5 The development of attachment relationships

INFANCY AND BEYOND

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Editors' preface

A child's 'love' for their caregiver is such a natural and seemingly automatic process that it is easy to forget that there are important issues to be explained and investigated. A little more thought quickly leads to the following questions: why does this attachment occur? are there differences between children in their attachments? and if there are differences, what are their consequences? The attempts to answer these questions have resulted in this subject area having a central place in developmental psychology and in psychoanalysis (*see* Chapter 13).

Here, Professor Marinus van IJzendoorn and Dr Carlo Schuengel show that the question about 'why does attachment occur?' can be answered on at least two levels, the evolutionary and the inter-personal (*see also* Chapter 1). Today it is generally accepted, following the work of John Bowlby, that attachments to caregivers take place because of innate dispositions which are the result of the process of evolution. It is also generally accepted that certain characteristics of interaction between caregivers and infants promote the development of attachment to specific people.

The authors also discuss the work of Mary Ainsworth which provided a methodological breakthrough in research into attachment. She realized that attachment should be characterized not as a continuous variable like the scale on a thermometer, but that it was more appropriate to see children as having distinct forms of attachment to their caregivers. This has had a profound effect on research and has provided a basis for hundreds of studies. As the following chapter describes the findings from these studies are providing indications that childhood attachment processes

may have, in some circumstances, effects not only into adulthood, but also possibly across generations.

The emergence of attachment in the first year

This chapter is about the **attachment** relationship between young children and their parents and about the roots of this relationship in the parents' own attachment experiences. What is attachment? For the moment, we will speak about children as being attached, if they have a tendency to seek proximity to and contact with a specific caregiver in times of distress, illness and tiredness (Bowlby, 1984). The emergence of attachments in the first year of life will be described, as well as the determinants of individual differences in attachment. The consequences of infant attachments will be discussed in relation to longitudinal attachment studies from infancy to adulthood. Attachment is a major developmental milestone in the child's life and it will remain an important issue throughout the life-span.

HISTORICAL BACKGROUND OF ATTACHMENT THEORY

The Second World War caused the separation of parents and their children on a massive scale. Families were torn apart because of the bombardments of civilian targets, the insatiable need for the army to draft new men and the threat from Germany. In London, the psychotherapists Dorothy Burlingham and Anna Freud – the daughter of the famous Viennese psychiatrist Sigmund Freud – set up the so-called Hampstead Nurseries: several shelters for children between age zero and age ten who had lost their parents because of the war – either temporarily or for good. Burlingham and Freud poignantly describe the sufferings of these young children, who often pined away from grief for the loss of the attachment relationship with their parents, despite the fact that they received high quality care. Take, for example, Dell, an active little girl aged two and a half years. When first brought by her mother, she soon started playing and did not really notice her mother leaving. However, half an hour later Dell suddenly realized what had happened and walked around the house in despair to find her mother. Her bright cheer and activity disappeared and she became a different child. She was not able to connect to one of the professional caregivers and after a couple of weeks she treated her parents as any other visitors (Freud and Burlingham, 1974, p. 36ff).

By analysing these and similar observations John Bowlby, the British child psychiatrist and founder of attachment theory, discovered three phases in the reaction of young children on the breaking of the bond with their parents. In the starting phase of **protest**, the child panics and tries to undo the separation with all means available: crying being obviously the

most important strategic weapon. Caregivers other than their own parents are rejected. After a few days, the phase of **despair** follows in which the child is still fixated on the absent parents but has also fallen into passivity. Finally, after a couple of weeks or months the phase of **detachment** sets in: the child again starts to be a bit more interested in the environment and is ready to interact with other caregivers. If the parents return, however, the attachment relationship appears to have been broken. The parents are not or only barely greeted and sometimes the child even actively rejects them. The child may be distracted and apathetic, often much to the despair of the parents.

Despite the paucity of systematic research in the 1950s, Bowlby soon came to the conclusion that attachment plays a key role in the nurturing and development of young children. On the basis of clinical case reports and his own observations he noticed that adolescents and adults who had been separated from their parents at an early age ran an increased risk of a disturbed development. In his famous report of 1951 for the World Health Organization Bowlby somewhat rhetorically compared attachment to be as important for psychological development as proteins and vitamins are for physical development. With this metaphor Bowlby placed the 'bias' of children to become attached among other primary needs such as feeding. This view contrasted with the then current psychoanalytical and behaviouristic way of thinking, which explained the bond between children and their parents by the fact that the parents provide food and physical care: according to these traditional views the way to an infant's heart is through the stomach.

Towards the end of the 1950s results from **ethological studies** became available that challenged the traditional views. Ethology is the science of animal and human behaviour. Harlow (1958) did historically important experiments with young rhesus monkeys that had been separated from their biological parents at birth. Instead of their real parents the monkeys were provided with 'surrogate' mothers made from wire mesh. Some surrogate mothers were covered with soft furry cloth; others remained somewhat macabre wire skeletons (fig 5.1). The young monkeys were fed through a bottle that could be mounted on both 'mothers'. In one of the experiments eight monkeys grew up with two kinds of surrogate mothers. Four monkeys were fed by the wire mesh mother and four by the furry cloth mother. The amount of time spent on each of the surrogate mothers was measured. The results were startling. In both groups the infant monkeys spent about 15 hours on the furry cloth mothers and no more than two hours on the bare wire mesh mothers, irrespective of which mother gave milk. In one other experiment monkeys were placed in a stressful situation. Monkeys that had been raised by non-feeding, furry cloth 'mothers' sought out and found support from their surrogate mother. The group feeding from non-furry mothers remained frightened.

