify a larger number of apparently distinct emotions (Ekman & Friesen, 1971; Izard, 1971), but this number still pales in comparison with the number of terms identified in emotional lexicons cataloging the various terms available within a language (Ortony, Clore, & Foss, 1987). Caring appears only in this last, most molecular level of analysis. This places caring at greatest remove from evolutionary models of emotion development, from basic dimensions of affective experience, and from readily identifiable expressive behaviors that characteristically signal the presence of an underlying emotion state.

In positing that caring is actually an emotion, albeit unrecognized by past investigators, it is incumbent on Bell and Richard to (a) present a definition of emotion and show that caring meets the requisite criteria, and (b) demonstrate that caring diverges from other accepted emotions. There is enough plurality in the existing definitions of emotion that caring could garner at least some support. Bell and Richard would need to pick a clear allegiance with one of the extant theories and develop support for the ways in which caring is congruent with their chosen definition. Even at a general level, the description of caring developed in the target article poses some problems. Although currently there is no consensually accepted definition of emotion, most researchers agree that emotions are typically brief, episodic responses (Ekman & Davidson, 1994). The most enduring affective states are usually construed as *moods* (e.g., Thayer, 1996). If caring typically had a long duration, it more readily could be classified as a mood than an emotion in this regard. On the other hand, it could be argued that caring does meet several other criteria for consideration as an emotion, including involving a "core relational theme" (Lazarus, 1991), possessing intentionality in the philosophical sense that it "takes an object" (Solomon, 1993), and influencing action more than cognition (Davidson, 1993). Currently these are inferences based on Bell and Richard's presentation, not explicit points incorporated into the connection theoretical orientation.

Additionally, Bell and Richard would need to provide evidence that caring diverges from the other identified emotions. Caring should be distinguishable from other emotion states by virtue of physiological indices, neuroimaging techniques, distinct facial expression, reports of subjective experience that show good internal consistency yet low correlations with other emotion criteria, or other measurable behavioral correlates. Given the complexity of human behavior, it is unlikely that caring would satisfy all of these criteria (nor does any other emotion across all published studies). Still, it would be important to demonstrate at least some of these characteristics. This is not an impossible standard: jealousy represents a human emotion without identified modal physical or behavioral signals, but it is clearly a powerful potential motivator of behavior from an evolutionary psychology perspective (Buss, 1994; Buunk, Angleitner, Oubaid, & Buss, 1996). Recent work has tackled the issues of measuring jealousy, and progress has been made in determining distinct elicitors and behavioral correlates (e.g., Salovey & Rodin, 1986). Proponents of the connection theoretical orientation to attachment would need to conduct similar basic research on the measurement of caring. Without this sort of multimethod, multitrait approach to defining caring as a construct, we cannot be sure that other emotions may not more parsimoniously explain attachment behaviors for which Bell and Richard invoke caring.

Are There Other Emotions That Could Fill the Role of Caring?

In the absence of a compelling case for caring as an emotion that is distinct from other generally accepted emotion states, it is logical to ask whether there are other emotions that could play an important role in attachment processes. Attachment necessarily involves patterns of behavior that are sustained over periods of days, months, or even years. Bell and Richard argue that the durational brevity of the widely recognized emotion states therefore makes them unsuitable for motivating attachment behaviors.

It is here, when describing the subjective experience of caring, that Bell and Richard succumb to rhapsodizing about caregiving. The presentation slips into a highly mythologized view of caregiving, conflating ethnotheories about romantic love, idealized parenting, and even the moral philosophy of Levinas into a warm, fuzzy tangle. Unfortunately, the true business of caregiving is far more prosaic. Not every diaper or feeding is a spiritual encounter, nor do these events automatically cumulate with past experiences to deepen one's level of caring. An objective observer would conclude that even the most attentive parent spends large parts of the day engaged in activities unrelated to caregiving. Similarly, much of caregiving behavior is produced by habit without any pronounced affective content. Functional behavioral assessment would indicate that many caregiving actions are operantly conditioned through negative reinforcement: The caregiver will cycle through a series of behaviors

(e.g., try feeding, changing, rocking) until the dependent stops emitting an aversive stimulus. Still other caregiving behaviors, such as protectiveness, involve other distinct emotions, such as anger (Izard, 1991).

In this regard, Bell and Richard's depiction of caring as a state persisting fairly constantly throughout the course of the relational connection appears unrealistic. On the other hand, the brief, episodic emotions dismissed by Bell and Richard actually do appear sufficient to develop and maintain complex patterns of social interaction. For example, the complex dominance hierarchies of humans and many other social mammals are marked by long periods of homeostasis punctuated by occasional displays of aggression (Lorenz, 1966). These displays of anger and hostility are the exception, not the norm, and they typically occur in moments of threat or when individuals are attempting to change their place in the hierarchy (Wilson, 1980). In like manner, brief emotion displays by the dependent, such as crying, are sufficient to elicit caregiving behaviors. Episodic emotion events also can organize memories and cognitions, carving channels along which future perceptions and behavior will run.

Thus, we do not need to rule out brief emotion reactions as potentially contributing significantly to attachment transactions. In fact, a variety of different emotions are likely to be called into the service of caregiving as events dictate. At times, caregivers will feel anger, fear, happiness, interest, and other emotions in the context of the attachment relationship. No single emotion appears adequate to perform all the functions that Bell and Richard attribute to caring. Perhaps this is because caring, as described by Bell and Richard, is not best considered an emotion.

If Not an Emotion, Then What Is Caring?

Given the plurality of theories of emotion and the lack of research into caring per se, we cannot conclude that caring fails to satisfy some criteria for consideration as an emotion. We also cannot be sure that it will fail to show divergent validity from other emotions. However, there clearly are problems with Bell and Richard's current formulation of caring as an emotion. On the other hand, there are no obvious other candidate emotions that perform the functions that Bell and Richard ascribe to caring. Bell and Richard also make a compelling case for the importance of caring (or something like it) in a model of caregiving behavioral systems. If caring, as described by Bell and Richard, does not satisfy formal criteria for being an emotion state, then what is caring?

On one level, it is useful to consider parental care as a biological trait with a substantial amount of genetic programming. Parenting behaviors vary widely across species, evidently because of the sensitivity of parenting behavior to natural selection processes (Wilson, 1980). Humans, although they do not show closed instincts that produce rigidly determined behaviors, are not blank slates whose responses to others will be determined entirely by learning history (Stevens, 1982). At the same time, although maternal care in humans and primates possesses some basic, innate components, the behaviors are complicated enough to require practice (in the form of play, as well as direct experience; Wilson, 1980).

Ethologists came relatively late to the study of parenting behavior, focusing first on aggression and reproduction. However, Eibl-Eibesfeldt pioneered the study of parenting behavior, producing insights remarkably consonant with Bell and Richard's description of caring. Eibl-Eibesfeldt (1974) made the point that caregiving and dependent behaviors are flexible in humans and therefore can be used symbolically. According to Eibl-Eibesfeldt (1989), the behaviors of the caregiver and dependent form the basis for affiliative behaviors in social animals, playing a prominent role in love and friendship in humans. Eibl-Eibesfeldt characterized the parent–child behavior system as one of the fundamental components of social behavior, giving it at least equal weight with aggression (Midgley, 1978).

This is fertile ground for Bell and Richard. Drawing on ethological work would be consistent with the origins and growth of attachment theory. Both Bell and Richard and Eibl-Eibesfeldt (1974) argued that the language of caring is the medium of social connection, not just a narrow attachment bond. Eibl-Eibesfeldt's work also provides an evolutionary context and a catalog of ethological observations that could inform Bell and Richard's connection theoretical model. Like Bell and Richard, Eibl-Eibesfeldt found that the roots of love are in the caregiver–dependent relationship, not in sexuality. According to this view, Freud had things backward: The mother is using caresses from the caregiving behavioral repertoire to woo her mate, not using sexual gestures to soothe her child (Midgley, 1978).

Conclusion

The goals of the target article are ambitious. Bell and Richard seek to elaborate the motivating forces for caregiving behavior, turning the caregiver into a more active participant in the dyadic exchange. They also want to restore emotion to a central position in attachment models, rehumanizing a theory whose discussion of cybernetic systems and feedback loops often sounds like it could be describing guided missiles as well as people (Stevens, 1982). Finally, Bell and Richard seek to describe caregiver–dependent behavioral systems as a general component of social connections, not as

something limited to a privileged set of attachment relationships. These are worthy intentions, and they match trends in current attachment research that seek to explore adult attachment styles (George, 1984) and their correlates with psychological functioning (e.g., Dozier, Cue, & Barnett, 1994; Dozier, Stevenson, Lee, & Velligan, 1991).

Bell and Richard attempt to accomplish these ambitions by invoking caring as the motivator of caregiving-related behaviors and feelings—sensitivity, empathy, and responsibility—and then labeling *caring* as an emotion to reclaim emotion's place in the connection model. As staged here, this argument is a deus ex machina. The solution is too tidy, and there are unsatisfying loose ends when the audience reflects on the evidence offered that caring is an emotion. The connection theoretical orientation need not founder on this rock. It is possible that a careful argument could be made that caring is an emotion. More fruitfully, Bell and Richard could return to ethology and integrate the work of Eibl-Eibesfeldt (1989) and colleagues (Keller, Schoelmerich, & Eibl-Eibesfeldt, 1988), who give primacy to caregiving as a motivational-behavioral system. Attention then could be directed to articulating how different emotions, cognitions, and behaviors are recruited in service of the parental care system, as well as to exploring how the behaviors in this repertoire are used in other social connections.

Notes

Eric Youngstrom, Department of Psychology, Case Western Reserve University, 11220 Bellflower Road, Cleveland, OH 44106–7123. E-mail: eay@po.cwru.edu

References

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger.* New York: Basic Books.

Buss, D. M. (1994). *The evolution of desire: Strategies of human mating.* New York: Basic Books.

Buunk, B. P., Angleitner, A., Oubaid, V., & Buss, D. M. (1996). Sex differences in jealousy in evolutionary and cultural perspective: Tests from the Netherlands, Germany, and the United States. *Psychological Science, 7,* 359–363.

Cicchetti, D. (1994). Developmental processes in peer relations and psychopathology. *Development and Psychopathology, 7,* 587–589.

Cicchetti, D., & Barnett, D. (1991). Attachment organization in maltreated preschoolers. *Development and Psychopathology, 3,* 397–411.

Davidson, R. J. (1993). The neuropsychology of emotion and affective style. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 143–154). New York: Guilford Press.

Dozier, M., Cue, K. L., & Barnett, L. (1994). Clinicians as caregivers: Role of attachment organization in treatment. *Journal of Consulting & Clinical Psychology, 62,* 793–800.

