

(2002). P. Gilbert & K. G. Bailey (Eds)
New York: Brunner - Routledge.

Genes on the Couch: Explorations in Evolutionary Psychology

PATHOGENIC BELIEFS AND GUILT

13

PATHOGENIC BELIEFS AND GUILT IN HUMAN EVOLUTION

Implications for psychotherapy

Lynn E. O'Connor

Introduction

This chapter discusses the therapy process as one in which people, motivated by a drive for wellness and life satisfaction, work with the therapist to change their pathogenic beliefs and overcome their problems. Many pathogenic beliefs are related to an exaggerated sense of responsibility for others, and people with psychological problems are often suffering from a conflict between self-interest and a concern for others, resulting in maladaptive interpersonal guilt.

The capacity to form beliefs and to engage in problem solving and planning are evolved psychological mechanisms in *Homo sapiens*. In addition, our species, adapted to larger group living and stable group composition, has a highly developed capacity for altruism, empathy, sympathy and guilt, along with a levelling mechanism, all of which contributed to sharing and other successful social adaptations in the Environment of Evolutionary Adaptedness (EEA). However, in post-EEA culture, behaviour associated with these adaptive psychological mechanisms may sometimes be 'mismatched' with contemporary conditions, and contribute to disturbances in the guilt system and the development of pathogenic beliefs and dysfunctional behaviour.

To date, much psychoanalytic theory has assumed the unconscious mind to be rooted in disorganized, aggressive, antisocial and individualistic motivations, and has failed to recognize that self-interest can also be advanced by seeing others prosper, and that there may also be powerful unconscious prosocial motivations. This chapter suggests that the evolved social mentalities for altruistic and caring behaviour have been fundamental to human evolution, and can operate at both conscious and unconscious levels to produce serious internal conflicts, inhibitions, and psychological problems that bring people to therapy.

It is proposed that patients begin psychotherapy with an unconscious plan to change their maladaptive beliefs and overcome problems, particularly those connected to guilt, shame and inhibitions. They do this through a process of testing

their pathogenic beliefs with the therapist. Several assumptions, common in clinical practice, are questioned: the belief in resistance, the belief in neutrality, and the focus on process and transference interpretations. It is suggested that successful therapy is an intimate, kin-like social activity regulated by normal rules for helpful human interactions, and that optimal therapeutic technique is highly case-specific.

The evolution of pathogenic beliefs and guilt

Adaptation

An evolutionary perspective on psychological problems and their treatment centres on the fundamental principle of adaptation; through time, evolution has shaped life at every level of organization to be adapted to the environment in which it evolved. Understanding psychopathology and treatment in terms of ultimate adaptations in evolutionary history, on the one hand, and local adaptations or adjustment to the current environment on the other, forms the foundation of evolutionary psychotherapy.

Ultimate adaptations have been selected by an evolutionary process, while local adaptations have not themselves evolved, as there has not been time for evolution to shape them. However, local adaptations make use of mechanisms evolved as ultimate adaptations. For example, a child's inclination to imitate the behaviour and cultural style of his or her family is an ultimate adaptation, permitting the child to fit into his or her family and to carry on the culture. However, the actual behaviours that the child adopts are local adaptations. Psychological mechanisms, embedded in the structure of the mind, are ultimate adaptations. Shaped by selection and serving the 'ultimate' purpose of survival and reproduction, they provide a link between evolution and behaviour (Cosmides & Tooby, 1992a, b). Psychological problems may be particularly well understood and treated from the perspective of both local and ultimate adaptations (Glantz & Pearce, 1989; Gilbert, 1989, 1992, 1995; McGuire & Troisi, 1998; Sampson, 1992, 1997; Slavin & Kriegman, 1992; Stevens & Price, 1996; Weiss, Sampson & The Mount Zion Psychotherapy Research Group, 1986; Weiss, 1993).

Common psychological mechanisms in *Homo sapiens*, such as the proneness to comply with others, the ability to learn through imitation, and the capacity to feel guilt, shame, and other self-conscious emotions, are ultimate adaptations that serve to ensure survival at various levels of organization. Local adaptations, however, may or may not serve the ultimate purpose of survival and reproduction. While in most cases local adaptations contribute to survival, in some instances they result in maladaptive behaviours and lead to psychopathology.

Psychological mechanisms

The mind as posited by Freud and his followers was ruled by disorganized, antisocial and maladaptive unconscious processes (Freud, 1895/1950; Freud,

1900/1950; Isaacs, 1983; Klein, 1927/1975; Kernberg, 1967). In contrast, modern cognitive and evolutionary science is demonstrating that the human mind – including the unconscious – is an organized set of evolved mechanisms that makes local adaptation possible (Bowers, Regehr, Balharzard & Parker, 1990; Cosmides & Tooby, 1992a; Dorfman, Shames & Kihlstrom, 1996; Kihlstrom, 1987; Lewicki, Hill & Czyzewska, 1992).

Human cognitive and emotional capacities are psychological adaptations shaped by evolution for the pursuit of basic biological goals such as survival, reproduction, kin investment, and reciprocation (Buss, 1999; Cosmides & Tooby, 1992a, b; Gilbert, 1989, 1997; McGuire & Troisi, 1998; Nesse, 1990, 1994) in the Environment of Evolutionary Adaptedness (EEA) (Bowly, 1982/1969; Glantz & Pearce, 1989). These mechanisms or 'social mentalities' (Gilbert, Chapter 6, this volume) provide the means by which people are able, through behaviour, to adapt to their environments, and to function successfully in work, social relationships and procreation. The structure of the human mind, its ability to solve problems, to form beliefs and expectations based on prior experience, to assess for danger and safety, to make plans and carry out actions, to communicate with other people, and to engage in social relations, involves mechanisms that are used in local adaptation. The capacity to experience and express emotions that serve as a call for attention and action is another psychological adaptation (LeDoux, 1996; Nesse, 1990; Nesse & Williams, 1994; Tooby & Cosmides, 1990; Gilbert, 1989, 1997).

People are highly motivated to adapt to their environments, and when psychological problems interfere with functioning, people want to resolve them and recover. Thus people begin psychotherapy determined to overcome their problems. In a cognitive psychodynamic theory developed by Weiss (1986, 1993) and often referred to as Control Mastery theory, it is posited that patients, motivated by a biological drive for wellness and life satisfaction, work with the therapist to modify the conscious and unconscious distortions and problem-causing beliefs that may underlie their inhibitions, symptoms and maladaptive behaviours.

The capacity to form beliefs

The ability to form beliefs based on experience begins in early childhood (Baron-Cohen, 1995; Gelman, 1990; Leslie, 1988, 1994; Leslie & Thaiss, 1992; Premack & Premack, 1994; Stern, 1985). Small children, like scientists, have been shown to generate theories about the world and test hypotheses derived from them (Kagan, 1984; Repacholi & Gopnik, 1997; Gopnik & Meltzoff, 1997). Expectations and beliefs are formed even before children are able to communicate verbally (Lewis, Alessandri & Sullivan, 1990).

Throughout life people form new beliefs and expectations, based on new experiences, while often holding on to those formed earlier. In most circumstances, beliefs mediate locally adaptive behaviour and the capacity to form theories and beliefs is evolutionarily adaptive. However, when a child grows up in a dysfunctional family or a disturbed broader socioeconomic environment, beliefs which

may have been locally adaptive in the context where they were formed become pathogenic and may lead to maladaptive behaviours and psychopathology (see Liotti, Chapter 11, this volume).

Pathogenic beliefs

Children are particularly vulnerable to the development of pathogenic beliefs because they lack prior life experience by which to judge what is going on in their families and what happens in their interactions with others. Children are likely to believe that what happens in their families is what is supposed to happen; it is all that they know. They are likely to consider even severely disturbed parental behaviour acceptable, or something for which they themselves are responsible (Bowly, 1982/1969). For young children, parents are the ultimate authorities, representing truth and morality (Weiss, 1993). Children work to adjust to the family environment, to maintain their connections to their parents and siblings, and to make a contribution to the family. The beliefs that children develop are part of their efforts at local adaptation.

Social behaviour in many primate species is primarily learned by imitation (Bernhard, 1988; Boesch, 1996; Whiten, 1998), and human children often directly imitate their parents and other caretakers, with little capacity for judgement about the effectiveness or functionality of the behaviours imitated. In their attempt to make sense of the world, to establish decision rules governing behaviour, children develop beliefs and systems of beliefs that rationalize parental behaviours. Additionally, children are often confused by psychological causality and tend to have an exaggerated sense of responsibility for their loved ones, the result of adaptive mechanisms aimed at maintaining relationships and supporting the family (Bowly, 1982/1969; Modell, 1965, 1971; Weiss, 1986; Zahn-Waxler & Kochanska, 1990; Zahn-Waxler & Radke-Yarrow, 1983).

For example, when a girl grows up in a family with a frightening alcoholic father, she may develop the belief that men are supposed to be frightening. When she later begins the process of mate selection, she may maladaptively choose a mate who resembles her father, following her mother's decision in mate selection. Or a girl who grows up with a depressed mother may develop the belief that women are supposed to be depressive, and in adulthood she may demonstrate maladaptive symptoms like her mother, based on imitation, identification and loyalty to the family.

The girl with a depressed mother may also believe that she is responsible for her mother's chronic unhappiness and is obligated to try to make her mother happy. Research has demonstrated that children often attempt to engage or even cheer up depressed mothers (Cohn, Campbell, Matias, & Hopkins, 1990; Multerin, 1998; Radke-Yarrow *et al.*, 1994; Tronick, Als & Brazelton, 1977; Weiss, 1993). When a child fails in this endeavour she may develop the belief that she is a failure and this belief may inhibit her from the successful pursuit of normal goals. Pathogenic beliefs are grim and constricting, predicting danger for the person holding them, and danger for their loved ones.

