

# PSYCHOSES OF CHILDBEARING\*

By

C. TETLOW, M.B., Ch.B., B.Sc., D.P.M., D.R.C.O.G.

*Consultant Psychiatrist  
Central Hospital, Warwick*

## INTRODUCTORY

It is natural to assume that because a psychosis occurs during the process of childbearing the two events are therefore necessarily associated, but the evidence is conflicting and the relationship between them has not been established with certainty. In fact no immediate dramatic cause has yet been demonstrated that would account for such mental breakdowns, and it would be surprising if it had, for the great majority of psychoses not related to maternity show no simple sequence of cause and effect.

Yet it would be wrong to dismiss without further examination an occasion so important in the life of the mother as childbirth as of no aetiological consequence. In the types of psychosis under consideration the clinical onset had often been a sudden and disturbing event, just at that particular time in the patient's life when she was confronted with the responsibility of motherhood. Further examination of the patient's history however often revealed previous evidence of emotional disturbance, or of instability in other members of her family.

Undue preoccupation with the physical complications of pregnancy and the puerperium can therefore never supply a complete answer to the problem of aetiology, more especially today when the incidence of maternal morbidity is diminishing. In this connection there is evidence of a reduction in the incidence of psychoses complicating childbirth. Thus Herzer (1906) at the beginning of the century gave an incidence rate of one in four hundred births whilst in the county of Warwickshire during the years 1948-52 the incidence was one in six hundred and eighty births. It may well be that the lower incidence is associated with the decline in maternal morbidity, and it becomes more than ever necessary to look for factors other than those associated with the obstetrical complications of childbearing, important though these may once have been.

With this in mind the whole background of the patient's personality, and that of other members of her family, has been taken into account as well as events related to the childbirth itself. No attempt has been made to describe the clinical features in detail or to classify the types of illness, the object having been to discover the broad aetiological features of psychoses of childbirth, without reference to types.

## REVIEW OF THE LITERATURE

When the literature on the subject over the last half century or so is studied it is evident that there are two main trends of opinion in regard to aetiology.

The first of these is that the pregnancy, puerperium, or lactational period are significant events in the natural history of the mental breakdown, either

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through physical factors such as infection, pregnancy toxæmia, hæmorrhage, or hormonal disturbances, complications which are in fact already known to be associated with childbearing, or secondly from psychological causes, whether these are of an external nature such as unhappy marriage, unwanted pregnancy, recent stress, or due to unconscious psychological difficulties in the woman's adjustment to motherhood.

Thus Galant (1927) found evidence of toxæmia, infection and physical exhaustion. Fürstner (1875) though attaching little importance to difficult labour as such, found that febrile conditions were common. Lévy-Valensi (1929) thought that anaemia, undernourishment, and exhaustion either through difficult labour or following prolonged lactation were important features, whilst Fellner (1903) and Engelhardt (1912) regarded eclampsia as an important factor. Skottowe (1942) discovered physical complications in over half his cases, e.g. pyrexia, albuminuria, pelvic thrombosis, or severe hæmorrhage. Such pathological features as infection, severe hæmorrhage or pregnancy toxæmia were described by Linn (1941), and Coates (1934) believed that it would eventually be shown that all cases of puerperal psychosis were of toxic origin. Bourne (1924) also stressed the importance of physical complications, though all his cases were from a maternity hospital, where difficult midwifery cases would tend to be more numerous.

In considering psychological factors Cohen (1943) drew attention to the importance of superstitions about the concept of birth itself, erroneous ideas arising from faulty sex instruction, the fear of death at the approaching labour, or concern lest the baby should be marked. Wick (1941), Saunders (1924), Boyd (1941) and also Armstrong-Jones (1923) thought that emotional distress was an important element, e.g. illegitimacy, financial worry, a feeling of inability to care for the baby, or a difficult domestic situation. Tylden (1950) has also shown how emotional factors can influence pregnancy even in normal women, and in this connection too Ellery (1927) regards a normal confinement as a source of much mental stress. Psychoanalytical methods of investigation have tended to show that a woman breaks down during childbearing because of emotional disturbances arising in her own early mental development (Jones, 1942), or because of unresolved difficulties in sexual adjustment (Zilboorg, 1931). Glover (1950) considers that normal childbearing represents the successful overcoming of an unconscious conflict. Fenichel (1946) interpreted hallucinatory states occurring after childbirth as easily recognizable wish-fulfilments. Deutsch (1947) has written of the intimate relationship between pregnancy and the woman's whole phantasy life and describes how "in pregnancy a normally performed phenomenon becomes the immediate expression of definite psychotic events".