Dozier, M., Stevenson, A. L., Lee, S. W., & Velligan, D. I. (1991). Attachment organization and familial overinvolvement for adults with serious psychopathological disorders. *Development and Psychopathology, 3,* 475–489.

Egeland, B., & Hiester, M. (1995). The long-term consequences of infant day-care and mother–infant attachment. *Child Development, 66,* 474–485.

Egeland, B., Pianta, R., & Ogawa, J. (1996). Early behavior problems: Pathways to mental disorders in adolescence. *Development and Psychopathology, 8,* 735–749.

Eibl-Eibesfeldt, I. (1974). *Love and hate: The natural history of behavior patterns.* (G. Strachan, Trans.). New York: Schocken.

Eibl-Eibesfeldt, I. (1989). *Human ethology.* Hawthorne, NY: Aldine De Gruyter.

Ekman, P., & Davidson, R. J. (Eds.). (1994). *The nature of emotion: Fundamental questions.* New York: Oxford University Press.

Ekman, P., & Friesen, W. V. (1971). Constants across cultures in the face and emotion. *Journal of Personality and Social Psychology, 17,* 124–129.

Ekman, P., Levenson, R. W., & Friesen, W. V. (1983). Autonomic nervous system activity distinguishes among emotions. *Science, 221,* 1208–1210.

Feldman, L. A. (1995). Variations in the circumplex structure of mood. *Personality and Social Psychology Bulletin, 21,* 806–817.

George, C. C. Y. (1984). *Individual differences in affective sensitivity: A study of five-year-olds and their parents (empathy, attachment).* Unpublished doctoral dissertation, University of California, Berkeley.

Izard, C. E. (1971). *The face of emotion.* New York: Appleton-Century-Crofts.

Izard, C. E. (1972). *Patterns of emotions.* San Diego, CA: Academic.

Izard, C. E. (1991). *The psychology of emotions.* New York: Plenum.

Izard, C. E. (1993). Four systems for emotion activation: Cognitive and noncognitive processes. *Psychological Review, 100,* 68–90.

Keller, H., Schoelmerich, A., & Eibl-Eibesfeldt, I. (1988). Communication patterns in adult–infant interactions in Western and non-Western cultures. *Journal of Cross-Cultural Psychology, 19,* 427–445.

Lang, P. J., Greenwald, M. K., Bradley, M. M., & Hamm, A. O. (1993). Looking at pictures: Affective, facial, visceral, and behavioral reactions. *Psychophysiology, 30,* 261–273.

Lazarus, R. S. (1991). *Emotion and adaptation.* New York: Oxford University Press.

Lorenz, K. (1966). *On aggression.* London: Methuen.

Mandler, G. (1990). A constructivist theory of emotion. In N. L. Stein, B. Leventhal, & T. Trabasso (Eds.), *Psychological and biological approaches to emotion* (pp. 21–44). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Midgley, M. (1978). *Beast & man: The roots of human nature.* London: Methuen.

Ortony, A., Clore, G. L., & Foss, M. A. (1987). The referential structure of the affective lexicon. *Cognitive Science, 11,* 341–364.

Plutchik, R. (1980). *Emotion: A psychoevolutionary synthesis.* New York: Harper & Row.

Plutchik, R. (1994). *The psychology and biology of emotion.* New York: HarperCollins.

Russell, J. A., & Mehrabian, A. (1977). Evidence for a three-factor theory of emotions. *Journal of Research in Personality, 11,* 273–294.

Salovey, P., & Rodin, J. (1986). The differentiation of social-comparison jealousy and romantic jealousy. *Journal of Personality and Social Psychology, 50,* 1100–1112.

Schachter, S., & Singer, S. (1962). Cognitive, social, and physiological determinants of emotional state. *Psychological Review, 69,* 379–399.

Solomon, R. C. (1993). The philosophy of emotions. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions* (pp. 3–15). New York: Guilford.

Stevens, A. (1982). *Archetypes: A natural history of the self.* New York: Quill.

Tellegen, A., Watson, D., & Clark, L. A. (1999). On the dimensional and hierarchical structure of affect. *Psychological Science, 10,* 297–303.

Thayer, R. E. (1996). *The origin of everyday moods: Managing energy, tension, ansd stress.* New York: Oxford.

Tomkins, S. S. (1963). *Affect, imagery, consciousness: Vol. 2.* New York: Springer.

Wilson, E. O. (1980). *Sociobiology: The Abridged Edition.* Cambridge, MA: Harvard University Press.

Who Cares? For Whom and When, How, and Why?

Ellen Berscheid
Department of Psychology
University of Minnesota

W. Andrew Collins
Institute of Child Development
University of Minnesota

One wishes Bell and Richard every success in their theoretical attempt to rescue caregiving from the land of constructs attachment researchers forgot. Lack of attention to the caregiving side of the attachment theoretical equation has been evident for some time. Of the 36 chapters in the recently published *Handbook of Attachment* (Cassidy & Shaver, 1999), for example, only one appears to be directly devoted to caregiving. The neglect of caregiving in the very domain in which one would expect it to receive a full-court press, both theoretically and empirically, has been puzzling. It has been puzzling not only for scientific reasons but for practical reasons as well. Popular recognition of the perilous position of many infants and young children as a result of inadequate caregiving has increased in recent years. Teenage pregnancy, single motherhood, dual-career families, marital dissolution, fragmentation of the extended kinship network, and drug and alcohol abuse are among the many factors that have been frequently implicated by politicians, social commentators, and others for the failure of many children in the United States to receive the care they need. Thus it is especially curious that widespread societal concern has not moved the swelling army of attachment researchers to examine the caregiving construct.

The reason for the neglect of attachment theory's complementary behavioral system may be more mundane than that offered by Bell and Richard: Bowlby's (1969/1982, 1988) cursory theoretical elaboration of the caregiving system may be less responsible than the balkanization of psychology is. Some psychologists, although not attachment researchers, have devoted a great deal of attention to caregiving under the rubrics of "social support" (e.g., Pierce, Lakey, Sarason, & Sarason, 1997), "altruism" (e.g., Batson, 1998), and "prosocial behavior" (e.g., Clark, 1991). In addition, many researchers in both developmental and social psychology have learned a great deal about *empathic accuracy,* a competency associated with accurately detecting another's needs and wishes (see Ickes, 1997) and thus with effective caregiving. Bell and Richard neither incorporate, nor even mention, these vast literatures despite their statement that they "have introduced the concept of connection to describe variable emotional processes occurring in the full range of relationships" (this issue). One takes the phrase "full range of relationships" to mean relationships between two adults as well as relationships between an adult and a child. Social psychologists have focused almost exclusively on caregiving between adults and, with only a sprinkling of exceptions (e.g., Carnelley, Pietromonaco, & Jaffe, 1996; Feeney, 1996; Kunce & Shaver, 1994; Rholes, Simpson, & Orina, 1999; Simpson, Rholes, & Nelligan, 1992), have not made contact with attachment theory and research when investigating caregiving. The adult–child and adult–adult caregiving literatures thus have developed independently of each other and remain isolated; developmental psychologists have focused on the child (and attachment) side of the adult–child relationship, whereas social psychologists have concentrated almost exclusively on caregiving in adult–adult relationships. A theory of caregiving that aspires to account for caregiving behavior in all relationships must integrate these two bodies of knowledge.

Bell and Richard charge that attachment theory fails to give an adequate account of caregiving in a number of ways. They observe, for example, that "attachment theory usually describes the caregiving behavioral control system as purely reactive" (this issue), activated by such child attachment behaviors as crying or other distress

signals. To remedy this deficiency, they intend their Connection Model to account for "proactive" as well as reactive caregiving behaviors. This is an especially laudable aim, for we frequently see people engaging in anticipatory and unsolicited caregiving behaviors in response to others' needs, as the authors discuss. We also see people actively seeking out others to care for (not only other humans, but animals, pet rocks, and, more recently, "Furbies"), and this behavior, too, requires explanation in any model of caregiving. Whether searches for caregiving opportunities have as their aim the welfare of potential recipients of care or the welfare of the caregiver is likely to prove as thorny a problem to attachment and other caregiving researchers as it has to researchers of altruism. Some researchers, however, have made progress in identifying those persons who are likely to engage in caregiving for self-enhancement purposes (e.g., Helgeson, 1994).

The raison d'être for Bell and Richard's Connection Model is said to be the failure of attachment theory to specify a proximal motivation for caregiving in the parent–child relationship (the "ultimate" motivation being supplied by evolutionary theory, as the authors note). The motivation for caregiving posited by the Connection Model is "the emotion of caring." The authors contend that this emotion not only supplies a motivation for caregiving but also helps solve another problem: that "the role of emotion in attachment and caregiving is still seriously underexplained" (this issue). The authors neglect to say, however, that one very important reason for this state of affairs is that emotion itself is still "underexplained" in psychology. After a century of effort, heated controversy still pervades answers to even the most fundamental questions about emotion (see Ekman & Davidson, 1994).

It is easy to agree with Bell and Richard that the issue of a motivation for caregiving needs attention, not simply to redress the alleged lacuna in attachment theory but for the very practical reasons mentioned earlier. But those familiar with contemporary theory and research on emotion will not be optimistic that the newly minted emotion of "caring," added to the dauntingly long list of emotions people have posited over the years, will prove useful either to our understanding of caregiving or to our understanding of emotional experience in relationships in which caregiving and care-receiving behaviors are distinct features of the partners' interaction pattern. At minimum, elaboration of this centerpiece of the Connection Model will require closer contact with contemporary emotion theory and research. For example, in a footnote, the authors state that they recognize that "many emotion researchers study only those emotions that can be conceptualized as episodic, short-term responses to external stimuli" (this issue). It may have been more accurate had the authors said that "most" emotion theorists and researchers view the experience of emotion as short-lived. This

widely adopted view is no arbitrary convention; it is supported by strong theoretical logic and empirical evidence (see Mandler, 1997, for a discussion). In short, baptizing the fledgling construct of caring in the murky and troubled waters of contemporary emotion theory and research is likely to be unhealthy for the construct and unpromising for our understanding of caregiving behavior. We note in passing, however, that the authors' definition of the "emotion" of caring—as "an enduring dyadic emotion that continues over the long term, and that serves as an autonomous motivation to see that the needs of a specific partner are met" (this issue)—sounds less like an emotion than it does an "attitude." In any case, the venerable construct of attitude may provide safer ground for the authors' further development of the central construct of their model.