Pathogenic beliefs about harming others

Particularly common pathogenic beliefs are those predicting that a person's pursuit of normal goals will cause others to suffer. Based on the psychological mechanisms of altruism, empathy, sympathy and guilt and related to caretaking behaviour (Batson, Fultz & Schoenrade, 1987; Gilbert, 1989; Scott, 1958), people are often excessively worried that pursuing their own interests will cause harm to others.

For example, a person who grows up with an unhappy and unsuccessful father may develop the pathogenic belief that his or her success will accentuate the father's feelings of inadequacy. Or a person who grows up with a mother whose life is focused entirely on her children – even past their adolescence – may develop the pathogenic belief that to leave home and be independent will leave the mother without purpose. Or an academically gifted child with a learning disabled sibling may develop the belief that if she fulfils her academic potential, she will make her sibling suffer by comparison. She may even develop the belief that her natural talents are in fact the cause of her sibling's dysfunction, whether or not she is successful. These types of pathogenic beliefs give rise to a pervasive, ruminating and maladaptive sense of interpersonal guilt related to fears of harming others, and result in symptoms, inhibitions and dysfunction (Bush, 1989; Ferguson, Stegge, Miller & Olsen, 1999; Ferguson & Stegge, 1998; Ferguson & Eyre, 1998; Ferguson, 1996; Harder, Cutler & Rockett, 1992; O'Connor, Berry, Weiss, Bush & Sampson, 1997a; O'Connor, Berry & Weiss, 1999; O'Connor, Berry, Weiss & Sevier, 1997b; O'Connor, Berry, Weiss & Gilbert, 1998; Weiss, 1983, 1986, 1993).

The evolution of altruism and guilt

Altruism, a subject of discussion in both psychological and biological theory, has been attributed to a number of motivations and ultimate purposes. Inclusive fitness theory (Hamilton 1963, 1964) explains acts of altruism that are aimed at helping individuals who are genetically related, and that lead to the maximum reproduction of the gene (Dawkins, 1976) even at the expense of the altruistic individual. Reciprocal altruism (Axelrod & Hamilton, 1981; Trivers, 1971, 1985) provides an explanation for altruistic acts performed for non-kin, with the expectation of reciprocation. In both inclusive fitness and reciprocal altruism, the underlying motivation may be described as egoistic. Recently, several evolutionary biologists and psychologists have described altruistic behaviour as best explained by multiple levels of selection – including selection at the level of the individual, the genetically related family, and the group (Buss, 1999; O'Connor *et al.*, 1997b; Sober & Wilson, 1998; Wilson, 1977, 1989; Wilson & Sober, 1994). In group selection, altruistic behaviour increases fitness at the level of the group, in between-group competition. Sober and Wilson (1998) have hypothesized that group selection is a factor in altruistic acts aimed at the good of the group.

While altruism, empathy, sympathy and guilt may contribute to holding people, groups and families together, to reconciliations in situations of conflict,

in some cases they may be associated with the kinds of pathogenic beliefs and self-sacrificing behaviours associated with psychopathology and maladaptive interpersonal guilt.

The capacity to feel guilt is an evolved psychological mechanism, an adaptation to group living, serving the purpose of maintaining social ties and holding people together (Baumeister, Stillwell & Heatherton, 1994; Gilbert, 1989, 1997; Tangney, Wagner & Gramzow, 1992; Tangney & Fischer, 1995). Connected to caregiving behaviour and a sense of responsibility for others, guilt is based on the capacity for empathy and sympathy, the ability to feel another's distress (Batson, Fultz & Schoenrade, 1987; Caporael, Dawes, Orbell & van de Kragt, 1989; Hay, Nash & Pedersen, 1981; Plutchik, 1987; Sagi & Hoffman, 1976; Simmer, 1971). Guilt takes this capacity a step further: not only are people able to feel another's discomfort, they also take responsibility for it and try to relieve it (Chapman, Zahn-Waxler, Cooperman & Iannotti, 1987; Eisenberg *et al.*, 1989; Olthof, Ferguson & Luitien, 1989; Zahn-Waxler & Kochanska, 1990; Zahn-Waxler & Radke-Yarrow, 1983; Zahn-Waxler, Radke-Yarrow & King, 1979; Zahn-Waxler, Radke-Yarrow, Wagner & Chapman, 1992). Guilt links empathy to altruistic behaviour (Eisenberg, Berg & Neal, 1979; Hoffman, 1975, 1976, 1978, 1982; Thompson & Hoffman, 1980;).

The evolution of guilt in humans provided a mechanism by which both genetically related and non-related people in a social group could successfully stay connected to one another. This may have occurred when environmental conditions made larger and more stable group formation a more adaptive strategy than the smaller and more unstable group composition noted in many higher primates (Maryanski, 1996). Under conditions in which stable group composition, larger group size, and the presence of the pair-bond are particularly adaptive forms of social organization, guilt provides a psychological mechanism that mitigates the effects of within-group competition. A person who feels harmed by another is often more willing to forgive the harm-doer, and to maintain the connection, upon perceiving that the person who harmed them feels guilty (Worthington *et al.*, 1999). Guilt is an unpleasant emotion, and when people feel guilty they are inclined to make restitution and increase the probability of conflict resolution (Adams, 1965; Baumeister, Stillwell & Heatherton, 1994; Walster & Berscheid, 1973).

Thus guilt is ordinarily highly adaptive, and in recent years the adaptive form of guilt has been studied empirically (Gilbert, 1997; Tangney, Wagner & Gramzow, 1992; Tangney & Fischer, 1995). The maladaptive functions of guilt have also been described by clinicians (Modell, 1965, 1971; Neiderland, 1961, 1981; Weiss, 1983, 1986, 1993) and studied empirically, demonstrating a significant correlation with depression and other psychological symptoms (Ferguson *et al.*, 1999; Ferguson & Stegge, 1998; Ferguson & Eyre, 1998; Ferguson, 1996; Harder, Cutler & Rockett, 1992; O'Connor *et al.*, 1997a, b; O'Connor, Berry & Weiss, 1999; O'Connor *et al.*, 1998; Zahn-Waxler, Cummings, Iannotti & Radke-Yarrow, 1984; Zahn-Waxler, Kochanska, Krupnick & McKnew, 1990).

Survivor guilt

Informed by a clinical perspective, Weiss (1983, 1986, 1993), Bush (1989) and O'Connor *et al.* (1997a) have focused on the proneness to survivor or outdoing guilt. People tend to feel survivor guilt when they survive the death of a loved one, or when they believe they are better off than others. This kind of guilt has been referred to as inequity guilt by Baumeister and Leary (1995), outperformance distress by Exline and Lobel (1999), and as survivor guilt in more clinically-focused literature (Bush, 1989; Friedman, 1985; Modell, 1965, 1971; Neiderland, 1961, 1981; O'Connor *et al.*, 1997a, b, 1998, 1999; Weiss 1983, 1986, 1993).

Survivor guilt serves as a levelling mechanism, promoting group cohesion and inhibiting within-group competition and may be associated with the levelling impulse in hunter-gatherer groups (Boehm 1993, 1997). People feel survivor guilt when hearing about a friend's misfortune, for example when someone they know loses a job, is diagnosed with an illness, or is otherwise suffering. We even feel survivor guilt towards strangers, for example when seeing homeless beggars, or hearing about an airplane crash, a major fire, or an epidemic of illness. The most literal kind of survivor guilt is that which people tend to feel after the death of a loved one.

The experience of survivor guilt is often unconscious – that is people are not quite aware of it, although they may notice feelings of discomfort and anxiety. For example, when a friend announces that she has been diagnosed with a serious illness, many people initially feel a moment of relief that they have not been so afflicted, followed by feelings of guilt for their 'selfishness'. This may then be followed by anxiety and thoughts of punishment, 'that's going to happen to me too'. The last step in this sequence serves to make things equal, to momentarily put the witness in the same position as the victim, thereby reducing survivor guilt. There is evidence that sibling rivalry may sometimes be a manifestation of unconscious survivor guilt and an attempt to make things equal between siblings (Webster, 1998). For example, it is common to have a child express jealousy towards a disabled sibling, ostensibly because of the extra parental care the disabled child receives. This expression of jealousy may constitute a way to build up the disabled sibling, in order to reduce the guilt that the more fortunate sibling feels.

The capacity to feel survivor guilt is linked to people's ability to make social comparisons and to evaluate equity in social exchange, employing the specific algorithms that evolved to assess social exchange and detect cheating (Cosmides & Tooby, 1992b). Survivor guilt, a reversal and/or inhibition of competition, is dependent on people being able to assess their status in relation to others, and to evaluate whether their situation is equitable when compared to that of others. People are thus alert to their own penchant for cheating; that is in order for a person to feel survivor guilt, the algorithm related to cheating detection must be turned inward. If people feel they have obtained more than others, they tend to feel guilty. This is especially true within the close social group or family (Boszormenyi-Nagy & Spark, 1973; Modell, 1965, 1971), and extends to the larger social environment.

The evolution of survivor guilt

The capacity to experience survivor guilt was an adaptation to life in the Environment of Evolutionary Adaptedness (EEA). From paleoanthropology and the study of contemporary hunter and gatherer society, it has been suggested that EEA societies were based on a foraging, immediate return economy, in conditions of high variability of essential nutrient sources, leading to a highly co-operative and egalitarian social environment and culture (Boehm, 1993, 1997; Cosmides & Tooby, 1992b; Imani, 1988; Power, 1988; Service, 1966; Turnbull, 1968; Woodburn, 1982).

