

Emotion, Evolution, and Conflict

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If psychoanalytic claims about motivation are correct we should be able to relate them to those of other disciplines, such as social psychology, developmental psychology, evolutionary psychology, and neuroscience. In what follows I try to indicate some interdisciplinary links, by relating evolutionary and psychoanalytic discussions of emotion and infancy. The theory of natural selection gives us some idea of the main forces which have shaped basic aspects of the human mind (or brain). Insofar as we can align these with psychoanalytic understanding, we may hope to triangulate more accurately on the points of connection between.

1. Evolution, morality, and conflict between groups.

Human beings are particularly notable for their ability to organize themselves in co-operating groups, and also for the violent conflicts in which such groups engage. Darwin sought to understand these phenomena by linking

them with altruism and morality. He suggested that human beings have evolved altruistic moral tendencies via the selective advantages these gave to competing groups. Thus a tribe possessing 'a high standard of morality' would be 'victorious over most other tribes'. This might be a powerful evolutionary force, since 'At all times throughout the world tribes have supplanted other tribes; and this would be natural selection...' Darwin's enthusiasm for morality remained unqualified by its relation to group conflict, and his argument has recently been carried forward by Sober and Wilson, who dedicate their account of the selection of altruism 'to altruists everywhere', while citing as example the conquest of the Dinka by the Nuer.

As articulated by Sober and Wilson, Darwin's idea was that selection can act at different levels, and hence on tribes or other groups as well as individual creatures. In acting on either individuals or groups, selection also acts on genes; but in such cases the mechanism of selection involves not just the fate of genes, but also that of individuals or groups (and complex individual creatures can themselves be regarded as groups of cells containing genes who share a common fate in a common reproductive enterprise.) Thus a gene can replicate at the expense of other genes in the same creature, by fostering a tumor, or alternatively in co-operation with them, in enabling that creature to reproduce. Likewise individuals (or their genomes) may reproduce at the expense of others in a group, or in co-operation with them, by helping that group to supplant others. By attending to different processes of selection in this way we can divide relations of reproductive co-operation and competition into distinct levels: among genes within individuals; among individuals (and hence their genes) within families and larger groups; and among groups (and hence individuals and their genes) in a larger population.

The features which enable groups to supplant one another seem cultural rather than genetic. So intergroup competition involves both the transmission of culture within competing groups, and the use of cultural symbols to mark their boundaries. Thus as Boyd and Richerson describe matters

...The propensity to cooperate with sympathy-inspiring ingroup members, and to use symbolic markers to define ingroups, is like the innate principles of language. The specific markers, size of group(s), and internal structure of the group(s) to which individuals belong are culturally variable parameters that generate a specific functioning instance of the innate propensities. Like innate language structures and adult lactose absorption, the social decision-making principles most likely coevolved as adaptations to an emerging cultural environment in which cooperation within culturally marked groups was becoming important. Success in intergroup competition came to depend upon within-group cooperation; an evolutionary arms race arose. The scale of cooperation-to-compete might escalate until ecological rather than evolutionary constraints bring a halt.

Such work has also focussed upon the darker side of morality and conscience. Thus Richerson and Gil-White stress the role of both punishment and moral anger.

..If much group competition is active rather than passive (e.g. violent combat for land), then within-group altruistic norms maintained by punishment will confer dramatic advantages. This could make the production of new altruistic groups faster than the processes which dilute altruism within the group...The result would be a panhuman selection pressure for cognitive adaptations reducing the likelihood of 'mistakes' in order to avoid costly punishment (prosocial emotions such as duty, patriotism, moral outrage, etc. that commit us to predominant social norms even in the absence of coercion)...

Clearly, the other side of the coin of group cooperation is group conflict. Groups that develop norms that channel their within- group cooperation towards outward bellicosity will force other groups to develop the same (or better) or go extinct. This process selects for ever-stronger forms of within- group cooperation and outward aggression and is likely an important force responsible for the creation of ever larger and more complex social human groups.

2. Parental investment and conflict within the family.

The family seems to be one of the most basic of competing human groups, and family co-operation is underlain by genetic relatedness. Parents share half their genes with each child, so that full siblings share half their genes as well. From the perspective of the genome of a parent each child constitute an instance of reproductive success; and from that of each child the reproductive value of two siblings or four half-siblings approaches one's own. This genetic overlap provides a basis for the unity of purpose shown by members of the same family, but also underwrites divergences. These can be investigated via the notion of parental investment, which encompasses any benefit provided by a parent towards the reproductive success of one offspring as opposed to that of others. This includes the efforts of a mother's carrying a child in her body, those of providing food, shelter, protection, etc. -- all aspects of parental care which make for the success of one child rather than another.

As Robert Trivers has argued, parental investment is an intrinsic source of conflict within the family. For roughly, whereas parents are selected to allocate investment to a number of offspring over the course of their reproductive lives, offspring are selected to seek benefits immediately and to the full extent of their individual (genetic) interests. Accordingly each infant seeks more from its parents -- particularly the mother -- than they are inclined to give, and at the expense of its own siblings, whether actual or potential. These conflicts may in turn be exacerbated by those between the parents themselves, for as the modes of investment of men and women differ so do their reproductive strategies. For example it may be to the advantage of either parent to shift burdens of investment to the other, or again to reproduce elsewhere. In consequence the means by which men and women allocate parental investment seem to include not only promiscuity, infidelity, and the desertion of partners, but also abortion, infanticide, abandoning children (e.g. to foundling homes), and varieties of selective neglect.