As all of the previously stated suggests, the Connection Model is in need of further development. To say that the source of caregiving behavior is the emotion of caring does not address the core questions any theory of caregiving must answer and the predictions it must make: "Who will care for whom, and when and how and why?" To answer the motivational "why" question with "because they feel the emotion of caring" automatically prompts regress to the kind of question emotion researchers long have been struggling to answer: "Why do they feel the emotion [of caring; of fear; of joy]?" The antecedents of this emotion (the consequences having been specified by the authors to be caregiving behavior) must be specified. Is the predisposition to experience the emotion of caring innately given? One foresees that arguments could be made that a caregiving behavioral syndrome may be an innate social response system activated under certain specifiable conditions. Or is caregiving learned? If so, what are the conditions conducive to such learning? If the Connection Model can do no more than posit that the emotion of caring can be inferred from the fact of caregiving behavior, the model is dead on arrival. It may be noted that Baumeister and Leary (1995), who posit a human "need to belong," provided a useful template for the kind of evidence assembly and logical analysis that the introduction of a new motivational construct requires.

In sum, the antecedents of the "emotion of caring" require specification and elaboration. Moreover, if Bell and Richard truly intend their Connection Model to encompass caregiving behavior in all relationships, not simply the parent–infant relationship, there is a great deal of relevant caregiving theory and research beyond the confines of the attachment literature to be considered and integrated. A Herculean task, to be sure, but Bell and Richard's goal is worth the effort. In a nation in which concern is growing that many children are not receiving adequate care, a nation, furthermore, in which the number of old and infirm is burgeoning, society's expectation that psychology

ought to be able to provide answers to a multitude of caregiving questions is likely to be voiced ever more frequently and insistently in the years ahead.

Note

Ellen Berscheid, Department of Psychology, Elliott Hall, University of Minnesota, Minneapolis, MN 55455.

References

Batson, C. D. (1998). Altruism and prosocial behavior. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology: Vol. 2.* (4th ed., pp. 282–316). New York: McGraw-Hill.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin, 117,* 497–529.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.

Bowlby, J. (1988). *A secure base.* New York: Basic Books.

Carnelley, K. B., Pietromonaco, P. R., & Jaffe, K. (1996). Attachment, caregiving, and relationship functioning in couples: Effects of self and partner. *Personal Relationships, 3,* 257–277.

Cassidy, J., & Shaver, P. R. (Eds.). (1999). *Handbook of attachment: Theory, research, and clinical applications.* New York: Guilford.

Clark, M. S. (Ed.). (1991). *Prosocial behavior: Review of personality and social psychology: Vol. 12.* Newbury Park, CA: Sage.

Ekman, P., & Davidson, R. J. (Eds.). (1994). *The nature of emotion.* New York: Oxford University Press.

Feeney, J. A. (1996). Attachment, caregiving and marital satisfaction. *Personal Relationships, 4,* 401–416.

Helgeson, V. S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological Bulletin, 116,* 412–428.

Ickes, W. (Ed.). (1997). *Empathic accuracy.* New York: Guilford.

Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Vol. 5. Attachment processes in adulthood* (pp. 205–237). London: Jessica Kingsley.

Mandler, G. (1997). *Human nature explored.* New York: Oxford University Press.

Pierce, G. R., Lakey, B., Sarason, I., & Sarason, B. (1997). *Sourcebook of social support and personality.* New York: Plenum.

Rholes, W. S., Simpson, J. A., & Orina, M. M. (1999). Attachment and anger in an anxiety-provoking situation. *Journal of Personality and Social Psychology, 76,* 940–957.

Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support seeking and support giving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology, 62,* 434–466.

Attachment Theory and Caregiving

Phillip R. Shaver and R. Chris Fraley
Department of Psychology
University of California, Davis

Normally when one is asked to comment on a scientific article, the authors of the article have made a coherent case of some kind, have rooted it in existing theoretical and empirical literatures, and have suggested new directions for research. In the case of Bell and Richard's "Forgotten Element" article, it is impossible to adopt the usual approach, because the article contains so many mistakes, misunderstandings, and false leads that there is no coherent thesis to be discussed. Moreover, there are no concrete suggestions for research based on the authors' theoretical proposals. Our approach, therefore, will be to highlight and correct some of the misconceptions in the target article and evaluate the authors' proposed solutions to the problems they think they have identified. Our comments will be organized according to Bell and Richard's four major criticisms of attachment theory's conceptualization of caregiving.

Motivation for Caregiving

Bell and Richard erroneously assert that the motivation for caregiving, according to attachment theory, is "self-interest." To our knowledge, caregiving has never been described by attachment theorists as motivated by self-interest, except in the sense that the caregiving system, like all biobehavioral adaptations, evolved because it increased parents' inclusive fitness. Attachment theory's concepts of *sensitive* and *responsive* parenting clearly point to a parent's focus on his or her child's needs and signals, not on the parent's more directly selfish concerns. Every extended discussion of attachment theory includes a list of some of the stimuli that initially elicit parental caregiving, such as the infant's rounded features, large head and eyes, obvious vulnerability, crying when distressed, and other expressions of emotion. In addition to exhibiting these simple qualities, infants evoke in parents more complex thoughts and feelings about such issues as the child's need for nourishment, for protection from danger, for stimulating entertainment, for educational support and guidance, and so on, which are often acted on without the infant having to produce any particular emergency signals. To the extent that Bell and Richard attempt to explain what causes "caring," they seem to have some of these same kinds of things in mind. Cer-

tainly George and Solomon, the attachment theorists who have written most extensively about the caregiving system (e.g., George & Solomon, 1989, 1996, 1999; Solomon & George, 1996, 1999), have talked about parents' pervasive concern, foresight, care, and responsibility and about the inevitable conflicts between caregiving and other activities that ultimately relate to inclusive fitness. It is therefore a serious mistake for Bell and Richards to act as if attachment theorists who study parent–child relationships need a lecture on such matters.

With respect to using attachment theory in the study of adult romantic, or pair-bond, relationships, Kunce and Shaver (1994) provided empirical evidence concerning differences between self-protection and caregiving, clearly indicating that caregiving is not "selfish" in the everyday sense. (See also studies by Carnelley, Pietromonaco, & Jaffe, 1996, and Feeney, 1996.) It is, instead, oriented toward a relationship partner's needs and wishes, including some that the partner may not perceive as accurately as the caregiver does. Thus, there is no basis in either the literature on child–parent attachment or the literature on romantic attachment for claiming that attachment theorists view caregiving as "selfish."

In contrast to their false characterization of attachment theorists as attributing caregiving to self-interest, Bell and Richard propose that the emotion of caring plays a central role in motivating caregiving behavior: "We assume that caregiving behavior arises from an autonomous motivation that can successfully compete with self-interest. We find that competing motivation in the emotion of caring" (this issue). This explanation strikes us as circular: Caregivers provide care because they care. Although Bell and Richard beef up their description of caring (e.g., by highlighting the fact that genuine caring involves a focus on the other's needs rather than one's own), nothing in these additional comments allows them to escape the fundamental circularity of their conceptual framework. There is no explicit cause of care in their analysis (except the infant's responsiveness, to which they devote a small amount of attention); it is, as they say, "autonomous." In contrast, attachment theory portrays care and other emotional experiences of caregiving as part and parcel of the caregiving system, a system involving biologically evolved goals, appraisals, actions, and affects.

Bell and Richard also say that, in contrast to meeting the parent's own needs, the "set goal of the caregiver is to meet the needs of the dependent" (this issue). This is not different from attachment theorists' proposals. Bowlby (1969/1982) believed that the functional outcome of caregiving was protection (a position elaborated by George & Solomon, 1999); how would this be accomplished without the caregiver's attending to and being sensitive to the infant's needs and

vulnerability to various dangers? The theory's emphasis on the caregiver's interest in meeting the needs of what Bell and Richard call "the dependent" is the reason for directing so much research at the concepts of *sensitivity* and *responsiveness.* What would such terms refer to if they did not imply being attuned to the needs of the infant and trying to meet those needs appropriately?

The Place of Emotion in Caregiving and Attachment

Bell and Richard believe that emotions are tightly woven into the fabric of caregiving, and they criticize Bowlby for failing to incorporate emotions into his theoretical explanation of attachment and caregiving. It is important to note, however, that emotions occupy a key role in all of Bowlby's writings (notice the words *anger, sadness,* and *depression* in the titles of his second and third volumes, and the word *security* in the title of one of his later books; Bowlby, 1988). Bell and Richard are correct in saying that Bowlby did not give these emotions "autonomy" or causal primacy in his theory. One reason is that emotions such as care, separation anxiety, and grief are important parts of what he was trying to explain. As such, they could not themselves be conceptualized as autonomous causes.

Bowlby (1969/1982) adopted ethologists' concept of *behavioral systems* partly to clarify the nature of attachment-related emotional experiences. He believed that emotions were signals or outputs from complex appraisal mechanisms and behavioral control mechanisms that evolved to serve survival- and reproduction-related functions. According to this analysis, the attachment system is partly responsible for monitoring the environment for cues concerning the availability and responsiveness of the caregiver. When the child's goals for proximity maintenance are violated, a suite of behaviors—and the physiological changes necessary to execute those behaviors—is activated to restore proximity. Some aspects of this "appraisal leading to behavioral activation" process are *felt* (to use Bowlby's term), and they are sometimes interpreted and labeled as emotions. But the feelings themselves are part of a more complex process, not the initiators of that process.

The behavioral systems approach helps to explain emotional experiences by specifying the functions of the systems that generate them, the proximate and distal goals of these systems, and the nature of the appraisal processes, action patterns, terminating conditions, and behavioral feedback pathways that govern them. According to Bowlby (1969/1982, chap. 7), the feelings that accompany the operation of behavioral systems are important in self-understanding and in communication with other people (including clini-

cians). They are sometimes used as a kind of shorthand for explaining how a person (including oneself) reacted in a particular situation. But for the most part, the subjective (felt) aspects of these reactions are not in themselves viewed as causal.

Interestingly, Bowlby's (1969/1982) analysis of emotions foreshadowed contemporary emotion theories (e.g., Ekman, 1992; Frijda, 1986; Lazarus, 1991; Oatley & Jenkins, 1996; Shaver, Schwartz, Kirson, & O'Connor, 1987), all of which view emotions as elicited by appraisals, which may or may not be conscious, and as comprising action tendencies supported by requisite physiological and attentional changes (Frijda, 1986). The Consensus Model of emotions (Fischer, Shaver, & Carnochan, 1990) does not characterize the felt aspects of emotions always as necessary or, in themselves, causal. (In other words, our everyday propensity to characterize emotions as "feelings" is somewhat misleading. All scientific analyses are forced to deal with appraisals, physiological changes, and changes in action tendencies and patterns of expression and behavior that go well beyond "feelings," and in fact are among the processes that are subjectively "felt.") When emotions are viewed as changes in action tendencies (sometimes accompanied by feelings, sometimes not) resulting from appraisals of events in relation to goals and concerns (Frijda, 1986; Oatley & Jenkins, 1996), one can see why proximity seeking, cuddling, providing care, and so on are accompanied by strong feelings. One can also see why the feelings themselves are not given an autonomous or causally prior role in attachment theory. These subjectively felt emotions are aspects of the operation of behavioral systems, not the autonomous triggers of those systems. In other words, to return specifically to caregiving, caring does not explain the caregiving behavioral system; the caregiving system explains the feelings Bell and Richard label *caring.*

How do Bell and Richard go about putting the, to them, forgotten emotion of care back into caregiving? Somewhat carelessly. In their words, "cognitions [by which we assume they mean what Lazarus and other contemporary emotion theorists call 'appraisals,' a term deliberately connoting *evaluation*, not simply cool perception] are not what motivate the parent's actions—emotions are, and more basically the emotion of caring" (this issue). This proposed solution to what we believe is a nonexistent problem—once one understands both attachment theory and contemporary theories of emotion—raises problems. First, part of what we wish to explain, namely the feelings and behaviors of caring, becomes a proposed cause of itself: People care because they care. Second, this phenomenological ghost is inserted into the caregiving machine without any reference to an explicit theory of emotion. Bell and Richard do not mention modern appraisal theories of emotion, nor do they rely on some alternative theory.

