VINTAGE

Intimate Behaviour

Desmond Morris

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About the Book

One of the best chronicles of human intimacy – from the handshake through the twelve stages that people pass through on their way to the total sexual embrace.

About the Author

Desmond Morris was born in Wiltshire in 1928. After gaining a degree in zoology from Birmingham University, he obtained his D.Phil. from the University of Oxford. He became curator of mammals at London Zoo in 1959, a post he held for eight years.

He was already the author of some fifty scientific papers and seven books before completing *The Naked Ape* in 1967, which was to sell over 10 million copies throughout the world and be translated into almost every known language.

Desmond Morris has made many television programmes and films on human and animal behaviour, his friendly and accessible approach making him popular with both adults and children, and he is now one of the best-known presenters of natural history programmes.

He is also an accomplished artist and his books include *The Biology of Art, The Art of Ancient Cyprus* and *The Secret Surrealist*, as well as his familiar series of *Manwatching, Bodywatching, Animalwatching* and *Babywatching*. His new study of the meaning of gestures, *Bodytalk: A World Guide to Gestures*, is published by Jonathan Cape.

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DESMOND MORRIS

Intimate Behaviour

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INTRODUCTION

To be intimate means to be close, and I must make it clear at the outset that I am treating this literally. In my terms, then, the act of intimacy occurs whenever two individuals come into bodily contact. It is the nature of this contact, whether it be a handshake or a copulation, a pat on the back or a slap in the face, a manicure or a surgical operation, that this book is about. Something special happens when two people touch one another physically, and it is this something that I have set out to study.

My method has been that of the zoologist trained in ethology, that is, in the observation and analysis of animal behaviour. I have limited myself, in this case, to the human animal, and have given myself the task of observing what people do – not what people say, or even what they say they do, but what they actually do.

The method is simple enough – merely to use one's eyes – but the task is not as easy as it sounds. The reason is that, despite the self-discipline, words persist in filtering through and preconceived ideas repeatedly get in the way. It is hard for an adult human being to look at a piece of human behaviour as if he were seeing it for the very first time, but that is what the ethologist must attempt to do if he is to bring new understanding to the subject. The more familiar and commonplace the behaviour, of course, the worse the problem becomes; in addition, the more intimate the behaviour, the more emotionally charged it becomes, not only for the performers, but also for the observer.

Perhaps this is why, despite their importance and interest, so few studies have been made of commonplace human intimacies. It is far more comfortable to study

something as remote from human involvement as, say, the territorial scent-marking behaviour of the giant panda, or the food-burying behaviour of the green acouchi, than it is to tackle scientifically and objectively something as ‘well known’ as the human embrace, the mother’s kiss or the lover’s caress. But in a social environment that is ever more crowded and impersonal, it is becoming increasingly important to reconsider the value of close personal relationships, before we are driven to ask the forlorn question, ‘Whatever happened to love?’ Biologists are often wary of using this word ‘love’, as if it reflected no more than some kind of culturally inspired romanticism. But love is a biological fact. The subjective, emotional rewards and agonies associated with it may be deep and mysterious, and difficult to deal with scientifically, but the outward signs of love – the actions of loving – are readily observable, and there is no reason why they should not be examined like any other type of behaviour.

It has sometimes been said that to explain love is to explain it away, but this is quite unjustified. In a way, it is an insult to love, implying that, like an ageing, cosmetic-caked face, it cannot stand scrutiny under a bright light. But there is nothing illusory about the powerful process of the formation of strong bonds of attachment between one individual and another. This is something we share with thousands of other animal species – in our parent-offspring relationships, our sexual relationships and our closest friendships.

Our intimate encounters involve verbal, visual and even olfactory elements, but, above all, loving means touching and body contact. We often talk about the way we talk, and we frequently try to see the way we see, but for some reason we have rarely touched on the way we touch. Perhaps touch is so basic – it has been called the mother of senses – that we tend to take it for granted. Unhappily, and almost without our noticing it, we have gradually become

less and less touchful, more and more distant, and physical untouchability has been accompanied by emotional remoteness. It is as if the modern urbanite has put on a suit of emotional armour and, with a velvet hand inside an iron glove, is beginning to feel trapped and alienated from the feelings of even his nearest companions.