Bowlby (1973; 1984; 1985) used these and many other ethological research findings as illustrations in favour of the hypothesis that the need to become attached to a protective adult is one of the primary needs in

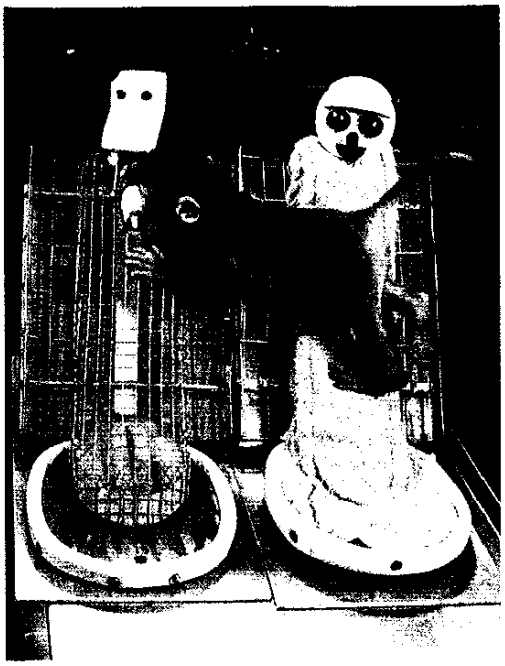

Figure 5.1 The surrogate mothers of Harlow. Harlow Primate Laboratory, University of Wisconsin. Reprinted with permission.

the human species. Attachment theory is built upon the assumption that children come to this world with an inborn inclination to show behaviours leading to the formation of an attachment relationship – and this inclination would have had survival value in the environment in which human evolution originally took place. This explanation uses **evolutionary biology** (the study of the evolution of species, based on the evolution theory of Charles Darwin), but it is not at first obvious what the benefits are for caregivers to respond to the infants' signals. An answer to this question is provided by Porter and Laney (1980) and Lamb et al. (1985) who point to trends in modern evolutionary biology that stress the importance of the maximization of '**inclusive fitness**': the genes that remain in a population are the genes that make individuals act in the best interest of these genes – increasing the genes' chances of survival and multiplication. This theory is a strand of thinking in sociobiology and evolutionary biology that puts the ('selfish') genes central as a theoretical entity, instead of the organism or the species. An implication of this theory is that the efforts of parents to respond to their infant should not impair their overall reproductive success: parents have to distribute their attention over all their offspring. Furthermore, the reproductive success of the child is enhanced when the parent is able to direct some attention to siblings (Trivers, 1974). Thus, an evolutionary adaptation may be that children are able to deal with some insensitivity from the part of the parent (Lamb et al., 1985, p. 47 f; *see also* Hinde, 1982). Avoidant or ambivalent attachment may in some cases enable a child to survive in a (temporary) insensitive environment (*see below*).

DISCUSSION POINT

What is your own view or experience? What instinctive behaviours of newborn infants may lead to the forming of an attachment relationship?

DISCUSSION POINT

Do you also believe that caregiving by parents is an 'instinctive' behaviour?

THE DEVELOPMENT OF ATTACHMENT

The development of attachment can be described in two ways. First, a global description can be given of the phases in which attachment develops as a species-specific phenomenon. Second, attachment can be described by looking at individual differences within this species-specific development.

The development of attachment in young children is most often subdivided into four phases (Ainsworth et al. 1978; Bowlby, 1984; Lamb et al., 1985). These phases should not be taken in classical sense as 'stages' and they are constantly challenged when new empirical evidence becomes available that often shows that infants are capable of much more than was previously assumed.

In *phase one* – indiscriminately orienting and signalling to people – the baby seems 'tuned' to certain wavelengths of signals from the environment. These signals are mostly of human origin (e.g. the sound of voices), but it is still unclear how much the saliency of the human voice has to do with the conspicuous and intrusive character of this type of social stimuli (Messer, 1994). However, fairly soon the baby is able to fixate the eyes of caregivers and crying, smiling and grasping appear as precursors of attachment. Until about 8–12 weeks of age, the baby does seem to have a preference for a familiar caregiver, but anybody can satisfy the baby's needs (Messer, 1994).

Probably first by smell and then by sight the baby develops preference for one or a few caregivers – the phase of orienting and signalling. During this *second phase*, the baby adapts to a limited number of caregivers (and vice versa of course) to which attachment behaviour is preferentially directed. Attachment behaviour such as crying can also be more easily stopped by these specific caregivers. Nevertheless, the preference for the regular caregivers is limited. In principle, with sufficient effort everybody should be able to take the role of the preferred caregiver.

Phase three, at about 6–8 months of age, involves the infant showing active attachment behaviour (e.g. actively seeking proximity to and fol-

lowing the specific attachment figure). The infant is able to remain aware of the existence of a person even if this person is out of hearing or sight – 'person-permanence'. There is some debate about whether 'person-permanence' as the social equivalent of object-permanence is really preconditional to this phase. Bell (1970) found empirical support for the idea, but Levitt et al. (1984) could not replicate her results. Attachment behaviour is now organized as a system in a goal-corrected fashion. The set-goal here is 'proximity' or 'felt security'. To arrive at this global goal different means are employed, depending on the distance. At this phase separation and loss cause the very intense separation anxiety mentioned earlier, which is expressed in protest and anger, followed by despair and apathy and finally leading to a somewhat shakier trust in new attachment relationships.