Instead, they seem to rely on their own strong sense that because care feels so moving and important, it must in fact be a causal prime mover, an autonomous force.

Attachment and Caregiving "Bonds"

Bell and Richard's section on affectional bonds is one of the most confusing sections in their article. The authors appear to argue that there are too many ambiguities in the concepts of *affectional bond* and *attachment bond,* including the purported implication that bonds develop exceedingly quickly, the connection between affection and attachment, and the degree to which people "choose" to become bonded. In our opinion, Bell and Richard have read too much into the "bond" construct. Like *attachment,* the term *affectional bonds* is metaphorical (there being no literal, physical "bond"). It refers to the fact that two individuals are "tied" or "bound" to each other in a relationship. When two people are bound into an attachment relationship, they recognize each other as uniquely important; monitor each other's whereabouts; have some understanding of each other's goals, intentions, and desires (with sufficient age or cognitive development); have experienced strong emotions in relation to each other; and would be extremely upset and, at least for a time, lost without each other. This complex situation is summarized, for convenience, by the term *bond.*

How do such bonds form? Contrary to what Bell and Richard believe, attachment theorists do not argue that affectional or attachment bonds form quickly, in a way similar to imprinting. Indeed, Bowlby (1969/1982) was cautious about using the term *imprinting,* a term originally designed to describe the attachment behavior of birds, when describing attachment processes in humans. Because attachment behavior appears to have evolved independently in birds and mammals, Bowlby acknowledged the possibility that the neural machinery underlying attachment behavior in the two taxa may be quite different. Although the process of attachment begins early in development (Bowlby, 1969/1982), many researchers (e.g., Hazan & Zeifman, 1994; Marvin & Britner, 1999; Scheper-Hughes, 1992) described the gradual process by which an infant becomes attached to a particular parent and how the caregiver becomes increasingly invested in a particular offspring. Similarly, research on attachment development in romantic relationships suggests that the process of attachment formation often takes as long as 2 years (Fraley & Davis, 1997; Hazan & Zeifman, 1994).

In both kinds of relational contexts, the process of bond formation involves conscious and unconscious familiarity; numerous experiences of synchronous, in-

terdependent interactions; intertwined goals and projects; and perhaps (on the part of adults) cognitive dissonance reduction. In some ways, the process is similar from both sides of a child–parent relationship, but because the concerns, goals, representations, and so on are far from identical on the two sides, some experiences, such as loss, probably differ for "dependents" and "caregivers." The dependents are likely to feel anxious and unprotected; the caregivers are likely to experience guilt and a continuing wish to be protective and helpful (Bowlby, 1980). Each position requires a massive reorganization of personal goals, but the nature of the goals is not the same.

How do Bell and Richard revise current views of caregiving and attachment bonds? First, they suggest that caregiving needs to be conceptualized as more proactive than reactive: "In contrast [to attachment theory], connection theory [i.e., the authors' own theory] views caregiving as more proactive than reactive" (this issue). There is nothing, however, about contemporary perspectives on caregiving to imply that caregiving is simply a reactive process. As George and Solomon (1999) explained, using both human and nonhuman primate examples, the caregiving system is active much of the time, even when the dependent shows no signs of realizing that he or she is in danger or in need. Parental interventions are not viewed as always, or even usually, being responses to explicit signals on a dependent's part. Moreover, attachment researchers (e.g., Slade et al., 1995) agreed with Bell and Richard that caregiving working models often develop before a child is born (e.g., during pregnancy). In fact, Slade and her colleagues already showed that a woman's own attachment working models influence the nature of her imagined relationship with the child-to-be.

Bell and Richard also argue that we need a better explanation of the enduring nature of affectional bonds: "Most attachment researchers describe the attachment and caregiving bonds as long-lasting and irreplaceable, but this is a characteristic of affective bonds that is described (and assumed) rather than explained" (this issue). Attachment theory views the bonds as serving the survival and reproductive goals (i.e., the goals of inclusive fitness) of both parents and children. The bonds are long-lasting on the part of parents because parental investment and parental effort can last a lifetime. They are long-lasting on the part of children because parents continue to serve as safe havens and secure bases for many years, sometimes for as long as the parents live. Of course, saying this is not the same as explaining what it is about the underlying neural networks that keep an "affectional bond" in place, sometimes long after a partner has died, and this is an interesting question for research.

What is Bell and Richard's proposed explanatory mechanism? They say, "The caregiving is the bond.… The caregiving bond endures because it is the enduring emotion of caring" (this issue). Not only does this explanation trivialize the metaphor of affectional bonds, it is circular: The bond is enduring because the bond is caring and caring is enduring.

Explaining Sensitivity and Responsiveness

Bell and Richard criticize attachment theory for failing to provide an explanation of why responsive and sensitive caregivers behave as they do. Attachment researchers, however, have expended considerable energy exploring the transmission of caregiving behaviors from parents to children (see, e.g., De Wolff & van IJzendoorn, 1997; George & Solomon, 1999; van IJzendoorn, 1995). Many researchers believe that the responsiveness of the caregiver to the child's needs helps the child learn to regulate his or her emotions, and that the patterns of interaction (i.e., the contingencies, responses, and "rules" of interaction) between the parent and child become assimilated into a child's developing representations of the world. These "working models" are carried forward into young adulthood and, in conjunction with other factors correlated with working models, such as marital support (Belsky, Rosenberger, & Crnic, 1995; Crowell, Fraley, & Shaver, 1999), come to shape the way a person feels about his or her own child before it is born (Fonagy, Steele, & Steele, 1991; Slade et al., 1995). Further, these working models manifest themselves in the ways in which new parents organize their caregiving behavior toward their own children. As George and Solomon (1999) noted, parents may sometimes be preoccupied with their own fears or insecurities about parenting, and this interferes with their ability to sensitively or flexibly meet the needs of their children. Bell and Richard believe that this explanation constitutes a "moral exhortation" (this issue) and "oversimplifies and further trivializes the process of caregiving" (this issue), but we view it as a rather sophisticated, if incomplete, explanation of variation in caregiving behavior.

The authors' alternative is to explain the caregiver's motivation for caregiving via empathy and responsibility: "Because caring represents a concern for the dependent's needs, empathy follows from caring and is a mechanism through which the caring is implemented" (this issue). This explanation strikes us as vacuous. It does not tell us why some caregivers are less invested in their offspring than others are (although it does recognize that caregiving can be exhibited in variable degrees), how exactly this variation may be interpreted or experienced by the child, and how regularities in caregiving patterns may affect the subsequent personality development of both relationship partners. Further, it seems peculiar to us that the concepts of

empathy and *responsibility* bear such striking resemblance to the concepts of *sensitivity* and *responsiveness* offered by the traditional attachment perspective. In this respect, it is difficult to separate Bell and Richard's supposed contribution from existing theory.

Concluding Comments

Bell and Richard's critique of attachment theorists' conception of caregiving seems uninformed and misguided. Their alternative view offers little of value. Their approach seems to be motivated primarily by a desire to incorporate the potency of feelings into prevailing views of caregiving. But there is nothing in contemporary theories to dissuade readers from noticing, celebrating, or appreciating the subjective side of caregiving. Bell and Richard seem to believe that it makes more sense to derive empathy and responsibility from "care" than it does to incorporate sensitivity-empathy and responsiveness-responsibility into the normal workings of the caregiving behavioral system. For them, the absence in attachment theory of an emphasis on the phenomenology of care, which they attempt to capture in their "I feel wonderful" paragraph (this issue), means that attachment theory is leaving out something important. But readers of George and Solomon's (1999) or Kunce and Shaver's (1994) attachment theoretical perspectives on caregiving will notice that the romance, the feeling, is all there, and in a much more complete and sophisticated theoretical context than the one provided by Bell and Richard. George and Solomon's parent–child and Kunce and Shaver's romantic-relationship conceptions of caregiving have already led to the creation of useful measures and to both theoretically and clinically significant empirical discoveries. In contrast, Bell and Richard offer no proposals for research based on their ideas. In this way, their Connection Theory definitely differs from attachment theory.

Note

Phillip R. Shaver and R. Chris Fraley, Department of Psychology, University of California, Davis, CA 95616–8686. E-mail: prshaver@ucdavis.edu

References

Belsky, J., Rosenberger, K., & Crnic, K. (1995). The origins of attachment security: "Classical" and contextual determinants. In S. Goldberg, R. Muir, & J. Kerr (Eds.), *Attachment theory: Social, developmental, and clinical perspectives* (pp. 153–183). Hillsdale, NJ: Analytic Press.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss: Sadness and depression*. New York: Basic Books.

Bowlby, J. (1988). *A secure base*. New York: Basic Books.

Carnelley, K. B., Pietromonaco, P. R., & Jaffe, K. (1996). Attachment, caregiving, and relationship functioning in couples: Effects of self and partner. *Personal Relationships, 3,* 257–277.

Crowell, J., Fraley, R. C., & Shaver, P. R. (1999). Measures of individual differences in adolescent and adult attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 434–465). New York: Guilford.

De Wolff, M. S., & van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68,* 571–591.

Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion, 6,* 169–200.

Feeney, J. A. (1996). Attachment, caregiving, and marital satisfaction. *Personal Relationships, 3,* 401–416.

Fischer, K. W., Shaver, P. R., & Carnochan, P. (1990). How emotions develop and how they organize development. *Cognition and Emotion, 4,* 81–127.

Fonagy, P., Steele, H., & Steele, M. (1991). Maternal representations of attachment during pregnancy predict organization of infant–mother attachment at one year of age. *Child Development, 62,* 891–905.

Fraley, R. C., & Davis, K. E. (1997). Attachment formation and transfer in young adults' close friendships and romantic relationships. *Personal Relationships, 4,* 131–144.