It is time to take a closer look at this situation. In doing so, I shall endeavour to keep my opinions to myself, and to describe human behaviour as seen through the objective eyes of a zoologist. The facts, I trust, will speak for themselves, and will speak loudly enough for the reader to form his own conclusions.

1

THE ROOTS OF INTIMACY

AS AN ADULT human being, you can communicate with me in a variety of ways. I can read what you write, listen to the words you speak, hear your laughter and your cries, look at the expressions on your face, watch the actions you perform, smell the scent you wear and feel your embrace. In ordinary speech we might refer to these interactions as ‘making contact’, or ‘keeping in touch’, and yet only the last one on the list involves bodily contact. All the others operate at a distance. The use of words like ‘contact’ and ‘touch’ to cover such activities as writing, vocalization and visual signalling is, when, considered objectively, strange and rather revealing. It is as if we are automatically accepting that bodily contact is the most basic form of communication.

There are further examples of this. For instance, we often refer to ‘gripping experiences’, ‘touching scenes’ or ‘hurt feelings’, and we talk of a speaker who ‘holds his audience’. In none of these cases is there an actual physical grip, touch, feel or hold, but this does not seem to matter. The use of physical-contact metaphors provides a satisfying way of expressing the various emotions involved in the different contexts.

The explanation is simple enough. In early childhood, before we could speak or write, body contact was a dominant theme. Direct physical interaction with the mother was all-important and it left its mark. Still earlier, inside the womb, before we could see or smell, leave alone speak or write, it was an even more powerful element in

our lives. If we are to understand the many curious and often strongly inhibited ways in which we make physical contact with one another as adults, then we must start by returning to our earliest beginnings, when we were no more than embryos inside our mothers' bodies. It is the intimacies of the womb, which we hardly ever consider, that will help us to understand the intimacies of childhood, which we tend to ignore because we take them so much for granted, and it is the intimacies of childhood, re-examined and seen afresh, that will help us to explain the intimacies of adult life, which so often confuse, puzzle and even embarrass us.

The very first impressions we receive as living beings must be sensations of intimate body contact, as we float snugly inside the protective wall of the maternal uterus. The major input to the developing nervous system at this stage therefore takes the form of varying sensations of touch, pressure and movement. The entire skin surface of the unborn child is bathed in the warm uterine liquid of the mother. As the child grows and its swelling body presses harder against the mother's tissues, the soft embrace of the enveloping bag of the womb becomes gradually stronger, hugging tighter with each passing week. In addition, throughout this period the growing baby is subjected to the varying pressure of the rhythmic breathing of the maternal lungs, and to a gentle, regular swaying motion whenever the mother walks.

Towards the end of pregnancy, in the last three months before birth, the baby is also capable of hearing. There is still nothing to see, taste or smell, but things that go bump in the night of the womb can be clearly detected. If a loud, sharp noise is made near to the mother's belly, it startles the baby inside and makes it jump. The movement can easily be recorded by sensitive instruments and may even be strong enough for the mother to feel it herself. This means that during this period before birth the baby is

undoubtedly capable of hearing the steady thump of the maternal heartbeat, 72 times every minute. It will become imprinted as the major sound-signal of life in the womb.

These, then, are our first real experiences of life – floating in a warm fluid, curling inside a total embrace, swaying to the undulations of the moving body and hearing the beat of the pulsing heart. Our prolonged exposure to these sensations in the absence of other, competing stimuli leaves a lasting impression on our brains, an impression that spells security, comfort and passivity.

This intra-uterine bliss is then rudely and rapidly shattered by what must be one of the most traumatic experiences in our entire lives – the act of being born. The uterus, in a matter of hours, is transformed from a cosy nest into a straining, squeezing sac of muscle, the largest and most powerful muscle in the whole human body, athlete's arms included. The lazy embrace that became a snug hug now becomes a crushing constriction. The newly delivered baby displays, not a happy, welcoming grin, but the strained, tightly contorted facial expressions of a desperate torture victim. Its cries, which are such sweet music to the anxiously waiting parents, are in reality nothing short of the wild screams of blind panic, as it is exposed to the sudden loss of intimate body contact.