In phase three it is difficult to delay gratification of the infant's need for security and proximity; infants are still too '**egocentric**' in the Piagetian sense to be aware of the fact that their caregivers may have other plans, plans that do not necessarily involve them. Children enter the phase of the **goal-corrected partnership** when they can imagine plans and perceptions in the caregiver and fit their own plans and activities according to these (Marvin et al., 1977). This *fourth phase* has been less heavily researched, but there is the notion that from about three years of age (much earlier according to Main et al., 1985) children develop a so-called **working model**, a mental representation of their attachment relationships that influences attachment behaviour in an abstract way. Attachment behaviour has undergone transformation from primitive crying to the verbal communication of relatively complex affective messages. Bowlby (1973) hypothesized that the working model stemming from this phase could influence later attachment relationships (*see below*).

BOX 5.1 The secure base phenomenon

Infants have a strong tendency to move away from their caregivers to explore. At first glance, attachment and exploration may seem antithetical, but Ainsworth discovered the '**secure base phenomenon**': the smooth alteration of exploration with occasional proximity seeking (Ainsworth, 1973). This has become one of the cornerstones of attachment theory. She built upon the work of the British investigator J.W. Anderson. Entirely within the ethological tradition of studying behaviour in its natural context Anderson went to the London parks to secretly observe mothers and young children (Anderson, 1972). He recorded his comments on a portable tape-recorder. Children did stray across the park when they came with their mothers, but they also frequently returned. Often there was no obvious event that caused a return. It would appear that children used their caregiver as a secure base from which to explore, but they also frequently returned to re-establish contact and proximity. Ainsworth et al. (1978) found that the

smoothest balance between exploration and proximity could be observed among children whose mothers had been sensitive and responsive during infancy.

INDIVIDUAL DIFFERENCES: THE STRANGE SITUATION

Until now we have discussed the development of attachment relationships without taking into account individual differences among children and parents in the type and the quality of attachment relationships. These differences have been, however, the focus of most research into attachment: describing and characterizing these differences, explaining them and determining their consequences. The many differences in the type and the quality of attachment relationships could originate in differences in the co-ordination or the smoothness of caregiver – infant interaction during the first year. This hypothesis resulted from the most important study in the history of attachment research, the Baltimore study by Mary Ainsworth and her colleagues (Ainsworth et al., 1978).

In this longitudinal study during the first year of life 26 mother–infant pairs were observed at home for four hours per three weeks. In order to make sense out of this enormous amount of data, these observations had to be compared to an external criterion measure. Ainsworth and Wittig (1969) had the brilliant idea of observing all children with their mothers in a standardized stressful separation procedure, to assess the amount of trust the children had in the accessibility of their attachment figures. This artificial separation procedure was created in the form of the now world-famous **'Strange Situation'** procedure (*see* Box 5.2) and it was hoped that the children's behaviour would indicate the degree of security in the relationship with the attachment figure.

BOX 5.2 Strange Situation procedure

The procedure comprises eight episodes of which the last seven ideally take three minutes. However, each episode can be curtailed at the request of the caregiver, and the experimenter may also shorten an episode, for instance if the infant seems very distressed.

- *Episode One* begins when the experimenter leads the caregiver and child into an unfamiliar room and gives some last instructions. The observations start when, on the request of the experimenter, the caregiver brings the infant towards a pile of toys.
- *Episode Two* is spent by the caregiver together with the child in the playroom.
- In *Episode Three* an unfamiliar adult (the 'stranger') enters the room, sits and reads and after a while starts to play with the infant (fig 5.2).

- *Episode Four* starts when the caregiver departs, and the infant is left with the stranger (fig 5.3).
- In *Episode Five* the caregiver returns (fig 5.4).
- *Episode Six* starts when the caregiver leaves again: the infant is alone in the room (fig 5.5).
- In *Episode Seven* the stranger returns (fig 5.6).
- In *Episode Eight* caregiver and infant are reunited once again (fig 5.7).

The focus of the procedure seems to be very much on the child, but the reaction of the child to the situation and of the caregiver is used to measure characteristics of the caregiver – child *dyad*. The behaviour of the child is rated by use of six rating scales, which contain detailed descriptions of the frequency, duration and latency of several behaviours. These are used to establish the final attachment classification or 'pattern of attachment'. Ainsworth et al. (1978) proposed three main categories and eight subcategories: secure, insecure–avoidant and insecure–ambivalent attachment.