These conflicts are interwoven, and can be observed from conception in the invasion of the mother's body by the placenta. The placenta is constructed by the activity of the father's genome to extract maternal investment on behalf of the foetus, discounting other children the mother might have. The placenta thus develops as ' a ruthless parasitic organ existing solely for the maintenance and protection of the foetus, perhaps too often to the disregard of the maternal organism.' For example the placenta bores into the mother's blood vessels, secreting hormones which raise her blood pressure and blood sugars in ways may injure her but benefit the foetus; her body responds by producing hormones which counteract these; and so on. Here conflict between the parents becomes conflict between mother and child; and the placenta may be involved in sibling rivalry more directly, as when one of a potentially multiple birth aborts others.

Conflict continues after birth, for obtaining maternal care -- at whatever cost to others -- is a matter of life or death for the infant. It may be in the interest of either parent to time reproduction by abandoning a child from the start, as often happens with babies deemed defective. Feeding one child may entail neglecting another, and nursing tends to space conception, and so to delay the emergence of younger rivals, as would suit the interests

of the mother as opposed to the father. So in sucking at the breast a baby may already be enforcing its own entitlements against the interests of its father and siblings; and if it stays long there it will conflict with those of its mother as well. By the time a baby is weaned its genetic interests are liable to have been opposed to those of every other member of the family, in conflict concerning the uses of the mother's body and potential rivals inside her.

In the first instance these conflicts concern only the prospects of replication of the genes of various members of the family. As we have seen, however, these prospects are translated into physiological and chemical conflict in the case of the placenta, and they seem translated into psychological and physical conflict in others. Sibling rivalry over parental care is often vicious or lethal: some piglets are born with teeth for slashing siblings in fighting for the best teats, and in other species littermates or nestmates regularly kill one another. So it is not beyond possibility that in the service of comparable genetic interests human babies should instinctively desire to control the breast and resist weaning, should feel jealousy and anger about their parents' sexuality, and should be hostile to siblings or other potential users or occupants of their mother's bodies.

Even prior to considering any particular psychological mechanisms, we can see that these conflicts partly coincide with those described in psychoanalytic theory. Freud stressed rivalries between siblings, and also between parents and children; and Melanie Klein traced these into infancy. For example she described the baby as desiring an invasive and placenta-like control of the breast and the inside of the mother's body; as having phantasies of attacking rival babies or the sexual presence of the father inside the mother; as angered and dissatisfied by weaning; and as feeling surrounded by potential enemies. Despite an unwavering scepticism about psychoanalysis, Trivers' exploration of parent-offspring conflict led him to hold that 'all the machinations Freud imagined going on in early life had a reality...which I had formerly disbelieved...'. The prospect of such innate readiness for conflict is not easy to accept; but if evolution can set the newly hatched cuckoo to destroy rival eggs so as to exploit the parental care of birds it has never seen, we cannot dismiss the possibility that it might also set the minds or brains of human babies to seek control of their mother's bodies against rivals outside, in order to protect their own interests against rivals within.

3. Co-operation, conflict, and emotional development.

We can thus think of human emotion as shaped by the requirements of at least three kinds of reproductive co-operation and conflict. Among adults actually reproducing we find the conflicts and co-operations involved in securing partners and resources for starting and maintaining children; within families we find those between parent and parent, parent and child, and the children themselves, as considered above. Then among families and larger groups we find ingroup co-operation and outgroup conflict which may turn on the operations of conscience and punishment.

We can readily see emotions such as love and affection as involved in human relations of reproductive co-operation, and hatred and aggression in human relations of conflict; and we can take these in a neuroscientific and developmental perspective as well. We can regard the emotions, in Damasio's phrase, as 'part of a multi-tiered and evolutionarily set neural mechanism aimed at maintaining organismic homeostasis'. This is roughly the role which Freud assigned to the drives; and the tiers, which we share with other mammals, include subcortical mechanisms which prompt distress at hunger, thirst, and other forms of bodily disequilibrium, and also 'emotional command systems', which direct manifestations of rage and fear (and hence hatred), sexuality, maternal and paternal nurturance (and hence parental love), separation distress and social bonding, and play and social affection. These mechanisms are integrated with a general motivational 'seeking system', the nocturnal activation of which (as Freudian theory would predict) seems a content-specific cause of dreaming.

The basic subcortical mechanisms of motivation are operative at birth. They enjoy inbuilt relations of excitation and inhibition, and come connected for expression through the baby's face, voice, and movements. During the first year they attain further co-ordination and integration as the cortex develops through critical phases of synaptic growth, myelination, and experience-dependent neural pruning, which coincides with the infant's using its experience of relating with others -- and particularly the investing mother -- to build increasingly articulate representations of the self and other objects of emotion. So it appears (i) that complex human feelings result from the orchestration of the subcortical mechanisms of emotion and motivation, and (ii) that this orchestration is accomplished via the cortical representations of the persons and situations which are the objects of emotion -- those which arouse emotion, and at which it is directed.

4. Emotional development and parental investment.

Insofar as this is so, we should expect emotional development to show certain continuities and discontinuities. Roughly, we should expect continuities which reflect the constant working of the basic mechanisms of emotion, and discontinuities which reflect changes in the objects of emotion and the way these objects are represented.