At the moment of birth the baby appears floppy, like soft, wet rubber, but almost at once it makes a gasping action and takes its first breath. Then, five to six seconds later, it starts to cry. Its head, legs and arms begin to move about with increasing intensity and for the next thirty minutes it continues to protest in irregular outbursts of limb-thrashing, grasping, grimacing and screaming, after which it usually subsides exhausted into a long sleep.[fn1]

The drama is over for the moment, but when the baby reawakens it is going to need a great deal of maternal care, contact and intimacy to compensate it for the lost comforts

of the womb. These post-uterine substitutes are provided by the mother, or those who are helping her, in a number of ways. The most obvious one is the replacement of the embrace of the womb by the embrace of the mother's arms. The ideal maternal embrace enfolds the baby, bringing as much of its body surface into contact with the mother as is possible without restricting breathing. There is a great difference between embracing the baby and merely holding it. An awkward adult who holds the infant with a minimum of contact will soon discover how dramatically this reduces the comforting value of the action. The maternal chest, arms and hands must do their best to re-create the total engulfment of the lost womb.

Sometimes the embrace alone is not enough. Other womb-like elements have to be added. Without knowing quite why, the mother starts to rock her child gently from side to side. This has a strong soothing effect, but if it fails she may get up and start slowly walking back and forth with the baby cradled in her arms. From time to time she may joggle it up and down briefly. All these intimacies have a comforting influence on a restless or crying child, and they do so, it seems, because of the way they copy certain of the rhythms experienced earlier by the unborn baby. The most obvious guess is that they succeed by re-creating the gentle swaying motions felt inside the womb whenever the mother walked about during her pregnancy. But there is a catch to this. The speed is wrong. The rate of rocking is considerably slower than the rate of normal walking. Furthermore, 'walking the baby' is also done at a pace that is much slower than an average walk of the ordinary kind.

Experiments were carried out recently to ascertain the ideal rocking speed for a cradle. At very low or very high speeds the movements had little or no soothing effect, but when the mechanically operated cradle was set at between sixty and seventy rocks per minute there was a striking change, the babies under observation immediately

becoming much calmer and crying much less. Although mothers vary somewhat in the speed at which they rock their babies when they hold them in their arms, the typical maternal rocking rate is much the same as that in the experiments, and the pace when ‘walking the baby’ is also in that region. An average walking rate under ordinary circumstances, however, usually exceeds a hundred paces per minute.

It seems, therefore, that although these comforting actions may well soothe by virtue of the way they copy the swaying motions felt inside the womb, the speed at which they are carried out requires some other explanation. There are two rhythmic experiences available to the unborn child, apart from the mother’s walking: the steady rise and fall of her chest as she breathes, and the steady thump of her heartbeat. The breathing rate is much too slow to be considered, being roughly between ten and fourteen respirations per minute, but the heartbeat speed, at 72 beats per minute, looks like the ideal candidate. It appears as if this rhythm, whether heard or felt, is the vital comforter, reminding the baby vividly of the lost paradise of the womb.

There are two other pieces of evidence that support this view. First, the recorded heartbeat sound, if played experimentally to babies at the correct speed, also has a calming effect, even without any rocking or swaying movement. If the same sound is played faster, at over a hundred beats per minute – that is, at the speed of normal walking – it immediately ceases to have any calming effect. Second, as I reported in *The Naked Ape*, careful observations have revealed that the vast majority of mothers hold their babies in such a way that their infants’ heads are pressed to the left breast, close to the maternal heart. Even though these mothers are unaware of what they are doing, they are nevertheless successfully placing their babies’ ears as close as possible to the source of the

heartbeat sound. This applies to both right-handed and left-handed mothers, so that the heartbeat explanation appears to be the only one that fits.

Clearly this is susceptible to commercial exploitation by anyone who takes the trouble to manufacture a cradle that can be mechanically rocked at heartbeat speed, or that is equipped with a small machine that plays a non-stop amplified recording of the normal heartbeat sound. A de luxe model incorporating both devices would no doubt be even more effective, and many a harassed mother could simply switch on and relax as it automatically and relentlessly calmed her baby to sleep, just as her washing machine so efficiently deals with the baby's dirty clothing.