Survivor guilt is a proximate motive for sharing, and adults sharing food with infants, children and young mothers is a necessary phenomenon in human child rearing. Juvenile chimpanzees, in contrast to humans, are able to provision for themselves through foraging immediately after weaning. Human children, however, are unable to provide all of their own food until late adolescence (Charnov, 1993; O'Connell, Hawkes & Blurton-Jones, 1999). Beginning with *Homo ergaster*, there were dietary changes including the use of tubers, which required cooking. These changes were associated with delayed maturity, and depended on adults being willing to share food with children, adolescents, and even grown women with infants (O'Connell *et al.*, 1999; Wood & Brooks, 1999; Wood & Collard, 1999; Wrangham, Jones, Laden, Pilbeam & Conklin-Brittain, 1999). Grandmothers' sharing food with grandchildren and even with women of childbearing years contributes to fitness (Hawkes, O'Connell, Blurton-Jones, Alvarez & Charnov, 1998). Guilt at inequality creates an internal discomfort in the absence of sharing, and promotes provisioning to offspring into adulthood.

As part of their evolution as a social organism, people exhibit a highly tuned drive to help others, to equity and fairness (Baumeister, Stillwell & Heatherton, 1994; Baumeister & Leary, 1995; Caporael 1997; Caporael & Brewer, 1995; Cosmides & Tooby, 1992b; Gilbert, 1989; Sober & Wilson 1998; Tooby & Cosmides, 1990, 1996), along with a drive to uniqueness and individual achievement (McClelland, 1985) or what has been noted as the 'appetite for individuality' (Tooby & Cosmides, 1996, p. 133). D.S. Wilson (personal communication, 1996) has noted that in many hunter-gatherer groups individuals who strive to dominate others are held in check by other members of the group, creating an enforced egalitarianism 'in which it is considered immoral for one person to have more status or resources than others'. Wilson suggests that this social force was common in small-scale human societies for a long enough period to have evolutionary consequences, noting that to be better off than others in the group was a precarious situation in the ancestral social environment, making survivor guilt an adaptive psychological mechanism.

In highly egalitarian cultures, sharing on the part of the whole group appears to be extensive. While sharing, and particularly food sharing, may serve the social purpose of promoting social cohesion (Kent, 1993), it appears from ethnographic and primate studies, to develop most dramatically in environments in which

the food source is highly variable, such that the widespread sharing of food was a highly adaptive strategy (Cosmides & Tooby, 1992b) for dealing with times of scarcity. Proneness to survivor guilt may have contributed to this adaptation. Furthermore, antecedents to survivor guilt may be seen in higher primates who regularly share food with one another. It has anecdotally been reported that chimpanzees and bonobos respond to begging behaviour first by exhibiting discomfort, and then in some cases by sharing (de Waal, 1996; de Waal & Laning, 1997). Begging, seen between infants and parents in many species, may have extended through selection into a behaviour between non-related adult higher primates, in conjunction with the proneness to feel uncomfortable when faced with another's discomfort.

Survivor guilt and psychopathology

While the need to maintain attachments and social cohesion in the group upholds the drive to care for others and the maintenance of equality, the need to be successful in work and reproduction supports self-interest and the drive to uniqueness and individual achievement (Tooby & Cosmides, 1996). Both the drive to care for others and to maintain equality, and the drive to care for the self and to seek personal achievement, appear to exist in all cultures and people. The relative importance of each is highly culture-specific, and even within a unified culture, there exists variation among individuals. Furthermore, while both drives may have functioned well together in the social environment of the EEA, in post-EEA cultures – and particularly in industrial and post-industrial culture – they may come into conflict within an individual, and indeed within a changing culture (Asano, 1998). Many common pathogenic beliefs in contemporary culture are related to this conflict. These centre around the belief that a person's individual success or happiness will cause others to suffer. This common contemporary conflict between self-interest and concern for others may represent a nature–culture mismatch problem (Bailey & Wood, 1998; Bailey, Chapter 3, this volume; Buss 1999; Cosmides and Tooby, 1992; Glantz & Pearce, 1989). This conflict is often unconscious, and may become a central focus in an evolutionary psychotherapy.

In the clinical literature, survivor guilt was mentioned in passing by Freud, in the wake of his father's death (1897/1960), and was then brought into focus by Neiderland (1961, 1981), who described the suffering of people who survived Second World War prison camps, having witnessed the brutal murder of their families at the hands of Nazi Germany. Modell (1965, 1971) expanded the concept of survivor guilt to the guilt people feel when they believe they are better off than other members of their families, and linked it to the development of psychopathology as well as to evolutionary theory. Weiss (1983, 1986, 1993) noted that survivor guilt was likely to result in psychological problems when it was linked to irrational pathogenic beliefs that led to the suppression of normal developmental strivings. Recent empirical research demonstrated a significant correlation between survivor guilt and psychological symptoms, submissive behaviour and depression (O'Connor *et al.*, 1997a,b, 1998; O'Connor, Berry & Weiss, 1999).

PATHOGENIC BELIEFS AND GUILT

In summary, it is hypothesized that the proneness to survivor guilt was developed by selection pressure related to group living. Although highly adaptive in the EEA, in the post-industrial era it appears to have become increasingly associated with pathogenic beliefs, psychological problems and resulting dysfunction. In the contemporary environment, many people stop themselves from the normal pursuit of success and achievement as the result of an often unconscious concern that their success will harm others. The resulting psychological symptoms and suffering are what bring many people to therapy.

Implications for evolutionary psychotherapy

The patient's plan for therapy

When people begin therapy, it is with the purpose of overcoming their problems and impediments to local adaptation. Motivated by the drive to pursue normal life goals, patients set out to work with the therapist to modify the pathogenic beliefs that contribute to their problems, and to change their dysfunctional behaviours. Organized by an adaptive unconscious mind – shaped by evolution to evaluate the environment for danger and safety and to solve the particular problems they face (Miller, Galanter & Pribram, 1960; Bowlby, 1982/1969; Sampson, 1990a, b; Weiss, 1986, 1993) – people begin therapy with a plan to work on their specific pathogenic beliefs and problematic behaviours (Fretter, 1995; Rosbrow, 1993; Silberschatz, Curtis & Nathans, 1989; Silberschatz & Curtis, 1993; Weiss & Sampson, 1986; Weiss, 1993, 1998). As noted by Tooby and Cosmides (1990: 406), 'human beings have cognitive mechanisms whose function is planning... and these mechanisms are adaptations to the problem of decision making... the capacity to plan is an evolved adaptation'. This capacity to plan mediates goal-directed human activities, including psychotherapy.

The patient's plan for treatment – which may be unconscious – usually includes disclosing and mastering adverse prior experiences that led to their maladaptive beliefs, having new experiences both in and out of therapy that will help change these beliefs, overcoming their pathogenic inhibitions, and pursuing goals which have been out of reach. The pathogenic beliefs that patients commonly work on concern negative views of the self and exaggerated worries about harming others. The conflict between concern for status and ranking and worry about others often underlies many pathogenic beliefs, and developing strategies to more effectively deal with this is often a part of the patient's unconscious plan.

The hypothesis that patients have a plan for therapy and are the primary agents of change calls into question several common assumptions about the therapeutic process. In our approach, patients and therapists are not assumed to be at cross purposes or adversarial. Patients have agency in the conduct of the therapy, and their in-therapy behaviour is not ruled by resistance, nor is it motivated by the tendency to homeostasis in the case of family-based therapy. Although many practitioners find it hard to accept the hypothesis of the patient's plan for positive change in

therapy, they do not find it difficult to imagine that patients plan their resistance to therapy, a widely held assumption in traditional psychodynamic psychotherapy (Weiss, 1998).

The therapist's task

Assuming a patient's planfulness and motivation for health, the therapist forms hypotheses about the patient's case-specific plan for treatment, attempts to understand the patient's pathogenic beliefs and the conditions under which they developed, attempts to reframe problems in an evolutionary perspective, and helps patients learn to negotiate the conflict between self-interest and concern about others. Through these efforts, the therapist helps the patient to modify his or her pathogenic beliefs.

The evolutionary psychotherapist is always asking basic questions:

- 'What was the adaptive purpose of this belief or behaviour when it developed?'
- 'What were the particular conditions that contributed to this problem, and what in the environment was the patient responding to?'
- 'Who in the social group was the patient trying to help, protect or comply with?'
- 'Who might the patient have been initiating when he or she developed this problem?'
- 'How might we reframe this problem in an evolutionary and ethological perspective?'
- 'What normal biological motivational systems have been inhibited by this problem?'

In reaction to current moods and experiences that the patient brings to the therapist, the therapist is also asking:

- 'How does this problem relate to the patient's concern about status and ranking?'
- 'How does this problem relate to the patient's worry about others?'

Informed by these questions, patients' life histories, pathogenic beliefs and problems are put in an evolutionary perspective and normalized in terms of clarifying the local adaptation for which they developed, and the ultimate psychological mechanisms to which they are connected.

Concern for others as well as self-interest and concerns about status, are linked to primary biological motives; however, concern about others is often less conscious than is concern about the self. For example, patients often come into therapy well aware of their antisocial feelings and personal ambitions, their jealousy, anger and competitiveness, but they may be less aware of their worry about others. As children many patients were chastised by parents for 'selfishness' and this often becomes

an underlying and pathogenic component to patients' self-definition. In therapy, the conflict between ranking and care-giving may be made explicit, and experiences and behaviours may be interpreted and reframed in prosocial terms. Even apparently harmful behaviours may be understood and interpreted, not as a function of unconscious greed, competitiveness, jealousy, lust or destructiveness, but as the patient's effort to adapt to a dysfunctional family system or to a disturbing current environment, and in many cases, as the result of the patient's unconscious imitations of disturbed parents. In contrast to therapy which emphasizes antisocial impulses, therapy conducted from this perspective focuses on people's prosocial care-giving motives.

