

THE NATURE OF THE CHILD'S TIE TO HIS MOTHER¹

By

JOHN BOWLBY, LONDON

Psycho-Analysts are at one in recognizing the child's first object relations as the foundation stone of his personality: yet there is no agreement on the nature and dynamics of this relationship. No doubt because of its very importance, differences are sharp and feelings often run high. In this paper I am taking it for granted that today we are all agreed on the empirical fact that within 12 months the infant has developed a strong libidinal tie to a mother-figure² and that our differences lie in how this has come about. What in fact are the dynamics which promote and underlie this tie?

My plan will be to begin by describing very briefly four alternative views which in greater or less degree of purity are to be found in the psycho-analytic and other psychological literature and to sketch a fifth which I believe may account more adequately for the data. I shall then attempt to assess what have been and are the views advanced in their writings by a number of leading analysts.

Before elaborating the view which I favour it will be necessary to discuss in rather summary fashion, first, some notions, including those of Piaget, regarding the development of perception and cognition and, secondly, some of the more recent theories of instinctual behaviour. Indeed, in writing it I have wondered whether this paper should not have been preceded by three others — one on cognitive development, a second on instinct, and a third on the comparative advantages and disadvantages on the one hand of direct observation of infants and on the other of reconstructions based on the psycho-analysis of older subjects. However, I have not taken this course, and instead am presenting a paper in which, I am acutely aware, despite its length a number of crucial matters are treated both controversially and cursorily.

The four theories regarding the positive aspects of the child's tie which are to be found in the literature can be described briefly. They are: —

(1) The child has a number of physiological needs which must be met, particularly for food and warmth, but no social needs. In so far as a baby becomes interested in and attached to a human figure, especially mother, this is the result of the mother meeting the baby's physiological needs and the baby in due course learning that she is the source of gratification. I propose to call this the theory of *Secondary Drive*, terminology which is derived from Learning Theory. It has also been called the cupboard-love theory of object relations.

(2) There is in infants an in-built need to relate themselves to a human breast, to suck it and to possess it orally. In due course the infant learns that, attached to the breast, there is a mother and so relates to her also. I propose to call this the theory of *Primary Object Sucking*.

(3) There is in infants an in-built need to be in touch with and to cling to a human being. In this sense there is a need for an object independent of food which is as primary as the need for food and warmth. I propose to call it *Primary Object Clinging*.

(4) Infants resent their extrusion from the womb and seek to return there. This I shall call the theory of *Primary Return-to-Womb Craving*.

In this nomenclature, it should be noticed, the terms primary and secondary refer to whether the response is regarded as built-in and inherited or acquired through the process of learning; throughout the paper they will be used in this sense. The terms have no reference either to the period of life when

1. An abbreviated version of this paper was read before the British Psycho-Analytical Society on 19th June, 1957.

2. Although in this paper I shall usually refer to mothers and not

mother-figures, it is to be understood that in every case I am concerned with the person who mothers the child and to whom it becomes attached rather than to the natural mother.

the response appears or to the primary and secondary processes postulated by Freud.

The hypothesis which I am advancing incorporates the theories of Primary Object Sucking and Primary Object Clinging. It postulates that the attachment behaviour which we observe so readily in a baby of 12 months old is made up of a number of component instinctual responses which are at first relatively independent of each other. The instinctual responses mature at different times during the first year of life and develop at different rates; they serve the function of binding the child to mother and contribute to the reciprocal dynamic of binding mother to child. Those which I believe we can identify at present are sucking, clinging, and following, in all of which the baby is the principal active partner, and crying and smiling in which his behaviour serves to activate maternal behaviour. (By 'following' I mean the tendency not to let mother out of sight or earshot, which is readily observed in human infants during the latter half of their first year and throughout their second and third years of life and in the young of other species sometimes almost from birth.) Whereas sucking is closely related to food-intake and crying may be so, the remaining three are non-oral in character and not directly related to food. In the normal course of development they become integrated and focused on a single mother figure: as such they form the basis of what I shall call 'attachment behaviour'.

In certain essential features I believe this theory to have much in common with the views advanced by Freud in his *Three Essays on Sexuality*, in which he advanced the view that mature adult sexuality is to be conceived as built up of a number of individual component instincts which in infancy 'are upon the whole disconnected and independent of one another', but which in adult life come to 'form a firm organization directed towards a sexual aim attached to some extraneous sexual object' (S.E. VII, pp. 181, 197). Partly because of this similarity, but also because I believe it to be apt, I propose to call it the theory of *Component Instinctual Responses*.

The data which have influenced me in framing this hypothesis are culled less from the analysis of older subjects and more from the direct observation of babies and young children. I have also been deeply influenced by the accounts given me by mothers, both those whose children were prospering and those whose children were causing anxiety. The longer I contemplated the diverse clinical evidence the more dissatisfied I became with the views current in psycho-analytical and psychological literature and the more I found myself turning to the ethologists for

help. The extent to which I have drawn on concepts of ethology will be apparent.

Although the hypothesis advanced incorporates the theories of Primary Object Sucking and Primary Object Clinging, it is essentially different from the theory of Secondary Drive. The theory of Primary Return-to-Womb craving is regarded as both redundant and biologically improbable.

It may be worth mentioning that this paper deals neither with ego nor superego. By confining itself to the instinctual roots of the child's tie, it is concerned only with an examination of certain parts of the id.

Review of Literature

The hypotheses advanced during the past fifty years by psycho-analysts are numerous and diverse. As usual, we cannot understand Freud's evolving views without tracing them historically. In reading his works we are at once struck by the fact that it was not until comparatively late that he appreciated the reality of the infant's close tie to his mother, and that it was only in his last ten years that he gave it the significance we should all give it today. You will recall the passage in his paper of 1931 on *Female Sexuality* in which he confesses how elusive everything connected with the first mother-attachment had seemed to him in his analytic work and how he had found it difficult to penetrate behind the strong father-transference which his women patients made to him. What then struck him as new, he tells us, was the 'equally great attachment to the mother' which precedes the dependence on the father and the length of time this attachment lasts (C.P., V, pp. 254-255). Freud's failure to give due weight to this early tie until the last phase of his work has had (and I believe is still having) far-reaching effects on psycho-analytic theorizing. His first serious discussion of the matter was not until 1926 (28).

Realization of the tremendous importance of this first attachment seems to have been reached by Freud in a number of steps. Up to the early twenties he had held the view that, apart from a fleeting moment during which the oral component has the mother's breast as an object, all the components of libido start by being auto-erotic. This view, stemming from the *Three Essays on Sexuality*, is succinctly expressed in his encyclopaedia article titled *Psycho-Analysis*, written as late as 1922. 'In the first instance the oral component instinct finds satisfaction by attaching itself to the sating of the desire for nourishment; and its object is the mother's breast. It then detaches itself, becomes independent and at the same time *auto-erotic*, that is, it finds an object in

the child's own body. Others of the component instincts also start by being auto-erotic and are not until later directed on to an external object.' Between the ages of two and five years 'a convergence of sexual impulses occurs' the object of which is the *parent of the opposite sex* (S.E., XVIII, p. 245). In this account, the phase we all now recognize when in both sexes there is a strong tie to the mother is conspicuous by its absence. Indeed, in the *Interpretation of Dreams* there is a passage in which he expresses the view that 'When people are absent, children do not miss them with any great intensity, [which] many mothers have learnt to their sorrow', a passage that, a little surprisingly, remains unamended and unqualified throughout later editions (S.E., IV, p. 255).

Nevertheless there are in various of Freud's earlier writings, statements suggesting that the infant is not so exclusively auto-erotic as his principal formulations assert. Thus in the *Three Essays*, after referring to the child sucking at his mother's breast as the prototype of later love relations, he writes, 'But even after sexual activity has become detached from the taking of nourishment, an important part of this first and most significant of all sexual relations is left over ... All through the period of latency children learn to feel for other people who help them in their helplessness and satisfy their needs, a love which is on the model of, and a continuation of, their relation as sucklings to their nursing mother ... A child's intercourse with anyone responsible for his care affords him an unending source of sexual excitation and satisfaction from his erotogenic zones', and he proceeds to praise the mother who 'by stroking, kissing and rocking him is fulfilling her task in teaching the child to love' (S.E., VII, pp. 222-223). We find a similar passage in his paper on Narcissism (1915) where he refers to the persons who have to do with the feeding, care and protection of the child becoming his earliest sexual objects. This type of object choice he terms the 'anaclitic', because in this phase the sexual instincts find their satisfaction through 'leaning up against' the self-preservative instincts (S.E., XIV, p. 87).

By 1920, we know, Freud had observed that an infant of 18 months dislikes being left alone (*Beyond the Pleasure Principle*, S.E., XVIII, pp. 14-16), and six years later we find him discussing why the infant desires the presence of his mother and fears losing her (*Inhibitions, Symptoms and Anxiety*, pp. 105-107). There remains, however, a disinclination to postulate any primary socially-oriented drive. Instead, he interprets the infant's anxiety that he may

lose his mother as due to the danger that his body needs will not be gratified and that this will lead to 'a growing tension due to need, against which it [the baby] is helpless.' The real essence of the danger, he tells us, is the 'economic disturbance caused by an accumulation of amounts of stimulation which require to be disposed of.' That the infant fears the loss of his mother is, therefore, to be understood as a displacement: 'When the child has found out by experience that an external, perceptible object can put an end to the dangerous situation which is reminiscent of birth, the nature of the danger it fears is displaced from the economic situation on to the condition which determined that situation. viz. the loss of the object' (pp. 106-108).

By 1931, as already remarked, the full significance of the phase during which the libidinal object is the mother has been grasped. However, in the paper on *Female Sexuality* no account is attempted of how this relationship develops. In his final synthesis we find a pregnant but highly condensed paragraph (*An Outline of Psycho-Analysis*, 1938, p. 56). One notes at once the dramatic and colourful terms in which the relationship to the mother is described, terms which, so far as I know, are not found elsewhere in his writings on the subject. He describes it as 'unique, without parallel, 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.'

In delineating the dynamics of this newly evaluated relationship, Freud begins, as formerly, by telling us that 'a child's first erotic object is the mother's breast which feeds him' and that 'love in its beginning attaches itself to the satisfaction of the need for food.' He proceeds to indicate that, because the child 'makes no distinction between the breast and his own body', part of the 'original narcissistic cathexis' is carried over on to the breast as an outside object. 'This first object subsequently becomes completed into the whole person of the child's mother who not only feeds him but looks after him and thus arouses in him many other physical sensations pleasant and unpleasant. By her care of the child's body she becomes his first seducer. In these two relations lies the root of a mother's importance.' This passage refers to the same dynamic that in his early writings he had attributed to the period of latency but which since the twenties he had realized to be active in a much earlier phase of life.