As regards endocrine disturbances Davidson (1936) found post-mortem evidence of ovarian change. Wilson and Christie (1925) reported clinical improvement following hypodermic injections of ovarian extract, whereas Nürnberger (1936) found that patients were helped by treatment with pituitary hormone. Abély, Sizaret and Laine (1947) also thought that changes in pituitary activity were important.

The second main trend of opinion is that the pregnancy or puerperium have little or nothing to do with the mental illness, or at most act as mere precipitating events against a background of personality predisposition to psychosis, the psychosis being non-specific and indistinguishable from any other psychosis not attributable to pregnancy (Schroeder, 1942). Likewise Ordway and McIntire (1942) did not think that pregnancy was a true aetiological

factor, and Aschaffenberg (1901) concluded that the puerperium was a precipitating cause only and not the fundamental one.

Childbirth itself was also deemed not to be a significant factor by Strecker and Ebaugh (1926). It is important to remember too that women may experience prolonged and difficult labour, or develop severe infection or haemorrhage, without becoming mentally ill (Frumkes, 1939). Consequently it is not surprising that the concept of predisposition has been advanced to explain why one woman and not another will develop a psychosis during childbirth. Thus Herzer (1906) found that 81 per cent. of his schizophrenic patients and 55 per cent. of his patients with manic depressive illness gave evidence of hereditary factors.

Cruickshank (1940) found a family history of epilepsy, alcoholism, psychosis or neurosis in 32 per cent. of his patients. Smalldon (1940) discovered a 25 per cent. greater inheritance of morbidity in those suffering from affective psychosis than in his schizophrenic patients, and at least a 50 per cent. greater morbid inheritance when compared with his toxic-infective group. On the other hand Solomons (1931) stated that "a careful enquiry into cases met by the writer in hospital and private practice failed invariably to elicit any hereditary factor".

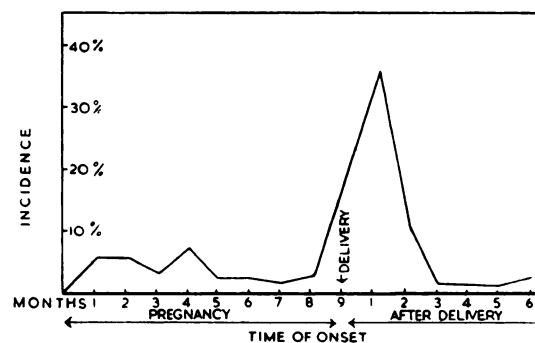


FIG. 1.—Graph showing the peak incidence of psychotic illness that occurs in the first four weeks after childbirth.

It is difficult to reconcile the view that pregnancy is without much significance with the fact that the onset of symptoms occurs with a peak incidence in the four weeks immediately after delivery. If the childbirth itself were of no import one would not expect a peak incidence of this kind to occur. This tendency for the majority of cases to occur closely together at this period is illustrated in Figure 1. The graph is drawn from a survey of all pregnancy and puerperal mental breakdowns admitted to the Central Hospital, Warwick, during a five-year period from 1944–1948. In as many as 35 per cent. of the cases the clinical onset occurred during the first four weeks after the confinement, nearly half of these becoming ill during the first week of the puerperium.

In addition to these two main views concerning aetiology, a third hypothesis suggests itself, i.e. that obstetrical complications are not a factor, but that a personality predisposition to mental disorder exists, this defect of personality relating specifically to the sexual and reproductive life of the patient.

#### METHOD

Using the chi squared test, a statistical investigation has been made of sixty-seven consecutive admissions to the Central Hospital, Warwick, of

psychoses complicating childbirth, whether the illness occurred during pregnancy or within six months following birth. The investigation extended over a period of thirty-one months from 1947 to 1950.

The normal controls consisted of fifty mentally normal puerperal women who had been confined in the maternity wards at St. Mary's Hospital near Rugby during the same period.

