



Article

# The nature of love: Harlow, Bowlby and Bettelheim on affectionless mothers

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## Abstract

Harry Harlow, famous for his experiments with rhesus monkeys and cloth and wire mothers, was visited by psychiatrist and psychoanalyst John Bowlby and by child psychologist Bruno Bettelheim in 1958. They made similar observations of Harlow's monkeys, yet their interpretations were strikingly different. Bettelheim saw Harlow's wire mother as a perfect example of the 'refrigerator mother', causing autism in her child, while Bowlby saw Harlow's results as an explanation of how socio-emotional development was dependent on responsiveness of the mother to the child's biological needs. Bettelheim's solution was to remove the mother, while Bowlby specifically wanted to involve her in treatment. Harlow was very critical of Bettelheim, but evaluated Bowlby's work positively.

## Keywords

Attachment, autism, Bettelheim, Bowlby, Harlow, mother love, refrigerator mother, wire mother

## The nature of love

American animal psychologist Harry Frederick Harlow's (1905–81) legendary experiments with cloth and wire mothers are part of almost every standard psychology textbook account. His article on 'The nature of love' (Harlow, 1958), in which he described his findings on the preference of rhesus monkey infants for a warm and soft cloth mother over a feeding wire mother, is without doubt one of the classics of psychology's history. Harlow came to work with monkeys rather by

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accident, as he found the university's rat laboratory had been dismantled when he arrived as a freshly recruited assistant professor in Madison, Wisconsin, in 1930 (Blum, 2002). So he started observing monkeys in the local zoo and soon began importing monkeys from abroad. However, monkeys were expensive and often arrived in Madison in poor health or suffering from disease and then infected other monkeys, with disastrous consequences. In the mid-1950s, for example, Harlow lost a whole colony of monkeys due to tuberculosis. This was reason enough for him to try to establish his own self-sustaining colony of rhesus macaques. To avoid infection and the spread of disease, the monkeys were kept separate at all times and infant monkeys were taken away from the mother within hours after birth. This procedure, earlier described by Van Wagenen (1950), resulted in remarkable outcomes that were obvious only to the trained eye. Although the monkeys were in perfect physical health, they were awkwardly lacking in social skills. Harlow (1958: 675) described how his monkeys 'clung to [the diapers on the floor of their cage] and engaged in violent temper tantrums when the pads were removed and replaced for sanitary reasons'. He soon wondered whether his observations of the effects of social isolation would apply to humans as well.

In his experimenting, Harlow exposed young infant monkeys to different surrogate mothers. To his surprise, the monkeys, given the choice between a non-feeding cloth mother and a feeding cold wire mother, spent most of the time with the former:

We were not surprised to discover that contact comfort was an important basic affectional or love variable, but we did not expect it to overshadow so completely the variable of nursing; indeed, the disparity is so great as to suggest that the primary function of nursing as an affectional variable is that of insuring frequent and intimate body contact of the infant with the mother. (p. 677).

Harlow not only published his scientific findings, but managed to reach a broad public by suggesting he had discovered 'the nature of love'. This resulted in newspaper interviews and TV appearances, and he became a well-known public figure (Blum, 2002).

## Famous visitors

Harlow's work attracted the attention of laymen and also that of many child experts, and many of them probably wanted to observe his experimental setup and its results themselves. Several of these visits have been documented in personal notebooks; here we will pay attention to two well-known visitors.

The first was British psychiatrist and psychoanalyst John Bowlby, who would become the father of attachment theory. With this theory, he and the American-Canadian developmental psychologist Mary Ainsworth (1913–99) (Van Rosmalen et al., 2016) explained the strong affectional tie between infant and mother from a biological perspective. For adequate socio-emotional development to occur, children need a continuous relationship with a sensitive caregiver, which will allow them to develop positive attachment representations. Bowlby (1952: 46) suggested that absence of adequate relationships or separations from primary caregivers might have dire effects: 'the prolonged deprivation of the young child of maternal care may have grave and far-reaching effects on his character and so on the whole of his future life'. Obviously, Bowlby was very interested in Harlow's research, and the two met for the first time on 26 April 1958, at one of Harlow's lectures. Bowlby subsequently visited Harlow's laboratory for two days in June of the same year (Van der Horst et al., 2008).

The second famous visitor was child psychologist Bruno Bettelheim (1903–90). He visited the Primate Lab shortly after Harlow's influential 'Nature of Love' talk on 31 August 1958 (Blum,

2002). At the time, Bettelheim was director of the Orthogenic School, a treatment centre for emotionally disturbed children in Chicago. Whereas both Asperger (1944) and Kanner (1943: 250) considered autism to be an ‘innate inability to form the usual, biologically provided affective contact with people’, Bettelheim considered it to be an affective disorder resulting from growing up with deviant, oppressive parents. According to Bettelheim, the mother especially was to blame: with her cold, distant and rejecting upbringing, the ‘refrigerator mother’ was the actual cause of the child’s autistic behaviour. He thought the obvious solution was ‘parentectomy’: to remove the child from its parents and place it in an institution such as his own. The Orthogenic School provided treatment for these supposedly autistic children, and Bettelheim claimed this treatment was successful.