Had he said no more we should have concluded with confidence that to the end of his life Freud es-

poused the theory of Secondary Drive; (although we should have been wise to note that he held it in a special form; in Freud's view the mother becomes important not only because she gratifies physiological needs but also because in so doing she stimulates the infant's erotogenic zones). These, however, are not his last words on the subject. Almost it might seem as an afterthought, at the end of this significant paragraph he expresses an opinion which differs radically from any previously expressed by him and which seems to contradict much of the earlier explanation. 'The phylogenetic foundation', he writes, 'has so much the upper hand in all this over accidental experience that it makes no difference whether a child has really sucked at the breast or has been brought up on the bottle and never enjoyed the tenderness of a mother's care. His development takes the same path in both cases.' Our most conservative conclusion is that Freud was not wholly satisfied with his earlier accounts. A more radical one is that, towards the end of his life and imbued with a newly-found but vivid appreciation of the central importance of the child's tie to his mother, Freud was not only moving away from the theory of Secondary Drive but developing the notion that special drives built into the infant in the course of evolution underlie this first and unique love relationship.

I confess I would like to believe that this was so. My speculations are encouraged by a passage in his *Three Essays* which, so far as I know, he never expanded. In discussing the activity of thumb-sucking and the independence of the sucking from the taking of nourishment Freud proceeds 'In this connection a grasping-instinct may appear and may manifest itself as a simultaneous rhythmic tugging at the lobes of the ears or a catching hold of some part of another person (as a rule the ear) for the same purpose.' (S. E., VII, pp. 179-180). Plainly here is a reference to a part-instinct even more independent than sucking of the taking of nourishment. It is a theme to which the Hungarian school has given particular attention and to which I shall be referring more fully when expounding my own views.

Whether or not we are right in thinking that in his later years Freud was in process of developing new ideas, it is evident that at most they were still no more than germinal when he died. That members of the Viennese school should have been little influenced by them is hardly surprising. In fact, as is well-known, Anna Freud and those who trained in Vienna before the war have continued to favour the theory of Secondary Drive. In a number of publications in the past ten years she has expressed the view

with welcome clarity. 'The relationship to the mother', she writes in a recent publication (1954), 'is not the infant's first relationship to the environment. What precedes it is an earlier phase in which not the object world but the body needs and their satisfaction or frustration play the decisive part . . . In the struggle for satisfaction of the vital needs and drives the object merely serves the purpose of wish fulfillment, its status being no more than that of a means to an end, a "convenience". The libidinal cathexis at this time is shown to be attached, not to the image of the object, but to the blissful experience of satisfaction and relief.'

In an earlier paper (1949) she describes how in the first year of life 'the all-important step from primary narcissism to object-love should be taking place, a transition which happens in small stages.' In accounting for this transition she follows Sigmund Freud in regarding the mother as a 'seducer'. 'By means of the constantly repeated experience of satisfaction of the first body needs', she writes, 'the libidinal interest of the child is lured away from exclusive concentration on the happenings in his own body and directed towards those persons in the outside world (the mother or mother substitute) who are responsible for providing satisfaction.' In this same article, which is concerned with the origin of certain forms of social maladjustment, she describes how, when for any reason the mother fails to be a steady source of satisfaction, 'the transformation of narcissistic libido into object-libido is carried out inadequately' and how as a result auto-erotism persists and the destructive urges remain isolated.

Although in her theoretical expositions Anna Freud seems unequivocal in her endorsement of the theory of Secondary Drive, there are passages in her clinical writings which hint at something different. The accounts which she and Dorothy Burlingham have given of the children in the Hampstead Nurseries include one of the few descriptions of the development of the child's tie which have been written by analysts on the basis of empirical observations (11). Two of their conclusions I wish to single out because I believe them to have been given too little weight in analytic theory. The first is their insistence that it is not until the second year of life that 'the personal attachment of the child to his mother . . . comes to its full development' (p. 50). The second is that 'children will cling even to mothers who are continually cross and sometimes cruel to them. The attachment of the small child to his mother seems to a large degree independent of her personal qualities' (p. 47). Indeed, their observations make it plain

that the potential for attachment is ever-present in the child and ready, when starved of an object, to fix on almost anyone. In the nursery setting, they tell us, 'the emotions which [the child] would normally direct towards its parents ... remain undeveloped and unsatisfied, but ... are latent in [him] and ready to leap into action the moment the slightest opportunity for attachment is offered' (12, p. 43). The extent to which the attachment seems to be independent of what is received, which is very plain in these records (e.g. (12, p. 52) and which will be a main theme of this paper, emerges again in another report of the behaviour of young children for which Anna Freud is jointly responsible (26). This describes the behaviour of six children from a concentration camp, aged between three and four years, whose only persisting company in life had been each other. The authors emphasize that 'the children's positive feelings were centered exclusively in their own group ... they cared greatly for each other and not at all for anybody or anything else.' Was this, we may wonder, a result of one infant being instrumental in meeting the physiological needs of others? It is observations such as these that led Dorothy Burlingham and Anna Freud to describe the child's need 'for early attachment to the mother' as an '*important instinctual need*' (12, (p. 22, my italics) — a formulation which hardly seems compatible with the theory of Secondary Drive advanced elsewhere.

A discrepancy between formulations springing direct from empirical observations and those made in the course of abstract discussion seems almost to be the rule in the case of analysts with first-hand experience of infancy — for example Melanie Klein, Margaret Ribble, Therese Benedek, and Rene Spitz. In each case they have observed non-oral social interaction between mother and infant and, in describing it, have used terms suggesting a primary social bond. When they come to theorizing about it, however, each seems to feel a compulsion to give primacy to needs for food and warmth and to suppose that social interaction develops only secondarily and as a result of instrumental learning.

Melanie Klein's basic theoretical concepts have their origin in ideas current before 1926. Although these basic concepts have persisted in her theorizing largely unmodified, first-hand observations of infants, made later, have resulted in a number of more empirically oriented concepts, often divergent in character, being juxtaposed.

In contrast to Anna Freud, Melanie Klein has for some years been an advocate of the view that there is more in the infant's relation to his mother than the

satisfaction of physiological needs. Yet there is a very pronounced tendency for her theoretical formulations to be dominated by the inter-related themes of food, orality and the mother's breast. As regards food, she writes in the second of two chapters in which she discusses the matter (41, chapters 6 and 7): 'The infant's relations to his first object, the mother, and towards food are bound up with each other from the beginning. Therefore the study of fundamental patterns of attitudes towards food seems the best approach to the understanding of young infants' (p. 238). She elaborates this in a number of passages where she relates particular attitudes toward food to particular forms taken later by psychic organization and development.

This concentration on orality and food, which has been such a conspicuous feature of Melanie Klein's theories since her early paper on *Infant Analysis* (1926), seems in large measure to be due to the influence exerted on her thinking by Abraham's important papers on *The First Pre-genital Stage* (1916) and *The Development of the Libido* (1924). In these works, as is well-known, Abraham gave special attention to orality. Nevertheless, his papers date from the period before the significance of the child's tie had been recognized and their basic concepts are little different from those of Freud's 1922 encyclopaedia article (see p. 245). Looking back at Melanie Klein's paper, it seems, the importance of the child's attachment is missed and only the oral component perceived. As a result, I believe, its influence has led to excessive emphasis being placed on orality and the first year of life and, as a consequence, to an under-estimation of other aspects of the tie and events of the second and third years.

Turning again to the 1952 publication of Melanie Klein and her group, it is in keeping with her oral theory that we find her advancing the view that 'the relation to the loved and hated — good and bad — breast is the infant's first object-relation' (p. 209) and that 'the close bond between a young infant and his mother centres on the relation to her breast' (p. 243). Indeed, in an important note she postulates an inborn striving after the mother's breast: 'the newborn infant unconsciously feels that an object of unique goodness exists, from which a maximal gratification could be obtained and that this object is the mother's breast' (p. 265). In discussing this notion she quotes approvingly Freud's statement regarding the significance of a phylogenetic foundation for early object relations which, it has already been observed, suggests that at the end of his life Freud was moving towards a formulation different

from the theory of Secondary Drive which he had hitherto espoused.

Yet, despite this preoccupation in her theory with food, orality, and the mother's breast, Melanie Klein reports observations of infants from which she herself draws a different conclusion. Thus in one of the same chapters from which I have been quoting we find the following passage: 'Some children who, although good feeders, are not markedly greedy, show unmistakable signs of love and of a developing interest in the mother at a very early stage — an attitude which contains some of the essential elements of an object-relation. I have seen babies as young as three weeks interrupt their sucking for a short time to play with the mother's breast or to look towards her face. I have also observed that young infants — even as early as in the second month — would in wakeful periods after feeding lie on the mother's lap, look up at her, listen to her voice and respond to it by their facial expression; it was like a loving conversation between mother and baby. Such behaviour implies that gratification is *as much related to the object which gives the food as to the food itself*' (p. 239, my italics).

Up to this point in Melanie Klein's writings (1952) the overall impression given is that, although she believes that the infant's first relation to the mother comprises more than one component instinct, she believes the oral component plays an overwhelmingly dominant part. As a result of this and her tendency to equate good breast and good mother, many of her formulations and those of her colleagues have given the impression of subscribing to the theory I have termed Primary Object Sucking. Nonetheless, perhaps the most accurate description is to say that she has oscillated between a foreground exposition of a theory of Primary Object Sucking and a variety of back-ground references to a broader theory to which she had not then given systematic attention.³

In the opening pages of her most recent publication (Klein, 1957, pp. 3–5) we find the same oscillation. On the one hand is emphasis on the primacy of the breast and orality: there are references to 'the primal good object, the mother's breast', to 'the dominance of oral impulses', and to the feeling of security in relation to the mother being dependent 'on the infant's capacity to cathect sufficiently the

3. Following the discussion of this paper Mrs. Klein drew my attention to the role she attributes to anal and urethral impulses in the infant's relation to his mother. Although in her writings it is the hostile components of those impulses which seem to be most emphasized (an aspect of the relationship which lies outside the scope of this paper), it is evident that she also attaches importance to the pleasure in mastery and possession which are commonly attributed to anal eroticism.

breast or its symbolic representative the bottle. . . .'