A further control series was also included, consisting of fifty consecutive admissions to the Central Hospital, of married women of a comparable age group whose psychosis was not temporally related to childbearing, and who had not previously suffered from such an illness. All the cases were examined personally and a full psychiatric social history was taken of all the psychotic patients by the Psychiatric Social Worker in interviews with the relatives.

The family history extended to the parents, siblings, aunts, uncles and grandparents. "Psychosis" included only those who had been admitted to a mental hospital and who had suffered from obvious delusional symptoms, hallucinatory experiences, gross affective disturbances, or confusion, whether related to disease or age. Suicides were also included in this group. The term "neurosis" included those members of the family who had been attended by their own

TABLE I  
*Aetiological Factors as Shown by Comparison of Patients Suffering from Psychoses Associated with Childbearing with Normal Controls*

Factor	Psychoses of Childbearing Total=67		Normal Puerperal Controls Total=50		$\chi^2$	P
	No.	Per cent.	No.	Per cent.		
Family History						
Psychosis .. .. .	19	28	3	6	9.3	< .01
Neurosis .. .. .	17	25	2	4	9.6	< .01
Minor Neurotic Symptoms ..	16	26	1	2	21.7	< .01
<b>Total .. .. .</b>	<b>52</b>	<b>79</b>	<b>6</b>	<b>12</b>	<b>29.2</b>	<b>&lt; .01</b>
Epilepsy .. .. .	3	4	2	4	0.02	0.9
Psychosomatic illness .. ..	8	13	12	24	2.8	0.1
Personal History						
Previous history of:						
Psychosis .. .. .	10	15	—	—		
Neurosis .. .. .	24	35	5	10		
<b>Total .. .. .</b>	<b>34</b>	<b>50</b>	<b>5</b>	<b>10</b>	<b>21.3</b>	<b>&lt; .01</b>
Neurotic traits in childhood ..	43	64	25	50	2.36	0.1
Abnormal personality .. .. .	51	77	10	20	36.2	0.01
Obstetrical Complications						
Dystocia .. .. .	7	10	5	10	.16	.7
Toxaemia of pregnancy .. ..	5	7.5	2	4	.15	.7
Infection .. .. .	5	7.5	4	8	.05	.8
Severe haemorrhage .. .. .	—	—	2	4		
<b>Total .. .. .</b>	<b>17</b>	<b>25</b>	<b>13</b>	<b>26</b>	<b>.0046</b>	<b>.95</b>

The italicized values of P are "significant" taking the conventional level of significance when  $P=0.05$ .

doctor for an illness resulting in absence from work for many weeks or months, the symptoms of which conformed to those associated with the accepted clinical varieties of neurosis, namely, hysteria, anxiety states, neurotic depression, or obsessional neurosis. Under "minor neurotic symptoms" were included stammering, nervousness, blushing, frequent unexplained headaches, undue irritability, and mild dyspepsia. Included under "psychosomatic disorders" were peptic ulcer, ulcerative colitis, asthma, rheumatoid arthritis, migraine, and recurrent attacks of eczema. A history of epilepsy was dealt with as a separate factor.

The same criteria were used in investigating the personal psychiatric history of the patient. Two further categories were included here, namely a history of neurotic traits in childhood, and a history of abnormal personality. Neurotic childhood traits consisted in nail biting, enuresis, excessive fear of the dark, undue nervousness, blushing, shyness, night terrors, sleep walking, temper tantrums, and stammering. Abnormal personality was less easy to define, but the criteria laid down by Slater (1943) were adopted, i.e. hysterical personality, anxious personality, unstable mood, obsessional personality, hypochondriacal personality, paranoid sensitive personality, unsociable personality, and anergic personality.

#### RESULTS

*Comparison with normal controls.* Taking a conventional level of significance when  $P=0.05$ , there was found to be more than a chance association between a family history of psychosis, neurosis and minor neurotic symptoms on the one hand and mental disorder of childbearing on the other. There was no significant association with epilepsy or with psychosomatic disorders.

There was also an association between a personal history of psychosis, neurosis or of abnormality of personality and the development later of a mental illness associated with childbearing. There was no correlation with a history of childhood neurotic traits.