For example, Susan is a 40-year-old woman suffering from proneness to depression and self-hate. In therapy, Susan revealed that she believed herself to be a cruel person. To illustrate, she disclosed that as a child she was sometimes cruel to her younger brother. She locked him out of the house and pretended that she wasn't there, leaving him outside and frightened. From this experience, Susan inferred that she was an evil person, harmful to others and deserving of punishment. The therapist questioned the adaptive purpose of this behaviour, and wondered whom Susan was trying to help, comply with, or imitate. She asked Susan, 'Had this ever happened to you?' and it emerged that she had been imitating her mother who had locked Susan and her siblings out of the house, pretending she wasn't there. Susan's imitation of her mother was driven, not by hostility or competition, but by identification, attachment, and unconscious loyalty to her mother. As the therapist pointed this out, Susan felt relief and one of her pathogenic beliefs was modified.

Testing in therapy

In therapy, patients carefully and deliberately – although often outside of awareness – test their pathogenic beliefs, in order to change them (Rangell, 1969; Weiss, 1986, 1993). That is, patients initiate highly directed concrete actions designed to elicit a response from the therapist, with implications for the irrational beliefs that lead to guilt, shame, fear and inhibitions. The patient who believes that she is supposed to be a failure because her parents told her she was a failure, or that she is supposed to be depressed because her mother was depressed, or that she is supposed to fail in her job because to be successful would make her unsuccessful brother feel like a failure, will test these beliefs with the therapist. She hopes that by passing her tests, the therapist will provide evidence that her beliefs are not true, and thereby help to disconfirm them. For example, the patient who believes her success will harm others, may test the therapist by describing a success, to see if it will be perceived as harmful.

The process of testing the therapist proceeds according to the patient's assessment of danger and safety (Sampson, 1990a,b; Weiss & Sampson, 1986; Weiss, 1993). When the patient feels a sense of safety – established by tests early in treatment – when she has hopes that the therapist will disconfirm her pathogenic beliefs, she tells

the therapist her secrets, reveals usually hidden experiences and feelings, tests her pathogenic beliefs and makes progress. When the patient feels endangered, she expects the therapist to confirm her pathogenic beliefs, she withdraws, does little self-disclosure, and fails to make progress. And most of this goes on outside of conscious awareness. This process cuts across many therapies – psychodynamic, humanistic, interpersonal, family and cognitive-behavioural therapy.

While patients have a broad overarching plan for therapy, they also consciously and unconsciously plan the specific tests that occur within the therapy. Sometimes the patient's planning of a test becomes explicit, as the following example illustrates.

The case of Denise

Denise, a public interest attorney, came into treatment for a mild proneness to depression and anxiety. A brilliant and beautiful woman, she graduated from a prestigious law school and at the time she began therapy, she was highly successful in her work. However, she was holding herself back in taking leadership at the firm.

As a child, Denise had been in a caretaker role in the family, tending to her erratic, self-centred and successful professional mother. From this experience she developed the pathogenic belief that she was not to be a 'star' or a leader, that she was always to be sensitive and caregiving to authorities, and that she was to view herself as slightly flawed and inadequate. In adolescence, her mother frequently criticized her for not paying close attention to her appearance and fashion, for not 'taking care of herself'. In compliance, she saw herself as a person who couldn't take care of herself, and her success as an academic and professional woman had not altered that opinion. In one session, she said to her therapist, 'I don't eat right, I never cook, I don't dress right, I can't take care of myself'. The therapist responded with reassurance. 'You do take care of yourself, you're spending your time focused on your career, that's what you should be doing.' Denise continued, 'I'm not eating enough vegetables, I'm not taking care of myself'. The therapist again responded with reassurance. Seemingly dissatisfied, Denise continued, 'Well I don't look right, I'm not well put together'. Again the therapist responded with reassurance, 'You always look well put together, you always look great in my opinion'. At this point, abruptly, Denise relaxed, and a shy smile came across her face. She said, 'I just thought of something, you know this is so embarrassing, I just remembered this thing. You know how you think about what you're going to wear to work the next day – draw a mental image of what you'll wear, what it will look like? Well I always do that. And I just realized on the days that I'm coming to see you, I deliberately dress down, more casually, to show you what a mess I am.' The therapist again reassured Denise about her appearance, and Denise then disclosed painful details of how her mother had made her feel badly about her appearance and her lack of interest in fashion and the impact that had on her sense of self-esteem. This exemplifies the testing process, and the planfulness and specificity of the patient's tests, and was particularly compelling in that Denise was able to articulate and remember the partly unconscious process of planning her test of the therapist.

In some tests, patients do something to the therapist that they believe they did to their parents that caused their parents or siblings to put them down, chastise them or otherwise traumatize them. In other tests, patients turn 'passive into active', that is they actively initiate the traumatizing behaviours carried out by their parents or siblings, that they found so disturbing in childhood and that they had to endure passively (Foreman, 1996; Weiss, 1993).

When patients felt unprotected as children, they may offer the therapist tests that call for a protective reaction, which would demonstrate that they deserve protection. For example, patients who suffer from the belief that they do not deserve protection, may test the therapist by threatening to carry out a dangerous action, hoping that the therapist will respond protectively. When patients felt rejected by parents, they may offer the therapist tests that give the therapist the opportunity to reject them, hoping that instead the therapist will be accepting. For example, they may act difficult or rejecting of the therapist, and when the therapist reacts with reassurance and acceptance, the pathogenic belief that the patients deserve rejection is modified.

Patients who felt omnipotently responsible for parents or siblings may test this belief by trying to make the therapist feel omnipotently responsible towards them. For example, they may blame the therapist for being inadequate, and tell the therapist that therapy isn't helping them enough, in order to test their belief that they did not do enough for their families, and to obtain from the therapist a model of how to respond when someone is overly demanding. Likewise, when patients felt put down by a parent, or of low status in the family, they may test this belief by giving the therapist the opportunity to put them down or treat them as low ranking. When patients believed that their successes threatened the hierarchy in the family, they may test the belief by bragging about their achievements, to see if the therapist will feel threatened or disapproving.

Therapists know when patients are testing by their own reactions; when the therapist feels pulled to provide reassurance or advice, to provide protection, to do more for the patient, or to be accepting or rejecting, that indicates a patient's testing. When the therapist feels an aversive emotion, like shame, guilt, fear, or confusion, it is often because patients are turning passive into active; that is, they are imitating the traumatizing parental or sibling behaviours that in childhood made them feel shame, guilt, fear or confusion. The following case of Maureen demonstrates the specificity and purposefulness of a patient's testing, and its relationship to a patient's pathogenic beliefs.

The case of Maureen

Maureen was a highly intellectual woman, who, after a number of years of treatment, finished a PhD in history from a major university. When she began therapy she was working as a secretary, having dropped out of graduate school some years before. She initially presented as full of shame and self-hate. The therapist hypothesized that Maureen was holding herself back out of survivor guilt towards

her parents, and her inhibitions had the purpose of keeping her from being more successful than her parents, who were from working class backgrounds.

In the course of treatment, as Maureen began to feel better and to consider returning to graduate school, she started to test the therapist by listing all of her accomplishments, in an almost exaggerated manner. The therapist, believing that Maureen was testing her belief that being successful would be harmful, encouraged her and praised her achievements. Maureen visibly relaxed, and went on to tell a story from her childhood. She described coming home after school, excited to tell her mother about something she had excelled at, as she had been doing with the therapist. She vividly portrayed her pride at her accomplishment. Her mother responded with anger, telling Maureen, 'Stop bragging, keep your success in school quiet, you will give your brother an inferiority complex'. Maureen remembered feeling guilt and shame, certain that she had harmed her younger brother who had learning and behaviour problems. In the wake of this and other similar experiences, she developed the pathogenic belief that if she did well in school it would harm her brother and subsequently she became increasingly inhibited about taking herself and her intellectual ambitions and talents seriously.

In therapy Maureen tested this belief, repeating the experience with her therapist, in the hopes of modifying the pathogenic belief. When the therapist was encouraging Maureen felt reassured, the belief was modified, and she was able to remember and describe this and other experiences, to which the belief had been an adaptation.

When the therapist makes an intervention that the patient finds helpful – and especially when the therapist does or says something that specifically counters the particular pathogenic belief on which the patient is working, or directly passes a test that the patient is conducting – the patient often relaxes, demonstrates considerable relief and feels better. Often, as in the case of Maureen, the patient responds by describing new memories, feelings or experiences (Fretter, 1984; Fretter, Bucci, Broitman & Silberschatz, 1994; Silberschatz, Fretter & Curtis, 1986).

The immediate effects of therapeutic interventions

The patient-therapist relationship, like other close relationships, involves the regulation and deregulation of the patient's neurochemical and psychological well-being (Troisi & McGuire, Chapter 2, this volume; McGuire & Troisi, 1987, 1998). The therapy relationship is an intimate individual or group social activity, regulated by the normal rules for helpful human interactions. Patients develop their problems in the context of close attachments, and it is in new close attachments that they are best able to recover. The therapist is in a kin-like relationship with the patient (Bailey, 1988; Bailey & Nava, 1989; Bailey, Wood & Nava, 1992; Nava & Bailey, 1991; Bailey & Wood, 1998; Bailey, Chapter 3, this volume) and becomes a part of the patient's social network, support clique, or reference group (Dunbar & Spoors, 1994). As in other social relations, when the therapist is rejecting, critical, or treats the patient as lower ranking, the patient is likely to become neurochemically

deregulated, and to feel shame, guilt or depression. And when the therapist is accepting, respectful, and provides helpful interventions, she is likely to help regulate the patient, causing direct and immediate positive changes on the physiological and neurochemical as well as cognitive and affective levels of organization (see also Troisi & McGuire, Chapter 2, this volume). Some evidence for this was gathered in a 16-session case conducted by Ablon, as part of a psychotherapy research project carried out by Pole (Pole, Ablon & O'Connor, 1997). The patient and therapist were monitored throughout, for physiological reactivity including heart rate, skin conductivity and movement, in order to study the patient's reactions to the therapist's interventions. This research demonstrated that when the therapist made a helpful interpretation, the patient relaxed as shown by decreased heart rate and skin conductivity, and disclosed new material.