Frijda, N. H. (1986). *The emotions*. Cambridge, England: Cambridge University Press.

George, C., & Solomon, J. (1989). Internal working models of caregiving and security of attachment at age six. *Infant Mental Health Journal, 10,* 222–237.

George, C., & Solomon, J. (1996). Representational models of relationships: Links between caregiving and attachment. *Infant Mental Health Journal, 17,* 198–216.

George, C., & Solomon, J. (1999). Attachment and caregiving: The caregiving behavioral system. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 649–670). New York: Guilford.

Hazan, C., & Zeifman, D. (1994). Sex and the psychological tether. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Vol. 5. Attachment process in adulthood* (pp. 151–178). London: Jessica Kingsley.

Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Vol. 5. Attachment processes in adulthood* (pp. 205–237). London: Jessica Kingsley.

Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.

Marvin, R. S., & Britner, P. A. (1999). Normative development: The ontogeny of attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 44–67). New York: Guilford.

Oatley, K., & Jenkins, J. M. (1996). *Understanding emotions*. Cambridge, MA: Blackwell.

Scheper-Hughes, N. (1992). *Death without weeping: The violence of everyday life in Brazil*. Berkeley: University of California Press.

Shaver, P. R., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology, 52,* 1061–1086.

Slade, A., Dermer, M., Gerber, J., Gibson, L., Gaf, F., Siegel, N., & Tobias, K. (1995, March). *Prenatal representation, dyadic interaction, and quality of attachment*. Paper presented at the bi-

ennial meeting of the Society for Research in Child Development, Indianapolis, IN.

Solomon, J., & George, C. (1996). Defining the caregiving system: Toward a theory of caregiving. *Infant Mental Health Journal, 17,* 183–197.

Solomon, J., & George, C. (1999). The caregiving behavioral system in mothers of infants: A comparison of divorcing and mar-

ried mothers. *Attachment and Human Development, 1,* 171–190.

van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin, 117,* 387–403.

Caregiving, Attachment Theory, and the Connection Theoretical Orientation

Jeffry A. Simpson and W. Steven Rholes

Department of Psychology
Texas A&M University

Bell and Richard raise some important questions about how caregiving is—and theoretically should be—related to basic attachment principles and processes. Until recently (see Belsky, Steinberg, & Draper, 1991; Chisholm, 1996; George & Solomon, 1996, 1999), attachment theorists have not sufficiently addressed how the caregiving behavioral system interfaces with the attachment system. In this commentary, we first discuss some reasons why caregiving appears to be the "forgotten element" in attachment theory. We then discuss several misconceptions the authors have about attachment theory and indicate how recent ontogenetic theories have attempted to link early patterns of attachment to subsequent mating strategies and parenting styles over the life span. We conclude by discussing why the authors' new theory is problematic, and we suggest that a different set of questions about the theoretical connections between attachment and caregiving needs to be asked.

Why Is Caregiving the "Forgotten Element?"

One of the reasons why attachment theory has not been well integrated with caregiving is that infant survival and successful childrearing are two distinct life tasks that occur at different points in development and, according to evolutionary principles, can have independent effects on reproductive fitness (Simpson, 1999). This is why most theorists conceptualize attachment and caregiving as separate, evolved systems. Nonetheless, meager theoretical advances also have hindered integration of the two systems, especially since attachment theory and research has moved into the realm of adult romantic relationships. Bell and Richard are correct in noting that attachment theory focuses on two major goal states—the need for proximity (in infants) and the

need for felt security (in older children and adults). These goal states have different implications for how one views the nature, purpose, and functions of attachment styles in infants versus adults. To compound matters, theorists have not clarified how the functions and objectives of caregiving directed to young, vulnerable infants are similar to (or different from) more reciprocal forms of caregiving that occur between equal-status adults in mating relationships. As we discuss below, the nature, goals, and functions of caregiving may be very different in different types of relationships (e.g., parent–child, romantic, casual friendships), which leads one to question whether the authors' new theory of caregiving operates in a similar manner across different types of relationships.

Attachment scholars have also done a relatively poor job of specifying how different working models are interconnected and should be associated with caregiving (e.g., models of the parent–child relationship, models of romantic partners, models of close friends; see Collins & Read, 1994). This lack of specificity has confused and perhaps camouflaged some of the unique goals and functions that caregiving may serve in different types of relationships. For example, the Adult Attachment Interview (AAI), which was developed to assess patterns of attachment to one's parents as assessed in adulthood (Hesse, 1999; Main, Kaplan, & Cassidy, 1985), was actually designed to predict the attachment styles of respondents' infants in the Strange Situation. As a result, the AAI contains variance reflecting both memories and interpretations of how individuals were cared for by their own parents and how they care for their own children. The Strange Situation, on the other hand, was developed to classify attachment patterns in vulnerable, highly dependent infants based on how they use their caregivers to regulate their negative emotions when they are distressed. And most self-report measures of attachment to romantic partners inquire about the seeking and giving of

care (Shaver, Belsky, & Brennan, 2000), but in the context of reciprocal, equal-status sexual relationships where partners jointly give and receive support. If the nature and functions of caregiving are somewhat unique across different types of relationships, one must study how multiple working models affect caregiving in different types of relationships to fully understand how attachment relates to caregiving. With few exceptions, attachment researchers have not done this.

Misconceptions About Attachment Theory

Bell and Richard also paint an overly simplistic and sometimes misleading portrait of attachment theory. They claim, for example, that attachment theory views the caregiving system as "purely reactive" to environmental triggers rather than being proactive in nature. Internal working models can and often do produce spontaneous, proactive caregiving in the absence of environmental activators, some of which are adaptive (e.g., when caregivers with secure working models anticipate and prevent their children from being harmed) and some of which are maladaptive (e.g., when caregivers with preoccupied models are chronically overprotective; see George & Solomon, 1999).

The authors also claim that attachment theory does not offer a "plausible motivation" for caregiving. The motivation for caregiving, however, is explained by other middle-level evolutionary theories that focus more directly on parental investment and caregiving, such as parent–offspring conflict theory (Trivers, 1974), life history theory (Williams, 1966), and sexual selection and parental investment theory (Trivers, 1972). Each of these theories is based on general assumptions from inclusive fitness theory (Hamilton, 1964), which clearly explains why most parents should have strong "self-interest" in investing heavily in their children. It is important to recognize that attachment theory was originally developed to address infant survival, and most of Bowlby's major ideas were conceived well before other middle-level evolutionary theories were developed (see Simpson, 1999). Recent theoretical extensions involving felt security and attachment processes across the life span have begun to deal with issues that may be relevant to different life tasks (i.e., mating and parenting). Considerable debate currently exists about what evolutionary functions adult attachment styles may serve (see Kirkpatrick, 1998; Zeifman & Hazan, 1997, for contrasting views).

The authors also contend that attachment theory does not allow for affect to be a "causal force" in the affect regulation system. However, responses to either external threats or chronic worries induced by working models can generate emotional states within individuals that are capable of activating attachment systems and influencing affect regulation processes (see Simpson & Rholes, 1994). Moreover, the factors acting as causes and effects within the attachment system become difficult to differentiate once the system is activated.

Bell and Richard also suggest that no attachment-based theoretical work has tried to explain why "quality" caregivers behave as they do. Although Bowlby did not provide a direct explanation, several recent life history models that are grounded in attachment theory have done so (see the life-span models of social development proposed by Belsky et al., 1991; Chisholm, 1996). These models integrate attachment theory, sexual selection theory, and life history theory.

Finally, the authors either misinterpret or oversimplify several additional points. For instance, attachment theory does not suggest that no caring precedes caregiving; attachment bonds do not necessarily develop toward the "best" available caregiver; the attachment system is not simply switched on and off in an all-or-none fashion; the theory does not propose that caregivers respond "mechanically" to their children's crying; and it does not assume that poor-quality parents are incompetent but not unmotivated. Most if not all of these assumptions are wrong, and they are not endorsed by most contemporary attachment theorists.

The Utility of the Connection Theoretical Orientation Model

Not all relationships are attachment relationships, and, even among those that are, there are many important facets of close relationships that attachment theory simply does not address. It is important to remain focused on the theoretical core of attachment theory that Bowlby, Ainsworth, Main, and others have established, if for no other reason than to ensure that attachment theory avoids becoming imprecise, overextended, and no longer capable of providing useful guidance to hypothesis generation and explanatory thinking (see Main, 1999).

Attachment relationships differ from other types of relationships in that attachment figures are persons to whom one turns in times of distress, mainly because such persons are willing and able to promote one's safety or "felt security" (Main, 1999). However, there often is an inherent asymmetry in attachment relationships whereby one person has strong needs and views his or her partner as offering a possible "solution" to a current problem. In adult–child relationships, this asymmetry is witnessed in the fact that the adult often serves as the child's solution, but not vice versa. In adult–adult relationships, temporary periods of asymmetry occur when one partner views the other as "stronger and wiser" (Shaver, Hazan, & Bradshaw, 1988) and as the likely solution to his or her immediate concerns or distress.

115

In light of these considerations, how should caregiving be defined from the vantage point of attachment theory? Caregiving entails the willingness to accept (rather than turn away) the dependency of others and to respond in ways that either reduce their distress or enhance their safety. Given this definition, there are many forms and modes of caregiving that simply are not relevant to attachment theory. Because it is essential to concentrate on the most central, distinguishing features of an attachment perspective on caregiving, the connection theoretical orientation proposed by Bell and Richard is problematic primarily because it is too inclusive.

Are the Right Questions Being Asked?

Bell and Richard state that the key questions about caregiving for attachment theory should center on: (a) identifying the motivation for caregiving, (b) finding a place for emotion within caregiving, (c) describing the nature of attachment and caregiving bonds, and (d) providing an explanation for caregivers' responsiveness and sensitivity. We do not dispute the utility or importance of these questions, but we believe that the most critical issues are not addressed in Bell and Richard's article.

At present, there is ample evidence that adults' representations of their childhood experiences with their parents affect the patterns of attachment that their children develop with them. A portion of this effect is mediated through maternal sensitivity and responsiveness (van IJzendoorn, 1995). However, the routes by which childhood experiences become translated into different patterns of adult caregiving (and, in turn, different infant attachment patterns) remain largely unknown. A full explanation of this process will require the identification of behaviors that distinguish persons with different types of early attachment experiences. Following this, one must establish links between these behaviors and infant attachment patterns, after which one must explain how mental representations of early experiences influence adult caregiving practices. Cogent answers to these enigmas are, in our view, the most interesting and the most pressing. Unlike most theories of early experience, attachment theory does not argue that one's experiences in early relationships necessarily cause subsequent behavior; instead, one's representation of experiences (apparent in memories and attributions) is the causal element (see Main, 1999). According to this perspective, one may have adverse attachment experiences in childhood yet reveal no impact of such experiences in one's caregiving or parenting if one's representations of these experiences are "healthy" (e.g., problems are acknowledged, but parents were forgiven). Consistent with this viewpoint, Cohn, Cowan, Cowan, and Pearson (1992) found that parents who display "earned" security (i.e., those with difficult childhood experiences but who developed healthy, secure relationships with their parents) do not differ from persons with healthy, largely positive childhood experiences in terms of how they care for their own infant children. What is needed is a theoretical framework that can explain the processes through which internal working models affect parents' caregiving and their infants' responses to them.