We can trace these in terms of the notion of parental investment. Thus as regards the beginnings of post-natal life we should expect the infant's emotions to be shaped by selection to extract maternal investment. The infant's period as a selfish consumer of parental investment is however by nature preparation for a later role as an altruistic provider, and this transition is mediated by experience in a family in which parents allocate benefits to children (and encourage them to act towards others) in a way which is fairer than the infant's own genome would dictate. In consequence emotional development should have an overall structure which psychoanalysis has long stressed. It should involved a transition, facilitated by parental care and family life, from something like infantile egotism or narcissism, towards a capacity for non-self-regarding love (or altruistic reproductive co-operation) in relation to others. Accordingly the kinds of love or other emotions of co-operation which are started in infancy with parents, siblings, and other relatives or carers, should develop, with changes in representations and objects, from early self-regarding forms towards others which are more altruistic, and in which reproduction comes to play an increasingly dominant role. Likewise early aggressions should become focussed on family and later reproductive rivalries, and, as we shall consider below, on members of competing outgroups.

Speaking broadly, we can say that the infant has two ways of securing what it needs from the mother: either co-operatively, by eliciting affection and love; or coercively, by inflecting fear, anxiety and guilt. Accordingly the mother is the first focus both for the positive emotions which will figure in later relations of co-operation, and for the negative emotions which will figure in later relations of conflict: both for the new-born's first expressions of affection and gratitude, and also for its uniquely arresting and motivating expressions of rage, hunger, pain, and fear. Since nothing in the infant's life will be more important than getting what its mother can provide -- and since its rage, fear, etc., can produce no harm to others, and may provide benefit to itself -- we should expect both sets of emotions to be engaged to the fullest possible extent. So, for example, a baby can be stimulated to rage just by the prolonged immobility of its mother's face. (And on reflection this is scarcely surprising, since an unresponsive mother constitutes one of the most important early dangers an infant can encounter.)

From an evolutionary perspective the distress caused by the infant's expressions of such negative emotions as rage and fear is part of their efficacy as instruments of duress on the infant's behalf. Wittgenstein remarked that in an infant's cry one could discern 'terrible forces different from anything commonly assumed. Profound rage, pain and lust for destruction.' But insofar as such forces have enabled their possessors to thrive by coercing mothers (or others) to provide more than they otherwise would, we should not be surprised at their existence even in the adorable baby. (Preliminary findings, moreover, suggest that the father's genome may take a dominant role in constructing not only the placenta but also the subcortical mechanisms of emotion, whereas

the mother's is dominant for the cortex. If so, then we might view the infant's emotions as more specifically taking up the egotistic extractive role of the discarded placenta at birth, and thereafter being modified, as the cortex, under the influence of the mother's care, takes forward the task of directing co-operation with the mother and other members of the family.)

We may be inclined to think of parental investment as serving only to enable the infant to survive; but parental efforts make a difference only by assisting adult reproductive success. In light of this we might expect early experience and cortical modification to be relevant to forming the representations which actually guide later reproductive activity, and this would exemplify the kind of emotional continuity-in-difference considered above. Such continuity holds, for example, among birds who use the imprinted image of their parents to learn to choose mates which both resemble their parents and differ from them. By this they achieve a balance between inbreeding and outbreeding. On Freud's account we use the early imagoes of parents and siblings in an analogous way: they both provide prototypes for later relations of reproductive affection (or at least for one strategy or another in this matter), and mark their originals as unsuitable for this purpose.

In this perspective we can regard Freud's account of the Oedipus complex as describing the way early experience provides emotional preparation for later reproductive competition. The boy's rivalry and identification with his father, for example, yields patterns for later competition and co-operation with other males, while early images of his mother contribute, as noted, directly to choice. (Freud's actual analyses of the Oedipal aspect of adult motives, moreover, often display the early relationship as involving a precursor of one or another adult reproductive strategy.) Freud's claims that early relationships engage what are to develop into full-fledged sexual motives, like his views regarding infantile aggression, remain so rebarbative that even evolutionary psychologists generally avoid contemplating them. Still, connections between early experience and later reproductive behaviour are found in animals who have far less protracted childhoods, and we should not expect evolution to be squeamish in using early nurturing relations as preparation for later reproductive ones.

5. Identification, projection, and images of self and others.

Freud understood our images of self and other as products of both identification and projection. Identification effects 'the assimilation of one ego to another' (XXII, 63). In this it forms an image of the self as like the other, that so that the two share traits and perspectives. We can envisage this as effected by systems like the 'mirror neurons', which respond to the behaviour of others by producing a first-person image of their activities in one's own motor system. Thus as Meltzoff and others report, newborn babies can imitate adults who open their mouths, stick out their tongues, and so on. In a psychoanalytic perspective this shows the early working of an ability to assume an image presented by the other, which is involved in many forms of socialization and learning, and which is basic to the formation of our self-image. Projection, by contrast, forms an image of the self as unlike the other, by dissociating motives, traits, or perspectives from the self. It represents the self as lacking, and the other as having, the trait or aspect in question, so that the other seems different from the self and alien to it.