The case of Maria

Maria was a 30-year-old woman, married with two children. She came into treatment complaining of depression, having dropped her own career aspirations in order to take care of her children and to support her graduate student husband in his professional development. Four months before beginning treatment her mother had died after a long and painful illness, an event Maria rarely mentioned in the early phase of the therapy. Maria's mother had, like Maria, sacrificed pursuing her own interests for the sake of staying at home and taking care of her children and husband. The therapist hypothesized that Maria had the pathogenic belief that she was supposed to be like her mother and to sacrifice her own interests for those of her family, in order to avoid feeling survivor guilt for being better off than her mother and to avoid sex-role guilt for doing something not traditionally 'feminine'. He also hypothesized that the patient felt worried about her husband, and feared that if she continued to pursue her own career interests, her husband would feel threatened. Finally, he hypothesized that the patient was suffering from immediate survivor guilt in the wake of her mother's death.

In session 13, Maria was describing her feelings of jealousy towards her husband, and putting herself down for what she related as her competitiveness. She said that whenever she got interested in an activity – and gave the example of roller blading – if her husband also got interested, she would become competitive, convinced that she wouldn't be as good as he was, and quit entirely. The therapist responded, saying, 'I think maybe you were really afraid you would be better at roller blading than your husband, and if that happened, you feared you would be threatening his sense of manhood'. Maria replied quietly, 'No... no...' and grew very still and thoughtful. And within a few minutes she said, 'You know I just thought of something very silly...' and went on to describe a scene with her mother when her mother was dying. She was sitting with her mother in the hospital, her mother was emaciated and she was thinking, 'I wish I was skinny like my mother. I wish I was dying, to be with my mother'. She then spoke for the first time of her grief at her mother's death.

Later in the same session, Maria admitted to her intense worry about her husband, and to her concern that she was better off than he was. She described his proneness to procrastination and sloppy study habits, and confessed that she knew that before she had dropped out of her own graduate programme, she had been a much more conscientious and organized student than her husband. After this session Maria's depression lifted, as demonstrated by the Beck Depression Inventory as well as by clinical impression. Furthermore, from the physiological data it was found that Maria's heart rate had dropped significantly immediately after the therapist's interpretation, even while she was saying 'No... no...'; denying its accuracy. This indicated that the therapist's understanding of Maria's unconscious guilt and worry about her husband – which had been covered up by what she thought were feelings of 'jealousy' – provided her with immediate relief and increased feelings of safety, and allowed new painful material to emerge and be worked through in the therapy. After this session Maria became less depressed and was able to go out and get a part-time job, in line with the career she had been pursuing. This case, and the research conducted, demonstrates not only the importance of unconscious guilt and worry about others in relation to people's problems, but the direct effect of therapist-patient interactions on the physiological, cognitive and effective level of organization.

Technique and case-specificity: Neutrality, advice, reassurance, self-disclosure

Many standard assumptions of therapeutic technique are called into question for the psychotherapist working from an evolutionary perspective. Not constrained by the implications of the inherently disorganized and antisocial unconscious underlying many psychoanalytically-informed therapies, the therapist is free to utilize a variety of techniques, to select therapeutic strategies and attitudes specifically tailored to particular patients with their unique history and set of problems. Thus the techniques of treatment are highly case-specific and sometimes may contradict commonly accepted traditions of therapy. For example, across many schools of treatment it is assumed that the therapist should maintain an attitude of inquiry and neutrality, and practise what is referred to as 'abstinence', that is, the avoidance of relaxed two-way social interactions including self-disclosure. It is believed that the therapist needs to attempt to be a 'blank screen' on which the patient may place her projections, in order to analyse them. It is assumed that unconscious material will emerge and become manageable when the therapist avoids 'gratifying' the patient, through abstinence or neutrality. While it is also understood that the stance of abstinence will raise a patient's anxiety, it is believed that this is a positive event, and that increased anxiety results in the emergence of unconscious material. This has been countered by empirical research demonstrating that a decrease in anxiety may be associated with the emergence of new, previously unconscious, information (Gasner, Sampson, Brunner & Weiss, 1986; Pole, Ablon & O'Connor, 1997). In fact, when patients feel safe – that is when they feel less, not more, anxious – they

reveal to the therapists their experiences and feelings, and when they feel endangered they withdraw.

From an evolutionary perspective with the assumption of an adaptive and organizing unconscious, particularly one with a specific mechanism for the detection of cheating, the possibility that a social and highly intelligent animal might consistently conceal important social information – that is be truly abstinent – seems highly unlikely. Patients are able to piece together important information about their therapists, despite therapists' efforts to be non-revealing. And the wisdom of avoidance of self-disclosure and ordinary two-way human interactions may be questioned in light of regulation-deregulation theory (Troisi & McGuire, Chapter 2, this volume). Many if not most patients respond to abstinent behaviour on the part of the therapist, or any other intimate kin-like relationship, by experiencing a sense of rejection, or at best, confusion. And for many, this is hardly a situation of optimal safety, conducive to intimate disclosures (Bailey & Wood, 1998).

While a non-abstinent approach in which the therapist utilizes self-disclosure, or gives advice or reassurance, may be extremely helpful for many patients, it may be problematic for others. In order for some patients to feel comfortable they need the therapist to be in the role of an expert who is also a friend, who regularly engages in relaxed and friendly conversations, while other patients feel more comfortable with the therapist taking a distant professional approach. The methods by which the therapist helps to establish a therapeutic alliance varies tremendously from case to case, although many patients appear to benefit most from therapies conducive to establishing the therapeutic relationship as kin-like (Bailey, 1988; Bailey & Nava, 1989; Bailey, Wood & Nava, 1992; Nava & Bailey, 1991; Bailey & Wood, in press; Bailey, Chapter 3, this volume). Because pathogenic beliefs ordinarily develop in kin relationships, kin-like relationships are more likely to facilitate a corrective emotional experience.

For example, a patient who grew up in a very distant family in which she was unable to feel close or important to her parents, began to feel safe with her therapist only after he had shared with her that he was in mourning for his mother who had died recently. However, another patient who grew up taking responsibility for her siblings, withdrew when the therapist used self-disclosure in an effort to use himself as a model related to a particular problem. His self-disclosure made her worry that she would have to care for him as she had had to care for her parents and siblings.

The case of Anna exemplifies a case in which a neutral approach might be counter-productive. Anna grew up in an alcoholic family system, with a mother who, severely impaired by alcohol use, was unavailable emotionally and unable to fulfil normal protective functions. Her father was usually at work, or when home was preoccupied with his work or with his wife's drinking. As a result, Anna was neglected and grew up feeling rejected, unlovable, and unprotected. She believed that she deserved neither help nor protection, and as a result was dysfunctional both in terms of protecting herself and establishing herself in a successful career or

intimate relationship. In therapy she tested the therapist by threatening to do something self-destructive, and by asking advice about career decisions. The therapist hypothesized that in order to help Anna modify her pathogenic beliefs, she needed to be overtly protective, and to be willing to provide the kinds of advice that children usually get from functional parents.

When Anna posted various possibilities related to career development, her therapist responded by engaging in active conversation, thinking over possibilities out loud, and giving advice and suggestions. Anna responded by making progress. And when Anna tested the therapist by hinting that she was going to take some potentially dangerous action, the therapist responded by telling her, 'Don't do that', maintaining that Anna deserved protection. Anna responded positively, becoming less guarded in therapy and more self-protective in her life. In this case an attitude of inquiry and neutrality would have been perceived as rejection and would have been counter-productive.

In contrast, Mark was a 32-year-old man who grew up with an intrusive, overly directive and advice-giving mother. In childhood he developed the belief that he was inadequate to make his own decisions and plans, and to do so would displease his mother and deprive her of a sense of competence and purpose. In treatment, he tested this belief by claiming that he couldn't make a simple decision or plan, and requesting advice. At first, the therapist took these requests at face value, and tried to offer helpful suggestions, after which Mark withdrew and appeared dissatisfied. By carefully noting Mark's reaction, the therapist realized her error and began to better understand the test Mark was conducting. She began to assume a more neutral approach to the treatment, responding to requests with questions, avoiding any specific direction or advice. Mark responded by relaxing and making progress, appearing more self-confident and able to make decisions. In this case, neutrality was most helpful to the patient.

The effectiveness of other commonly accepted therapeutic methods is also highly case-specific. For example, in psychodynamic treatment, it is often considered particularly helpful for the therapist to make transference interpretations, that is to bring the patient's attention to his or her relationship with the therapist, to explain current events and feelings in terms of the therapeutic relationship, and to then trace these feelings back to the family of origin. While this strategy may in some cases be helpful, particularly when the patient him or herself brings up the therapeutic relationship, empirical research has suggested that transference interpretations may often be counter-productive and lead to poor therapy outcome (Pipher, Azim, Joyce & McCallum, 1991; Fretter *et al.*, 1994; Haglend *et al.*, 1993). A focus on 'in the room' interactions in many cases may result in the patient feeling uncomfortable, self-conscious and exposed, and may suggest to the patient that the therapist is feeling the need for attention. Not infrequently, patients respond to transference comments by withdrawing or attempting to placate the therapist.