In the Strange Situation procedure infants between 12 and 24 months of age are confronted with three stressful components: a strange environment, interaction with a stranger and two short separations from their caregiver. This stressful situation elicits attachment behaviour and on the basis of infants' reactions to the reunion with the parent or other caregiver three patterns of attachment can be distinguished. Infants who actively seek proximity to their caregivers upon reunion, communicate their feelings of

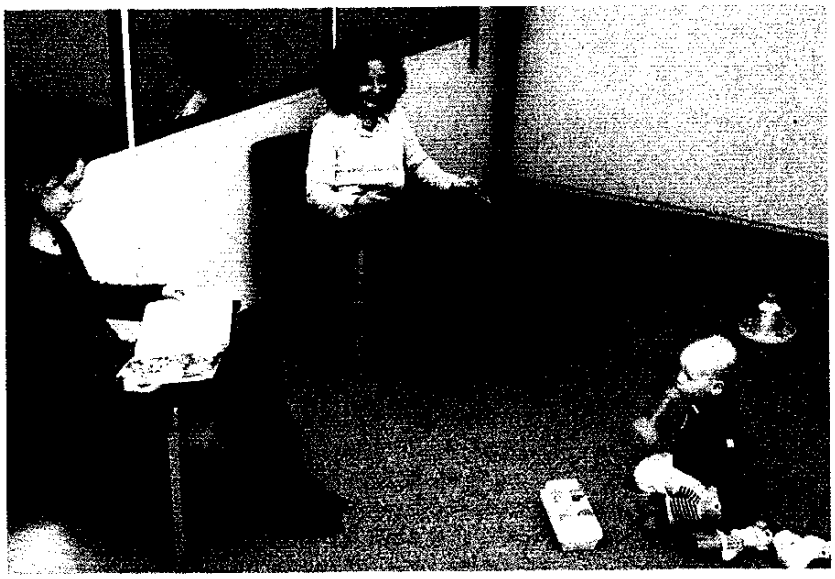

Figure 5.2 Episode Three: Stranger (left) sitting with mother (middle) and baby (right).

Figure 5.3 Episode Four: Mother leaving baby with stranger.

Figure 5.4 Episode Five: Mother returning.

stress and distress openly and then readily return to exploration are classified as **secure** (B) in their attachment to that caregiver. Infants who do not seem distressed and ignore or avoid the caregiver following reunion (although physiological research shows that their arousal during separation is similar to other infants, see Spangler and Grossmann, 1993), are classified as **insecure–avoidant** (A). Infants who combine strong proximity-seeking and contact-maintaining with contact resistance, or remain

Figure 5.5 Episode Six: Mother leaving, baby alone.

Figure 5.6 Episode Seven: Stranger returning.

inconsolable, without being able to return to play and explore the environment, are classified as **insecure–ambivalent** (C) (sometimes called insecure–resistant).

An overview of all American studies with non-clinical samples (21 samples with a total of 1584 infants, studies conducted in the years 1977–1990) shows that approximately 67 per cent of the infants are classified as secure, 21 per cent are classified as insecure–avoidant and 12 per cent are classified

Figure 5.7 Episode Eight: Reunion of mother and baby. *Note.* Thanks to Boris and Juliette Walma van der Molen and Julia van Os.

as insecure–ambivalent (*see* fig 5.8; van IJzendoorn et al., 1992). An overview of cross-cultural studies (van IJzendoorn and Kroonenberg, 1988) found somewhat fluctuating percentages: in Japan and Israel more insecure–ambivalent attachment relationships were found, whereas in Germany more insecure–avoidant attachment were found. However, it also turned out that the fluctuations were greater *within* countries than *between* countries.

Main and Solomon (1986) constructed a new category of attachment when several studies showed that some infants – often abused by their parents – showed behaviour that was antithetical to their overall pattern of attachment behaviour, or incomprehensible in the context of the overall classification. They developed a coding system for this kind of behaviour, which they called '**disorganized/disoriented**' attachment behaviour. This coding system is used in addition to the traditional classification system, so attachment relationships can be classified, for example, as secure, but also as disorganized/secure. The same goes for the avoidant and the resistant classifications.

Determinants of individual differences in attachment: parental attachment, sensitivity and constitutional factors

SENSITIVITY

Mary Ainsworth and her co-workers originally defined parental **sensitivity** as the ability to perceive and interpret children's attachment signals

correctly and to respond to these signals promptly and adequately (Ainsworth et al., 1978). They suggested that early differences in parental sensitivity would lead to individual differences in attachment relationships later in the first year of life. Lack of responsiveness or inconsistent sensitivity was suggested to pave the way for feelings of insecurity in children, whereas consistent sensitive responsiveness would foster secure bonds of the children with their parents. Bowlby (1973, p. 367) and Ainsworth (1967) also speculated that the parents' own childhood attachment experiences would shape their ability or willingness to respond sensitively to their own infant signals. Parents who as children had been neglected or rejected would as parents run a greater risk of becoming neglectful or rejecting of their own children. Ainsworth's studies in Uganda (1967) and in Baltimore (Ainsworth et al., 1978) seemed to support the idea that parental sensitivity was a key factor in the emergence of attachment. Both studies, however, were conducted on rather small samples and were considered pioneering and promising explorations into the roots of early differences in attachment (Ainsworth and Bell, 1977). During the past few decades, several studies on larger samples have tried to confirm or falsify the original claim of a causal relation between parental sensitivity and attachment security. The speculations of Bowlby and Ainsworth about the role of parents' childhood attachment experiences remained unnoticed and untested until Mary Main and her co-workers were able to develop the **Adult Attachment Interview** (AAI) (George et al., 1985). This assessment of parental representations of past attachment experiences led to a series of explorative and confirmatory studies in the 1990s. In the next sections, we report on the outcome of investigations. First, we examine whether the sensitivity of the caregivers affects attachment. Then the role of temperament is discussed. This is followed by a consideration of intergenerational transmission of attachment.