These mechanisms work together to implement a division which we constantly impose in our psychological and social worlds, as between a self or us which we regard with favour, and an other or them which we take as correspondingly bad. Social psychologists have described the remarkable readiness with which we form such divisions, and the tendency to in-group cohesion and out-group aggression which accompanies even apparently trivial examples. Also they study the many psychological misrepresentations -- including self- and group-serving biases, mirror-image misperceptions of others, and systematic errors in psychological attribution -- by which the us is preferred, flattered, and exalted, and the them correspondingly denigrated. Schematically, we identify with aspects of others we regard as desirable, so identification creates images of a good self as allied in perspective

with good others. We project aspects which we feel undesirable, so projection creates images of a good self as opposed in perspective to bad others. Since the badness seen in others is often that of aspects dissociated from the self, the good self (or us) and bad other (or them) seem to confront one another with mirroring directness; and since the projections on each part lend predictive value to those on the other, these mechanisms tend to lock us in step in our perpetual dance of group suspicion and hostility

The Darwinian suggestion with which we began is that our tendency to ingroup cohesion and outgroup conflict has arisen from the co-evolution of two forms of aggressivity. Aggression which subserves ingroup cohesion (involving punishment and moral rage) has evolved in the service of outgroup aggression (involving potentially violent conflict). If so these two forms of aggression should appear in the individual as two sides of the same evolutionary coinage, in mechanisms which connect moral anger and punishment within the group with violence directed outside it. The mechanisms of identification and projection, and the phenomena of conscience to which they give rise, provide just such a connection.

6. Projection and self-esteem.

To see this we start with some observations as to how maintenance of self-esteem relates to images of in- and outgroups. In several experiments, subjects are given a small setback -- they are made to look clumsy, told that have failed a 'creativity test', or the like. After this they are probed for attitudes towards groups with whom they identify, or again from which they dissociate themselves (members of fraternities and sororities may be asked to compare their own with others, people may be asked about their attitudes to foreigners, etc.). People characteristically respond to such setbacks by thinking more favourably of their ingroups, and less favourably of the corresponding outgroups, then they otherwise would. It is as if the individual seeks to represent the self more favourably, by simultaneously magnifying the virtues of those it regards as us and denegrating those it regards as them.

Such fluctuations in the system of representation of us as opposed to them are unconscious; but we can compare them with phenomena described in full psychological detail by Freud. Thus consider the events which preceded the first specimen of Freud's Interpretation of Dreams, his dream of Irma's Injection (IV, 104ff). The afternoon before the dream Freud met Otto, his family doctor, who had visited the household of Freud's former patient Irma. Freud had treated Irma for hysteria by an early form of psycho-analysis, and thought he had done enough for her by explaining the causes of her illness, which he took to include the sexual frustrations of widowhood. Otto mentioned that he had been called away to give an injection, and this reminded Freud that another patient had recently been given injections by another doctor, apparently with an unsterile syringe. Freud himself, as he had reflected, was always careful to keep his syringes clean.

Also Otto said something which threatened Freud's self-esteem. He remarked that Irma looked 'better, but not yet well', and Freud thought he detected a reproof. Consequently he spent that evening writing up Irma's case history, so as to justify himself by discussing it with their senior colleague M. That night Freud dreamt that he and his wife were receiving guests, including Irma. On meeting Irma he said to her that if she still got pains, it was her own fault, for not sufficiently attending to his 'solution'. She replied that her pains were bad, and Freud, worried that he had failed to diagnose a physical illness, conducted an examination. They were joined by a number of colleagues from Freud's medical circle, including M; and it emerged that Irma was indeed suffering from a physical illness. Otto had given her an injection of the toxic chemical trimethylamin. At the close of the dream Freud censured Otto, stressing that 'Injections of that kind ought not be made so thoughtlessly. And probably the syringe had not been clean.'

Now this dream dealt with topics -- the illness of a friend and patient, Freud's own misdiagnosis, bad practice by

his family doctor, etc. -- which were sources of anxiety to Freud. Still, by considering it in the context provided by Freud's memories and associations, we can see that it was wishful, in the sense that it actually represented things as Freud would partly have wished them to be. Freud had gone to sleep wanting to justify himself to M in respect of what he felt to be Otto's accusation of bad medical practice, and in the dream he received the most thorough justification, and in the presence of M and other medical colleagues. The psychotherapy about which Freud was now so enthusiastic could not be blamed for Irma's continued suffering, nor could Freud himself: for Irma had a physical illness which Freud could not have hoped to cure. Moreover this illness had been given her by Otto's dirty toxic injection. Freud had felt guilty and reproached by Otto during the day; but by the end of his dream he was in a position to reproach Otto.

Further analysis showed that Freud's favourable representation of himself as opposed to Otto also touched on guilts which were older, deeper, and far more serious. For Irma was linked in his mind with another friend and another patient from years before. The patient was a woman he had killed, by repeatedly giving her what he took to be a routine injection; and in that case, as details of the dream reminded him, he had consulted with M. as well. The friend had suffered from incurable nerve pain, as well as addiction to the morphine he used to treat it. Freud was an enthusiastic advocate of the medical use of cocaine (and a user himself); and he had urged on the basis of his own experience that cocaine was not addictive. This was a serious dereliction, which, as he remembered, had brought 'serious reproaches down upon me'. Also he had persuaded his friend to use cocaine instead of morphine, and his friend had become addicted, and died a lingering and miserable death from cocaine injections. So by ending his dream with 'Injections of that kind ought not be made so thoughtlessly', Freud was turning towards Otto a reproach which, as he could realise on analysing the dream, he might well have directed against himself.