Optimally, the therapist working from an evolutionary perspective has a wide range of behaviours available, and matches therapeutic technique to the case-specific needs of the patient. Techniques that provide conditions of safety for one

patient may constitute danger for another. The need for case-specificity applies to the frame of the therapy – the rules and parameters of the therapy relationship; the frame may need to differ according to the patient's unique history and problems. A patient who was frequently neglected as a child may need to have frequent phone contact with the therapist between sessions, before settling in with a sense of safety. The patient who was given little or no autonomy as a child may need evidence that the therapist is willing to let the patient set the terms of the therapy, to change or cancel appointments, before the patient feels comfortable and respected, and is able to make progress.

Conclusion

In summary, this perspective on evolutionary psychotherapy suggests that selection pressures have resulted in our species having particular characteristics, including an adaptive, organized and organizing unconscious mind, capable of complex planning and assessing for danger and safety, and containing highly developed cognitive and emotional mechanisms that support group living. The human mind, adapted to complex and interdependent social life, is specifically designed to develop beliefs, from infancy on, that determine the decisions and plans that rule social behaviour. When maladjusted family structure and disturbed parental personalities lead to pathogenic beliefs that counter normal developmental goals, a person is likely to develop psychological problems that cause suffering, and this suffering leads a person to therapy. Pathogenic beliefs are most often related to a person's relational world, and involve concerns about connections to others. They are particularly likely to involve profound loyalty to the family, concerns about harming loved ones, and the resulting self-conscious and relational emotions such as interpersonal guilt and shame. People with pathogenic beliefs are highly motivated to master their problems. Patients begin therapy with an unconscious plan to change these beliefs and pursue the goals for which the human mind is designed. They work to change their pathogenic beliefs by testing them with the therapist. When the therapist is able to help patients alter these beliefs, to reduce guilt and shame and overcome their inhibitions, patients make progress and, in many cases, resolve their problems.

References

- Adams, S. (1965) 'Inequity in social exchange', in L. Berkowitz (ed.), *Advances in Experimental Social Psychology*, (Vol. 2), (pp. 267–99), New York: Academic Press.
- Asano, E. (1998) *A Comparison of Japanese Americans and European Americans: Cultural Values, Ethnic Identity, Guilt, and Shame*. Unpublished Dissertation, The Wright Institute, Berkeley, CA.
- Axelrod, R. & Hamilton, W.D. (1981) 'The evolution of cooperation', *Science* 211: 1390–6.
- Bailey, K.G. (1988) 'Psychological kinship: Implications for the helping professions', *Psychotherapy* 25: 132–141.

- Bailey, K.G. & Nava, G. (1989) 'Psychological kinship, love and liking: Preliminary validity data', *Journal of Clinical Psychology* 45: 587-94.
- Bailey, K.G. & Wood, H.E. (1998) 'Evolutionary kinship therapy: Basic principles and treatment implications', *British Journal of Medical Psychology* 71, 4: 509-23.
- Bailey, K.G., Wood, H.E. & Nava, G.R. (1992) 'What do clients want? Role of psychological kinship in professional helping', *Journal of Psychotherapy Integration* 2: 125-41.
- Baron-Cohen, S. (1995) *Mindblindness: An Essay on Autism and Theory of Mind*, Cambridge, MA: MIT Press.
- Batson, C.D., Fultz, J. & Schoenrade, P.A. (1987) 'Adults' emotional reaction to the distress of others', in N. Eisenberg & J. Strayer (eds), *Empathy and its Development*, (pp. 163-81), Cambridge: Cambridge University Press.
- 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.
- Baumeister, R.F., Stillwell, A.M. & Heatherton, T.F. (1994) 'Guilt: An interpersonal approach', *Psychological Bulletin* 115: 243-67.
- Bernhard, J.G. (1988) *Primates in the Classroom*, Boston: University of Massachusetts Press.
- Boehm, C. (1993) 'Egalitarian behavior and reverse dominance hierarchy', *Current Anthropology* 34: 227-54.
- Boehm, C. (1997) 'Impact of the human egalitarian syndrome on Darwinian selection mechanics', *The American Naturalist* 150: S100-21.
- Boesch, C. (1996) 'The emergence of cultures among wild chimpanzees', in W.G. Runciman, J. Maynard Smith & R.I.M. Dunbar (eds), *Evolution of Social Behaviour Patterns in Primates and Man*, (pp. 251-68), Oxford: Oxford University Press.
- Boszormenyi-Nagy, I. & Spark, G.M. (1973) *Invisible Loyalties: Reciprocity in Intergenerational Family Therapy*, New York: Harper and Row.
- Bowers, K., Regehr, G., Balthazard, C. & Parker, K. (1990) 'Intuition in the context of discovery', *Cognitive Psychology* 22: 72-110.
- Bowlby, J. (1982/1969) *Attachment*, (2nd edition), (Vol. I), New York: Basic Books.
- Bush, M. (1989) 'The role of unconscious guilt in psychopathology and psychotherapy', *Bulletin of the Menninger Clinic* 52: 97-103.
- Buss, D.M. (1999) *Evolutionary Psychology: The New Science of the Mind*, Needham Heights, MA: Allyn & Bacon.
- Caporael, L.R. (1997) 'The evolution of truly social cognition: The core configurations model', *Personality and Social Psychology Review* 1: 276-98.
- Caporael, L.R. & Brewer, M. B. (1995) 'Hierarchical evolutionary theory: There is an alternative and it's not creationism', *Psychological Inquiry* 6: 31-4.
- Caporael, L.R., Dawes, R.M., Orbell, J.M. & van de Kragt, A.J.C. (1989) 'Selfishness examined: Cooperation in the absence of egoistic incentives', *Behavioral and Brain Sciences* 124: 683-99.
- Chapman, M., Zahn-Waxler, C., Cooperman, G. & Iannotti, R. (1987) 'Empathy and responsibility in the motivation of children's helping', *Developmental Psychology* 23: 140-5.
- Cohn, J.F., Campbell, S.B., Matias, R. & Hopkins, J. (1990) 'Face-to-face interactions of postpartum depressed and nondepressed mother-infant pairs at 2 months', *Developmental Psychology* 26: 15-23.
- Cosmides, L. & Tooby, J. (1992a) 'From evolution to adaptations to behavior: Toward an

- integrated evolutionary psychology', in R. Wong (ed.), *Biological Perspectives in Motivated and Cognitive Activities*, Norwood: Ablex.
- Cosmides, L. & Tooby, J. (1992b) 'Cognitive adaptations for social exchange', in J.H. Barkow, L. Cosmides & J. Tooby (eds), *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*, (pp. 163-228), New York: Oxford University Press.
- Dawkins, R. (1976) *The Selfish Gene*, Oxford: Oxford University Press.
- de Waal, F. & Lanting, F. (1997) *Bonobo: The Forgotten Ape*, Berkeley: University of California Press.
- de Waal, F. (1996) *Good Natured*, Cambridge, MA: Harvard University Press.
- Dorfman, J., Shames V. & Kihlstrom J.F. (1996) 'Intuition, incubation, and insight: implicit cognition in problem solving', in J. Underwood (ed.), *Implicit Cognition*, New York: Oxford University Press.
- Dunbar, R.I.M. & Spouts, M. (1994) 'Social networks, support cliques, and kinship', *Human Nature* 6: 273-90.
- Eisenberg, N., Fabes, R.A., Miller, P.A., Fultz, J., Shel, R., Matthy, R.M. & Reno, R.R. (1989) 'Relation of sympathy and personal distress to prosocial behavior: A multimethod study', *Journal of Personality and Social Psychology* 57: 55-66.
- Eisenberg-Berg, N. & Neal, C. (1979) 'Children's moral reasoning about their own spontaneous prosocial behavior', *Developmental Psychology* 15: 228-9.
- Exline, J.J. & Lobel, M. (1999) 'The perils of underperformance: Sensitivity about being the target of a threatening upward comparison', *Psychological Bulletin*, 125: 307-37.
- Ferguson, T.J. (1996, August), *Is Guilt Adaptive? Functions in Interpersonal Relationships and Mental Health*, Symposium conducted at the annual meeting of the American Psychological Association, Toronto, Canada.
- Ferguson, T.J. & Eyre, H.L. (1998, August) 'The interpersonal (mal)functions of guilt', in T. J. Ferguson (Chair), *Guilt and Shame as Interpersonal Communications and Regulators*. Symposium presented at the annual meeting of the American Psychological Association, San Francisco, California.
- Ferguson, T.J. & Stegge, H. (1998) 'The measurement of guilt in children: A rose by any other name still has thorns', in J. Bybee (ed.), *Guilt in Children*, (pp. 19-74), New York: Academic Press.
- Ferguson, T.J., Stegge, H., Miller, E.R. & Olsen, M.E. (1999) 'Guilt, shame, and symptoms in children', *Developmental Psychology*, 35: 347-57.
- Foreman, S. (1996) 'The significance of turning passive into active in control mastery theory', *Journal of Psychotherapy Practice and Research* 5: 106-21.
- Freder, P.B. (1984) 'The immediate effects of transference interpretations on patient's progress in brief, psychodynamic psychotherapy', Doctoral dissertation, University of San Francisco, 1984, *Dissertation Abstracts International* 46 (6). (University Microfilm No. 85-12, 112.)
- Freder, P.B. (1995) 'A control-mastery case formulation of a successful treatment for major depression', in *Session: Psychotherapy in Practice* 1 (2): 3-17.
- Freder, P., Bucci, W., Broilman, J. & Silberstanz G. (1994) 'How the patient's plan relates to the concept of transference', *Psychotherapy-Research* 4: 58-72.
- Freud, S. (1895/1950) *Project for a Scientific Psychology, The Standard Edition of the Complete Psychological Works of Sigmund Freud*, (Vol. 1), (pp. 283-399), London: The Hogarth Press.
- Freud, S. (1897/1960). As cited in Jones, E. (1960). *The Letters of Sigmund Freud*, New York: Basic Books.