TABLE II

*Comparison of Aetiological Factors in Psychoses Associated with Childbearing and Psychoses Not so Associated but Occurring in Women of a Comparable Age Group*

Factor	Psychoses Associated with Childbearing		Psychoses Not Associated with Childbearing		
	No.	Per cent.	No.	Per cent.	Statistical Comparison with Normal Controls $\chi^2$ P
Average age	30.4 years		35.2 years		
Family history:					
Psychosis	19	28	10	20	4.3 .04
Neurosis	17	25	10	20	6.1 .02
Minor neurotic symptoms	16	26	13	26	12.0 .01
Epilepsy	3	4	2	4	.02 .9
Psychosomatic illness	8	13	11	22	.056 .98
Personal history:					
Neurosis	24	35	15	30	6.2 .02
Psychosis	10	15	11	22	12.0 < .01
Neurotic traits in childhood	43	64	41	82	11.6 < 0.01
Abnormal personality	51	77	34	68	23.4 < 0.01

The italicized values of P are "significant" taking the conventional level of significance when  $P=0.05$ .

From these figures it is therefore concluded that a personality predisposition exists, as shown by the personal history, and also an hereditary predisposition as shown by the high incidence of abnormality in the family history.

*Obstetrical complications.* Do obstetrical complications show any correlation with psychosis developing at this period of a woman's life? As already recounted, previous workers have often been convinced of an essential relationship between the two, and indeed this is frequently taught even today. However, under modern conditions of obstetric practice the results displayed in Table I demonstrate that there is no statistical association. Neither is a psychosis more likely to occur in relation to a first pregnancy, with its greater incidence of complications, as is illustrated in Table III. In this table it is also shown that the age of the patient makes no difference to her liability to develop mental illness as a complication of childbirth.

TABLE III  
*Distribution in Relation to Age and Parity*

Age Groups:	Psychoses Associated with Childbearing		Normal Controls		$\chi^2$	P
	No.	Per cent.	No.	Per cent.		
15-20 years .. .. .	3	4.5	2	4	.11	0.7
20-25 " .. .. .	12	18	16	32	2.02	.1
25-30 " .. .. .	15	22	10	20	.84	.4
30-35 " .. .. .	22	35	14	28	.13	.7
35-40 " .. .. .	11	16	7	14	.018	.9
40-45 " .. .. .	4	6	1	2	.35	.6
Total .. .. .	67		50			
<b>Parity:</b>						
Para 1 .. .. .	31	46	22	44	.004	.9
2 .. .. .	17	26	15	30	.12	.7
3 .. .. .	8	12	8	16	.13	.7
4 .. .. .	9	13	3	6	1.0	.3
5 .. .. .	2	3	2	4	.045	.8
Total .. .. .	67		50			

Some authors have sought to explain puerperal and pregnancy psychoses as resulting from genito-urinary infection, which clinically may have gone unrecognized. Baruk (1938) stated that *B. Coli* infection of the urinary tract could be found in nearly all cases of puerperal psychosis. Toulouse, Marchand and Courtois (1930) described post-mortem evidence of renal suppuration, and Parfitt (1934) found albuminuria in thirteen out of fourteen cases of mental illness complicating pregnancy and the puerperium. A catheter specimen of urine obtained under strict aseptic precautions from seventeen consecutive cases failed to confirm any of these findings (Table IV). Only one patient showed evidence of urinary infection, and this was already known because of clinical symptoms. Apart from this one case, none of these patients had albuminuria.

The E.S.R. was estimated in twenty consecutive cases, using the Wintrobe method (Whitby and Britton, 1942) and taking the normal range in

TABLE IV  
Analysis of Catheter Specimens of Urine

Case No.	Period of Pregnancy or Puerperium	Centrifuged Deposit					Evidence of Urinary Infection
		Albumin	Epi-thelial Cells	R.B.C.s	Leuco-cytes	Organ-isms	
51	12 weeks following delivery	..	-	-	+	-	Nil
52	8 weeks following delivery	..	-	-	-	-	Nil
53						Too resistive	
54	2 weeks following delivery	..	-	-	-	-	Nil
55	3 days following delivery	..	40 mg. per cent.	-	++	++	Yes
56						(Gram-VE) Too resistive	
57	2 weeks following delivery	..	-	-	-	-	Nil
58	4 weeks following delivery	..	-	+	-	-	Nil
59	3 weeks following delivery	..	-	-	-	-	Nil
60	20 weeks following delivery	..	-	+	-	-	Nil
61	20 weeks pregnant	..	-	+	-	-	Nil
62	16 weeks pregnant	..	-	++	-	-	Nil
63	2 weeks following delivery	..	-	+	-	-	Nil
64	4 weeks following delivery	..	-	+	-	-	Nil
65	3 weeks following delivery	..	-	+	-	-	Nil
66						Too resistive	
67	1 week following delivery	..	-	+	-	-	Nil