Finally, the misrepresentation of Otto went further still, and in a way which touched on sexual motivation and the boundaries of the self and body. Freud had placed particular emphasis in the dream on the chemical trimethylamine, and noted that it was connected with sexual metabolism. (It was thought to be a decomposition product of semen.) Sexuality, as he noted, was also linked with Irma's illness, which he took to be partly due to her widowhood. But as he later confided to Abraham, further analysis of the dream revealed his own 'sexual megalomania'. The women in the dream, including Irma, were widows, and Freud had them all. As he said, echoing a physicians' joke common at the time, 'There would be one therapy for widowhood of course. All sorts of intimate things, naturally.' Freud never seems to have acted inappropriately on sexual desire for a patient; but in the dream it was Otto rather than himself who harboured such desire, and Otto was depicted as satisfying it symbolically, by injecting Irma with a product of decomposed semen.

7. The social externalization of internal conflict.

Taking this in relation to our present theme, we can say that Otto's remark pricked Freud's self-esteem, by reminding him of traits and actions which he was liable to condemn in himself. In waking life Freud dealt with this in an ostensibly realistic and rational way, by writing a case report which would justify his present behaviour. In his dream, by contrast, he reacted in a way which was less reasonable, but simpler and more comprehensive. He projected the characteristics in question into Otto, and righteously censured them there. This use of projection thus transformed an internal and moral conflict (Freud's knowledge of his own unthinking and sometimes lethal medical behaviour vs. his own standards on the matter) into a social conflict concerning the conduct of another (Doctor Freud vs. Doctor Otto, as witnessed by their medical colleagues.)

We can see clearly how this way of thinking leads to an image of a good self as opposed to an other who may be censured or denigrated. Such thinking may also be co-ordinated within a group, as was that depicted in Freud's dream. Freud and Otto belonged to the same medical ingroup whose members were identified with one

another and formed an us in respect of shared values relating to medical practice and Jewish and Viennese culture more generally. Such within-group projection as is portrayed in this dream works to balance each individual's liability to personal condemnation, guilt, shame, and loss of self-esteem, by directing moral aggression away from the self and towards others in the group, and in accord with the individual's personal version of the norms of that group. Where group identification dominates and contains individual projection in the way, identification and projection work together to create a morally cohesive group: one whose members are ready to feel guilt and shame in relation to one another, and also to subject one another to censure or punishment, by reference to motives and standards which are psychologically shared as obtaining among them.

We can also readily see how projection might dominate identification so as to yield a denigrated outgroup. Thus Trivers -- who takes projection as one of a series of mechanisms which have evolved in the service of the unconscious deception of others -- cites the example of homophobic men. Experiments indicate that heterosexual men who most energetically dissociate themselves from homosexuals, and who regard homosexual traits with particular discomfort and disgust -- that is, heterosexuals for whom homosexuals are a bad them, as opposed to a good us -- are in fact more likely than others to experience erections while watching homosexual pornography, and also to deny that they have done so. This is consistent with the idea that in condemning homosexuality in others these men, like Freud in his dream, are censuring in others traits which they are dissociating from their own selves.

In this case projection concerning a single aspect of the self can create at once a potentially cohesive ingroup and a relatively well-marked outgroup; and the tendency to condemnation and punishment related to the projected aspect may be magnified rather than restrained by the identificatory ties which bind the projecting group. So we find group phenomena such as queer-bashing, the legal persecution of homosexuals, their organized murder by Nazis and Falangists, etc. Also it is clear that the projective defining of an outgroup need not rest on any particular internal conflict such as we find in homophobia. For since projection can always enhance the self-esteem of the projector, a group or individual marked out for hostility is liable to be targeted by a wide range of projections which have little in common besides conflict in the individuals from whom they emanate.

8. The individual, the family, and groups outside.

On the account we are considering the motives which govern outgroup violence are to be seen as part of our evolutionary heritage. They will therefore be present in some form from early in life, and are likely to be expressed and modified by developmental processes which are sensitive to local environmental conditions, as are those by which the infant builds up its images of self and other. The baby receiving parental care is thus at the same time identifying with the adult who provides it, and so laying down images of itself as closely related to another whose ways of being and modes of caring and relating it will later be able to assume as its own. At the same time, particularly in anger and frustration, it creates projective images of others who are radically dissociated from this good us, and are potentially bad.

As this dialectic proceeds the infant repeatedly identifies with others, including those previously taken as targets of projection, and thus comes to represent itself in more morally and motivationally complex ways. The child is thus bound by identification to members of its own family and a series of related ingroups, whose norms are woven into the fabric of the self. At the same time projection operates to create a complementary series of others and outgroups, who are perforce different and alien. The same processes as maintain self-esteem and cohesion within the individual (as illustrated in Freud's dream) thus perform a comparable function within the family and larger groups. (In the case of the family the final binding identifications were those which effected the dissolution of the Oedipus complex, and hence also marked the path to a reproductive place in adult society.)

Inherent in this, however, is a tendency to represent others and outgroups as liable to condemnation by the standards which unite the self and ingroups. As Freud observed, 'It is always possible to bind together a considerable number of people in love, so long as there are other people left over to receive the manifestations of their aggressiveness.' (XXI, 114). So the family appears as the first of a series of social units which, like the individual, tend to maintain an idealised and co-operative image of things within, and a corresponding denigratory and conflict-inducing image of those without.