On the other hand the belief is expressed that there is from the first an awareness in the infant of something more: 'there is in his mind', writes Melanie Klein, 'already some indefinite connection between the breast and other parts and aspects of the mother. I would not assume that the breast is to him merely a physical object. The whole of his instinctual desires and his unconscious phantasies imbue the breast with qualities going far beyond the actual nourishment it affords.'

Whereas, formerly, Melanie Klein had said little about the nature of this 'something more', in her new publication she has ventured an hypothesis to explain it. She has in fact drawn upon the theory of Primary Return-to-Womb Craving. 'This mental and physical closeness to the gratifying breast', she suggests, 'in some measure restores, if things go well, the lost prenatal unity with the mother and the feeling of security which goes with it . . . It may well be that his having formed part of the mother in the prenatal state contributes to the infant's innate feeling that there exists outside him something that will give him all he needs and desires.' Later she refers to 'the universal longing for the pre-natal state' as though it were something self-evident. Thus Melanie Klein's most recent hypothesis regarding the dynamic underlying the child's tie seems to be that it combines a primary oral need to suck a breast with a primary craving to return to the pre-natal state of unity with the mother.

In advancing the theory of Primary Return-to-Womb Craving to account for a tie which she believes to be more broadly founded than on orality alone, Melanie Klein has resuscitated a theory which has led an egregious existence in psycho-analysis for many years. So far as I know, it was advocated first in 1913 by Ferenczi in his *Stages in the Development of the Sense of Reality*. It is interesting to note, however, that Ferenczi did not advance the theory to account for the vigour with which the infant relates to his mother, but as an explanation of the fantasy of omnipotence.⁴ When during its long history it was first borrowed by an analyst to account for the child's attachment to his mother I do not know, but

4. Ferenczi suggests that the foetus 'must get from his existence the impression that he is omnipotent' and that the child and the obsessional patient, when demanding that their wishes be at once fulfilled, are demanding no more than a return to those 'good old days' when they occupied the womb.

we find it in Fairbairn (1943).⁵ In any case, despite its place of origin, it does not seem to have played a major part in the thinking of the Hungarian school.

No doubt inspired by Ferenczi's interest in the mother-child relation, members of the Budapest Society gave much thought to our problem and during the nineteen-thirties published a number of papers about it. Hermann (1933, 1936) had noted that infant apes spend the early weeks of their lives clinging to their mother's bodies and also that there are many clasping and grasping movements to be seen in human babies, especially when they are sucking or feel threatened. As a result of these observations, and resuscitating the early and virtually discarded idea from Freud's *Three Essays*, he postulated as a primary component instinct in human beings an instinct to cling. It appears, however, that Hermann was reluctant to regard this as an object-relationship, so that it would probably be incorrect to say that he subscribed to the theory of Primary Object Clinging (see discussion in Appendix A).

Michael and Alice Balint (5, 4) express their indebtedness to Hermann, but go further than he does. Starting from Ferenczi's concept of passive object love, both reject the theory of primary narcissism and insist that from the first there is a primitive object relationship. Influenced, however, as they were by Hermann's work as well as by their own observations, they came to conceive of the infant as active in the relationship. Alice Balint in the appendix to her paper gives a vivid description of the development of their thought :

... The starting point of these ideas is Ferenczi's well-known concept of '*passive object love*'. In my paper on this subject — printed in the Ferenczi memorial volume — I used only this term. Later, under the influence of M. Balint's ideas on the 'new beginning' in which he emphasizes the active features in early infantile behaviour, as well as partly under that of I. Hermann's work on the instinct to cling — I thought that the term *passive* was not a suitable description of a relation in which such markedly *active* tendencies as the instinct to cling play a paramount role. Since then I have used — as in the present paper — in place of '*passive object love*' mainly the terms '*archaic*' or '*primary object relation*' (*object love*).

In describing this primitive but active object relationship, the Balints lay emphasis on two points. The

first is the egoism of the relationship. After rejecting other notions Alice Balint concludes : 'We come nearest to it with the conception of egoism. It is in fact an archaic, egotistic way of loving, originally directed exclusively at the mother', its main characteristic being a lack of any appreciation of the mother's own interests. The second point, though more controversial, is more germane to the present thesis. It is that the relationship is wholly independent of the erotogenic zones. 'This form of object relation', writes M. Balint (1937), 'is not linked to any of the erotogenic zones: it is not oral, oral-sucking, anal, genital, etc., love, but is something on its own ...'

Reading these papers it seems clear that Primary Object Clinging is regarded as a major component in the Balints' conception of Primary Object Love but that, just as Melanie Klein's earlier views implied some dynamic beyond Primary Object Sucking, the views of the Balints go beyond Primary Object Clinging. Nevertheless in their work there is little discussion of the nature of other components.

It is curious, and to me disappointing, that in publications by British and American analysts during the past decade there has been so little interest shown in the ideas advanced in Budapest. One of the very few references to them is to be found in a footnote to a chapter by Paula Heiman (41, p. 139). There, speaking in the name of the four authors of the book, she expresses agreement with Michael Balint's detailed critique of the theory of primary narcissism. She also records briefly that, with regard to the nature of the destructive impulses and the role of introjection and projection in early infancy, there is some disagreement. She fails, however, to note that, whilst the Hungarian group lays special emphasis on the non-oral components in the early object relation, the Kleinian group sees orality as dominating the relationship. The divergence plainly requires more attention than it has yet been given. Furthermore, it must be emphasized, in so far as Melanie Klein has now dealt more fully with the non-oral component and has explained it as stemming from a primary craving to return to the womb, she is advocating a theory radically different from that of the Hungarians.

Winnicott's conception of the relationship seems always to have been far less dominated by food and orality than Melanie Klein's. Thus in a paper dated 1948 he lists a number of things about a mother

5. Freud (1926) is struck by the functional similarity of a mother's womb and mother's arms as modes of infant care (p. 109), which is a different matter. However, in postulating that

the need for companionship in agoraphobia is due to 'a temporal regression to infancy, or in extreme cases, to pre-natal days,' (p. 89), he comes near to postulating a return-to-womb craving.

which stand out as vitally important. His first two items refer to the fact that 'she exists, continues to exist . . . is *there* to be sensed in all possible ways' and that 'she loves in a physical way, provides contact, a body temperature, movement and quiet according to the baby's needs.' That she also provides food is placed fourth. In an important note to his paper on *Transitional Objects* (1953) he discusses his usage of the term 'mother's breast'. 'I include the whole technique of mothering. When it is said that the first object is the breast, the word 'breast' is used, I believe, to stand for the technique of mothering as well as for the actual flesh. It is not impossible for a mother to be a good enough mother (in my way of putting it) with a bottle for the actual feeding.' Food and mother's breast, therefore, are not in Winnicott's view central in the technique of mothering. Yet it is not clear how Winnicott conceptualizes the dynamic internal to the infant. In the note quoted above he hazards the view that, 'If this wide meaning of the word "breast" is kept in mind, and maternal technique is seen to be included in the total meaning of the term, then there is a bridge forming between the wording of Melanie Klein's statement of early history and that of Anna Freud. The only difference left is one of dates.' In this comment, it seems to me, Winnicott has failed to distinguish between a theory invoking primary instinctual responses and a theory of secondary drive.

Margaret Ribble (1944) also puts much emphasis on non-oral components, emphasizing that there is in infants an 'innate need for contact with the mother', which she likens to that of hunger for food. This need, however, she relates very closely to the satisfactory functioning of physiological processes, such as breathing and circulation, and seems hardly to conceive as constituting a social bond in its own right. Indeed, in a separate section she discusses the development of the child's emotional attachment to his mother and appears to adopt a theory of Secondary Drive: 'This attachment or, to use the psychoanalytic term, cathexis for the mother grows gradually out of the satisfactions it derives from her.' Thus, like Klein and Winnicott, Ribble makes no reference either to a primary need to cling, or to a primary need to follow.

Like others who had their initial training in Budapest, Therese Benedek is also keenly alive to the emotional bond between mother and child, and has coined the term 'emotional symbiosis' to describe it. She refers to 'the need to be smiled at, picked up, talked to, etc.' (1956, p. 403) and recognizes, further, that a crying fit may be caused, not 'by a com-

manding physiologic need such as hunger or pain, but by the thwarting of an attempt at emotional (psychologic) communication and satisfaction' (p. 399). Nevertheless, as she herself admits, she finds this fact very difficult to understand. The upshot is that her theory is phrased in terms of what she describes as 'the dominant tendency of childhood — the need to be fed' (p. 392) — an outcome which seems alien to her clinical descriptions. As a prisoner of orality theory she even postulates that the mother's bond to her child, about which she writes so insightfully, is also oral. Advancing the view (I believe rightly) that when a woman becomes a mother many of the same forces which bound her, as an infant, to her own mother are mobilized afresh to bind her, as a mother, to her infant, she cannot escape formulating the resulting relationship as reciprocally oral: 'the post-partum symbiosis is oral, alimentary for both infant and mother' (p. 398).

Erikson, Sullivan and Spitz are similarly trapped — an expression intended to convey that I believe their clinical appreciation of the facts to be nearer the truth than their conventional theorizing. Erikson (1950), like Melanie Klein concerned to trace the origin of ambivalence in infancy, conceives it largely in terms of sucking and biting. Basic trust, on which he rightly places so much emphasis, has its origins, he believes, in orality: 'The oral stages, then, form in the infant the springs of the *basic sense of trust*' (p. 75). Erikson, however, never formulates a Secondary Drive theory and seems at times to be assuming a theory of Primary Object Sucking.

Sullivan (1953), on the other hand, is very explicit about the primacy of physiological needs: 'I regard the first needs that fall into the genus of the need for tenderness [from the mother] as needs arising in the necessary communal existence of the infant and the physico-chemical universe. [They] are direct derivatives of disequilibrium arising in the physico-chemical universe inside and outside the infant' (p. 40). Later, he thinks, infants may develop a primary need for contact and human relationships. The curious thing, however, is that he (or his editor) is so uncertain about it that discussion of this crucial issue is relegated to a footnote:

'The only nonphysicochemically induced need that is probably somewhere near demonstrable during very early infancy and which certainly becomes very conspicuous not much later than this, is the *need for contact* . . . The very young seem to have very genuine beginnings of purely human or interpersonal needs in the sense of requiring manipulations by and peripheral contact with the living, such

as lying-against, and so on. But, when I talk as I do now of the first weeks and months of infancy, this can only be a speculation....' (p. 40 note).