TABLE V  
Showing Results of Examination of the Erythrocyte Sedimentation Rate

Case No.	Period of Pregnancy or Puerperium	E.S.R. (Wintrobe) (Fall in one hour)	Corrected E.S.R.	Clinical Evidence of Infection
48	3rd month of pregnancy	18 m	10 m	Nil
49		Refused investigation		
50	5th month of pregnancy	8 m	3 m	Nil
51	3rd month after delivery	16 m	8 m	Nil
52	2nd month after delivery	17 m	17 m	Nil
53		Specimen clotted		
54	2 weeks after delivery	12 m	12 m	Nil
55		Restless patient		
56		Restless patient		
57	2 weeks after delivery	3 m	3 m	Nil
58	1 month after delivery	8 m	8 m	Nil
59	3 weeks after delivery	46 m	40 m	Retained products of conception. Pyrexial
60	5 months after delivery	20 m	20 m	Nil
61	5th month of pregnancy	15 m	11 m	Nil
62	4th month of pregnancy	48 m	41 m	Nil
63	2 weeks after delivery	39 m	39 m	Nil
64	4 weeks after delivery	13 m	10 m	Nil
65	3 weeks after delivery	51 m	34 m	Retained Placenta
66		Resistive patient		
67	1 week after delivery	54 m	26 m	Nil

women to be 0-20 mm. fall in one hour. Table V shows that five patients had an abnormally high E.S.R., but two of these already showed clinical evidence of infection. Thus only three of the twenty patients might have had a low grade infection that had been unrecognized, but according to Nichols (1942) even in normal pregnancy the E.S.R. is often raised, reaching a peak at about parturition.

There was thus no clear general evidence that hidden systemic infection could have been an aetiological factor.

Further evidence that complications of pregnancy and the puerperium are not a factor is shown by the fact that during the same period over which these cases were collected, six childless women who had adopted an infant were under treatment at the same hospital with a depressive psychosis, not unlike the cases of puerperal psychosis in symptomatology, the symptoms having occurred within a few weeks of the adoption. It is tempting therefore to think that it is the psychological impact of the child which is the disturbing factor, and not the physical act of birth.

*Comparison with psychoses not associated with childbearing.* Having drawn attention to the aetiological background against which a puerperal or pregnancy psychosis might supervene, is there any evidence to show from the factors studied that this background is in any way different from that associated with psychoses which bear no relationship to childbearing? An examination of Table II which shows a comparison with fifty such controls, who were married women of a comparable age group, illustrates that the aetiological background is similar in the two series.

#### DISCUSSION

From the similarities that have been observed with other types of mental disorder, it is evident that personality predisposition exists in both, and if this is so the childbirth itself and the complications arising from it assume less significance aetiological, just as with other types of psychosis immediate events are not often the true cause of the illness. The lack of statistical relationship with obstetrical complications bears this out. But it remains unexplained why these women should have broken down during childbirth, though the psychotic controls, most of whom were mothers, survived this only to become ill in other circumstances. Having drawn attention to similarities with other types of psychosis, it is then perhaps more important to see whether differences exist, though these may not have been apparent in the statistical analysis so far. I am of the opinion that differences do exist, and that these differences point to the fact that the defect of personality in these women lies in the reproductive function, particularly where this has related to the setting up of a home and the rearing of children in the normal fashion. The same differences are noted also when comparison is made with the normal controls.

Thus there is a strikingly high proportion of single women in the series, namely, seven out of sixty-seven, or approximately 10 per cent., whereas only one of the psychotic controls and none of the normal controls had given birth to a child before marriage. Nor was this social inadequacy due to intellectual limitations, for of the six single women, four were of normal intelligence, one of superior intelligence and only one mentally dull.