Inevitably it is only a matter of time before such machines do appear on the market, and undoubtedly they will do a great deal to assist the busy mother of modern times, but there is an inherent danger in their use if it becomes excessive. It is true that mechanical calming is better than no calming, both for the mother's nerves and for the baby's well-being, and where demands on the mother's time are so heavy that she has no other choice, then mechanical calming will certainly be advantageous. But old-fashioned maternal calming is always going to be better than its mechanical replacement. There are two reasons for this. First, the mother does more than the machine could ever do. Her comforting actions are more complex and contain special features that we have yet to discuss. Second, the intimate interaction between mother and child that occurs whenever she comforts it by carrying, embracing and rocking it provides the important foundation for the strong bond of attachment that will soon grow between them. True, during its first months after birth the baby will respond positively to any friendly adult. It accepts any intimacies from any individual who offers them, regardless of who they are. After a year has passed, however, the child will have learned its own mother and

will have started to reject intimacies from strangers. This change is known to occur around the fifth month in most babies, but it does not happen overnight and there is great variability from child to child. It is therefore difficult to predict with certainty the exact moment at which the infant will begin to respond selectively to its own mother. It is a critical time, because the strength and quality of the later bond of attachment will depend on the richness and intensity of the body-contact behaviour that occurs between mother and infant at just this threshold phase.

Obviously, excessive use of mechanical mothers during this vital stage could be dangerous. Some mothers imagine that it is the provision of food and other similar rewards that make the baby become attached to them, but this is not so. Observations of deprived children and careful experiments with monkeys have shown conclusively that it is instead the tender intimacies with the soft body of the mother which are vital in producing the essential bond of attachment that will be so important for successful social behaviour in later life. It is virtually impossible to give too much body-loving and contact during these critical early months, and the mother who ignores this fact will suffer for it later, as will her child. It is difficult to comprehend the warped tradition which says that it is better to leave a small baby to cry so that it does not ‘get the better of you’, which is encountered all too often in our civilized cultures.

To counterbalance this statement, however, it must be added that when the child is older, the situation changes. It then becomes possible for the mother to be over-protective and to hold her child back just when it should be striking out and becoming more independent. The worst twist that can happen is for a mother to be under-protective, strict and disciplinary with a tiny infant, and *then* over-protective and clinging with an older child. This completely reverses the natural order of bond development, and sadly it is a sequence that is frequently observed today. If an older

child, or adolescent, ‘rebels’, this twisted pattern of rearing is very likely to be found lurking in the background. Unfortunately, by the time this happens it is a little late in the day to correct the early damage that has been done.

The natural sequence I have described here – love first, freedom later – is basic not only to man, but also to all the other higher primates. Monkey mothers and ape mothers keep up the body-contact intimacies non-stop from the moment of birth for many weeks. They are greatly aided, of course, by the fact that baby monkeys and apes are strong enough to cling to them for long periods of time without assistance. In the great apes, such as the gorilla, the babies may take a few days to get started as active clingers, but after that, despite their weight, they manage it with remarkable tenacity. The smaller monkeys cling from the moment of birth, and I have even seen one half-born baby clutching tightly with its hands to the body of its mother during delivery, while the rear part of it was still inside the womb.

The human baby is much less athletic. Its arms are weaker and its short-toed feet are clingless. It therefore poses a much greater problem for the human mother. Throughout the early months it is she who must perform all the physical actions that serve to keep her and her baby in bodily contact. Only a few fragments of the infant’s ancestral clinging pattern remain, rudimentary reminders of its ancient, evolutionary past, and even these are of no practical use today. They last for little more than two months after birth and are known as the grasp reflex and the Moro reflex.

The grasp reflex arrives early, the sixth-month-old foetus already having a strong grip. At birth, stimulation of the palm results in a tight clasping of the hand, and the grasp is strong enough for an adult to lift the whole weight of the baby’s body in this way. Unlike the young monkey, however, this clinging cannot be sustained for any length of time.