Spitz is also keenly alive to the need for contact and laments that 'throughout the Western world skin contact between mother and child has been progressively and artificially reduced in an attempted denial of the importance of mother-child relations' (1957, p. 124). Nevertheless, in his theorizing he does not give it primacy and, instead, throughout adheres to Freud's formulation of primary narcissism and the theory of Secondary Drive. True object relations, he holds, stem from the need for food: 'The anaclitic choice of object is determined by the original dependence of the infant on the person who feeds, protects and mothers him ... the drive unfolds anaclitically, that is by leaning onto a need for gratification essential for survival. The need which is gratified is the need for food' (1957, p. 83).

As we noted when describing Michael Balint's position, Freud's theory of primary narcissism has not gone unchallenged. Another who has given it much critical attention and who, also like Balint, centres his psychopathology on the child's relation to his mother is Fairbairn (1941, 1943). Fairbairn pictures infants partly in terms of a primary identification with the object (an idea mooted by Freud in his *Group Psychology* (1921, S.E., XVIII, p. 105) but never developed by him) and partly in terms of primary drives oriented towards social objects. In trying to explain the genesis of primary identification, Fairbairn invokes the theory of Primary Return-to-Womb Craving. In his concern with primary object seeking drives, on the other hand, he emphasizes the infant's real dependence on the mother and stresses orality. His belief that 'infantile dependence is equivalent to oral dependence' (1952, p. 47) underlies much of his theorizing and leads him, like Melanie Klein, to infer that the crucial events in personality development take place in the first year of life. He admits, however, that this conclusion is not consistent with his clinical experience which is that schizoid and depressive psychopathology occur 'when object-relationships continue to be unsatisfactory during the succeeding years of early childhood.' To explain this he is forced to lean heavily on a theory of 'regressive reactivation' (p. 55). In the most recent of his papers (1956), however, he appears to have changed his ground in some measure and to have moved nearer the position advanced in this paper: he protests against the 'assumption that man is not by nature a social animal' and refers

to ethology as demonstrating that object seeking behaviour is exhibited from birth.

It happens that one of the most systematic presentations of this last view was advanced in *The Origins of Love and Hate* (1935), the work of a British psychotherapist, Suttie, who, although much influenced by psycho-analysis, was not him-self an analyst. Conceived and written at the same time as the work of the Hungarian school, Suttie and others of the pre-war Tavistock group postulated that 'the child is born with a mind and instincts *adapted to infancy*', of which 'a simple attachment-to-mother' is predominant. This need for mother is conceived as a primary 'need for company' and a dislike of isolation, and is independent of the bodily needs which mother commonly satisfies. Had Suttie linked his ideas to those which Freud was advancing from 1926 onwards they might have been given attention in analytical circles and have led to a valuable development in theory. As it was, he couples them with a polemical attack on Freud which inevitably led to resentment of his book and neglect of his ideas.

In this paper I shall deal rather briefly with the views of others who are not psycho-analysts. First we may note that non-analysts are as divided in their views on this crucial issue as are analysts. On the one hand is the powerful school of Learning Theorists, adherents of which have long made the assumption that the only primary drives are those related to the physiological needs and that, in so far as an animal becomes interested in members of its own species, it is a result of a Secondary Drive. Although they claim legitimately that such assumptions fulfill the scientific demand for parsimony, it cannot be said that their explanations, in terms of instrumental response, social stimuli as conditioned or secondary reinforcers, and conditioned drives, are anything but complex and inelegant. One of them indeed (29), admits that Learning Theory has been elaborated to account for phenomena which are relatively simpler and has, therefore, still to prove its relevance to our problem.

Holding an opposite view are the ethologists, who have never assumed that the only primary drives were those related to physiological needs. On the contrary, all their work has been based on the hypothesis that in animals there are many in-built responses which are comparatively independent of physiological needs and responses, the function of which is to promote social interaction between members of a species. In discussing the relation of young to parents in lower species, most if not all

ethologists regard the theory of Secondary Drive as inadequate, and, though they are reluctant to commit themselves as regards a species they have not studied systematically, it is probably fair to say that no ethologist would expect the human infant's tie to his mother to be wholly explicable in terms of Learning Theory and Secondary Drive.

Empirical research workers such as Shirley (1933), Charlotte Buhler (1933), and Griffiths (1954), tend to side with this view. Each of them has been struck by the specificity of the responses babies show to human beings in the first weeks of life: they respond to the human face and voice in a way different to the way they respond to all other stimuli. Already in the first week, Shirley observed, some babies soberly watch an adult's face; by five weeks half of her sample of twenty odd babies were quietened by social interaction, such as being picked up, talked to, or caressed. It was similar observations which led Buhler to advance the view that there was something in the human face and voice which had a peculiar significance for the infant. Amongst her many published enquiries are those of her associates, Hetzer and Tudor-Hart (1927), who made a systematic study of the various responses which babies show to sounds of different kinds. As early as the third week of life the human voice was observed to evoke responses, for example sucking and expressions indicative of pleasure, which were unlike those evoked by any other sound. Griffiths has used some of these very early social responses in constructing her normative scale.

Plainly such observations do not rule out the possibility that the baby's early interest in human face and voice are the result of his learning that they are associated with the satisfaction of physiological needs: they cannot be taken to prove that there is an in-built interest. Nonetheless they support the contention of Melanie Klein and other analysts that even in the earliest weeks there is some special interest in human beings as such and at least raise the question whether learning accounts for all of it.

A review of the many formulations which have been advanced shows them to fall into three main classes. On the one hand are those who commit themselves clearly to the Learning Theory standpoint. Next are the many who, whilst plainly dissatisfied with the theory of Secondary Drive, nonetheless find it difficult to put anything very explicit or plausible in its place. Finally, at the other end of the spectrum, are those, notably the Hungarian school of psycho-analysis and the ethologists, who postulate primary drives of clinging and/or follow-

ing which are capable potentially of tying infant to mother. It is this third view which I believe will prove the right one.

Perceptual and cognitive aspects of the child's tie

Yet, even though there is good evidence that the human face and voice hold some special interest for the infant even in his earliest weeks, it is probably mistaken to suppose that at this age he entertains anything which remotely resembles the concept of 'human being'. This raises the question of the perceptual and cognitive aspects of the child's tie. Although this is as difficult and controversial a matter as is the dynamic aspect, I do not propose to deal with it in the same degree of detail. Whilst referring briefly to some of the current views, my main purpose in this section will be to describe my own views as a necessary preliminary to giving detailed attention to the problem of the dynamics of the relationship, which is the main theme of this paper.

All who have given thought to the subject seem agreed that it is only through a series of stages that the infant progresses to a state where he can order his cognitive world in terms of the concepts 'human being' and 'mother'. There is wide agreement, too, that the earliest phase of all is probably one in which there is a total lack of differentiation between subject and object and that subsequently the infant passes through a phase during which he relates to part-objects, namely parts only of a complete human object. Beyond this, however, there is much difference of opinion.

Amongst analysts who have given special attention to these problems are Alice Balint, Melanie Klein, Winnicott, and Spitz. A distinction to which several have drawn attention is between a phase of development when there is no concern for the object's own interests and a later one when there is. Thus Alice Balint (1939), Melanie Klein (1948), and Winnicott (1955), have all postulated a phase during which a primitive form of object relation is present without there being concern for the object. Alice Balint termed it a phase of 'primary archaic object relation', for Melanie Klein it is the phase which precedes the attainment of the depressive position, and Winnicott characterizes it as one of 'pre-ruth'.

Spitz (1954) has introduced another distinction. On the one hand, there is a later phase when the infant enjoys a relationship with a libidinal object; in his opinion the essential qualities of such an object are that it is conceived as anticipating needs, protecting and satisfying, and continuing to do so despite its changing exterior attributes. On the other there is

an earlier phase, revealed by Spitz's own experiments on the smiling response, in which it appears that what the infant is responding to is merely a gestalt signal, a superficial attribute of an object and not a conceptualized object at all. Here the distinction lies between the older infant who is responding to stimuli which he interprets as coming from a world of permanent objects existing in time and space and the younger infant who responds only to the stimulus presented in the here and now and without reference to any complex cognitive world. Referring to his work on the smiling response Spitz writes: 'This research led me to the conclusion that we are not justified in saying that perception of the human smile at three months is a real object relation. I have established that what the baby sees is not a partner, is not a person, is not an object but solely a signal.' Nonetheless Spitz holds that, in so far as the gestalt signal belongs to and is derived from the face of the mother, it has a place in the 'genealogy' of the libidinal object. For this reason he terms the response a pre-object relation (*une relation pre-objectale*) and the signal a precursor of the object (pp. 494-496). In thus qualifying his terminology for the earliest form of object relation, Spitz is following the lead given by Alice Balint who, in her term 'primary archaic object relation', was plainly groping after a similar concept.

He is also on a track which Piaget has pioneered in his two important volumes on early cognitive development (44, 45). Basing his theories on the results of innumerable little experiments conducted on his own three children during their first 18 months of life, Piaget has developed a detailed account of how we may suppose the human infant gradually constructs his conceptual world. In particular he has given attention to how the infant progresses from a phase in which he appears to be influenced only by stimuli, familiar or unfamiliar, acting in the here and now, to a phase where he appears to conceptualize the world as one of permanent objects existing in time and space and interacting with each other, of which he is one. Like Freud and others, Piaget supposes that the initial phase is one in which there is no differentiation between subject and object. In the next phases, he suggests, although the infant is certainly responding to objects in the external world there is no reason to suppose that he is organizing his impressions of them in terms of permanently existing objects. Instead, he suggests, the infant is witness to a procession of images, visual, auditory, tactile, and kinaesthetic, each of which exists only in the here and now and belongs to nothing more permanent. As such it is a piecemeal world and responded to only by a se-

ries of *ad hoc* responses. This is a notion identical with that advanced by Spitz.

In my view the evidence that the infant in fact passes through such a phase is convincing. Further, pending other evidence, I am inclined to accept Piaget's conclusion that it is not much before the age of 9 months that the infant has finally constructed for himself a world of permanent objects, and that it is, therefore, not until after about this age that he is able to conceive of objects as endowed with certain of the attributes of human beings. This raises the question whether the infant can feel concern for his mother before he conceives of her as a human being existing in time and space. It may be that he can; but if he does so these feelings are likely to be at only a rudimentary level.

Nonetheless, even if Piaget proves right in putting the final construction as late as 9 months, it is evident that there is an important intermediate phase which starts at about 6 months. Prior to this the infant's differentiation, as measured by his responsiveness between familiar mother-figure and stranger is present but only evident on careful observation. After this phase has been reached, however, differential responses are very striking. In particular there is fear and avoidance of strangers and a pronounced turning to mother. This has been shown in a number of studies by Spitz (e.g. 1946) and confirmed recently by Schaffer (in press). Infants who lose their mothers after this point in development fret; those who lose them earlier do not.