In summary, we agree that attachment theory's account of caregiving is not well developed. However, we question whether the connection theoretical orientation will appreciably advance our understanding of either attachment theory or caregiving.

Note

Jeffry A. Simpson, Department of Psychology, Texas A&M University, College Station, TX 77843–4235. E-mail: jas@psyc.tamu.edu

References

Belsky, J., Steinberg, L., & Draper, P. (1991). Childhood experience, interpersonal development, and reproductive strategy: An evolutionary theory of socialization. *Child Development, 62,* 647–670.

Chisholm, J. S. (1996). The evolutionary ecology of attachment organization. *Human Nature, 7,* 1–38.

Cohn, D., Cowan, P., Cowan, P., & Pearson, J. (1992). Mothers' and fathers' working models of childhood attachment relationships, parenting style, and child behavior. *Development and Psychopathology, 4,* 417–431.

Collins, N. L., & Read, S. J. (1994). Cognitive representations of attachment: The structure and function of working models. In K. Bartholomew & D. Perlman (Eds.), *Attachment processes in adulthood* (pp. 53–90). London: Jessica Kingsley.

George, C., & Solomon, J. (1996). Representational models of relationships: Links between caregiving and attachment. *Infant Mental Health Journal, 17,* 198–216.

George, C., & Solomon, J. (1999). Attachment and caregiving. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 649–670). New York: Guilford.

Hamilton, W. D. (1964). The genetical evolution of social behaviour. *Journal of Theoretical Biology, 7,* 1–52.

Hesse, E. (1999). The Adult Attachment Interview: Historical and current perspectives. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 395–433). New York: Guilford.

Kirkpatrick, L. A. (1998). Evolution, pair-bonding, and reproductive strategies: A reconceptualization of adult attachment. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 353–393). New York: Guilford.

Main, M. (1999). Attachment theory: Eighteen points with suggestions for future research. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 845–887). New York: Guilford.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research (pp. 66–104). *Monographs of the Society for Research in Child Development, 50*(1-2, Serial No. 209).

Shaver, P. R., Belsky, J., & Brennan, K. A. (2000). The Adult Attachment Interview and self-reports of romantic attachment: Associations across domains and methods. *Personal Relationships, 7,* 25–43.

Shaver, P. R., Hazan, C., & Bradshaw, D. (1988). Love as attachment: The integration of three behavioral systems. In R. J. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 68–99). New Haven, CT: Yale University Press.

Simpson, J. A. (1999). Attachment theory in modern evolutionary perspective. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 115–140). New York: Guilford.

Simpson, J. A., & Rholes, W. S. (1994). Stress and secure base relationships in adulthood. In K. Bartholomew & D. Perlman (Eds.), *Attachment processes in adulthood* (pp. 181–204). London: Jessica Kingsley.

Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man, 1871–1971* (pp. 136–179). Chicago: Aldine-Atherton.

Trivers, R. L. (1974). Parent–offspring conflict. *American Zoologist, 14,* 249–264.

van IJzendoorn, M. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin, 117,* 387–403.

Williams, G. (1966). *Adaptation and natural selection*. Princeton, NJ: Princeton University Press.

Zeifman, D., & Hazan, C. (1997). Attachment: The bond in pair-bonds. In J. A. Simpson & D. T. Kenrick (Eds.), *Evolutionary social psychology* (pp. 237–263). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Attachment, Intimacy, and Generativity

Dan P. McAdams

Program in Human Development and Social Policy
Northwestern University

As Bell and Richard point out in the last paragraph of their very fine article on caregiving and attachment, Bowlby was quite fond of military metaphors. In its cybernetic intricacy, the attachment system was akin, Bowlby (1969) suggested, to an "antiaircraft gun." Constantly monitoring feedback in relation to a set goal or target, the attachment system aimed at shooting down the many predators and dangers that threatened the helpless infant in the Pleistocene environment of evolutionary adaptedness. A metaphor that Bowlby liked even better was *the secure base*. In his last book, *A Secure Base*, Bowlby (1988) wrote that the attachment bond ideally provides a base

> from which a child or an adolescent can make *sorties* into the outside world and to which he can return knowing for sure that he will be welcomed when he gets there, nourished physically and emotionally, comforted if distressed, reassured if *frightened*. In essence this role is one of *being available,* ready to respond when called on to encourage and perhaps assist, but to intervene actively only when clearly necessary. In these respects it is a role similar to that of the *officer commanding a military base* from which an *expeditionary force* sets out and to which it can *retreat* should it meet a *setback*. Much of the time the role of the base is a waiting one but it is nonetheless vital for that. For it is only when the officer commanding the expeditionary force is confident his base is secure that he dares press forward and take risks. (p. 11, [italics added throughout])

Bell and Richard should be commended for softening attachment's war rhetoric with the discourse of caring. More important, their carefully reasoned and insightful exegesis of the attachment bond reveals the singularity of this primal relationship. Armed with a fashionable theory and with quick-and-easy paper-and-pencil measures to assess individual differences in attachment security, social psychologists have rushed ahead to implicate attachment as the guiding process for a number of different kinds of interpersonal relationships, including adult friendships and romantic love. It became virtually accepted wisdom among many social psychologists and clinicians that attachment processes are central in the development of intimate relationships between adults (Reis & Patrick, 1996). Bell and Richard, however, urge caution. Before we extend the attachment metaphor to the four corners of the interpersonal universe, we need to take a closer look at the complex dynamics of this unique bond. To elaborate on two important distinctions that come out of Bell and Richard's analysis, let me borrow terminology from Erik Erikson's (1963) well-known stage model of psychosocial development. Bell and Richard's account suggests that the attachment bond is not the same thing as adult intimacy (Erikson's Stage 6) and that the caregiving component of attachment is not the same thing as generativity (Erikson's Stage 7). In our quest to connect concepts with different pedigrees and connotations, we need to slow down, Bell and Richard tell us, lest we blur important theoretical distinctions.

Attachment Versus Intimacy

Bowlby's (1988) military metaphors are revealing. In the prototypical scenario of caregiver–infant attachment, a weaker partner (the infant, or what Bell and

Richard term the *dependent*) faces a threatening world (predators, strangers—the enemy). The weaker partner receives sustenance and protection from the stronger partner (the attachment object, or what Bell and Richard term the *caregiver*), who provides a haven of safety and a secure base from which exploratory "sorties" can be conducted. The stronger partner functions as a "commanding officer" of sorts, holding considerably more power in this relationship. Nonetheless, she or he is astute enough to wait it out most of the time and to simply "be available" should the weaker partner meet a "setback." In an impressive theoretical advance, Bell and Richard argue for a more activist caregiver—a commanding officer who, motivated by the enduring dyadic emotion of caring, adopts a rather more proactive stance vis-à-vis the infant, seeking first and foremost to meet the dependent's needs and to continue to meet them well into the future. Nonetheless, Bell and Richard agree with Bowlby in characterizing the attachment relationship as one of relative unequals. There is a "hierarchy between parent and child," they write. "The parent controls virtually all of the resources in the parent–child relationship" (this issue). The parent is bigger, stronger, older, wiser, richer, and more self-aware. According to Bell and Richard, furthermore, the parent is gifted with empathy and responsibility, which serve as psychological mechanisms through which caring is implemented. The caregiver feels the desire to know the dependent (empathy) and to meet the dependent's needs (responsibility). The caregiver (by definition) cares for the infant. When it comes to caring, the infant, by contrast, is clueless.

Unless we wish to argue that one member of the mature adult friendship or romantic relationship is perennially the clueless dependent, we would do well to hold back our enthusiasm about attachment as a model for romantic love and intimate relations. Bell and Richard maintain that attachment is different from romantic love. It is also different from intimacy. Intimacy is a quality of interpersonal relating through which partners share personal thoughts, feelings, and other important aspects of themselves with each other. In an exhaustive review of the construct, Prager (1995) wrote, "all conceptions of intimate interactions seem to center on the notion that intimate behavior consists of sharing that which is personal" (pp. 20–21). McAdams (1989) sees "the sharing of one's innermost self" as the cardinal feature of intimacy (p. 49). McAdams contends that an idealized model for intimate exchange is what Martin Buber (1970) called the "I–Thou encounter." The I–Thou is a special quality of interpersonal experience in which the I (self) and Thou (other) share with each other personal thoughts, feelings, observations, and so forth in such an intensive manner that each becomes visible to the other in his or her wholeness and unique individuality. What mainly distinguishes intimacy from attachment, then, is intimacy's

fierce insistence on an intensive egalitarian exchange between two autonomous selves. In emotional terms, furthermore, whereas attachment assuages fear and offers protection, intimacy assuages loneliness and offers the opportunity to further extend one's understanding of self and other (Sullivan, 1953). In what Stern (1985) characterizes as nonverbal state sharing, infants and their caregivers may engage in a rudimentary form of intimacy. But attachment processes would appear to dominate the psychosocial scene in the first few years of life, whereas intimacy awaits a more fully developed sense of self and the achievements in cognitive development and role taking that attend later childhood and adolescence (Hart, 1988; Selman, 1980; Sullivan, 1953).

Intimacy is an important aspect of the phenomenology of romantic love in adulthood. Sternberg and Grajek (1984) identify intimacy, passion, and commitment as central components of romantic love. Attachment processes surely play a part, too (Hazan & Shaver, 1987). But in many mature relationships between partners who perceive themselves as equals, the model of caregiver–dependent is not an easy fit. In the adult attachment literature, Bell and Richard suggest, it has been "tacitly assumed that caregiving would occur as some kind of implicit exchange—each partner giving nurturance because each wanted to receive the other's nurturance" (this issue). Bell and Richard are probably right, but I share their ambivalence about the adequacy of this kind of conceptualization in understanding what goes on between lovers. Although caregiving is at the center of attachment, it would appear to be only one of many different aspects of mature romantic love, and in some couples a minor aspect at that.