The Moro reflex can be demonstrated by sharply and swiftly lowering the baby through a short distance – as if it were being dropped – while supporting it under its back. The infant's arms quickly fling outwards, with the hands opening and the fingers spreading wide. Then the arms come together again, as if groping for an embrace to steady itself. Here we can see clearly the ghost of the ancestral primate clinging action that is employed so effectively by every healthy young monkey. Recent studies have shown this even more clearly. If the baby feels itself dropping down while at the same time its hands are held and allowed to grasp, its reaction is not first to fling its arms wide before making the embracing action, but simply to go straight into the tight clinging response. This is precisely what a startled young monkey would do if it were grasping lightly on to the fur of its resting mother, who then suddenly leapt up in alarm. The infant monkey would instantly tighten its grip in this way, ready to be carried off rapidly by the mother to safety. The human baby, until it is eight weeks old, still has enough of the monkey left in it to show us a remnant of this response.

From the human mother's point of view, however, these 'monkey' reactions are of no more than academic interest. They may intrigue zoologists, but they do nothing in practical terms to lighten the parental burden. How, then, can she deal with the situation? There are several alternatives. In most so-called primitive cultures, the baby is almost constantly in touch with the mother's body during its early months. When the mother is resting, the baby is held all the time, either by herself or by someone else. When she sleeps, it shares her bed. When she works or moves about, it is carried strapped firmly to her body. In this way she manages to provide the almost non-stop contact typical of other primates. But modern mothers cannot always go to such lengths.

An alternative is to swathe the unheld baby in a sheath of clothes. If the mother cannot offer the baby the snug embrace of her arms or close contact with her body, day and night, hour after hour, she can at least provide it with the snug embrace of a wrapping of smooth, soft clothing, as an aid to replacing the lost engulfment of the womb. We usually think of clothing the baby merely as an act of keeping it warm, but there is more to it than this. The embrace of the material, as it wraps around and makes contact with the body surface of the infant, is equally important. Whether this wrapping should be loose or firm, however, remains a hotly debated point. Cultures vary considerably in their attitude towards the ideal tightness of this post-natal cloth-womb.

In the Western world today, tight swaddling is generally frowned upon, and the baby, even when new-born, is wrapped only lightly, so that it can move its body and limbs freely if it feels so inclined. Experts have expressed the fear that ‘it might cramp the child’s spirit’ to wrap it more firmly. The vast majority of Western readers would instantly agree with this comment, but it does bear looking at more closely. The ancient Greeks and Romans swaddled their babies, yet even the most fanatical anti-swaddler would have to admit that there were quite a few uncramped spirits among their number. British babies, up to the end of the eighteenth century, were swaddled, and many Russian, Yugoslav, Mexican, Lapp, Japanese and American Indian babies are still swaddled at the present day. Recently the matter was examined scientifically, with both swaddled and unswaddled babies checked for discomfort by sets of sensitive instruments. The conclusions were that swaddling did in fact make the babies less fretful, as was shown by reduced heartbeat rate, breathing rate and crying frequency. Sleep, on the other hand, was increased. Presumably this is because the tight wrapping is more

reminiscent of the tight womb-hug experienced by the advanced foetus during the final weeks of its gestation.

If this appears to be entirely in favour of the swaddlers, it should nevertheless be remembered that even the bulkiest, most belly-swelling foetus is never so tightly hugged by the womb that it cannot manage occasional kicks and struggles. Any mother who has felt these movements inside her will be aware that she is not ‘swaddling’ her unborn infant to the point of total immobility. A moderately close swaddling after birth is therefore probably more natural than the really tight binding that is applied in some cultures. Furthermore, swaddlers tend to prolong unnecessarily the close wrapping of their infants, well beyond the point where it is advisable. It may be helpful during the earliest weeks, but if it is extended over a period of months it may start to interfere with the healthy growing processes of muscular and postural development. Just as the foetus has to leave the real womb, so the new-born must soon leave the cloth-womb, if it is not to become ‘overdue’ at its next stage of maturation. We normally speak of babies being premature or overdue only in relation to the moment of their birth, but it is useful to apply this same concept to the later stages of childhood development as well. At each phase, from infancy to adolescence, there are relevant forms of intimacy, of bodily contact and caring, that should occur between parent and child if the offspring is to pass through the various stages successfully. If the intimacy offered by the parent at any particular stage is either too advanced or too retarded for that particular stage, then trouble may ensue later.