Every time two families become connected by marriage, each of them thinks itself superior to or of better birth than the other. Of two neighbouring towns each is the other's most jealous rival; every little canton looks down upon the others with contempt. Closely related races keep one another at arms length...We are no longer astonished that greater differences should lead to an almost insuperable repugnance, such as the Gallic people feel for the Germans, the Aryan for the Semite, and the white races for the coloured. (XVIII, 101; cf also XVIII, 102)

And in accord with the role of projection he stresses that

..When once the Apostle Paul had posited universal love between men as the foundation of his Christian community, extreme intolerance on the part of Christendom towards those who remained outside it became the inevitable consequence..Neither was it an unaccountable chance that the dream of a Germanic world-dominion called for anti-Semitism as its complement; and it is intelligible that the attempt to establish a new, communist civilisation in Russia should find its psychological support in the persecution of the bourgeois. (XXI, 114-5)

Freud was able to develop his thinking about this matter only in a schematic way. He urged that the cohesiveness of many groups results from the way their members identify with one another by taking a common figure -- such as a charismatic leader (or in the case of groups which are not led by individuals a common creed or set of norms) -- as representing what they regard as good, thereby reconstructing their egos in a common way (XVIII, 67ff). This serves to ensure that the individual's self-esteem is regulated by reference to the idealised persons, creed, or norms which bind the group, so that aggression in service of these is a source of pride rather than guilt or shame. Individuals may also be identified by other means, such as the projection of their bad aspects -- and in particular their hostile and aggressive motives -- into some common locus, which therefore becomes a focus of legitimated and collective hate. In finding or creating such internal good or external bad objects members of a group feel at once unified, purified, and able to focus aggression in a way which is validated by common ideals. Thus the same formations of conscience which regulate aggression within the group also provide for its unbridled expression against others outside. And although these rough ideas have been greatly refined by Freud's successors, we can see that they complement the evolutionary considerations noted at the beginning.

9. Infantile roots in more detail.

The individual conscience or super-ego serves to specify what is desirable or otherwise to the individual and so to determine what he or she is liable to identify with, or again to project. But this conscience is itself built up by these same mechanisms: it is formed by the individual identifying with, and so taking as its own, images of condemnation, criticism, or punishment which come from others, and which may have been influenced by prior

projections. We have been hypothesizing that these mechanisms operate from very early in life, and during the period when the infant's emotions are being co-ordinated in the co-operative and coercive modes of obtaining maternal investment discussed above. In consequence we should expect the early images of self-and-us involving identification, assimilation, and co-operation, to be very different from those of self-and-them involving projection, differentiation, and coercive conflict.

Freud described the basic representations of self and other built up in the first year as 'the earliest parental imagoes' (XXII, 64), and he noted that they show a particularly radical opposition. The affectionate and co-operative aspect of the infant's relationship with its mother apparently began with satisfaction at the breast and was extended to the caring mother as a whole. This was 'laid down unalterably for a whole lifetime, as the first and strongest love-object and as the prototype of all later love relations -- for both sexes.' (XXIII, 188). By contrast the conflictual relation was represented as particularly harsh, punitive, and cruel. These coercive images made up the most primitive aspects of the super-ego, and Freud regarded them as so suffused with 'merciless violence' (XIX, 53) as to suggest that they were formed under the influence of an innate capacity for lethal aggression.

In section 4 above we stressed that the development of emotion should show a particular kind of continuity-in-difference: continuity owed to the repeated engagement of the same subcortical systems of motivation and difference owed to changes in the objects and situations in relation to which the emotions were directed and co-ordinated. In a Freudian perspective this continuity takes a particular form. The basic mechanisms of emotion tend to operate through life in patterns which are begun during the organization of the cortex in the first year. The earliest representations of self and other, as formed by assimilating identification and differentiating projection in the context of maternal investment, are the first to organize the engagement and expression of emotion. These are overlain by later images, but they nonetheless influence our representation of self and other as identification and projection proceed into childhood and beyond.

10. Another clinical example.

This kind of continuity often emerges in striking detail in child analysis. Thus to take an example from the play of a little female patient who suffered from depression.

Erna often made me [Melanie Klein] be a child while she was a mother or teacher. I then had to undergo fantastic tortures and humiliations. If in the game anyone treated me kindly, it generally turned out that the kindness was only simulated. The paranoid traits showed in the fact that I was constantly spied upon, people divined my thoughts, and the father or teacher allied with the mother against me -- in fact, I was always surrounded by persecutors. I myself, in the role of the child, had constantly to spy on and torment the others. Often Erna herself played the child. Then the game generally ended in her escaping the persecutions (on these occasions the 'child' was good), becoming rich and powerful, being made a queen and taking a cruel revenge on her persecutors.

Again, in her role as Queen, the same little girl played at getting married.

[When she] had celebrated her marriage to the king, she lay down on the sofa and wanted me, as the king, to lie down beside her. As I refused to do this I had to sit on a little chair by her side, and knock at the sofa with my fist. This she called

'churning'...immediately after this she announced that a child was creeping out of her, and she represented the scene in a quite realistic way, writhing about and groaning. Her imaginary child then had to share its parents' bedroom and had to be a spectator of sexual intercourse between them. If it interrupted, it was beaten...If she, as the mother, put the child to bed, it was only in order to get rid of it and to be able to be united with the father all the sooner.