This leads on to important and controversial issues regarding the age at which the child passes through the depressive position; or, putting it into a wider theoretical context, the age during which the child passes through one of the critical phases in the development of his modes of regulating the conflict of ambivalence — for it seems likely that there is more than one. Since there is no space to discuss this issue at length I will remark only that, whilst I regard the stage in development when the infant first relates together his concepts of 'good-mother-to-be-loved' and 'bad-mother-to-be-hated' as a critical one for his future, I regard the dating of it suggested by Melanie Klein as debatable.

In constructing our picture of the infant's cognitive world I believe there are two fallacies into which it is easy to fall. The first is that because an infant responds in a typically 'sociable' way he is aware of the human characteristics of the object to which he is responding; the second that because an infant recognizes a person (or a thing) he therefore

perceives and thinks of him (or it) as something having a permanent existence in time and space. Let us consider them serially.

As already described, many observers have recorded how from the earliest weeks onward infants respond in special ways to the sight of a human face and the sound of a human voice; in particular we know that after about 6 weeks of age infants smile readily at the sight of a face. Is this not evidence, it may be thought, that they are aware of another human being? The answer is certainly in the negative. Both Spitz & Wolf (1946) and Ahrens (undated) have shown that they also smile at a mask painted with little more than a couple of eyes. Furthermore they do not smile at a real human face when it is in profile. These facts strongly support Spitz's view, described earlier, that in the second to fourth months the infant, on these occasions at least, is responding to the perception not of a human being but only of a visual gestalt signal.

The second fallacy is that of supposing that recognition of a person or thing requires the person or thing to be conceived as having existence in time and space. When we say that an infant recognizes a person as familiar we are basing our judgment on the fact that he responds differently to that person from the way he responds to others. In the same way we can say that ants recognize members of their own colony (by smell) when we observe that they respond to such members differentially. Yet, just as we should be rash to attribute to ants a capacity for perceiving the world in terms of many different ant colonies each with its own history and future, so should we be rash without further evidence to attribute to infants of 6 weeks⁶ or even 6 months a capacity for perceiving the world in terms of a number of different human beings each with his or her own history and future. In this connection, we should also remember, even machines can be constructed to recognize visual and auditory patterns.

The fact, therefore, that in the second half of the first year infants are able readily to recognize familiar figures by sight and hearing cannot be taken by itself to indicate that the figures recognized are endowed by the infants with specific human characteristics. In my view it is quite possible that infants aged 6–9 months do not so endow them. This does not imply, however, that in this period there are no organized psychological processes relating them to the external world. On the contrary, I believe it is

evident that throughout these early months psychic organization is developing apace and that much of it has the function of relating the infant to a mother-figure.

It is now time to outline the view of the infant's perceptual and cognitive world which I favour and which I shall assume when I come to discuss the dynamics of the infant's tie to his mother. There appears to me good evidence for postulating a phase, which begins almost immediately after birth, when the infant responds in certain characteristic ways to certain inherently interesting stimulus patterns, by no means all of which are related to food. Thus, thanks to the human nature he inherits, the infant is predisposed to be interested, amongst other things, in the feel at his lips of something warm, moist, and nipple-like, or the sight of a pair of sparkling eyes, and is so made that he responds to them in certain characteristic ways, to the one by sucking and to the other by smiling. As the weeks and months pass he develops, first, an increasing capacity to recognize fragments of the perceptual world by one or another sense modality (probably starting with the kinaesthetic) and, secondly, a capacity to relate the fragments perceived and recognized by one sense modality to those perceived and recognized by another, so that ultimately all the fragments perceived in the here and now are attributed to one and the same source. There is reason to believe that this occurs at about five or six months. Only after this point has been reached is it possible for him to take the next steps, first to conceive of the source as existing outside himself, and secondly, for the familiar fragments to be attributed to a familiar object which has the rudiments of a past and a future. The age at which this finally occurs is uncertain; according to Piaget it may be as late as nine months.

These views I advance with much diffidence since I believe we still lack the data on which to base any which can be held with more confidence. My purpose in advancing them is to provide a sketch map of the perceptual and cognitive aspects of the child's ties as a background against which to consider its dynamic aspects, to which we will now return.

Theories of 'Instinct' and 'Instinctual Response'
Since in constructing the hypothesis of *Component Instinctual Responses* I am leaning heavily on the work of the ethological school of animal behaviour studies, it is necessary to refer briefly to some of the

6. The age at which an infant differentiates reliably between individuals is uncertain. Griffiths (1954) states there is visual discrimination in the second month.

ideas on instinct which have been developed in recent years. It must be recognized that these ideas differ in many significant respects from the theories of instinct which have for long been current in psycho-analysis. Yet it would be short-sighted were we not to avail ourselves of ideas stemming from other disciplines, particularly on this topic, about which Freud wrote forty years ago: 'I am altogether doubtful whether any decisive pointers for the differentiation and classification of the instincts can be arrived at on the basis of working over the psychological material. This working-over seems rather itself to call for the application to the material of definite assumptions concerning instinctual life, and it would be a desirable thing if those assumptions could be taken from some other branch of knowledge and carried over to psychology' (*Instincts and their Vicissitudes*, S.E., XIV, p. 124). As is well known, Freud looked to biology for help in this matter. It seems best that, before attempting to relate these more recent theories of instinct to those advanced by Freud, a brief account is given of their basic principles.

Their most striking feature is a concentration of attention on certain limited and relatively precise behaviour patterns which are common to all members of a species and determined in large measure by heredity. They are conceived as the units out of which many of the more complex sequences are built. Once activated the animal of which they form a part seems to be acting with all the blind impulsion with which, as analysts, we are familiar.

Zoologists first became interested in these behaviour patterns because of the light they throw on taxonomy, namely the ordering of species with reference to their nearest relations alive and dead. For it has been found that, despite potential variability, the relative fixity of these patterns in the different species of fish and birds is such that they may be used for purposes of classification with a degree of reliability no less than that of anatomical structures. This interest goes back to Darwin (1875). In the *Origin of Species* he gives a chapter to *Instinct*, in which he notes that each species is endowed with its own peculiar repertoire of behaviour patterns in the same way that it is endowed with its own peculiarities of anatomical structure. Emphasizing that 'instincts are as important as corporeal structure for the welfare of each species', he advances the hypothesis that 'all the most complex and wonderful instincts' have originated through the process of natural selection having preserved and continually accumulated variations which are biologically advantageous.

Since Darwin's time zoologists have been concerned to describe and catalogue those patterns of behaviour which are characteristic of each species and which, although in some degree variable and modifiable, are as much the hallmark of the species as the red breast of the robin or the stripes of the tiger. We cannot mistake the egg-laying activity of the female cuckoo for that of the female goose, the urination of the horse for that of the dog, the courtship of the grebes with that of the farmyard fowl. In each case the behaviour exhibited bears the stamp of the particular species and is, therefore, species-specific, to use a convenient if cumbersome term. Ethologists have specialized in the study of these species-specific behaviour patterns, or instincts as Darwin called them, the term deriving from the Greek 'ethos' which signifies the nature of the thing.

It will be my thesis that the five responses which I have suggested go to make up attachment behaviour — sucking, clinging, following, crying, and smiling — are behaviour patterns of this kind and specific to Man. I propose to call them 'instinctual responses' which I equate with the more cumbersome term 'species-specific behaviour pattern.'

My reason for preferring the term 'instinctual response' to 'instinct' or 'part-instinct' will perhaps be clear. In psycho-analysis the term 'instinct' (an unfortunate translation from the German 'Trieb') has been used to denote a *motivating force*. The term 'instinctual response' used here describes something very different: it denotes an *observable pattern of behaviour*. Although this pattern results from the activation of a structure (which, since we know next to nothing of its neurological basis, is best conceived in purely psychic terms), the question of the nature and origin of the energy involved is deliberately left open.

This leads to a consideration of the dynamic of instinctual responses. Whereas Freud, with many earlier biologists, postulated instincts of sex and self-preservation to explain the motive force behind certain types of behaviour, ethologists point out that this is unnecessary — as unnecessary in fact as to postulate an instinct to see in order to explain the existence of the eye. Instead, just as the present efficiency of the eye as a seeing instrument can be explained as due to the process of natural selection having favoured the accumulation of variations leading to better vision, so the present efficiency of instinctual responses as the instruments of self-preservation and reproduction can be explained as due to similar processes having favoured the accu-

mulation of favourable variations in these responses. In the same way that the eye can be said to have the function of sight, instinctual responses can be said to have the function, amongst other things, of safeguarding the individual and mediating reproduction.

It is contended, therefore, that it is redundant and misleading to invoke hypothetical instincts of sex and self-preservation as causal agents. Instead we may look to the conditions found necessary to activate a pattern as being in fact their causes.

In considering the conditions necessary to activate an instinctual response it is useful to distinguish between conditions internal to the organism and those external to it. Conditions internal to the organism which may be necessary before it will be exhibited include physiological conditions such as the hormonal state and stimuli of interoceptive origin. In Man they include also conditions such as thoughts and wishes, conscious and unconscious, which can be conceptualized only in psychological terms. All of these together put the organism into a responsive mood and sometimes lead to 'seeking' behaviour well designed to lead to the next links in the chain of behaviour. It is on the nature of the conditions activating succeeding links that the ethologists have thrown a flood of light. What they have demonstrated is that, for most instinctual responses, activation only occurs in the presence of particular external conditions.

Heinroth was probably the first to point out that species-specific behaviour patterns may often be activated by the perception of fairly simple visual or auditory gestalts to which they are innately sensitive. Well known examples of this, analysed by means of experiments using dummies of various shapes and colours, are the mating response of the male stickleback, which is elicited by the perception of a shape resembling a pregnant female, the gaping response of the young herring-gull, which is elicited by the perception of a red spot similar to that on the beak of an adult gull, and the attack response of the male robin which is elicited by the perception in his own territory of a bunch of red feathers, similar to those on the breast of a rival male. In all three cases the response seems to be elicited by the perception of a fairly simple gestalt, known as a 'sign stimulus'.

