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Universality of Human Social Attachment as an Adaptive Process

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ABSTRACT

Attachment is the phylogenetically programmed propensity of a human child to form a special relationship with responsive caregivers as part of the infant–parent bond. Attachment theory is rooted in traditional ethology as well as in psychoanalysis. Infants’ actively seeking protection and care has most likely been one of the selective forces. Other bonds between individuals may contain certain elements of attachment. During ontogenesis, individual differences in the organization of emotions and integration into a coherent internal working model throughout the years of immaturity is particularly prominent in human individual development. Secure and insecure patterns of attachment result from different qualities of interaction between infants’ expressions and adults’ responses to them. In adulthood, secure attachment representations reflect a sense of being worthy of help, free access to supportive attachment figures when needed, and appropriate, partnership-oriented evaluations of challenging social situations. Secure internal working models constantly integrate coherently and adaptively emotional and relevant cognitive aspects across lifetime. Secure attachment and secure exploration serve “psychological security” and quality of adaptation to life in the mental health sense. A longitudinal study conducted in northern Germany demonstrates that children’s experience with both parents influenced their psychological security in representation of attachment as well as partnership representation at age 22 years. Currently, traditional attachment theory is on its way to being integrated into modern sociobiology and physiology. A future synthesis of attachment and bonding could benefit from addressing Tinbergen’s four questions about the evolution, function, causation, and development of attachment and bonding.

ATTACHMENT, BONDING, AND RELATED ISSUES

Historical Notes

Attachment theory, as conceptualized by John Bowlby (1987), focuses on the nature of the child’s tie to the mother. It posits a pre-programmed propensity in

the young child to develop attachments to a very few, special adults who are willing and able to care for, support, and invest resources in the young individual. It was designed to serve as a theoretical concept for human emotional and social development and to explain qualitative individual differences in the ontogenesis of psychological adaptation and mental health, depending on the quality of care received. Stated within the framework of modern sociobiology that was unknown to Bowlby, attachment theory focuses on the “gene-selfish” interest of the child to receive as much of his parents’ (physical as well as psychological) resources as needed to become an emotionally and socially healthy and competent individual in his social group. In terms of Trivers’ (1974) parent–offspring conflict, attachment theory focuses on the offspring’s side of that conflict as well as on the parent’s willingness or unwillingness to invest in *this* individual offspring. In the case of parental unwillingness, infant survival is at stake. For example, among the langurs of Abu, allomothering is abundant, but “no mother was ever seen to allow any infant but her own to suckle” (Hrdy 1977, p. 211). Therefore, it is vitally important for an infant to be able to identify and seek out its mother extremely soon; otherwise, it will find no other source of nourishment. In support of this assumption, Hrdy observes that an infant langur knows its mother very well despite extant allomothering. “An infant that has been quietly holding its mother may begin to whine soon after being taken by some other female. Conversely, an infant that has been struggling and complaining will usually grow quiet when retrieved by the mother” (Hrdy, 1977, p. 215). From the maternal perspective in this conflict, rejecting an infant carries a much lesser cost to the mother, as she can expect another offspring.

In four interdisciplinary meetings of the World Health Organization Study Group on the Psychobiological Development of the Child (Geneva 1953, 1955, 1956 and London 1954) John Bowlby encountered ethology of the 1950s as Lorenz (1960) and Tinbergen (1951) formulated it (Tanner and Inhelder 1960). Bowlby was tutored in this new discipline by the comparative biologist Robert Hinde (Bowlby 1991; Hinde 2005). Bowlby aimed at providing a theoretical frame for a new synthesis of phylogeny, ontogeny, psychoanalytic insights, inner control systems (e.g., schemata, equilibration sensu Piaget; Bowlby 1960) and Darwinian thinking. Attachment theory was formulated by Bowlby to encourage empirical examination of the right questions of psychoanalysis — to which the psychoanalysts, as he believed, often gave the wrong answers — according to modern scientific standards. He perceived a need to study prospectively healthy as well as maladaptive social-emotional development of individuals “from the cradle to the grave” (Bowlby 1979).

One of the central observations that paved the way for the concept of behavioral systems in attachment theory was the behavioral response patterns demonstrated by Harlow’s rhesus monkeys, which were dependent on their emotional state. In the presence of their surrogate mother and when calm, infant monkeys would play freely in an open field. However, when alarmed and frightened, they

did not run away from the frightening object but rather fled to their surrogate mother figure as a safe haven, where they could calm down. In the absence of the mother figure, no calming down was observable. Other vivid examples of the functioning of the aroused attachment system in mammals have been provided by Robert B. Cairns (1979, p. 47), who described the abrupt transformation of a one-month-old monkey from a relaxed, content infant into a restless, crying, and sometimes extremely agitated organism through forced separation from its mother. Lambs separated from other sheep run full speed around the isolation chamber, sometimes against the door or wall; this behavior is repeated “with groggy redundancy.”