Up to this point we have been looking at some of the ways in which the mother helps her baby to relive some of its womb-time intimacies, but it would be wrong to give the impression that comforts during the early post-birth phase are no more than prolongations of foetal comforts. Such extensions provide only one part of the picture. Other

interactions are taking place at the same time. The baby stage has its own, new forms of comfort to be added. They include fondling, kissing and stroking by the mother, and the cleaning of the baby's body surface with gentle, tactile manipulations such as rubbing, wiping and other mild frictions. Also, there is more to the embrace than merely embracing. In addition to offering the overall enveloping pressure of her arms, the mother frequently does something else. She pats the baby rhythmically with one of her hands. This patting action is restricted largely to one region of the baby's body, namely the back. It is delivered at a characteristic speed, and with a characteristic strength, neither too weak nor too strong. To call it a 'burping' action is misleading. It is a much more widespread and basic response of the mother's, and is not limited to that one specific form of infantile discomfort. Whenever the baby seems to need a little extra comforting, the mother embellishes her simple embrace by the addition of back-patting. Frequently she adds swaying or rocking movements at the same time, and often coos or croons softly with her mouth held near to the baby's head. The importance of these early comforting actions is considerable, for, as we shall see later, they reappear in many forms, sometimes obvious, sometimes heavily disguised, in the various intimacies of adult human life. They are so automatic to the mother that they are seldom thought about or discussed, with the result that the transformed roles they play in later life are usually overlooked.

In origin, the patting action is what students of animal behaviour refer to as an intention movement. This can best be illustrated by giving an animal example. When a bird is about to fly, it bobs its head as part of the action of taking off. During evolution this head-bobbing may become exaggerated as a signal to other birds that it is about to depart. It may perform vigorous, repeated head-bobs for

some time before actually taking off, giving its companions the warning message that it is about to leave and enabling them to be ready to accompany it. In other words, it signals its intention to fly, and the head-bobbing is referred to as an intention movement. Patting by human mothers appears to have evolved as a special contact signal in a similar way, being a repeated intention movement of tight clinging. Each pat of the mother's hand says, 'See, this is how I will cling tightly to you to protect you from danger, so relax, there is nothing to worry about.' Each pat repeats the signal and helps to soothe the baby. But there is more to it than this. Again, the example of the bird can help. If the bird is mildly alarmed, but not sufficiently to fly away, it can alert its companions simply by giving a few mild head-bobs, but without actually taking off. In other words, the intention-movement signal can be given by itself, without being carried through into the full action of flight. This is what has happened with the human patting action. The hand pats the back, then stops, then pats again, then stops again. It is not carried through into the full danger-protection clinging action. So the message from the mother to the baby reads not only 'Don't worry, I will cling to you like this if danger threatens,' but also 'Don't worry, there is no danger, or I would be clinging to you tighter than this.' The repeated patting is therefore doubly soothing.

The signal of the softly cooing or humming voice soothes in another way. Again, an animal illustration may help. When certain fish are in an aggressive mood, they indicate this by lowering the head-end of the body and raising the tail-end. If the same fish are signalling that they are definitely not aggressive, they do the exact opposite, that is, they raise the head and lower the tail. The soft cooing of the mother works on this same antithesis principle. Loud, harsh sounds are alarm signals for our species, as they are for many others. Screams, shouts, snarls and roars are widespread mammalian messages of pain, danger, fear and

aggression. By employing tonal qualities which are the antithesis of these sounds, the human mother can, as it were, signal the opposite of these messages, namely, that all is well. She may use verbal messages in her cooing and crooning, but the words are, of course, of little importance. It is the soft, sweet, smooth tonal qualities of the cooing that transmit the vital, comforting signal to the infant.

Another important new, post-womb pattern of intimacy is the presentation of the nipple (or bottle-teat) for sucking by the baby. Its mouth experiences the intrusion of a soft, warm, rubbery shape from which it can squeeze a sweet, warm liquid. Its mouth senses the warmth, its tongue tastes the sweetness, and its lips feel the softness. Another very basic comfort – a primary intimacy – has been added to its life. Again, it is one that will reappear in many disguises later, in adult contexts.