Attachment Versus Generativity

Caregiving begins with caring, Bell and Richard point out. Although this contention may seem trivial, it proves to be theoretically very important. Caring is "an enduring dyadic emotion that continues over the long term and that serves as an autonomous motivation to see that the needs of a specific partner are met" (this issue). Once the caregiver imagines or perceives that the infant is (or will be) responsive to him or her, the caregiver begins to feel the emotion of caring. From the standpoint of the caregiver, then, caring is the emotional core of attachment. From this core, the processes of empathy and responsibility serve to help translate the emotion into caregiving behavior. Whereas empathy concerns the desire to know and understand the dependent, responsibility refers to the "emotional intention to help the other meet the other's needs" (this issue). Bell and Richard observe that their usage of the term *responsibility* bears some similarity to Erikson's concept of *generativity*. But generativity is broader and more diffuse, they point out. According to Bell and Richard, Erikson viewed

generativity as a "nondyadic need or concern that is internal to the caregiver and by which the caregiver gives to future society" (this issue). Indeed, Erikson emphasized that generativity could be expressed through many different channels outside of parenting—from teaching and mentoring youth to making important artistic, scientific, or political contributions to society (McAdams, Hart, & Maruna, 1998). By contrast, Bell and Richard see responsibility as a "dyadic intention directed toward a specific dependent growing out of feeling toward that dependent" (this issue). Their conceptualization in this regard is consistent with theoretical trends in developmental and evolutionary psychology and in cognitive science today that underscore the domain specificity of many psychological functions (e.g., Pinker, 1997). Caring is specific to and comes directly out of a caregiving relationship with a particular, concrete dependent: "What the parent does is to feel, and what the parent feels is that this child has looked at this parent, that she has looked at me" (this issue).

Bell and Richard may be right in urging us to distinguish between the intense caring-empathy-responsibility complex a mother or father feels toward her or his own offspring on the one hand and providing care for the next generation in a broader sense on the other. My own experiences as a father convince me, on an intuitive level, that I will never and can never feel as strongly caring toward any object or person as I have felt toward my own children. It may make good evolutionary sense, furthermore, that a psychological mechanism dedicated to protecting and assuring the well-being of one's own offspring, the carriers of one's own selfish genes, should be specifically designed to fulfill this crucial task, rather than derivative of a more general set of all-purpose mechanisms (Tooby & Cosmides, 1992). Having said all this, I am still struck by the fact that Erikson explicitly identified care as the signal virtue of adult generativity. As parents, yes, but also in their roles as instructors and supervisors, community leaders, Sunday school teachers, den mothers, Little League coaches, and the like, generative adults exhibit strong caring aimed toward youth, caring that is enhanced by empathy for others and responsibility to be of some good use to one's neighborhood, community, people, or society, extending into the future. Generativity may not spring directly out of caregiving, and caregiving may involve different psychological mechanisms than, say, serving on the local school board. But the two concepts would appear to share more than a phenotypic similarity.

I would like to propose that what Bell and Richard so perceptively describe as the caregiving aspect of the attachment bond may serve as an emotional–cognitive–behavioral prototype of what full adult generativity can be and may be. Our research into the life stories of highly generative adults suggests that men and women who have distinguished themselves for their strong and caring commitments to the next generation typically construct narrative identities in which empathy for others, especially those who are weaker or who suffer in some way, emerges clearly in early life-story scenes (McAdams, Diamond, de St. Aubin, & Mansfield, 1997; see also Colby & Damon, 1992). Highly generative adults show an expanded radius of care, and they envision their futures in terms of long-term commitments to the welfare of others (Peterson & Klohnen, 1995). Adults who score high on paper-and-pencil measures of generativity may or may not be parents, but in their societal engagements they consistently adopt the attitude of the hopeful caregiver, looking to the future with anticipation that those things they care for will grow and flourish. Undergirding their hopefulness is what Erikson (1963) identified as a "belief in the species" (p. 267), a faith in the ultimate worthwhileness of the human enterprise. Although we do not know where such a belief comes from, the belief itself seems to suggest an expectation that those others who are the possible objects of one's care can be and will be responsive to one's generative efforts. In the same manner that I, the caregiver, begin to experience the emotion of caring once I see or imagine my offspring's responsiveness to me, so may some highly generative adults be motivated to care for the next generation, and to commit themselves to a wide range of prosocial engagements, once they trust and believe deeply that the potential beneficiaries of their care will indeed be responsive to them.

In its fullest manifestations, then, especially high levels of generativity may be experienced by some mature adults as an extension of the caregiving complex to future generations and the appropriation of a wide range of activities into this caregiving program. It is no doubt true that the many different commitments and endeavors that we may roughly group under the category of generativity may have very different origins and functions. Thus, one's parenting may draw on different psychological mechanisms than one's volunteer activities or civic obligations. But for many highly generative adults, these different involvements eventually get organized into a generativity script (McAdams, 1993) for life, which imports the same kinds of feelings and attitudes that Bell and Richard ascribe to caregiving in the attachment relationship. I think more needs to be made, therefore, of the (deep) conceptual linkages between caregiver–infant attachment and generativity in mature adulthood. And less should be made of the (superficial) similarities that have been observed between caregiver–infant attachment and intimate relationships among young adults.

Note

Dan P. McAdams, Program in Human Development and Social Policy, Northwestern University,

2115 N. Campus Drive, Evanston, IL 60208. E-mail: dmca@nwu.edu

References

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment.* New York: Basic Books.

Bowlby, J. (1988). *A secure base.* New York: Basic Books.

Buber, M. (1970). *I and thou.* New York: Scribner's.

Colby, A., & Damon, W. (1992). *Some do care: Contemporary lives of moral commitment.* New York: Free Press.

Erikson, E. H. (1963). *Childhood and society* (2nd ed.). New York: Norton.

Hart, D. (1988). The adolescent self-concept in social context. In D. K. Lapsley & F. C. Power (Eds.), *Self, ego, and identity: Integrative approaches* (pp. 71–90). New York: Springer–Verlag.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 59,* 270–280.

McAdams, D. P. (1989). *Intimacy: The need to be close.* New York: Doubleday.

McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self.* New York: Guilford.

McAdams, D. P., Diamond, A., de St. Aubin, E., & Mansfield, E. (1997). Stories of commitment: The psychosocial construction of generative lives. *Journal of Personality and Social Psychology, 72,* 678–694.

McAdams, D. P., Hart, H. M., & Maruna, S. (1998). The anatomy of generativity. In D. P. McAdams & E. de St. Aubin (Eds.), *Generativity and adult development: How and why we care for the next generation* (pp. 7–43). Washington, DC: American Psychological Association Press.

Peterson, B. E., & Klohnen, E. C. (1995). The realization of generativity in two samples of women at midlife. *Psychology and Aging, 10,* 20–30.

Pinker, S. (1997). *How the mind works.* New York: Norton.

Prager, K. J. (1995). *The psychology of intimacy.* New York: Guilford Press.

Reis, H. T., & Patrick, B. C. (1996). Attachment and intimacy: Component processes. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 523–563). New York: Guilford.

Selman, R. L. (1980). *The growth of interpersonal understanding.* New York: Academic.

Stern, D. (1985). *The interpersonal world of the infant: A view from psychoanalysis and developmental psychology.* New York: Basic Books.

Sternberg, R. J., & Grajek, S. (1984). The nature of love. *Journal of Personality and Social Psychology, 47,* 312–329.

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry.* New York: Norton.

Tooby, J., & Cosmides, L. (1992). The psychological foundation of culture. In J. H. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture* (pp. 19–136). New York: Oxford University Press.

Caregiving, Attachment, and Relationships

Harry T. Reis

Department of Clinical and Social Sciences in Psychology
University of Rochester

Bell and Richard do the ever-expanding attachment area a great service by proposing that caregiving should occupy a more central role in the field's attention. Caregiving is an intrinsically important process that warrants careful thought and empirical scrutiny, especially as attachment researchers expand their purview beyond parents and children to consider the role of attachment in more symmetrical adult relationships, such as may occur between spouses and adult siblings. At the same time, however, Bell and Richard do attachment theory a notable disservice by misrepresenting the field's (and in some instances, Bowlby's) theorizing on several key conceptual issues. I begin this commentary by pointing out some of these misconstruals not merely to set the record straight, but also to highlight ways in which Bell and Richard's position is actually much more congruous with prevailing views of the attachment process than may be apparent. I hope these clarifications and comments facilitate the endeavors of researchers who wish to study caregiving with attachment-compatible models.

Bell and Richard repeatedly fault attachment theory for relegating emotion to a nonessential function as the by-product of attachment's core mechanisms; for example, "this view of emotion treats the child's emotions of security or distress as signals from the attachment behavioral control system but not as causal parts of that system" (this issue). Although not an unreasonable literal interpretation of some of Bowlby's early writing (as discussed later), this is an inappropriate characterization of contemporary attachment theory, and even, for that matter, of Bowlby's deeper theoretical meaning. Bowlby described the relationships most likely to involve attachment as "shot through with strong emotion" (1988, p. 80) and as involving "many of the most intense of all human emotions" (1979, p. 69). Indeed, a lecture he delivered in 1986 included a section headed "Emotionally mediated bonds and mental health" (1988, pp. 160–162), in which the attachment-ethological approach to "emotionally significant" relationships and mental health is introduced. (Note his express use of the term *mediated,* which implies a causal role.) Moreover,

most students of Bowlby's writing recognize that emotions like fear, anxiety, sadness, despair, love, contentment, relief, and joy are central to the behaviors and phenomena he sought to explain: As he commented, emotions are "the prizes and penalties selected during evolution to guide us during our activities" (Bowlby, 1988, p. 81).

Admittedly, in his early writing, Bowlby (1969/1982) did restrict the role of emotion somewhat by proposing that "feeling appraisals" provide evidence of, rather than directly cause, the activation of the attachment system when threatening situations occur (and hence these appraisals allow both child and caregiver to monitor the attachment system's activation). Among several reasons, Bowlby based this limitation on the fact that feeling appraisals may be necessary but not sufficient to produce attachment behavior. (Readers wishing to understand this subtle distinction may refer to pp. 116–123 of the first volume of Bowlby's, 1969/1982, trilogy). Instead, he hypothesized a seemingly more cognitive control system designed to return the child to a "set goal" of proximity with the caregiver. (The oft-noted set goal of "felt security" was added later by Sroufe and Waters, 1977).