Meta-analyses of caregiver sensitivity

The causal role of parental sensitivity in the formation of attachment security is now a firmly established fact – although it took some decades of painstaking and time-consuming efforts on the part of several hundred researchers to reach this conclusion. Three **meta-analyses** can be cited to support this rather bold statement. A meta-analysis is a review of empirical studies on a certain subject in which the results are summarized statistically. De Wolff and van IJzendoorn (1997) performed a meta-analysis of 66 studies in more than 4000 families on the association between parenting and attachment security. The 66 studies focused on different dimensions of parenting, of which one was 'sensitivity', defined as the appropriate and prompt response to the infant's attachment signals. The correlation between sensitivity and attachment was 0.24.

Is a correlation of 0.24 for sensitivity and attachment security large, or is it disappointingly small? The association is certainly much less impressive than the estimated correlation of 0.78 in the Baltimore study (De Wolff and van IJzendoorn, 1997). Nevertheless, the relation between sensitivity and

attachment can be considered remarkably strong and theoretically as well as practically of great significance. In medical science and in medical practice, for example, drugs are prescribed to prevent important diseases such as heart attacks on the basis of effect sizes much smaller than the 0.24.

Intervention studies of caregiver sensitivity

Now let us look at the second reason for believing that the relation between sensitivity and attachment security is of a causal nature and of great significance. In the past few years quite a few intervention studies on attachment have been published. Several interventions were directed at parental sensitivity at the behavioural level. Other interventions have also focused on the parents' representation of attachment, in order to pave the way for subsequent behavioural changes. The behaviourally oriented interventions are often short-term and focused. The representational interventions often are long-term and broadband therapeutic interventions. These two types of intervention – the behavioural and the representational approach – are quite different in design. An example of the first approach is the study of Anisfeld et al. (1990). They provided mothers from deprived immigrant families with soft baby carriers to carry their babies during the first months. The idea was to promote close physical contact between parent and infant. Carrying the baby was supposed to lead to prompt responses to attachment signals such as crying behaviour. Carrying the baby in a sling would thereby stimulate feelings of security in the infant. They included a control group of mothers who were asked to use plastic baby seats. The outcome was dramatic: in the experimental group 83 per cent of the infants appeared to be securely attached at one year of age, whereas in the control group only 38 per cent of the children were secure. Experimental mothers received higher ratings on the sensitivity scale but the difference was not significant.

The second approach is often inspired by Fraiberg's infant–mother psychotherapy (Fraiberg et al., 1975) in which a parent discusses her 'ghosts' of the past, that is, her childhood experiences with insecure attachments and their influence on the interactions with her child. The intervention study of Lieberman et al. (1991) is an example of this approach. The intervenors provided support and therapy for the mothers from deprived immigrant families during a year, with the goal of enhancing their empathy for the affective and developmental needs of their children. Insecure dyads were randomly assigned to intervention and control groups. The intervention started immediately after the Strange Situation assessment and continued throughout the second year of life with unstructured home visits taking place weekly. After a year, security of attachment was assessed again. During a free-play session, maternal empathic responsiveness was rated. Experimental mothers appeared to have higher scores on empathic responsiveness, whereas there were no group differences in attachment security.

Across all intervention studies, it appears to be easier to enhance

parental sensitivity than to enhance infant attachment security. In a meta-analysis on 12 studies on more than 800 families, it was shown that the impact of intervention on infant attachment security was significant, but small compared to the effect on maternal sensitivity. It was also found that short-term behaviourally oriented interventions were much more effective than long-term therapeutically based interventions (van IJzendoorn et al., 1995). In sum, the correlational studies on parental sensitivity and infant attachment security showed a consistent association indicating that the more sensitive parents have more secure children. The intervention studies support this correlational evidence in showing that enhancing parental sensitivity leads to more secure children.

Studies in non-Western cultures (Gusii, Kung San and Efe in Africa, Japan and Indonesia in Asia) generally support that caregiver sensitivity leads to secure attachment. Sometimes 'culture' is invoked as an explanation when a study fails to find the link between sensitivity and attachment (e.g., the Sapporo study in Japan; Takahashi, 1990). However, a single study is not enough evidence. In Japan, another study did find the link (the Tokyo study; Vereijken, 1996), thus the universality of the theory could not be disconfirmed. Differences between methods and samples may account for these discrepancies. Fathers and other caregivers have been studied much less often than mothers. In reviewing the studies on sensitivity and attachment with fathers, we found that the majority of the children develop a secure bond with their father. Mechanisms leading up to this secure bond are, however, less well understood: the association between sensitivity and security of attachment was weaker among fathers than generally found among mothers (van IJzendoorn and DeWolff, 1997).