These, then, are the most important intimacies of the baby phase of the human species. The mother embraces her offspring, carries, rocks, pats, fondles, kisses, strokes, cleans and suckles it, and coos, hums and croons to it. The baby's only really positive contact action at this early stage is to suck, but it does have two vital signals that act as invitations to intimacy and encourage the mother to perform her close-contact actions. These signals are crying and smiling. Crying initiates contact and smiling helps to maintain it. Crying says 'come here' and smiling says 'please stay'.

The act of crying is sometimes misunderstood. Because it is used when the baby is hungry, uncomfortable or in pain, it is assumed that these are the only messages it carries. If a baby cries, a mother often automatically concludes that one of these three problems must exist, but this is not necessarily the case. The message says only 'come here'; it does not say why. If a baby is well fed, comfortable and in no pain, it may still cry, simply to initiate intimate contact with the mother. If the mother feeds it, makes sure there is

no discomfort, and then puts it down again, it may immediately restart its crying signal. All this means, in a healthy baby, is that it has not had its quota of intimate bodily contact, and it will go on protesting until it gets it. In the early months the demand is high, and the baby is fortunate in having a powerful attraction-signal in its happy smile, to reward the mother for her labours.

Amongst primates, the smile of the human baby is unique. Monkey and ape babies do not have it. They simply do not need it, because they are strong enough to cling on to their mother's fur and stay close to her in this way by virtue of their own actions. The human baby cannot do this and somehow has to make itself more appealing to the mother. The smile has been evolution's answer to the problem.

Crying and smiling are both backed up by secondary signals. Human crying starts out in a monkey-like way. When a baby monkey cries, it produces a series of rhythmic screaming sounds, but sheds no tears. During the first few weeks after birth, the human baby cries in the same tearless way, but after this initial period, weeping is added to the vocal signal. Later, in adult life, the weeping can occur separately, by itself, as a silent signal, but for the infant it is essentially a combined act. For some reason, man's uniqueness as a weeping primate has seldom been commented on, but clearly it must have some specific significance for our species. Primarily it is, of course, a visual signal and is enhanced by the hairlessness of our cheeks, on which tears can glisten and trickle so conspicuously. But another clue comes from the mother's response, which is usually to 'dry the eyes' of her infant. This entails a gentle wiping away of the tears from the skin of the face – a soothing act of intimate body contact. Perhaps this is an important secondary function of the dramatically increased secretion of the lachrymal glands that so often floods the face of the young human animal.

If this seems far-fetched, it is worth remembering that the human mother, as in many other species, has a strong basic urge to clean the body of her offspring. When it wets itself with urine, she dries it, and it is almost as if copious tears have evolved as a kind of 'substitute urine' serving to stimulate a similar intimate response at times of emotional distress. Unlike urine, tears do not help to remove waste products from the body. At low levels of secretion they clean and protect the eyes, but during full weeping their only function appears to be that of transmitting social signals, and they then justify a purely behavioural interpretation. As with smiling, the encouragement of intimacy seems to be their main business.

Smiling is supported by the secondary signals of babbling and reaching. The infant grins, gurgles and stretches out its arms towards its mother in an intention movement of clinging to her, inviting her to pick it up. The mother's response is to reciprocate. She smiles back, 'babbles' to the baby, and reaches out her own arms to touch it or lift it. Like weeping, the smiling complex does not appear until about the second month after birth. In fact, the first month could well be called the 'monkey phase', the specifically human signals appearing only after these first few weeks have passed.

As the baby moves on into its third and fourth months, new patterns of body contact begin to appear. The early 'monkey' actions of the grasp reflex and the Moro reflex disappear and are replaced by more sophisticated forms of *directed* grasping and clinging. In the case of the primitive grasp reflex, the baby's hand automatically took hold of any object pressed into it, but now the new, selective grasping becomes a positive action in which the infant co-ordinates its eyes and its hands, reaching out for and grabbing a particular object that catches its attention. Frequently this is part of the mother's body, especially her hair. Directed