A great deal of ethological work has been devoted to the identification of the sign stimuli which elicit the various species-specific behaviour patterns in fish and birds. In so far as many of these behaviour patterns mediate social behaviour — courtship, mating, feeding of young by parents and following of

parents by young — much light has been thrown on the nature of social interaction. In dozens of species it has been shown that behaviour subserving mating and parenthood is controlled by the perception of sign stimuli presented by other members of the same species, such as the spread of a tail or the colour of a beak, or a song or a call, the essential characteristics of which are those of fairly simple *gestalten*. Such sign stimuli are known as social releasers. They play an essential role in the activation of a response.

Oddly enough stimuli of a comparable kind often play an essential role also in the *termination* of a response. Psycho-analysis has for long thought of instinctive behaviour in terms of the flow of a hypothetical psychic energy. According to this view behaviour is activated when energy has accumulated within the organism and terminates when it has flowed away. So deeply is our thinking coloured by such concepts that it is by no means easy instead to conceive of an activity coming to an end because a set of stimuli, either internal or external to the organism, switch it off, much as the referee's whistle terminates a game of football. Yet this is a concept which has been elaborated during recent years and will, I believe, prove immensely fruitful.

Sometimes the stimuli which have a terminating effect, and which are conveniently termed consummatory stimuli, arise within the animal. Thus experiments using esophagostomized dogs have demonstrated that the acts of feeding and drinking are terminated by proprioceptive and/or interoceptive stimuli which arise in the mouth, the esophagus, and the stomach and which in the intact animal are the outcome of the performances themselves. Such cessation is due neither to fatigue nor to a satiation of the need for food or drink: instead the very act gives rise to the feed-back stimuli which terminate it. (For discussion see Deutsch, 1953, and Hinde, 1954.)

In the case of other responses, it can be shown, termination results from stimuli arising in the organism's environment; for instance, Hinde has observed that in early spring the mere presence of a female chaffinch leads to a reduction of the male's courtship behaviour, such as singing and searching. When she is present he is quiet, when she is absent he becomes active. In this case, where a socially relevant behaviour pattern is terminated by consummatory stimuli emanating from another member of the same species, we might perhaps speak of a 'social suppressor' as a term parallel to social releaser. I believe it to be a concept extremely valuable for helping us understand the problem before us.

The basic model for instinctive behaviour which this work suggests is thus a unit comprising a species-specific behaviour pattern (or instinctual response) governed by two complex mechanisms, one controlling its activation and the other its termination. Although sometimes to be observed active in isolation, in real life it is usual for a number of these responses to be linked together so that adaptive behaviour sequences result. For instance sexual behaviour in birds can be understood as a sequence of a large number of discrete instinctual responses, in greater or less measure modified by learning, and so oriented to the environment, including other members of the species, and linked in time that reproduction of the species is commonly achieved. There are a large number of responses which, strung together in the right way, eventually lead to copulation; many others lead to nest-building, others again to brooding, and others again to care of young. It is interesting to note that, even in birds, those leading through courtship to copulation are far from few and fully confirm Freud's view that sexual activity is best understood in terms of the integration of a number of component 'part-instincts'.

Plainly this integration occurs under the influence of forces operating at a high level and is proceeding in the perceptual as well as the motor field. Moreover it has a complex ontogeny. For instance it has been shown that, as in Man, during the development of members of lower species there are many hazards which must be avoided if co-ordinated and effective functioning is to be achieved in adult life. An example of failure is the case of the turkey cock, who, although he could copulate with turkey hens, could only court human males. Another is the case of the gander, all of whose sexual responses were fixated on a dog kennel and who, moreover, behaved as though mourning when his dog kennel was turned on its side.

In considering groups of instinctual responses patterned into behaviour sequences, concepts such as hierarchical structure and the availability of one and the same response for integration into more than one sequence are both of great interest; but their discussion would lead us too far afield on this occasion.

Two further points, however, need mention. First, to ensure survival of the individual and the species, it is necessary for the organism to be equipped with an appropriately balanced repertoire of instinctual responses at *each stage* of its ontogeny. No only must the adult be so equipped, but the young animal must itself have a balanced and efficient equipment

of its own. This will certainly differ in many respects from that of the adult. Furthermore, not only do individuals of different sexes and at different stages of development require specialized repertoires, but in certain respects these need to be, reciprocal. Male and female mating responses need to be reciprocal, and so also do those mediating on the one hand parental care and on the other parent-oriented activity in the young. It is my thesis that, as in the young of other species, there matures in the early months of life of the human infant a complex and nicely balanced equipment of instinctual responses, the function of which is to ensure that he obtains parental care sufficient for his survival. To this end the equipment includes responses which promote his close proximity to a parent and responses which evoke parental activity.

Not very much study has yet been given by ethologists to the process of transition from the infantile equipment to that of the adult (though there is one valuable paper by Meyer-Holzapfel, 1949). Let us hope this will be remedied, since it appears to me that it is precisely this transition in the human being which provides a main part of the subject matter of psycho-analysis.

My second point concerns how as human beings, we experience the activation in ourselves of an instinctual response system. When the system is active and free to reach termination, it seems, we experience an urge to action accompanied, as Lorenz (1950) has suggested, by an emotional state peculiar to each response. There is an emotional experience peculiar to smiling and laughing, another peculiar to weeping, yet another to sexual foreplay, another again to temper. When, however, the response is not free to reach termination, our experience may be very different: we experience tension, unease and anxiety. As observers when these responses are activated in another, we commonly think and speak of the individual as the subject of conscious and unconscious wishes and feelings.

All instinctual response systems which are not active are so potentially. As such they go to make up what has been described earlier as psychic structure. It is here, I believe, that concepts derived from ethology may link with those in regard to infantile phantasy which have been elaborated by Melanie Klein and her colleagues. Nevertheless, in making such linkages we need to walk warily, since there may well be processes in Man, such as imitation and identification, with their associated ego structures, which need for their understanding a different and complementary frame of reference. A full correla-

tion of the two sets of concepts will be a long and difficult task.

In this brief account of ethological instinct theory I have concentrated on three main concepts: (a) the presence of species-specific behaviour patterns, or instinctual responses as I have called them; (b) the activation and termination of these responses by various conditions internal and external to the organism; and (c) their integration into more complex behaviour sequences. As such, the approach starts with limited and observed behaviour and attempts to understand more complex behaviour as due to a synthesis, more or less elaborate, of these simpler units into greater wholes. In this respect it resembles Freud's earlier view of instinct as expressed in his *Three Essays on Sexuality* and *Instincts and their Vicissitudes*. It is the antithesis, however, of the approach he favoured later. In his essay *Beyond the Pleasure Principle* (1920) and later works, Freud starts with purely abstract concepts, such as those of psychic energy and Life and Death Instincts, and attempts to understand particular examples of behaviour as expressions of these hidden forces. Put briefly we might say that, whereas Freud's later theories conceive of the organism as starting with a quantum of unstructured psychic energy which during development becomes progressively more structured, ethology conceives of it as starting with a number of highly structured responses (some of which are active at birth and some of which mature later), which in the course of development become so elaborated, through processes of integration and learning, and in Man by imitation, identification and the use of symbols, that the resulting behaviour is of amazing variety and plasticity.⁷ This picture of Man's behaviour may appear incredible to some, but before dismissing it we should be wise to recall that in other spheres we are used to the idea that from relatively few and simple components rich and varied structures may be created.

Indeed, in advocating the ethological approach, it is my hope that I am not underestimating the extraordinary complexities of behaviour characteristic of Man. By his skill in learning and his mastery of symbol he so conducts himself that the comparatively stereotyped behavioural units may well seem to have disappeared; and this may seem to be as true of the two-year-old as of the adult. Yet I believe this con-

clusion will prove false and that there will be found active beneath the symbolic transformations and other trappings of humanity, primeval dynamic structures which we share in common with lower species. Furthermore, I believe they will be found playing a dominant role in early infancy. As we go down the phylogenetic scale to simpler organisms we find instinctual responses increasingly in evidence; in the same way, I believe, as we trace Man back to his ontogenetic beginnings we shall find them responsible for an increasing proportion of his behaviour.

I emphasize that at present this is no more than my belief and that whether or not ethology will prove a fruitful approach to psycho-analytic problems is yet to be shown. Speaking for myself, a main reason for preferring it to other approaches is the research which it suggests. With ethological concepts and methods it is possible to undertake a far reaching programme of experimentation into the social responses of the preverbal period of infancy, and to this I attach much importance. Thus the repertoire of instinctual responses may be catalogued and the range of ages when each matures identified. Each response may be studied to discover the nature of the conditions which activate it and the nature of those which terminate it (often called consummatory stimuli), and why in some individuals responses come to be activated and terminated by unusual objects. The conditions which lead to certain responses being manifested at abnormal levels, either too low or too high an intensity, and the conditions which lead to a perpetuation of such a state may be explored. Other main interests will be the study of the conflicts arising when two or more incompatible responses are activated at once and the modes by which conflict is regulated. Finally, we may be interested to investigate the critical phases through which the modes of regulating conflict develop and the conditions which in an individual lead to one mode of regulation becoming dominant.

Even this brief sketch describes an extensive programme. Analysts will differ in their evaluation of it and in how they perceive its relatedness to the traditional research method of reconstructing early phases of development from the investigation of later ones. Since, however, we have yet to see the fruits of this new approach, it is perhaps premature

7. The many good theoretical reasons for being dissatisfied with Freud's notion of an unstructured id have been discussed by Fairbairn (1952) and Colby (1955). Moreover, Anna Freud (1951) in her empirical approach to child development has reached conclusions consistent with those advanced in the text. Discussing the

theoretical implications of her Hampstead Nursery observations, she advances the view that 'there exist in the child innate, pre-formed attitudes which are not originated, merely stimulated and developed by life experience.'

to attempt to judge its likely value. For me it carries with it the hope that, by introducing experimental method to the investigation of early emotional development, we may be entering a phase when more reliable data will be available to us in our consideration of crucial theoretical issues.

The dynamic aspects of the child's tie — Comparative studies

In presenting this brief and inadequate account of recent theories of instinctive behaviour I am keenly aware that they will be unfamiliar to many and controversial to all. I hope, in due course, time will be found when we can examine them in their own right and that meanwhile the account given will provide a background to my hypothesis.

Before proceeding I wish to emphasize again that I am discussing only the positive aspects of the child's tie and leaving an examination of its negative side to another occasion. My main thesis is that the positive dynamic is expressed through a number of instinctual responses, all of which are primary in the sense used in this paper and, in the first place, relatively independent of one another. Those which I am postulating are sucking, clinging, following, crying, and smiling, but there may well be many more.⁸ In the course of the first year of life, it is suggested, these component instinctual responses become integrated into attachment behaviour. How this process of integration is related to the parallel process in the cognitive sphere is difficult to know. It seems not unlikely, however, that there are significant connexions between the two and that a disturbance in the one will create repercussions in the other.