However, it is important to recognize that Bowlby's view of what is and is not an emotion was limited to a large extent by the prevailing conceptions of emotion common in his era. In the 1950s and 1960s, psychology generally conceived of emotion as the subjective feeling experienced and interpreted by the individual. Thus, assigning emotion to a reflective rather than causal role, as Bowlby did, seems reasonable, inasmuch as subjective feelings represented in conscious awareness play a limited causal role in emotional processing and emotional phenomena (see Ekman and Davidson, 1994, for extensive discussion of this issue). But few scholars today subscribe to this definition of *emotion.* Contemporary definitions tend to describe *emotion* as an automatic response to personally significant environmental events, involving, among other key elements, redirection of mental attention toward those events and increments in behavioral action readiness (e.g., Ekman & Davidson, 1994; Frijda, 1986). Subjective interpretations are one output of this process, not the driving force. Although I cannot describe this model of emotion within the space limits of this comment, it is important to realize that the homeostatic control system postulated by Bowlby—and especially the role it assigns to appraisals of potentially dangerous environmental events—is very much consistent with this more contemporary view of emotion (see, for example, Cassidy's, 1999, synopsis of attachment theory). In fact, one may even view Bowlby's seminal control-system theorizing as having contributed to the development of modern emotion theories. Thus, in

short, appraisals of the implications of an environmental event for personal (or a dependent's) well-being are at the heart of what is today understood as emotion, and that same appraisal process, in terms of the implications of environmental events for the safety of one's dependents, is at the heart of Bowlby's description of how the attachment system operates.

Historical accuracy aside, there may be little point to debating what Bowlby wrote or meant—after all, the third and final volume of his trilogy was written more than 20 years ago. Bowlby was far too dedicated and generative a scholar to have remained unaffected by the tremendous accumulation of knowledge about attachment, not to mention the striking and highly relevant advances in relationship science, evolutionary science and ethology, neuroscience, and cognitive psychology. Instead, it may be more useful to examine the "state of the art" in contemporary attachment theory, for example, as portrayed in the newly published *Handbook of Attachment: Theory, Research, and Clinical Applications* (Cassidy & Shaver, 1999). Plain throughout that exceptionally comprehensive and deeply insightful volume is the fact that emotion, emotion regulation, and emotional communication are neither secondary or incidental, nor are they by-products of attachment; as attachment is currently conceptualized, investigated, and applied, emotion processes are a central core component.

But Bell and Richard are correct in noting that the caregiving side of the attachment bond has received comparatively scant attention (as Bowlby himself noted in a 1983 lecture; Bowlby, 1988, p. 82). Their clarion call makes accuracy about the role of emotion in attachment theory all the more important. If their model of the caregiving process is to serve as a guiding framework for new research, and if subsequent research is to be integrated with the existing attachment literature, then it must accurately reflect what is known about attachment processes. Unfortunately, on this score Bell and Richard fall short in several other instances. For example, their characterization of attachment activation as an on-off dichotomy rather than a continuous "degree of activation" function reflects an outmoded idea that even Bowlby rejected for both logical[1] and theoretical reasons (see Cassidy, 1999; Main, 1999, p. 858). And it seems odd to assert that research on caregiving has "ignored the conflicts, choices, and defenses of caregivers" (this issue), as well as dynamic motivational concepts more broadly, in light of research programs such as that of Main and her colleagues (Main, 1991), which many researchers view as paradigmatic.

---

[1]That is, if the system were truly switched off, how would caregivers notice the existence of circumstances with potential danger to their dependents?

These reservations aside, Bell and Richard's connection model offers a reasonable and much-needed step in a vital direction, and it is to be hoped that the research community takes up their charge. In the remainder of my commentary, I will focus on aspects of their model that raise questions of general importance not only to attachment researchers, but more broadly to the field of relationships.

Where does the "caregiving behavioral control system," as Bell and Richard propose it, reside among the family of processes describing the provision of help, support, and nurturance to others? As they mention, the field has struggled with the question of "what makes a close relationship an attachment relationship?" (this issue), and many researchers view attachment as a highly specialized bond, focused on the process of security-seeking and safety maintenance. Yet the connection model is intended to apply to "the full range of relationships" (this issue), suggesting an apparent asymmetry in breadth of application. This distinction is not theoretical hair splitting. Parental caregiving—overwhelmingly the domain in which the specialized view of attachment has been investigated—may express evolutionary processes that foster the survival of one's genes, which may not be relevant in other relationships (e.g., with a spouse or with an aging parent.) Nevertheless, caregiving is clearly important across diverse relationships, many of which seem unlikely to qualify as attachment relationships. To what extent are common mechanisms implicated? A further complication is that although parental caregiving tends to be relatively one-sided, mutuality is the norm in adult relationships, with partners alternating in the roles of caregiver and recipient, depending on current needs. This includes adult attachment relationships, such as may occur between spouses, siblings, and best friends. Because the connection model is meant to encompass both classes of caregiving, its mechanisms will need to be relatively general, allowing for eventual integration with related processes such as intimacy, commitment, and social support (Reis & Collins, in press). Also, the model must be able to account for feedback between these roles, as when one's experiences as the recipient of care by a particular partner influence subsequent care of that same partner. Presently, it is not clear how the model would do this. On the other hand, caregiving limited to genetic dependents can probably be explained by a relatively more compact set of principles.

For reasons too extensive to detail presently, I believe that the broader conceptualization of caregiving (and, for that matter, attachment) may have greater heuristic value. Suffice it to say that because humans evolved in small, interdependent living groups, evolutionary advantage was conferred by processes that facilitated inclusion in close relationships and small groups. Propensities favoring cooperative social participation thereby became an intrinsic component of human nature[2] (Baumeister & Leary, 1995; Brewer & Caporael, 1990). Providing care for significant others—and not just offspring—is certainly one of these propensities, as relationship theorists have demonstrated. For example, Mills and Clark (1982) distinguished two important types of relationships, communal and exchange, defining the former in terms of partners' responsiveness to each other's needs. One of Fiske's (1992) four elementary forms of social relations, which are presumed to be innate and universal, is communal sharing, in which caring for significant others is a central element. And in spontaneous descriptions of social goals and desired relationships, people almost invariably highlight care and support (Reis, 1990).

Although the present rendering does not directly address this issue, and although their position is concealed somewhat by the understandable emphasis on parental caregiving in attachment relationships, from a functional perspective Bell and Richard's model seems compatible with this broader conceptualization. Many key characteristics of the caregiving behavioral control system described by Bell and Richard are evident in other forms of interpersonal caregiving (e.g., empathy, feeling responsible for another's welfare, affection for the other, attention to the other's needs and responsiveness to those needs, expressed intentions to support the other even when the system is dormant, possessing attitudes and beliefs that underlie caregiving behaviors). If so, it may be useful to construe caregiving in attachment relationships as the application in a relatively intense and contextually focused way of processes operating in all relationships that involve helping and support.

This issue is fundamental to understanding what a relationship is and whether relationships are better conceptualized in terms of general interpersonal processes or whether the unique properties of each type of relationship merit independent investigation and a distinct set of explanatory principles. (The latter orientation may be seen in the development of separate and highly specialized literatures describing particular relationships such as attachment, marriage, and health care, and those between siblings or between workers and their supervisors.) The recent emergence of "domain-specific" approaches, which argue for the existence of discrete, systematically organized modules of knowledge and regulatory processes corresponding to the major social tasks faced in our evolutionary history, suggests a middle ground. Bugental (in press)

---

[2]That is, individuals who were included in social groups tended to be advantaged in survival and reproductive opportunities. Of course, many animal species, especially primates, display similar social inclusion propensities, as deWaal's (1996) fascinating analysis shows.

nominates five such domains: attachment, dominance hierarchies, coalition formation, reciprocity, and mating. Domains are distinguished by their defining processes. For example, the attachment domain incorporates mechanisms that maintain safety in the face of possible threat, whereas the reciprocity domain comprises mechanisms that maximize joint outcomes among functional equals (including support seeking and provision). Where would the caregiving system fit within such a framework? At times, it seemed to me that Bell and Richard sought to move the field toward a relatively general process that may conceivably operate in most domains (perhaps excepting dominance regulation); at other times, their purview seemed rather more limited, to the sort of processes that pertain to affectively close relationships. Settling this issue is not only a question of deciding to which relationships this model of caregiving applies; it also requires specifying which forms of helpful behavior toward others are and are not subsumed by the model.

Just how important is caregiving to relationships and how useful is it to theorize about caregiving with the constructs that Bell and Richard propose? That remains to be shown, of course. Bell and Richard facilitate future work in several important respects. First, by suggesting that motives and emotions are just as central to understanding caregiving as information processing and social competencies are—concepts that have dominated the literature for years—they make possible an understanding that captures the caregivers' purposive goal-directed activity and that dovetails with today's rapid expansion in emotion theory and research. Second, by proposing their model in behavioral control system terms, they offer a thoughtful, dynamic perspective with considerable potential for linkages with related processes. And third, by highlighting the relative paucity of research on caregiving, they remind us that attachment is, after all—and notwithstanding the individualistic focus of so much research in this area—a relationship between interacting, interdependent individuals.

Note

Harry T. Reis, Department of Clinical and Social Sciences in Psychology, University of Rochester, Rochester, NY 14627. Email: reis@scp.rochester.edu

References

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117,* 497–529.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.

Bowlby, J. (1979). *The making and breaking of affectional bonds.* London: Tavistock.

Bowlby, J. (1988). *A secure base.* New York: Basic Books.

Brewer, M. B., & Caporael, L. R. (1990). Selfish genes vs. selfish people: Sociobiology as origin myth. *Motivation and Emotion, 14,* 237–243.

Bugental, D. B. (in press). Acquisition of the algorithms of social life: A domain-based approach. *Psychological Bulletin.*

Cassidy, J. (1999). The nature of the child's ties. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 3–20). New York: Guilford.

Cassidy, J., & Shaver, P. R. (Eds.). (1999). *Handbook of attachment: Theory, research, and clinical applications.* New York: Guilford.

deWaal, F. (1996). *Good natured: The origins of right and wrong in humans and other animals.* Cambridge, MA: Harvard University Press.

Ekman, P., & Davidson, R. J. (Eds.). (1994). *The nature of emotion.* New York: Oxford University Press.

Fiske, A. P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review, 99,* 689–723.

Frijda, N. H. (1986). *The emotions.* Cambridge, England: Cambridge University Press.

Main, M. (1991). Metacognitive knowledge, metacognitive monitoring, and singular (coherent) vs. multiple (incoherent) model of attachment. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 127–159). London: Tavistock/Routledge.

Main, M. (1999). Attachment theory: Eighteen points with suggestions for future studies. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 845–887). New York: Guilford.

Mills, J., & Clark, M. S. (1982). Communal and exchange relationships. In L. Wheeler (Ed.), *Review of personality and social psychology: Vol. 3* (pp. 121–144). Beverly Hills, CA: Sage.

Reis, H. T. (1990). The role of intimacy in interpersonal relations. *Journal of Social and Clinical Psychology, 9,* 15–30.

Reis, H. T., & Collins, N. (in press). Assessing relationship properties and interactions bearing on social support. In S. Cohen, B. Gottlieb, & L. Underwood (Eds.), *Social support: A guidebook for research, measurement, and intervention.* New York: Oxford University Press.

Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. *Child Development, 48,* 1184–1199.