Freud had noted that adults frequently symbolize their parents in dreams by the figures of king and queen. This little girl's play used the same symbolism in representing her relations with her parents. In real life she expressed great fondness for her parents and did not want to be separated from her mother. In her play, by contrast, she depicted parental figures as tormenting, cruel, and punishing (if the child interrupted it was beaten...); and in her depictions the same emotions of conflict appeared and re-appeared, now in one locus and now in another, as in accord with the dialectic of identification and projection described above. These depictions thus reflected 'the earliest parental imagoes', which informed the punitive conscience in which her depression was rooted.

11. Empirical developmental psychology.

We can also go some way towards tracing these developments in other and more empirically accessible ways. Let us begin by attending to a particularly striking series of changes which occur towards the end of the first year. These are the interrelated appearances of separation distress, stranger anxiety, and social referencing. As Schaffer observed:

..crying or some other form of protest on termination of contact with an adult was apparent from the early months on...in the first half-year infants were found to cry for attention from anyone, familiar or strange, and though responsiveness to strangers tended to be less immediate and less intense than to the mother, both could quieten the infant and the departure of both could evoke protest. At the age of approximately seven months, however, a change took place. The infants still protested at the same situations, but now their protests were directed solely at certain specific individuals. The departure of these alone elicited crying and only their renewed attention terminated the infants' distress. Strangers, quite on the contrary, upset the infant by approaching him.

At this time infants also begin to rely on their mothers as trusted sources of information about what is safe as opposed to dangerous, and hence about strangers. As Campos reports,

..the communication between mother and infant becomes extended to include a whole event in the environment. During this period the infant can appreciate what in the environment is the target of the other person's emotional reaction, much as the infant at this age can appreciate the referent of the mother's pointing or gaze behaviour...Accordingly, during this period social referencing begins...the deliberate search for emotional information in another person's face, voice, and gesture, to help disambiguate uncertainties in the environment...a two-person communication about a third event...

12. Attachment: consolidation and continuity.

These developments mark the consolidation of attachment, as studied in recent developmental psychology. For shortly after their emergence infants start to show regular and enduring patterns in the way they respond to being separated with their mother and left with a stranger, as measured in the experimental paradigm of Ainsworth's 'strange situation'. The ways infants cope with the mother's absence and the stranger's presence, and the varying attitudes with which they meet the mother on return (e.g. forgiving and greeting, with hidden or overt unforgiving anger, with confusion, etc.) can be classified in empirically reliable ways. These responses yield well-defined and predictive categories of secure, avoidant, ambivalent, and disorganized attachment, and they can in turn be seen to reflect the infants' differing initial resolutions of their own internal emotional conflicts, and hence the way they project these conflicts into social life. As a wide range of empirical studies are beginning to demonstrate, they apparently mark the inception of basic and potentially enduring patterns of relationship to others.

We have seen in sections 9 and 10 how psychoanalysis describes some of the continuities and differences in emotional engagement discussed in section 4. Such continuities are also made visible by the tracing of patterns of attachment. The differing emotional responses to losing and regaining contact towards the end of the first year can be found in later losses and reunions as life progresses; and they also show in phantasy and art, in relations to teachers and other children, in adolescent social behaviour, in courting and reproductive strategy; in parenting; and in mourning and grieving. As regards aggression, for example, we can note that children who are securely attached -- and therefore relatively free of emotional conflict within themselves -- do not seem prone to aggressive conflict with others. When secure children play in pairs with others of any category, they neither victimise their playmates nor become victims themselves. By contrast pairs of insecurely attached children almost always fall into such patterns; and those whose initial relation to the mother is so conflicted as to be disorganized tend to become coercive and controlling as childhood unfolds. The connections found in studies of attachment are of course not as precise or detailed as those which can be traced in the kinds of psychoanalytic examples we have considered. Still they are of the same general kind, and the fact that they can be detected by other than psychoanalytic means gives good reason to regard such continuities as real and significant.

Also these patterns pass from parent to infant. The categories of secure and insecure attachment observed for year-old babies map to counterparts discernible in the ways adults talk and think about their own childhoods. The category of an infant's attachment can be predicted with impressive regularity from the counterpart category assigned to its mother (or adoptive mother), even before the infant is born. The best explanation for this would seem to be that infants start to acquire basic patterns of emotional expression and relationship by identification (and perhaps projection) as between parent and child, as described above.

13. First representations: self and other and us and them.

The correlation between the seven-month-infant's new affectionate and communicative relation with mother and new fear of strangers indicates that the infant has now imposed upon its experience both a form of distinction between self and other, and a related distinction between a good us and a potentially bad them. These are linked; for as the emerging I of the infant self is a locus of individual feeling and will, so the emerging we of the mother/infant pair is a locus of shared feeling and collective will, particularly in relation to threats from outside, such as strangers apparently represent. The infant's emerging distinction between self and other thus resolves out of a prior but less focussed sense of contrasting relationships, with the self already anchored in affectionate and information-gathering relations with carers, kin, and other local familiars.