- Freud, S. (1900/1950). *The Interpretation of Dreams*, New York: The Modern Library.
- Friedman, M. (1985) 'Toward a reconceptualization of guilt', *Contemporary Psychoanalysis* 21: 501-47.
- Gasner, S., Sampson, H., Brunner, S. & Weiss, J. (1986) 'The emergence of warded off contents', in J. Weiss, H. Sampson & The Mount Zion Psychotherapy Research Group (eds), *The Psychoanalytic Process: Theory, Clinical Observations and Empirical Research*, (pp. 171-86), New York: Guilford.
- Gelman, R. (1990) 'First priorities organize attention to and learning about relevant data: Number and the animate-inanimate distinction as examples', *Cognitive Science* 14: 79-106.
- Gilbert, P. (1989) *Human Nature and Suffering*, Hove, UK: Lawrence Erlbaum Associates Ltd.
- Gilbert, P. (1992). *Depression: The Evolution of Powerlessness*, Hove, UK: Psychology Press.
- Gilbert, P. (1995) 'Biopsychosocial approaches and evolutionary theory as aids to integration in clinical psychology and psychotherapy', *Clinical Psychology and Psychotherapy* 2: 135-56.
- Gilbert, P. (1997) 'The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy', *British Journal of Medical Psychology* 70: 113-47.
- Gilbert, P. & Andrews, B. (1998) *Shame: Interpersonal Behavior, Psychopathology and Culture*, New York, Oxford: Oxford University Press.
- Glantz, K. & Pearce, J. (1989) *Exiles from Eden: Psychotherapy from an Evolutionary Perspective*, New York: Norton.
- Gopnik, A. & Meltzoff, A.N. (1997) *Words, Thoughts and Theories*, Cambridge, MA: The MIT Press.
- Haglend, P., Heyerdahl, O., Amlø, S., Engelstad, V., Fossum, A., Sarbye, A. & Sartie, T. (1993) 'Interpretations of patient therapist relationship in brief dynamic psychotherapy', *Journal of Psychotherapy Practice and Research* 2: 296-306.
- Hamilton, W.D. (1963) 'The evolution of altruistic behavior', *American Naturalist* 97: 354-6.
- Hamilton, W.D. (1964) 'The evolution of social behavior', *Journal of Theoretical Biology* 7: 1-52.
- Harder, D.W., Cutler, L. & Rockett, L. (1992) 'Assessment of shame and guilt and their relationships to psychopathology', *Journal of Personality Assessment* 59: 584-604.
- Hawkes, K., O'Connell, J.F., Blurton-Jones, N.G., Alvarez, H. & Charnov, E.L. (1998) 'Grandmothering, menopause, and the evolution of human life histories', *Proceedings of the National Academy of Sciences*, 95: 1336-39.
- Hay, D.F., Nash, A. & Pedersen, J. (1981) 'Responses of six-month olds to the distress of their peers', *Child Development* 52: 1071-5.
- Hoffman, M.L. (1975) 'Developmental synthesis of affect and cognition and its implications for altruistic motivation', *Developmental Psychology* 11: 607-22.
- Hoffman, M.L. (1976) 'Empathy, role taking, guilt, and development of altruistic motives', in T. Lickona (ed.), *Moral Development and Behavior: Theory, Research and Social Issues*, (pp. 124-43), New York: Holt, Rinehart and Winston.
- Hoffman, M.L. (1978) 'Psychological and biological perspectives on altruism', *International Journal of Behavioral Development* 1: 323-39.
- Hoffman, M.L. (1982) 'Development of prosocial motivation: Empathy and guilt', in N. Eisenberg (ed.), *The Development of Prosocial Behavior*, (pp. 281-313), San Francisco: Academic Press.
- Isaacs, S. (1983) 'The nature and function of phantasy', in M. Klein, P. Heimann, S. Isaacs & J. Riviere (eds), *Developments in Psycho-Analysis*, New York: De Capo Press.
- Ilan, J. (1988) 'The origin of human equality', in M.R.A. Chance (ed.), *Social Fabric of the Mind*, Hove, UK: Lawrence Erlbaum Associates Ltd.
- Kagan, J. (1984) *The Nature of the Child*, New York: Basic Books.
- Kent, S. (1993) 'Sharing in an egalitarian Kalahari community', *Man* 28: 479-514.
- Kernberg, O. (1967) *Object Relations Theory and Clinical Psychoanalysis*, New York: Jason Aronson.
- Kihlstrom, J. (1987) 'The cognitive unconscious', *Science* 237: 1445-52.
- Klein, M. (1927/1975) *Love, Guilt and Reparation*, New York: Free Press.
- LeDoux, J. (1996) *The Emotional Brain: The Mysterious Underpinnings of Emotional Life*, New York: Simon and Schuster.
- Leslie, A. (1988) 'Some implications of pretense for the development of theories of the mind', in J.W. Astington, P.L. Harris & D.R. Olson (eds), *Developing Theories of the Mind*, (pp. 19-46), New York: Cambridge University Press.
- Leslie, A. (1994) 'Core architecture and domain specificity', in L.A. Hirschfeld, & S.A. Gelman (eds), *Mapping the Mind: Domain Specificity in Cognition and Culture*, (pp. 119-148), New York: Cambridge University Press.
- Leslie, A. & Thaiss, L. (1992) 'Domain specificity in conceptual development: Neuropsychological evidence from autism', *Cognition* 43: 225-51.
- Lewicki, P., Hill, T. & Czyzewska, M. (1992) 'Nonconscious acquisition of information', *American Psychologist* 47: 796-801.
- Lewis, M., Alessandri, S.M. & Sullivan, M.W. (1990) 'Violation of expectancy, loss of control, and anger expressions in young infants', *Developmental Psychology* 26: 745-51.
- Maryanski, A. (1996) 'African ape social networks: A blueprint for reconstructing early hominid social structure', in J. Steele & S. Shennan (eds), *The Archaeology of Human Ancestry: Power, Sex and Tradition*, London and New York: Routledge.
- McClelland, D.C. (1985) *Human Motivation*, Dallas, TX: Scott, Foresman & Co.
- McGrew, W.C. & Feistner, A.T. (1992) 'Two nonhuman primate models for the evolution of food sharing: Chimpanzees and Callitrichids', in J.H. Barkow, L. Cosmides & J. Tooby (eds), *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*, (pp. 229-48), New York: Oxford University Press.
- McGuire, M.T. & Troisi, A. (1987) 'Physiological regulation-deregulation and psychiatric disorders', *Ethology and Sociobiology* 8: 95-255.
- McGuire, M. & Troisi, A. (1998) *Darwinian Psychiatry*, New York: Oxford University Press.
- Miller, G.A., Galanter, E. & Pribram, K.H. (1960) *Plans and the Structure of Behavior*, New York: Holt, Rinehart, & Winston.
- Modell, A.H. (1965) 'On having the right to a life: An aspect of the superego's development', *International Journal of Psycho-Analysis* 46: 323-31.
- Modell, A.H. (1971) 'The origin of certain forms of pre-oeidipal guilt and the implications for a psychoanalytic theory of affects', *International Journal of Psychoanalysis* 52: 337-46.
- Mulhern, K. (1998) *Interpersonal Guilt in Children and Adolescents*, Unpublished Doctoral Dissertation, The Wright Institute, Berkeley CA.