TEMPERAMENT

In his book, *The Nature of the Child*, Kagan (1984) was one of the first authors to discuss a temperamental interpretation of the main attachment classifications. The child's temperamental vulnerability to becoming anxious is, according to Kagan, an obvious factor in the measurement of the attachment relationship with the parent, especially in the case of the Strange Situation procedure (p. 58ff). Temperament seems to be associated with attachment behaviours in the Strange Situation procedure, as proneness to distress will result in more fussing and crying in stressful situations (Belsky and Rovine, 1987). The Strange Situation is a novel and stressful procedure for young children and if temperament is defined as reactivity to stress and novelty, there will be overlap between temperament assessments and children's behaviour in the Strange Situation. Indeed, rather strong associations have been found between negative reactivity and crying in the Strange Situation. Even on the level of attachment classifications, associations with temperament have been documented. In particular, infants with border zone insecure–avoidant and secure attachment classifications differ rather strongly from infants with border zone secure and insecure–ambivalent classifications. Children at the 'avoidant' side are less

irritable and reactive and more open to novel experiences than children at the 'resistant/ambivalent' side. There is no dispute about these findings or about the interpretations. The crucial issue is, of course, whether temperament is (causally) related to the main attachment classifications (A, B, C). After two decades of research, the empirical evidence remains conflicting.

If temperament is a causal factor in the development of attachment the same child should develop similar attachments to both father and mother. In 1991, Fox and co-workers reported a strong relation between infant–mother and infant–father attachment security, amounting to a correlation of 0.31 (Fox et al., 1991). This finding has been often used to demonstrate the temperamental basis of attachment. If attachment is a characteristic of the *relationship* and emerges from unique interactions with a specific caregiver, it should show only weak associations across relationships. Otherwise, the child's temperament or other constitutional factors may be the cause of the similarity of the infant's attachments with his two parents and other caregivers. Recently, van IJzendoorn and De Wolff (1997) replicated and extended the meta-analysis on infant–mother/infant–father attachment. In 14 studies on approximately 950 families a correlation of 0.17 between infant–mother and infant–father attachment was found. That is, infant–mother and infant–father attachment shared only 2 per cent common variance. Furthermore, there is a simple and elegant explanation for some common variance between infant–mother and infant–father attachment security. In fig 5.9, the results of four different meta-analyses have been summarized in a hypothetical model. From this model it can be derived that marital partners share attachment security or insecurity to a certain extent. Mothers with secure representations of their past attachment experiences appear more often to marry secure partners. Birds of a feather seem to flock together. Assortative mating or the therapeutic influence of a partner may be the cause for the similarity in attachment between father and mother within the same family. This correspondence may easily be translated into some correspondence on the level of the child's attachment with his mother and father in that same family. The temperament interpretation is more speculative and less economic.

PARENTAL ATTACHMENT REPRESENTATIONS AND INTERGENERATIONAL TRANSMISSION OF ATTACHMENT

Parents' childhood attachment experiences may affect their attachment relationship with their children. Insensitive parents may have experienced insensitive parenting themselves and they may have been unable to change the child-rearing model that they experienced in their childhood years. The potential pervasive influence of parental attachment experiences is a widespread and popular belief and a major theme in literature. Although the idea of **intergenerational transmission of attachment** is popular, it has been rather difficult to prove scientifically. Only longitudinal research can establish connections between past events and current relationships with

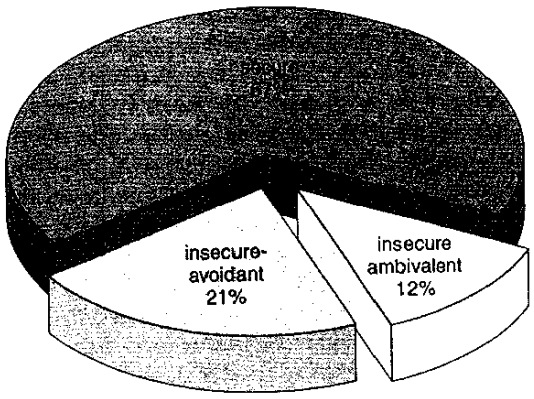

Figure 5.8 The distribution of the attachment classifications in normal North American samples (van IJzendoorn et al., 1992).

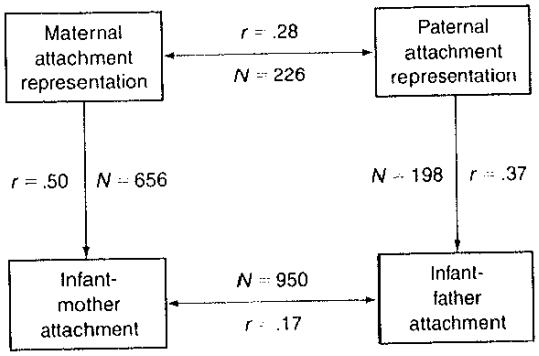

Figure 5.9 A data-based model of the family attachment network. Note. Copyright 1997 by the Society for Research in Child Development. Reprinted with permission.

some degree of plausibility, but longitudinal data are scarce and extremely difficult to collect. More importantly, parents may not be completely determined by their own childhood attachment experiences even if those experiences were disappointing. The current mental representation of past attachment experiences may well be different from what exactly happened in childhood because our autobiographical memory is the continuous reconstruction of the past on the basis of the present (Wagenaar, 1986). Positive experiences with friends, partners or therapists may change one's view of the past (Bowlby, 1988). The Adult Attachment Interview mentioned earlier (AAI) (George et al., 1985; Main and Goldwyn, in press) was developed in order to assess the current mental representation of childhood attachment experiences. This avoided the problem of distortions in retrospective accounts of early experiences by focusing on the structure instead of the content of the autobiographical story.