Together with the material noted above, this strongly suggests that the innate propensity which Boyd and Richerson describe -- 'to cooperate with sympathy-inspiring ingroup members, and to use symbolic markers to define ingroups' -- begins with relations of identification with the mother, and has its initial parameters set before the end of the first year. The same applies to the other side of the coin, the infant's projective distrust of the alien. But although this development seems clearly marked in the infant's behaviour, we should note that there is something paradoxical about it. The infant distinguishes its mother from other people from birth, and by the fourth month has developed many special ways of relating to her, including elaborate and affectionate 'proto-conversations', which it conducts only with her. So the question arises: if the seven-month infant already has a longstanding specific relationship with its mother, why does it now so sharply distinguish between mother (and other familiars) and strangers? And why does it so vigorously protest the departure of the one, and so readily fear the approach of the other?

The best explanation of this seems to be that the infant's prior sense of relationship includes its directing both its strongest affections and fiercest hostilities towards the mother herself, but without yet grasping that these emotions are directed towards one and the same enduring individual, or indeed towards a person at all. The change observable at seven months would thus result from the infant's working out that its mother was a single continuing communicating being, and thus unique and irreplaceable, so that her presence became uniquely valuable and her absence likewise threatening. This is in effect the hypothesis advanced Melanie Klein, in her account of the paranoid/schizoid and depressive positions. Thus the infant's initial consolidation of an image of itself as in a co-operative (as opposed to a conflictual) relation with its mother, which we see in separation distress and social referencing, would have as its projective corollary the initial consolidation of an image of others who were bad and threatening, which we see in fear of strangers. The opposition between good us and bad them would thus lie near the core of human individuality. It would be a consequence of the interaction of identification and projection with the infant's attainment of the ability to represent itself and others as single and continuously existing.

Specific behavioural manifestations of this development may be observable in experiments conducted by Bower and Bell. Bower describes

..A simple optical arrangement that allows one to present infants with multiple images of a single object..If one presents the infant with multiple images of its mother -- say three 'mothers' -- the infant of less than five months is not disturbed at all but will in fact interact with all three 'mothers' in turn. If the setup provides one mother and two strangers, the infant will preferentially interact with its mother and still show no signs of disturbance. However, past the age of 5 months (after the co-ordination of place and movement) the sight of three 'mothers' becomes very disturbing to the infant. At this same age a setup of one mother and two strangers has no effect. I would contend that this in fact shows that the young infant (less than five months old) thinks it has a multiplicity of mothers, whereas the older infant knows it has only one.

This admits interpretation as showing that while at four months the infant takes its mother as a psychological other to whom it relates, it does not yet regard her as a single enduring person, as opposed to a potential multiplicity of presences whose spatio-temporal dimensions are as yet indeterminate. By five months, however, the baby opposes uniqueness to episodic multiplicity, and starts to view the mother (and by implication/identification its own self) as individual, continuous, and lasting.

We can also observe related changes in the infant's expressions of emotion. Thus when someone makes a four-

month baby angry by impeding its movements, the baby directs its anger at the impeding hand. The four-month-old seems not to have worked out that the hand is part of, and so animated by, another person. A seven-month-old, by contrast, directs its anger to the impeding agent's face. By this age the baby is capable of monitoring others' expressions and responding in complex ways to the feelings they show; and the identity of the frustrating person now apparently matters as well. The seven-month-old protests at being impeded by either its mother or a stranger; but it apparently expects its mother to comfort it after frustration by the stranger, and so is especially upset when she does not do this. So by seven months the infant's anger towards its mother has been modified by the representation of itself as requiring, and her as providing, comfort and protection where strangers are concerned. Such representationally and cortically modified anger thus already differs from the newborn's initial subcortical rage.

Before the infant represents itself and its mother in these ways, however, it evidently makes her the target of anger and fear. As noted at the outset the young infant seems particularly prone to experience anger or fear whenever its mother is unresponsive or alien. Carpenter describes how infants presented with their mother's face in strange circumstances 'would tense as they averted their gaze appearing to keep the target in peripheral view. From this position they would frequently take furtive glances. Sometimes they would turn ninety degrees away.' She noted that looking right away, as if trying to end the episode, was particularly frequent when infants were shown their mother's face speaking with a different voice. Again, Cohn and Tronick observed babies of just over three months, comparing the ways they related to their mothers in normal circumstances with their responses when the mother's deliberately behaved in an expressionless way. Normally the babies alternated between watching the mother, showing positive feeling, and playing interactively with her. In the abnormal circumstances, by contrast, they were fearful and suspicious, and alternated between attending warily, protesting, and turning away.

This is how infants later act with strangers while consolidating their images of self and other as unique lasting beings. So these observations are consistent with the idea that strangers -- and by extension members of outgroups generally -- inherit the fear and rage directed at mothers who seem strange or unresponsive in the first months of life. This provides a continuity between the 'merciless violence' which Freud ascribed to the earliest parental imagoes at the basis of conscience, and the violent outgroup aggression characteristic of our species life. We noted earlier that Darwin and his successors have indicated how the formations of conscience might have evolved by binding humans in internally cohesive and externally rivalrous groups. We can now see that Freud and his successors have complemented this, by describing in detail how these same formations create a moral unity encompassing punishment within groups who co-operate by identification, and also set these groups against one another in projection-driven conflict.

According to the discussion above psychoanalysis has also traced these conflicts to their individual psychological roots. These lie in the infant's early pre-personal and fragmentary projective images of the other, and hence in its first confused unknowing fears and desperate primitive extractive rage. If this is correct, then work in psychoanalysis and attachment has a particularly central place. For these disciplines are unique in addressing the task of moderating these emotions in infancy, overseeing their continuities during development, and altering the images that channel them into destructive conflict as life unfolds.