The five responses postulated fall into two classes. Sucking, clinging, and following achieve their end, in the one case food and in the other close proximity to mother, with only a limited reciprocal response being necessary on the mother's part. Crying and smiling on the other hand depend for their results on their effect on maternal behaviour. It is my belief that both of them act as social releasers of instinctual responses in mothers. As regards crying, there is plentiful evidence from the animal world that this is so: probably in all cases the mother responds promptly and unflinchingly to her infant's bleat, call, or cry. It seems to me clear that similar impulses are also evoked in the human mother and, furthermore,

that the infant's smile has a comparable though more agreeable effect on her.

Since a main point of my thesis is that no one of these responses is more primary than another and that it is, therefore, a mistake to give preeminence to sucking and feeding, it may be useful to consider the evidence for such a view. Unfortunately, studies of human infants are inadequate for our purpose and the hypothesis, therefore, remains untested. In respect of other species, however, the data are unequivocal. In subhuman primates, as Hermann insisted twenty-five years ago, clinging is manifested independently of the oral response and food. The same is certainly true of following and 'crying' in certain species of birds. Such observations are of great theoretical interest and merit detailed attention.

Clinging appears to be a universal characteristic of primate infants and is found from the lemurs up to anthropoid apes and human babies. In every species save Man during the early weeks the infant clings to its mother's belly.

Later the location varies, the mother's back being preferred in certain species. All accounts of infant-parent relations in subhuman Primates emphasize the extraordinary intensity of the clinging response and how in the early weeks it is maintained both day and night. Though in the higher species mothers play a role in holding their infants, those of lower species do little for them; in all it is plain that in the wild the infant's life depends, indeed literally hangs, on the efficiency of his clinging response.

In at least two different species, one of which is the chimpanzee, there is first-hand evidence that clinging occurs before sucking. As soon as it is born the infant either climbs up the ventral surface of the mother or is placed by her on her abdomen. Once there it 'clings tenaciously with hands and feet to the hair or skin.' Only later, sometimes after some hours, does it find the nipple and start to suck (14, 60). We may conclude, therefore, that in subhuman Primates clinging is a primary response, first exhibited independently of food.⁹

Similarly the response of following, which in nature is focused on a parent-figure, is known in certain species of birds to be independent of any other satisfactions and once again, therefore, primary.

8. It has been suggested to me that cooing and babbling may represent a sixth.

9. In 1957, Professor Harlow of the University of Wisconsin began a series of experiments on the attachment behaviour of young rhesus monkeys. Removed from their mothers at birth, they

are provided with the choice of two varieties of model to which to cling and from which to take food (from a bottle). Preliminary results (Harlow, in press) strongly suggest that the preferred model is the one which is most 'comfy' to cling to rather than the one that provides food.

Although this response has the same function as clinging, namely to keep the infant animal in close proximity to its mother, it would be a mistake to regard the two as identical. Whereas clinging is virtually confined to Primates (and a few other mammals including bats and anteaters, see [13]), the following response is to be observed in a very great variety of species both of mammals, and birds.

The species in which the following response is certainly primary include many ground-nesting birds, such as ducks, geese, and rails. the young of which are not fed by their parents but start foraging for themselves a day or so after birth. In systematic experiments Hinde, Thorpe, and Vince (1956) have shown that the mere experience of following an object reinforces the response; in other words the response increases in strength without any other reward being given.

The fact that clinging and following are undoubtedly primary responses in some species. it should therefore be noted, robs the theory of Secondary Drive of claim to special scientific status in regard to our problem; for it is shown not to fit the facts for certain species. It is particularly significant that these include Man's nearest relatives, the anthropoid apes.

Let us next consider crying. There is a widespread tendency to assume that crying is linked in a unique way to the needs for food and warmth. This, however, seems doubtful. In the species of birds already referred to in which the mother does no feeding of the young, the calls of the young serve the function of bringing mother to their side and thus prevent them from getting lost. Indeed, a common term for such calls is 'lost piping'. Evidence from chimpanzees is less conclusive but none the less suggestive. For instance, it is reported that infant chimpanzees are provoked to plaintive crying as much by being prevented from clinging to their mothers as by hunger (55). Further, perhaps it is not without interest that it is the same situation — being left alone or not being able to cling — which is by far the most frequent provoker of temper tantrums in the rather older infant chimpanzee (39).

The broad thesis which is being advanced is that each of the young animal's instinctual responses makes a distinctive contribution to the genesis of the

infant-mother tie, and that the young of each species is equipped with its own peculiar repertoire of responses which mature at rates specific for the species. Thus, Ungulates have a fully active following response almost from birth but never demonstrate clinging; subhuman Primates have a fully developed clinging response at birth and develop a following response later. Both mammalian orders are equipped with a capacity to 'cry' and thus to evoke maternal aid. What is the repertoire specific to Man?

The dynamic aspects of the Child's tie—Man

Perhaps largely as an adaptation required by his large head, in comparison to other Primates the human infant is born in a relatively immature state. Neither his clinging response nor his following response are yet effective. Indeed, apart from sucking, the only effective mother-related response available to the newborn human infant appears to be crying. This illustrates the extent to which in Man the survival of the young is dependent on the exertions of the mother.¹⁰

For reasons already given when considering the 'crying' of chimpanzees, it is my thesis that in human infants the *crying response* is probably so designed that it is terminated not only by food but also by other stimuli connected with the mother's presence, initially probably kinaesthetic or tactile. As an example (but no proof) of this we may refer to the common experience that babies often cry when they are not hungry and that this crying may be quietened by touch or rocking, and later by voice. The mother thus provides the terminating (or consummatory) stimuli for crying, stimuli which may, rather aptly, be described as 'social suppressors'.

In addition to the baby's cry, maternal behaviour in the human mother is subjected to another social releaser: this is the *baby's smile*. As with other instinctual responses, maturation of smiling varies considerably from infant to infant; in most it is present by six weeks. At this time and for two or three months longer, smiling is sensitive to patterns much simpler than the whole human face: it is in fact activated at first by a sign stimulus comprising no more than a pair of dots (3). Nevertheless, however activated, as a social releaser of maternal behaviour it is powerful. Can we doubt that the more and better an

10. In lower Primates it is not so. Lemur mothers do little more than provide a moving milk tank with plenty of fur to which to grip. If the infant lemur does not fend for himself by clinging, locating a nipple, and suckling, he dies. In the higher primates,

mothers play an increasingly active role (61). Mother chimpanzees handle their infants gently and more or less skillfully, refuse to let them out of sight, and respond immediately to their cries (60). Fortunately for their offspring, most human mothers do even better.

infant smiles the better is he loved and cared for? It is fortunate for their survival that babies are so designed by Nature that they beguile and enslave mothers.

Although in his early months the human infant is particularly dependent on his capacity to evoke maternal care, as he grows older and stronger responses mature such as clinging and following which require less reciprocal maternal action. By the third month he is *following* a person for a few seconds with his eyes (30) and as soon as he becomes mobile he will follow his mother by whatever means of locomotion he has available. Like the cock chaffinch referred to earlier, he is often restless and vocal when alone, content and quiet when in the presence of a mother-figure. For the following response as well as for crying, mother provides the consummatory stimuli.

Ordinary observation shows that the following response of human infants — the tendency to remain within sight or earshot of their mothers — varies both in the short term and over longer periods. In the short term it is particularly easily evoked if the child is tired, hungry, or in pain; it is also immediately activated if the child is afraid, a matter of great consequence for the theory of anxiety to which a later paper is devoted. In its sensitivity to these conditions it probably differs not a whit in principle from the comparable response in the young of all other species.

As regards the natural history of the response in the long term, so far as I know there has been no systematic study, but as in monkeys (14), there appears to be first a waxing and then a waning. No doubt its course varies from child to child, but in many a zenith seems to be reached in the period 18 to 30 months. This late dating may come as a surprise, especially to those who, equating psychological attachment with physiological dependence, presume that attachment must be at its maximum soon after birth. If we are right, however, in recognizing following as an instinctual response in its own right, there is no reason to expect it to be most active in the months following birth. On the contrary, it is to be expected that it would be at a maximum at a period of life after the child is capable of free and independent locomotion but before he is able to fend for himself in emergency. The chronology proposed is reasonably consistent with that advanced by Dorothy Burlingham and Anna Freud (1942), already quoted. Whether or not it is right, however, will have to be tested by research of a kind much more systematic than has yet been undertaken.

Although maturation no doubt plays a major role in determining this long term waxing and waning, environmental conditions can greatly influence its course. Thus, any which result in strong unconscious hostility to the mother may also lead to high intensity following; and, whilst a limited degree of rejection and short separation may also lead to its exhibition at high intensity, massive rejection or the absence of a mother-figure may result either in its failure to mature or in maturation being overtaken later by repression. This, however, is not the occasion to concern ourselves in detail with the many conditions which influence its course: what I have attempted is to show that the following response is one which deserves systematic study in its own right.

The natural history of the *clinging* response appears to be rather similar though, unlike the following response, it is present in rudimentary form from the earliest days. It is well known that at birth human infants are able to support their weight by clinging with their hands. We know further that the response continues active in the early months, especially when the child is sucking, and that it is to be observed not only in the hands, as reported by Freud, but also the feet (Hermann, 1936). It seems to be rather chancy as to what the infant clings to, though Hermann holds that 'the grasping instinct will show itself primarily in relation to another person'. Whatever the facts, one has the impression that, in these early months, functionally, it is embryonic only.

Later it becomes more effective. Particularly when afraid, the infant will cling to his mother with great tenacity. Clinging is also especially apparent at bedtime or after a separation experience (see for example Burlingham and Freud, 1944, pp. 47-48). Sometimes it is directed towards mother or a part of mother, sometimes, as both Hermann and Winnicott (1953) have emphasized, towards a transitional object. Although this clinging is often thought to be an atavistic character related to an (imaginary) arboreal past, it seems far more reasonable to suppose that it is homologous with the infantile clinging of our Primate cousins. This view is strengthened by evidence that chimpanzee infants also cling tenaciously to transitional objects, objects moreover which, like parent's overalls, are plainly identified with the absent parent figure (39, 32).