Bowlby and Bettelheim were no strangers to each other – the two visitors to Harlow’s Primate Lab had actually met and were aware of each other’s work. On 30 March 1950, several years before their separate visits to Harlow’s lab, Bowlby had visited Bettelheim’s Orthogenic School in Chicago. It is clear from Bowlby’s unpublished personal notes,<sup>1</sup> made during a research trip for the World Health Organization, there were several things that he found noteworthy during his visit to the school. First, that ‘v[ery] little work [was done] with parents, some of whom have been in analysis for many years’. Instead, the Orthogenic School laid huge emphasis on the therapeutic effect of group processes in the school and did not involve the parents in their treatment (Bettelheim and Sylvester, 1947, 1948). Second, Bowlby noticed that the ‘Orthogenic school [made] no effort to provide a home’. As a result, there was a ‘danger of ch[ildre]n becoming institutionalised’, because they had ‘no real contact with domestic life’. According to Bowlby, there were ‘no clear plans for [the] future of children when they leave’. Indeed, it has been documented that children spent as much as seven years in Bettelheim’s institute (Jatich, 1991).

## The eye of the beholder

Interestingly, during their visits to Harlow, Bowlby and Bettelheim made quite similar observations of his monkeys, yet their interpretations of them were strikingly different. As a self-declared autism expert, Bettelheim ‘was struck by the rocking and pacing and self-clasping of the monkeys who had been raised with cloth mom. This restless turning and hand wringing reminded him immediately of his own autistic patients’ (Blum, 2002: 232). He thus saw in the monkeys’ behaviour a confirmation of his ideas: Harlow’s wire mother was a perfect example of the ‘refrigerator mother’, whose cold, affectionless mothering leads to autistic behaviour.

When Bowlby visited Harlow, he saw, according to one of Harlow’s PhD students,

all of these monkeys housed in single cages exhibiting weird stereotypic behaviours, sucking their fingers and toes, and rocking back and forth, which is how rhesus monkeys reared with a lack of physical contact opportunities routinely behave. After his tour Bowlby came back to see Harlow in his office and told him: ‘Harry, I do not know what your problem is. I just toured your lab and you have more crazy monkeys here than probably exist in any other place on the face of the earth! You do not have to produce psychopathology – you already have it!’ (Suomi et al., 2008: 359)

Bowlby’s interpretation of the monkeys’ stereotypic behaviour was that they were deprived of sensitive responses to their proximity-seeking behaviours, such as smiling or crying in humans, which serve the function of creating a bond between the infant and one unique adult individual, notably the mother. In fact, the monkeys’ behaviour reminded Bowlby of his and Robertson’s observations of the behaviour of quite normal children who had been separated from their mothers for prolonged hospital treatment (Robertson and Bowlby, 1952).

Bettelheim (1967) cited both Bowlby and Harlow in his book *The Empty Fortress*, a study of three children whom Bettelheim had diagnosed with autism and who were treated at the Orthogenic School. Bettelheim used Bowlby's (1958) idea of 'instinctual responses', such as crying and clinging, to argue that a non-response from the mother would extinguish contact-seeking behaviour of the child. Harlow's findings (Harlow, 1958; Harlow and Harlow, 1962; Harlow and Zimmermann, 1959) showed, according to Bettelheim (1967: 32), that 'activity without response can be fatal', and the emotional unresponsiveness of the terrycloth mother 'prevents the monkey infant from becoming a real monkey' (p. 448). But of course, neither Harlow nor Bowlby had ever suggested that emotional unresponsiveness might result in autism.

## Harlow's foresight

It seems that Harlow was very interested in Bowlby's interpretation of his findings and his theorizing, but that Bettelheim's observations left him cold. Indeed, he was very critical of Bettelheim as a researcher and therapist. In a devastating and, to our knowledge, unpublished review,<sup>2</sup> Harlow wrote that Bettelheim's book *The Empty Fortress* was:

relatively empty from cover to cover . . . Seldom has an author said so little, about so few cases, in so many words . . . [T]he reviewer is convinced that many autistic children are autistic because of brain malfunction in some unspecified or perhaps unspecified area.

We now know that Harlow's evaluation of Bettelheim's work was basically correct. The current opinion is that Bettelheim's ideas about the origin of autism were wrong, that most of his patients were not autistic in the first place, and that his therapy was flawed. In addition, Bettelheim has been accused of falsifying his credentials, of plagiarism, and of mistreating his child patients (Pollak, 1997).

In contrast, Harlow's evaluation of Bowlby's work was much more positive. As we have shown elsewhere (Van der Horst et al., 2008), Harlow was for some time significantly influenced by Bowlby's thinking (Vicedo, 2010) and tried to design his rhesus work to support Bowlby's new theoretical framework of infant–mother attachment. In two experiments on mother–infant separation, Harlow modelled his work on the human separation syndrome described by Robertson and Bowlby (1952). Harlow showed that monkeys also go through several phases after separation, most notably the phases that Robertson and Bowlby named 'protest' and 'despair'. Bowlby used these important experimental findings to further develop his ideas on attachment, separation and loss.

So even though Bettelheim and Bowlby used Harlow's findings as a corroboration of their respective views, they differed fundamentally on the interpretation of the consequences of social isolation for human infants. Whereas Bettelheim explained autism as the result of cold mothering, Bowlby used Harlow's results to explain how socio-emotional development was dependent on responsiveness of the mother to the child's biological needs. This explains why their solution to the problem of cold or absent mothers was so radically different: Bowlby emphasizing the need to involve parents in treatment, and Bettelheim suggesting 'parentectomy'. In retrospect, Harlow seems to have been right in his assessment of his visitors' ideas: attachment theory became one of the major theories of developmental psychology, whereas Bettelheim's ideas fell into disrepute.

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## Notes

1. Bowlby's notebooks, detailed reports, and personal letters to his wife Ursula are available at the Archives and Manuscripts section of the Wellcome Library in London (AMWL: PP/BOW/B.1/11; PP/BOW/D.4/8).
2. This review was recovered from Harlow's personal archives in Madison, Wisconsin, USA, and was made available to us by Harlow's former assistant Mrs Helen LeRoy. We are grateful to Mrs LeRoy for her assistance and hospitality.

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