The Adult Attachment Interview

The Adult Attachment Interview (AAI) is a semistructured, hour-long interview with 15 open-ended questions that revolve around issues of

attachment, separation and loss during childhood and adulthood. The content of the autobiographical story is not as important as the way in which the story is told. That is, the interview is considered a discourse task: the respondents are supposed to stick to some basic rules governing all our discourses, for example the requirement to be coherent and not contradictory. The British philosopher J.L. Austin provided the definition of coherence as it is applied in the AAI coding system. He differentiated between *quality* (only say what you are able to defend as true), *quantity* (do not provide too many or too few arguments), *relevance* (arguments should be related to the statements that are being defended) and *manner* (make yourself understandable in plain language). In fact, the interview constitutes a dual task (Hesse, 1999): on the one hand the participants must focus on their attachment experiences – which in the case of bad experiences may sometimes be very uncomfortable. On the other hand, contemplating their past the participants should keep focused on the discourse and remain in touch with the interviewer and the interview context. For many people this dual task is very stressful and even insolvable (Dozier and Kobak, 1992). In particular, insecure adults are not able to complete this dual task successfully. They remain too much focused either on the discourse context or on the past experiences. Only secure adults are able to keep a balance between focus on the present discourse and the past experiences, even when they were treated badly in their childhood. It is the discourse style – and not the attachment experiences *per se* – that determine the coding of the security of attachment representations.

The AAI can be considered a stressful situation and the balance between discourse context and autobiographical content runs parallel to the balance children have to strike between their focus on the attachment figure and the playroom in the Strange Situation. In fact, Main and co-workers developed the AAI coding system with the assumption that for every Strange Situation classification a corresponding AAI classification should be found. In subsequent independent replication studies this assumption has been confirmed. Interviews are coded into one of four classifications, indicating four types of attachment representations: **insecure–dismissing, autonomous/secure, insecure–preoccupied** and **unresolved** attachment.

- *Insecure–dismissing* adults often present a very positive global evaluation of their attachment experiences, without being able to illustrate it with concrete events. They often tell the interviewer that they are unable to remember much of their childhood experiences. When they acknowledge negative aspects of their childhood they insist to have remained untouched or even to have profited from those experiences. Insecure-dismissing subjects seem to minimize or de-activate their attachment concerns. An example is the following small extract: 'Very happy childhood . . . that is absolutely true. With much more luxury than many other children.' 'I think it was just very harmonious, because I cannot remember much about it; everything must have been very happy, otherwise you would remember more.'

- *Autonomous or secure* adults are able to describe attachment-related experiences coherently, whether these experiences were negative or positive. They present a coherent and balanced picture without idealizations and other contradictions.
- *Insecure–preoccupied* adults are still overwhelmed by their past attachment experiences, they feel mistreated by their parents and are not able to tell a coherent story. They express involved anger when they discuss the past and present relationship with their parents. They are said to maximize or hyper-activate their attachment concerns (Kobak and Sceery, 1988; Main, 1990).
- *Unresolved* adults discuss experiences of loss or other potential trauma in a disorientated way, and from their speech it seems as if they are still struggling with the loss or trauma. For example, vivid descriptions of the deceased attachment figure in the present tense may indicate that the adult thinks this person is still alive. Unresolved loss or trauma can be assigned on top of a classification as Dismissing, Secure or Preoccupied.

Correspondence between parental attachment and infant attachment

Intergenerational transmission of attachment suggests an analogy of adult and infant strategies to cope with negative emotions, that is, dismissing parents would develop avoidant attachments with their children, preoccupied parents would be inclined to have ambivalent children and secure parents would relate in a secure way to their children. The correspondence between parental attachment and infant attachment has been examined in at least 18 studies. In most studies, the AAI was administered to mothers; four studies, however, also concerned fathers. On these 18 studies (in total 854 parent–child dyads) three meta-analyses were performed and the effect sizes for the association between the parent and infant attachment were computed. Fig 5.9 shows that the infant and parent attachment classifications are strongly associated. Even when the mother is interviewed before the birth of her infant, her attachment security is highly predictive of the infants' security more than a year later (Fonagy et al., 1991). In about 75 per cent of the families the parents determine their infants' attachment security on the basis of their own attachment representations. We do not yet know exactly what the transmission mechanisms are. The first possibility that comes to mind is of course parental sensitivity. Sensitivity is causally related to attachment (De Wolff and van IJzendoorn, 1997) and it is also associated with parents' attachment representations (van IJzendoorn, 1995). Nevertheless, a transmission gap remains (van IJzendoorn, 1995). Transmission of genes may be involved. Suomi (1995) recently found that transmission of attachment also exists in non-human primates – even independent of the genetic link between the adult and infant monkey. Behaviour genetic studies (*see* Chapter 1) should replicate this outcome in humans.

From infancy to adulthood

The AAI has provided an opportunity for longitudinal attachment studies. For the first time it became possible to investigate the continuity and discontinuity of attachment from infancy to adulthood. In the past few years, at least seven longitudinal attachment studies have been reported, most of them starting in the first few years of life and following the same participants up into adolescence or early adulthood. In attachment theory, a high degree of continuity would not be expected. Infancy is not regarded as the 'critical period', in which the environment is imprinted upon the individual. The development of attachment should be regarded as 'environmentally labile' (Bowlby, 1973, p. 414). Bowlby (1973, p. 411 ff) compared the development of attachment to a railway system that starts with a single main route which leaves the city in a certain direction but soon forks into a range of distinct routes, some of which diverge from the main route while others take a convergent course. At any point, critical junctions may show up at which the lines fork; but once a train is on any particular line it has a tendency to stay on that line. Bowlby (1973) also insisted that at any stage during the years of immaturity – infancy, childhood and adolescence – changes in childrearing arrangements and life events such as rejections, separations and losses and later on even a supportive spouse or being in therapy may provoke a change in the course of attachment development.