The co-regulation of the attachment need of the young and its corresponding maternal caregiving system was termed “affectionate system” by Harry Harlow (1961, 1971). The behavioral systems are “fitted” to each other and have been phylogenetically selected as a unit of age-specific adaptive behaviors of infants and mothers *if*, as modern sociobiology would suggest, the mother has decided to invest in this infant.

The child’s need is expressed through attachment behaviors accompanied by expressions of emotions (Darwin 1872/1998), which function to increase close proximity to the caregiver. The caregiving behavioral system is expressed by protecting and caring for the attached individual. The need for care and protection of a dependent or weaker individual — which may also be an adult in times of ill health, adversity, or old age — by a “stronger and wiser” adult is central to Bowlby’s conceptualization. Because care and protection are vital needs of “weaker and inexperienced younger” individuals, the attachment behavioral system is driven by strong motivations. “Many of the most intense emotions arise during the formation, the maintenance, the disruption and the renewal of attachment relationships” (Bowlby 1979, Lecture 7). This concept was certainly influenced by Bowlby’s training as a psychotherapist, as well as by having seen the misery of many children throughout Europe who were separated from or had lost their parents after World War II (Bowlby 1951).

Of course, human beings also form affectional bonds with others in the course of their life. Ainsworth (1985, p. 199) highlighted the difference between attachment of infants to their mothers and affectional bonds in other social relations as follows: “An *attachment* is an affectional bond in which the attachment figures are never wholly interchangeable with or replaceable by another, even though there be another to whom one is also attached.” In addition, she refers to “developmental changes in the way in which a child’s attachment to parents manifests itself beyond the infancy period . . . , that one’s attachment to parents tends to persist throughout life rather than attenuating and eventually disappearing — as many believe”

In comparison, “*bonds* are also relatively long-lived ties to unique individuals A bond is to be distinguished from other long-term relationships (attachments) in which it is the *role* of the other that is significant, so that with

separation or loss there would be at most some regret, tempered by an expectation of soon finding another to play the same role in one's life" (Ainsworth 1985, p. 799). Later, Ainsworth adds, "There is one criterion of attachment that is not necessarily present in other affectional bonds. This is a seeking to obtain an experience of security and comfort in the relationship with the partner. If and when such security and comfort is available, the individual is able to move off from the secure base provided by the partner, *with confidence* to engage in other activities" (Ainsworth 1991, p. 38).

Among those "other affectional bonds throughout the life span" she lists the bond of *mother to infant* (as contrasted to the phylogenetically programmed process of infants forming attachments to individual caregivers), the bond of father to child, bonds resulting from sexual behavior, friendships, companionships, as well as bonds between siblings and other kin. All of these bonds may develop into attachment relationships, and they appear to be somehow influenced by attachment experiences. These other relationships, however, are characterized by properties of their own, which may be well "beyond" attachment (Hinde 1976; Dunn 1993). We view attachment as the developmental process during which infants' genetic programs become phenotypically manifest, observable, and testable as a function of caretakers' responsiveness.

Historically, the concept of bonding entered developmental psychology through the work of Klaus and Kennell (1976). They argued for an imprinting type of *maternal* readiness to establish a close relationship to the infant in the human mother, as in ungulates, that has to be triggered within the first hour(s) after delivery. The process by which a mother comes to feel close to her infant has been termed *bonding* in the developmental psychology literature ever since.

We have tested this assumption by providing a group of 24 German mothers with "early contact" for the first hour after birth and compared their tender behavior toward their newborn with 25 mothers who did not receive "early contact." Results showed that non-early contact mothers reached the level of tenderness of the early contact mothers by the second week, and that later quality of maternal sensitivity or infant-mother attachment was not affected by our experimental manipulation of "maternal bonding" (Grossmann, K. et al. 1981).

Below, we present our arguments on the universality of human social attachment as an adaptive process using the following framework:

1. Development of the attachment system in human infants.
2. Different qualities of secure and insecure attachment patterns.
3. Attachment development from infancy to adulthood.
4. Interrelations between sociocultural and cognitive development within attachment development as the infant learns about the motivations, intentions, and perspectives of their mothers and incorporates them "naturally" into their own cultural world views.

In the second section, we present the idea, first developed by Lorenz (1967), that attachment is a universal genetic program valid in all cultures, despite clearly