There is a natural tendency to divide our world into the world of people and their activities, and the inanimate, physical world. If we are to understand the nature of spoken language and its early development it is essential to look both at infant behaviour in relation to other human beings, and at the way in which children begin to make sense of the physical characteristics of their surroundings. The origins of language are embedded in these activities.

Though it seems natural and appropriate to us to make this two-fold division of the environment, it is probably less meaningful to the infant who is in the first stages of exploration of the world he has recently entered. The skills he needs to perceive and to make sense of his mother, his identification of her as a person and the meanings he can extract from her various activities are little different from those by which he acquires an understanding of the objects which surround him, and of their arrangements in space and time. It is convenient to preserve the distinction so long as it is realized that orderly development in either is dependent on increasing skill in the other.

It is a biological necessity that the newborn infant is cared for and protected, kept warm, fed and clean, and free from infection. In the human child this process continues in various suitably modified forms for many years until he is able to fend for himself, meaning that he is competent to ensure an adequate level of selfcare and that he can order his own life. This is usually termed being independent, but independence is a state which cannot be achieved even in the adult without numerous provisos being made which greatly dilute the concept. Human behaviour is characterized by social interaction, the formation of attachments of various degrees of intensity and of interdependence at a variety of levels. It is hardly to be wondered that such typically human behaviours are at the root of the process of bonding between the mother and her child. Their origins are not human at all but can be studied in mammalian and phylogenetically earlier forms of animal behaviour, particularly amongst the more gregarious species. Such ethological studies have contributed much to the understanding of human behaviour, and serve to

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remind one of the astonishing longevity of bonding behaviour and of the complexity of interaction between individuals in non-human species.

It is one thing to assert the necessity of certain behaviour patterns which will ensure the survival of the newborn until he and she are able in turn to care for their own young, and so secure the future of the race. It is quite another matter to achieve a reasonable understanding of the various processes by which parents and child not only secure his physical survival, but ensure that he will grow up with a full repertoire of social and cognitive skills.

The Neonatal Period

A number of factors have been described, operating between the mother and her child, which develop and strengthen the bond of attachment from the moment of birth.

Mother to Child

A mother who is given her new born infant will either hold him or if unable to, will have him lying as close to her as possible where she can see him. Characteristically, she will gaze intently, will talk to him and about him with those around, and will begin gently to touch and explore him. It has been found that there is a definite pattern of touching which develops over the next few hours and days. Touching begins very gently, with her fingertips directed towards his hands and feet and face, and this changes to a more encompassing caress directed to his trunk and body as a whole, using a grip which involves the palms of the hands (Rubin, 1963; Klaus, Kennell, Plumb, and Zuehlke, 1970). She tends to pitch her voice higher than the level she uses in ordinary conversation and in general it appears that the new born is more responsive to the female than the male voice. It may be that this is due in part to the effects of a physiological middle ear deafness, due to the presence of fluid in the middle ear clefts until it has drained away. The effect would be to impair hearing more for lower frequency sounds.

Improbable though it might be, especially to those who consider the infant to be a passive recipient of stimuli with no ability to select or process what is going on around him, the newborn is able to respond actively to an adult speaker. Condon and Sander (1974) studied videotape recordings of infants from twelve hours to two days old and by scrutinizing the film at one twentieth of a second intervals and less, were able to demonstrate that movements occurred of the fingers, the hands and arms, and of the baby’s head and feet which were synchronous in time with certain features of the speech. This synchrony was often sustained by an infant across long sequences of words, and has led to the conclusion that “the neonate participates immediately and deeply in communication and is not an isolate which slowly develops such skills after many months” (Condon, 1974). This behaviour has been called entrainment or interactional synchrony.

There is a ground swell of rhythmical activity which the mother takes advantage of to interact with her child. The patterns of sleeping, feeding and wakefulness