What are the findings of the exciting longitudinal studies that have become available recently? In 50 stable, middle class families stability across 20 years was high: 70 per cent of the adults who were secure or insecure on the AAI had been secure or insecure as infants in the Strange Situation (Waters et al., 1995). Discontinuity was associated with negative events such as loss of a parent or parental divorce. Hamilton (1994), in a smaller sample, similarly found high stability across 17 years (77 per cent). Two German studies (Zimmermann et al., 1995; Becker-Stoll et al., 1996) and two American studies (Carlson, in press; Lewis et al., 1997) found low stability. Thus it seems that the relevant question to ask is not 'is there stability?' or 'how high is the stability?', but 'what are the circumstances under which stability is high or low?'

DISCUSSION POINT

Parental divorce or loss can be important experiences that may change the attachment representation. What other experiences can you imagine?

Strictly, the current wave of longitudinal studies does not address the issue of intergenerational transmission of attachment. These studies document the (dis-)continuity of attachment within the same individual across the first two decades of life. Intergenerational transmission of attachment in

the strict sense, however, means that the parent as an infant in the past would have had the same attachment classification as his or her own infant at present. In the near future, studies will become available in which participants whose parents completed the AAI around their birth have become young parents themselves. This exciting prospect may lead to deeper insight not only into the continuity of attachment within one generation but also into the transmission of attachment across several generations.

Chapter summary

Attachment theory has its origins in Great Britain, in the period during and shortly after World War Two. It was developed by John Bowlby. At the heart of attachment theory is the assumption that attachment is a basic human need and that from very early on babies actively participate in the formation of attachment relationships. Attachment relationships can be secure or insecure and a laboratory paradigm, called the Strange Situation, is used to measure individual differences in quality of attachment. The sensitivity of the behaviour of the caregivers is regarded as the most important determinant of these differences. At the background are the caregivers' attachment representations of their own experiences, as is evident from research using the Adult Attachment Interview. Theory predicts that the stability of the attachment patterns from infancy to adulthood is limited by intervening events or changing life circumstances.

Seminar questions

1. Is it still fruitful to see attachment and caregiving as genetically determined phenomena in a world that seems so different from prehistoric times? How do you compare the initial experience of the world by a 'modern' baby to the experience by a 'prehistoric' baby?
2. According to operant conditioning theory, giving attention to crying infants will spoil them, turning them eventually into 'little tyrants' over their families. Attachment theory, however, stresses the importance of sensitive responsiveness: children have to feel that their needs are attended to, that they are not vulnerable, alone and unsafe. What advice should be given to prospective parents?
3. Much attachment research is focused on intergenerational transmission of attachment patterns. Some feel that everybody always blames the mothers. Would you say attachment theory gives parents a somewhat pessimistic orientation, compared to, say, a theory that put central the temperamental characteristics with which babies are born?

Further reading

Ainsworth, M.D.S., Bowlby, J. 1991. An ethological approach to personality development. *American Psychologist* **46**, 333–41.

This article is especially interesting from a human interest point of view. Who were Mary Ainsworth and John Bowlby? How did they become interested in studying attachment? How did their careers progress? They give it to you first-hand and they give you a sketch of the development of attachment theory.

Bowlby, J. 1969/1984. *Attachment and loss: Vol. 1. Attachment (second edition).* London: Penguin.

The first volume of Bowlby's trilogy, *Attachment and loss*, describes the underpinnings of his theory, differences from the traditional (Freudian, behaviouristic) views of social development and the roots in ethology, cybernetics and also psychoanalysis. The development of attachment behaviour in children is described in great detail. This book won Bowlby's standing among leading theoreticians in developmental psychology.

Byng-Hall, J. 1995. *Rewriting family scripts: improvisation and systems change.* New York: Guilford Press.

John Byng-Hall was Bowlby's successor at the Tavistock Clinic. He has an original and influential approach to family therapy that is rooted in attachment theory. His work is informed by the latest findings with respect to attachment representation and intergenerational transmission. Excellent if one wants to know about a practical application of current attachment theory.

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

Currently one of the most important theoreticians as well as researchers, Mary Main gives an insightful account of the similarities between what she calls the 'attachment strategies' of children and adults. She also addresses questions about the maladaptive or adaptive nature of the secure and the insecure attachment strategies.

Sroufe, L.A. 1988. The role of infant–caregiver attachment in development. In Belsky, J. and Nezworkski, T. (eds) *Clinical implications of attachment.* Hillsdale, NJ: Lawrence Erlbaum Associates, 18–38.

Alan Sroufe is one of the leading specialists in the field of the social and emotional development of young children. In this influential article

he describes implications of attachment theory for understanding development, but also draws the boundaries of attachment theory. He outlines some puzzles for attachment research and the preliminary answers that can be given on the basis of the research that has been done.