A further five had become pregnant as a result of extra-marital relationships, whereas this had occurred in none of the psychotic controls. Thus an illicit pregnancy had befallen twelve out of the sixty-seven patients or 18·5 per cent., a statistically significant proportion, for even when former pregnancies were taken into account only one of the normal controls and one of the psychotic controls had so conceived ( $P = < 0\cdot01$ ). This is not to be confused with unwanted pregnancy; nine of the normal controls admitted to this, but had nevertheless become successful mothers.

The question of emotional stress arises here and cannot be altogether separated out as a contributory aetiological factor. As many as 34 per cent. of



the series admitted experiencing emotional stress, but so also did 30 per cent. of the psychotic controls. Moreover the single women seemed to have accepted the pregnancy without much show of conscious emotional disturbance. What is even more impressive is that one of these had had a child before, and three of them subsequently gave birth to a second illegitimate child.

Three of the pregnancies had been the result of an incestuous union, perhaps expressing instability of reproductive function not only in the patient but in other members of the family also. A further four of the series had been sexually promiscuous, whereas none of the normal or psychotic controls had been so.

The abnormalities of reproductive life, especially in its social aspect, though not universally applicable to the whole series of childbearing psychoses, are nevertheless striking enough to arouse suspicion that a psychosis supervening upon pregnancy is not an isolated and inexplicable event, but is expressive of a deep-seated disorder or maladjustment of the reproductive function.

Another factor which illustrates this disturbance of reproductive function in these women is the embarrassed mother-child relationship. What complex emotional difficulties have to be surmounted even in the most normal of pregnancies, especially where the mother's relationship to her new-born child is concerned, have been described by Morris (1950). But in the mothers studied here there seemed to have been no constructive effort to overcome these difficulties in the days and weeks following birth, sometimes even before the psychosis developed. In the women who suffered from an affective psychosis, who comprised 60 per cent. of the total, there was in every case an abnormal emotional relationship to the child, expressing itself as a perverted hatred, indifference, or phobia that the child would be injured or killed, or even a denial that the child was theirs. This distorted relationship was found in some of the patients to persist or recur at intervals for some years after the psychosis had subsided. I have found this same symptom to occur in women who had not suffered from a psychosis during childbearing, but closer enquiry has always revealed that there had been a period of depression during the puerperium, combined with an awareness of difficulty in securing a good emotional relationship with the child.

One patient had a constant phobia that her boy would fall down the stairs and be killed. Another had a haunting fear that her mother would drop the child, causing its death. In two of the cases the mother had an obsessional preoccupation that she would injure her own child. Both looked after their children with scrupulous care, yet both had homicidal phantasies about them. One had frequent troubling dreams in which she murdered her child, whilst another repeatedly dreamt that there was nobody to care for the child, which died of starvation. Some of the patients felt they could no longer be responsible for the infant, and one was seriously considering having the child adopted. Another had a feeling that the baby was not hers, saying "I cannot realize the baby is mine. I cannot think it came from my body." The depersonalization she was experiencing extended to her state of awareness of her own child. The idea persisted for three years after she had been discharged from hospital. Yet another had a delusion that she had "no mother instinct".

The puerperal schizophrenics did not show such specific relationships, but the mother on the whole tended to deny the existence of the child. That such a relationship may have been fundamental was however shown by one patient who had a delusion that her child had been offered as a religious sacrifice.

Victorhoff (1952) in his series of cases did not think that this perverted

attitude was a desire to kill the child, but rather was evidence that the patient valued herself as an ineffective mother.

Such evidence of maladjustment to marriage as these patients have shown, together with this perverted attitude towards the child seems to indicate a lack of what Bowlby (1953) has called the normal instinctive and emotional equipment to set up a home and rear children. There has in fact been a breakdown of motherhood, the childbirth itself having been the means whereby the defect of personality became manifest, rather than a cause of the mental illness. The fact that there is a family history of mental instability in a significant proportion of these cases makes it likely that the defect of personality may be of an hereditary nature.

#### CONCLUSIONS

Patients suffering from psychoses complicating pregnancy and childbirth have a statistically greater incidence of previous mental instability than do normal puerperal controls, and a more unstable family history.

It is suggested that there is a defect of personality particularly where this concerns reproductive function.

Obstetrical complications are not a cause of puerperal and pregnancy psychoses.

Cases of puerperal affective psychoses show a specific feature, namely, a perverted emotional relationship towards the child.

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