- Nava, G.R. & Bailey, K.G. (1991) 'Measuring psychological kinship: Scale refinement and validation', *Psychological Reports* 68: 215-27.
- Neiderland, W.G. (1961) 'The problem of the survivor', *Journal of Hillside Hospital* 10: 233-47.
- Neiderland, W.G. (1981) 'The survivor syndrome: Further observations and dimensions', *Journal of American Psychoanalytic Association* 29: 413-25.
- Nesse, R.M. (1990) 'Evolutionary explanations of emotions', *Human Nature* 1: 261-89.
- Nesse, R.M. (1994) 'An evolutionary perspective on substance abuse', *Ethology and Sociobiology* 15: 339-48.
- Nesse, R.M. & Williams, G.C. (1994) *Why we Get Sick: The New Science of Darwinian Medicine*, New York: Random House.
- O'Connell, J.F., Hawkes, K. & Blurton-Jones, N.G. (1999) 'Grandmothering and the evolution of homo erectus', *Journal of Human Evolution*, 36: 461-85.
- O'Connor, L.E., Berry, J.W., Weiss, J. (1999) 'Interpersonal guilt, shame and psychological problems', *Journal of Social and Clinical Psychology*, 18: 181-203.
- O'Connor, L.E., Berry, J.W., Weiss, J., Bush, M. & Sampson, H. (1997a) 'Interpersonal guilt: development of a new measure', *Journal of Clinical Psychology* 53: 73-89.
- O'Connor, L.E., Berry, J.W., Weiss, J. & Gilbert, P. (1998, July) *Guilt, Fear, Empathy and Depression in College Students and Clinically Depressed Patients*, Poster presented at the meetings of the Human Behavior and Evolution Society, Davis, CA.
- O'Connor, L.E., Berry, J.W., Weiss, J. & Sevier, M. (1997b, April) *Guilt-Based and Fear-Based Submissive Behavior: An Evolutionary Perspective*, Poster presented at the Western Psychological Association Meetings, Seattle, Washington.
- Olthof, T., Ferguson, T.J. & Luiten, A. (1989) 'Personal responsibility antecedents of anger and blame reactions to children', *Child Development* 60: 1328-36.
- Pipher, W.E., Azim, H.F.A., Joyce, A.S. & McCallum, M. (1991) 'Transference interpretations, therapeutic alliance and outcome in short term individual psychotherapy', *Archives of General Psychiatry* 48: 946-53.
- Plutchik, R. (1987) 'Evolutionary bases of empathy', in N. Eisenberg & J. Strayer (eds), *Empathy and its Development*, (pp. 38-46), New York: Cambridge University Press.
- Pole, N., Ablon, J.S. & O'Connor, L. (1997) 'Theory-driven single case research: Integrating clinical theory with emotion research', Panel presented at the North American Society for Psychotherapy Research Conference, Tucson, AZ.
- Power, M.D. (1988) 'The cohesive forgers: Human and chimpanzee', in M.R.A. Chance (ed), *Social Fabrics of the Mind*, (pp. 75-104), Hove, UK: Lawrence Erlbaum Associates Ltd.
- Premack, D. & Premack, A. (1994) 'Origins of human social competence', in M. Gazzaniga (ed), *The Cognitive Neurosciences*, Cambridge, MA: MIT Press.
- Radke-Yarrow, M., Zahn-Waxler, C., Richardson, D.T., Susman, A. & Martinez, P. (1994) 'Caring behavior in children of clinically depressed and well mothers', *Child Development* 65: 1405-14.
- Rangell, L. (1969) 'Choice, conflict and the decision making function of the ego: A psychoanalytic contribution to decision theory', *International Journal of Psychoanalysis* 50: 599-602.
- Repacholi, B.M. & Gopnik, A. (1997) 'Early reasoning about desires: Evidence from 14- and 18-month olds', *Child Development* 33: 12-21.
- Rosbrow, T. (1993) 'Significance of the unconscious plan for psychoanalytic theory', *Psychoanalytic Psychology* 10: 515-52.
- Sagi, A. & Hoffman, M.L. (1976) 'Empathic distress in the newborn', *Developmental Psychology* 12: 175-76.
- Sampson, H. (1990a) 'The problem of adaptation to reality in psychoanalytic theory', *Contemporary Psychoanalysis* 26: 677-91.
- Sampson, H. (1990b) 'How the patient's sense of danger and safety influence the analytic process', *Psychoanalytic Psychology*, 7: 115-24.
- Sampson, H. (1992) 'The role of "real" experience in psychopathology and treatment', *Psychoanalytic Dialogues* 2: 509-28.
- Sampson, H. (1997) 'Review of M.O. Slavin & Daniel Kriegman, *The adaptive design of the human psyche: Psychoanalysis, evolutionary biology, and the therapeutic process*, *Psychoanalytic Psychology* 14: 135-9.
- Scott, J.P. (1958) *Animal Behavior*, Chicago: University of Chicago Press.
- Service, E.R. (1966) *The Hunters*, Foundations of Modern Anthropology Series. New Jersey: Prentice Hall.
- Silberschatz, G. & Curtis, J. (1993) 'Measuring the therapist's impact on the patient's therapeutic progress', *Journal of Consulting and Clinical Psychology* 61: 403-11.
- Silberschatz, G., Curtis, J. & Nathans, S. (1989) 'Using the patient's plan to assess progress in psychotherapy', *Psychotherapy* 26: 40-6.
- Silberschatz, G., Fretter, P. & Curtis, J. (1986) 'How do interpretations influence the process of psychotherapy?', *Journal of Consulting and Clinical Psychology* 54: 646-52.
- Sinner, M.L. (1971) 'Newborn's response to the cry of another infant', *Developmental Psychology* 5: 136-50.
- Slavin, M.O. & Kriegman, D. (1992) *The Adaptive Design of the Human Psyche: Psychoanalysis, Evolutionary Biology, and the Therapeutic Process*, New York: Guilford.
- Sober, E. & Wilson, D.S. (1998) *Unto Others: The Evolution and Psychology of Unselfish Behavior*, Cambridge: Harvard University Press.
- Stern, D.N. (1985) *The Interpersonal World of the Infant: A View from Psychoanalysis and Developmental Psychology*, New York: Basic Books.
- Stevens, A. & Price, J. (1996) *Evolutionary Psychiatry: A New Beginning*, London: Routledge.
- Tangney, J.P., Wagner, P. & Gramzow, R. (1992) 'Proneness to shame, proneness to guilt, and psychopathology', *Journal of Abnormal Psychology* 101: 469-78.
- Tangney, J.P. & Fischer, K.W. (1995) *Self-Conscious Emotions: The Psychology of Shame, Guilt, Embarrassment, and Pride*, New York: Guilford Press.
- Thompson, R.A. & Hoffman, M.L. (1980) 'Empathy and the development of guilt in children', *Developmental Psychology* 16: 155-6.
- Tooby, J. & Cosmides, L. (1990) 'The past explains the present: Emotional adaptations and the structure of ancestral environments', *Ethology and Sociobiology* 11: 375-424.
- Tooby, J. & Cosmides, L. (1996) 'Friendship and the banker's paradox: Other pathways to the evolution of adaptations for altruism', *Proceedings of the British Academy* 88: 119-143.
- Tivers, R.L. (1971) 'The evolution of reciprocal altruism', *Quarterly Review of Biology* 46: 35-57.
- Tivers, R.L. (1985) *Social Evolution*, California: Benjamin/Cummings.
- Tronick, E.D., Als, H. & Brazelton, T.B. (1977) 'Mutuality in mother-infant interaction', *Journal of Communication* 27: 74-9.

- Turnbull, C. (1968) Hunting and gathering, Part III. Contemporary societies. *International Encyclopedia of the Social Sciences*.
- Walster, E. & Berscheid, E. (1973) 'New directions in equity research', *Journal of Personality and Social Psychology* 25: 151-76.
- Webster, R. (1998) *Sibling Rivalry and Interpersonal Guilt*, Unpublished Doctoral Dissertation, The Wright Institute, Berkeley, CA.
- Weiss, J. (1983) 'Notes on unconscious guilt, pathogenic beliefs, and the treatment process', *Bulletin #6*. The San Francisco Psychotherapy Research Group (formerly the Mount Zion Psychotherapy Research Group), Department of Psychiatry, Mount Zion Hospital and Medical Center.
- Weiss, J. (1986) 'Unconscious guilt', in J. Weiss & H. Sampson (eds), *The Psychoanalytic Process: Theory, Clinical Observation and Empirical Research*, New York: Guilford Press.
- Weiss, J. (1993) *How Psychotherapy Works: Process and Technique*, New York: Guilford Press.
- Weiss, J. (1998) 'Patient's unconscious plans for solving their problems', *Psychoanalytic Dialogues* 8: 411-53.
- Weiss, J., Sampson, H. & The Mount Zion Psychotherapy Research Group (1986) *The Psychoanalytic Process: Theory, Clinical Observation and Empirical Research*, New York: Guilford Press.
- Whiten, A. (1998) 'Imitation of the sequential structure of actions by chimpanzees (Pan troglodytes)', *Comparative Psychology* 112: 270-81.
- Wilson, D.S. (1977) 'Structured demes and the evolution of group-advantageous traits', *The American Naturalist* 111: 157-85.
- Wilson, D.S. (1989) 'Levels of selection: An alternative to individualism in biology and the human sciences', *Social Networks* 11: 257-72.
- Wilson, D.S. & Sober, E. (1994) 'Reintroducing group selection to the human behavioral sciences', *Behavioral and Brain Sciences* 17: 585-654.
- Wood, B. & Brooks, A. (1999) 'We are what we ate', *Nature*, 400 (6741): 219-20.
- Wood, B. & Collard, M. (1999) 'Grades among the African early hominids', in T. Bromage & F. Schrenck (eds), *African Biogeography, Climate Change and Early Hominid Evolution*, New York: Oxford University Press.
- Woodburn, J. (1982) 'Egalitarian societies', *Man* 17: 431-51.
- Worthington, E.L., Jr., Berry, J.W., Parrott, L., III, O'Connor, L.E., Gramling, S. & Nicholson, R. (1999) *Studies in Trait Unforgiveness and States of Unforgiveness*. Paper presented at the annual convention of the American Psychological Association, Boston.
- Wrangham, R.W., Jones, J.H., Laden, G., Pilbeam, D. & Conklin-Brittain, N.L. (1999) 'The raw and the stolen: Cooking and ecology of human origins', *Current Anthropology*, 40: 567-94.
- Zahn-Waxler, C., Cummings, E.M., Iannotti, R.M. & Radke-Yarrow, M. (1984) 'Young offspring of depressed parents: A population at risk for affective problems', in D. Cicchetti & K. Schneider-Rosen (eds), *Childhood Depression*, (Vol. 26), San Francisco: Jossey-Bass.
- Zahn-Waxler, C. & Kochanska, G. (1990) 'The origins of guilt', in R.A. Thompson (ed.), *Socioemotional Development: Nebraska Symposium on Motivation*, 1988, (Vol. 36), (pp. 183-259), Lincoln, Nebraska: University of Nebraska Press.

- Zahn-Waxler, C., Kochanska, G., Krupnick, J. & McKnew, D. (1990) 'Patterns of guilt in children of depressed and well mothers', *Developmental Psychology* 26: 51-9.
- Zahn-Waxler, C. & Radke-Yarrow, M. (1983) 'Early altruism and guilt', *Academic Psychology Bulletin* 5: 247-59.
- Zahn-Waxler, C., Radke-Yarrow, M. & King, R.A. (1979) 'Child rearing and children's prosocial initiations toward victims of distress', *Child Development* 50: 319-30.
- Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E. & Chapman, M. (1992) 'Development of concern for others', *Developmental Psychology* 28: 126-36.

Acknowledgements

I would like to thank Jack Berry, Joseph Weiss, David Stiver, Peter Dybwad, Kathy Mulherin, Bill Meehan, Denise Scatena, Virginia Morgan, Eunice Yi and my students at the Wright Institute for our on-going discussions in the development of this chapter, as well as for their helpful suggestions about this manuscript. I would also like to thank Paul Gilbert for his collaboration in our empirical studies of guilt and depression and for his helpful suggestions about this chapter. Finally, I wish to thank Kent Bailey for his thoughtful suggestions and editing.