When infants of other Primate species cling to their mothers they do so with arms and legs extended clutching their mothers' flanks. This extension of arms and legs may well explain the extension

movements seen in human infants. In the presence of an adult, older babies and toddlers very frequently extend their arms in a way which is always interpreted by adults as a wish to be picked up; if we watch carefully, an extension of both arms and legs when an adult appears is to be seen also in infants as young as four months. If we are right in supposing that these movements are homologous with Primate clinging and that they activate the parental response to pick the baby up, we have a pretty example of an intention movement having become ritualized into a social releaser; this is an evolutionary process to which Daanje (1950) has called attention.

However that may be, there seems little doubt that, as in the case of following, clinging waxes, reaches a zenith, and then wanes, or that, again like following, the course of its development may be influenced by experience. In the short term, we know, anxiety and a period of separation both lead to its exhibition at high intensity.

In the account of the human infant's repertoire of positively directed mother-oriented instinctual responses, I have left *sucking* to the last. My reason is that psycho-analytical theory has tended to become fixated on orality and it is a main purpose of this paper to free it for broader development. Nevertheless, sucking is plainly of great importance both in infancy and later and must be studied systematically. Furthermore, the phase during which sucking is one of the dominant responses continues for far longer than is sometimes supposed, a fact remarked upon by Anna Freud (1951). In my experience most infants through much of the second year of life need a great deal of sucking and thrive on milk from a bottle at bedtime. It is regrettable that, in Western culture, armchair doctrines regarding weaning at 9 months or earlier have led to a neglect of this obvious fact.

In this exposition I have emphasized the endogenous aspects of these instinctual responses. Their development in the individual, however, can never be free of change through processes of learning. In respect of smiling in infants aged 14–18 weeks, this has already been demonstrated experimentally by Brackbill (1956). What is of particular interest in her work is that the 'reward' given was no more than a little social attention.

At this point I wish to emphasize that it is a main part of my thesis that each of the five instinctual responses which I am suggesting underlie the child's tie to his mother is present because of its survival value. Unless there are powerful in-built responses

which ensure that the infant evokes maternal care and remains in close proximity to his mother throughout the years of childhood he will die — so runs the thesis. Hence in the course of our evolution the process of natural selection has resulted in crying and smiling, sucking, clinging and following becoming responses species-specific to Man. Their existence, it is claimed, is readily intelligible on biological grounds. In this respect they differ sharply from the hypothetical craving to return to the mother's womb. It is difficult to imagine what survival value such a desire might have and I am not aware that any has been suggested.

Indeed, the hypothesis of Primary Return-to-Womb Craving has been advanced on quite other grounds and, so far as I know, lays no claim to biological status. I emphasize this to make clear my own position. The theory of *Component Instinctual Responses*, it is claimed, is rooted firmly in biological theory and requires no dynamic which is not plainly explicable in terms of the survival of the species. It is because the notion of a primary desire to return to the womb is not so rooted and because I believe the data are more readily explained in other ways that this theory is rejected.

In stressing the survival value of the five component instinctual responses we are put in mind of Freud's concepts of libido and Life instinct. Not only is there the same emphasis on survival, but the means of achieving it — a binding together — is the same: 'Eros desires contact because it strives to make the ego and the loved object one, to abolish the barriers of distance between them' (1926, p. 79). Despite the starting points of the two theories being so different, and their having different implications, the themes appear to be the same.

Although I have described these five responses as mother-oriented, it is evident that at first this is so only potentially. From what we know of other species it seems probable that each one of them has the potential to become focused on some other object. The clearest examples of this in real life are where sucking becomes directed towards a bottle and not to the mother's breast, and clinging is directed to a rag and not to the mother's body. In principle it seems likely that an infant could be so reared that each of his responses was directed towards a different object. In practice this is improbable, since all or most of the consummatory stimuli which terminate them habitually come from the mother-figure. No matter for what reason he is crying — cold, hunger, fear, or plain loneliness — his crying is usually ter-

minated through the agency of the mother. Again, when he wants to cling or follow or to find a haven of safety when he is frightened, she is the figure who commonly provides the needed object. It is for this reason that the mother becomes so central a figure in the infant's life. For in healthy development it is towards her that each of the several responses becomes directed, much as each of the subjects of the realm comes to direct his loyalty towards the Queen; and it is in relation to the mother that the several responses become integrated into the complex behaviour which I have termed 'attachment behaviour', much as it is in relation to the Sovereign that the components of our constitution become integrated into a working whole.

We may extend the analogy. It is in the nature of our constitution, as of all others, that sovereignty is vested in a single person. A hierarchy of substitutes is permissible but at the head stands a particular individual. The same is true of the infant. Quite early, by a process of learning, he comes to centre his instinctual responses not only on a human figure but on a particular human figure. Good mothering from any kind woman ceases to satisfy him —only his own mother will do.¹¹

This focusing of instinctual responses on to a particular individual, which we find but too often ignored in human infancy, is found throughout the length and breadth of the animal kingdom. In very many species, mating responses are directed to a single member of the opposite sex, either for a season or for a lifetime, whilst it is the rule for parents to be solicitous of their own young and of no others and for young to be attached to their own parents and not to any adult. Naturally such a general statement needs amplification and qualification, but the tendency for instinctual responses to be directed towards a particular individual or group of individuals and not promiscuously towards many is one which I believe to be so important and so neglected that it deserves a special term. I propose to call it 'monotropy', a term which, it should be noted, is descriptive only and carries with it no pretensions to causal explanation.¹²

11. I am hesitant to name an age for this development. The studies of Spitz (1946) and Schaffer (in press) make it clear that it has occurred by six or seven months.

12. Excellent examples of monotropy in young children are given in *Infants without Families*. For example 'Bridget (2-2.5 years) belonged to the family of Nurse Jean of whom she was extremely fond. When Jean had been ill for a few days and returned to the nursery, she constantly repeated: "my Jean, my Jean." Lillian (2-2.5 years) once said "my Jean" too, but Bridget objected and explained: "It's my Jean, it's Lillian's Ruth and Keith's very own

In the case of human personality the integrating function of the unique mother-figure is one the importance of which I believe can hardly be exaggerated; in this I am at one with Winnicott who has constantly emphasized it (e.g. 56). I see the ill-effects stemming from maternal deprivation and separation as due in large part to an interference with this function, either preventing its development or smashing it at a critical point. This is a view I have advanced in the past (8, p. 54) and to which I hope to give further attention.

In the final synthesis of these many responses into attachment behaviour directed towards a single mother figure, it may well be that certain component responses play a more central part than others. Without much further research we cannot know which they may be. However, the ease with which sucking is transferred to objects other than the mother's breast leads me to think it will not prove the most important. Clinging and following seem more likely candidates for the role.

This view is strengthened by clinical observation. My impression in taking the histories of many disturbed children is that there is little if any relationship between form and degree of disturbance and whether or not the child has been breast fed. The association which constantly impresses itself upon me is that between form and degree of disturbance and the extent to which the mother has permitted clinging and following, and all the behaviour associated with them, or has refused them. In my experience a mother's acceptance of clinging and following is consistent with favourable development even in the absence of breast feeding, whilst rejection of clinging and following is apt to lead to emotional disturbance even in the presence of breast feeding. Furthermore, it is my impression that fully as many psychological disturbances, including the most severe, can date from the second year of life when clinging and following are at their peak as from the early months when they are rudimentary. I am, of course, aware that these views contrast with those expressed by many other analysts and I make no special claim for their truth: like those of others,

Ilsa" (Burlingham and Freud, 1944, p. 44.)

Robert Hinde has drawn my attention to the emphasis which William James gives to this process. In his chapter on Instinct, James (1890) discusses two processes which lead to great variations in the manifestation of instinctual responses in different individuals. The first is the tendency for them to become focused on one object, and therefore to be inhibited in respect to other objects, which he terms 'the law of inhibition of instincts by habits'. The second refers to critical phases in the development of instinct. James' treatment of the whole topic is remarkably perspicacious.

they rest only on a collection of not very systematic clinical impressions. In the long run this, like other scientific issues, will be decided on the quality of the empirical data presented.

This completes our review of the quintet of responses through which, it is suggested, the dynamic of the child's tie to his mother is expressed. It may be noted that all of them, even smiling, seem to reach a zenith and then to decline. As the years roll by first sucking, then crying, then clinging and following all diminish. Even the smiley two-year-old becomes a more solemn school-child. They are a quintet comprising a repertoire which is well adapted to human infancy but, having performed their function, are relegated to a back seat. Nevertheless none disappear. All remain in different states of activity or latency and are utilized in fresh combinations when the adult repertoire comes to mature. Furthermore, some of them, particularly crying and clinging, revert to an earlier state of activity in situations of danger, sickness, and incapacity. In these roles, they are performing a natural and healthy function and one which there is no need to regard as regressive.¹³ Like old soldiers, infantile instinctual responses never die.

Conclusion

It will be noticed that in this account I have carefully avoided the term 'dependence', although it is in common use. My reason is that to be dependent on someone and to be attached to them are not the same thing. The terms 'dependence' and 'dependency' are appropriate if we favour the theory of Secondary Drive, which has it that the child becomes oriented towards his mother because he is dependent on her as the source of physiological gratification. They are, however, inappropriate terms if we believe that dependence on physiological satisfactions and psychological attachment, although related to one another, are fundamentally different phenomena. On this view, we observe on the one hand that in the early weeks the infant is in fact dependent on its mother, whether or not there are forces in him which attach him to her, and on the other that he is attached to her by dynamic forces, whether or not, as in hospital, he is dependent on her physiologically. On this view, psychological attachment and detachment are to be regarded as functions in their own right apart altogether from the extent to which the child happens at any one moment to be dependent on the object for

his physiological needs being met. It is interesting to note that, despite their adherence to the theory of Secondary Drive, both Sigmund Freud and Anna Freud nonetheless employ the term 'attachment' (Freud, C.P., V, p. 252-3; Burlingham and Freud, 1944).

Other terminological issues also arise. Thus we shall no longer regard it as satisfactory to equate breast and mother, to identify good feeding and good mothering, or even to speak of the earliest phase as oral and the first relationship as anaclitic. To some these may seem revolutionary consequences but, if the hypothesis advanced here is correct, terminological change is inescapable.

The hypothesis advanced, however, can be no more than tentative. Data are still scarce and it may well be many years before crucial evidence is available. Meanwhile I advance it as a working hypothesis, both as the best explanation of the facts as we now know them and above all as a stimulus to further research.

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13. In much theorizing (e.g., Benedek, 1956), all manifestations of attachment behaviour after infancy are conceived as 'regressive'. Since this term inevitably carries with it the conno-

tation pathological or, at least, undesirable, I regard it as misleading and failing to do justice to the facts.

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