

# CHANGING THE FACE OF BIRTH

Imagine stepping out of a cool, dark movie theater into a hot, glaring, sunny afternoon.

Imagine being wakened from a quiet, restful sleep by the blaring noise of a brass band.

If your reflexes and senses are normal, these drastic changes are not only going to be shocking, they might be extremely painful.

Now, imagine what it would be like to experience all of these violent sensory changes if you were a naked, newborn infant. The result could be extremely traumatic. Such shock is what greets most infants at the moment of birth—according to French obstetrician Frederick Leboyer. Blinding lights, noise, cold air, harsh fabrics, being snapped into an erect position and being held aloft by one foot, being slapped on the rear end and forced to scream—these are part of what Leboyer calls the violence of birth as it takes place in the efficient, antiseptic delivery rooms of the Western world.

But there might be a better way to be born. In *Birth Without Violence* (Alfred A. Knopf, 1975), Leboyer describes, in somewhat melodramatic terms, the pain infants suffer being born in most modern delivery rooms. "What more proof do we need?" he asks. "That tragic expression, those tight-shut eyes, those twitching eyebrows . . . that howling mouth, that squirming head trying desperately to find refuge . . . those hands stretching out to us, imploring, begging, then retreating to shield the face—that gesture of dread. Those furiously kicking feet, those arms that suddenly pull downward to protect the stomach. The flesh is one great shudder. . . . Every inch of the body is crying out: 'Don't touch me!' And at the same time pleading: 'Don't leave me! Help me!' Has there ever been a more heartrending appeal?"

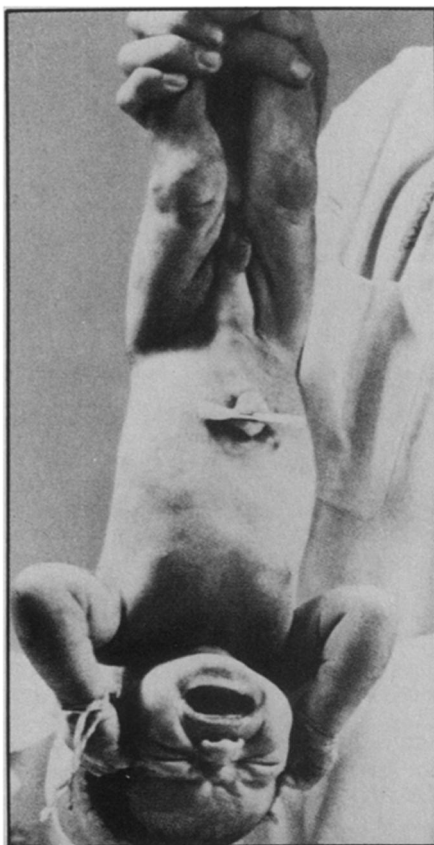
In answer to this appeal, Leboyer offers a method of making birth less painful and traumatic for the infant. It is a slow, quiet birth in which everything is done to protect the child from shock. The infant's sensitive eyes, for instance, are spared the glare of delivery room lamps and floodlights. "Of course," admits Leboyer, "some light is necessary to watch over the mother, so that she will not be injured when the child's head emerges." But then, he says, extinguish all lights, except a small nightlight. "And this is all to the good, since newborn infants are almost always ugly. . . . It is better that the

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Humane considerations and data on mother-child interactions may force some changes in hospital delivery-room practice

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BY ROBERT J. TROTTER



mother discover her child by touching it."

Unnecessary noise is also eliminated. Leboyer calls for complete silence in the delivery room, instead of the loud calls, such as "push, push" that might upset the mother and could possibly be painful to the infant.

Once the child's head and arms appear, the birth can be eased along by a finger under each armpit. Supported so, the baby is gently settled on its mother's abdomen. There, for several minutes, the child is allowed to adjust slowly to its new environment while it continues to receive warmth and comfort from its mother.

The Leboyer method also eliminates the traditional slap on the rear. The infant's spinal column, while in the womb, has never been completely straight, but holding the child up by a foot snaps the spine into an erect position. This, says Leboyer, is as unnecessarily shocking and painful as the slap on the rear.

But without the slap, how does the child begin to breathe? Anoxia, or lack of oxygen, can result in irreparable brain damage and is one of the most serious dangers a child faces during the birth process. The Leboyer method attempts to avoid this danger by allowing the infant to remain on its mother's abdomen with the umbilical cord intact. In this way, the infant continues to be supplied oxygenated blood via the umbilical cord. Gradually, after several minutes, the child's lungs and respiratory system will begin to function properly, and the umbilical cord will stop pulsing. Then, says Leboyer, after perhaps five minutes, the cord can be cut. The child has continually been fed oxygen and has not been slapped.

Next, instead of placing the child on a cold scale, it is immersed in water that has been warmed to near body temperature. Here the child is gently rinsed and will eventually open its eyes and begin to move its limbs freely. The result of such a nonviolent birth, concludes Leboyer, is not a screaming, kicking, terrified infant but a relaxed and even smiling child.

Leboyer's book, compelling because of its humane approach to birth, has been a best seller in France for two years and is now being published in England, Germany, Sweden, Brazil, Italy and Holland. For the past several months, it has been selling well in the United States.

Just because the book is popular, however, does not mean that there will be immediate and drastic changes in delivery

room techniques around the world. Studies have suggested a possible link between birth trauma (especially anoxia) and schizophrenia, but Leboyer offers no solid evidence that the more than 1,000 infants he has delivered by this method are any better off than children born the normal delivery room way. And it can be argued that the possible risks to mother and child in a semidarkened delivery room are more serious than any benefits that might result from the absence of bright lights.

Although Leboyer does not present specific evidence to prove the value of his method, there is a growing body of evidence that might eventually bring about

some changes in the way newborns are greeted. Marshall H. Klaus, for instance, is interested in the way hospital-care practices affect mothers. And his data substantiate his claim that "present hospital practices with human mothers and fathers in this country require drastic alteration." Klaus, of the department of pediatrics at the school of medicine of Case Western Reserve University in Cleveland, described his research at the recent meeting in Vermont on the prevention of psychopathology (SN: 8/9/75, p. 90).

Part of Klaus's claim is based on behavioral studies of a number of animal

species as well as on studies of human maternal behavior. These observations suggest that what happens in the period immediately following delivery may be critical to later maternal behavior. Goats, sheep and cattle, for instance, show disturbances of mothering behavior if they have been separated from their young for the first hour or so after delivery. After such a separation, the mothers may fail to care for their young and may even butt their offspring away. If the mother and infant are separated for an hour on the fifth day, the mother quickly returns to the maternal behavior characteristic of her species when the pair is reunited.

Mice and rats show a lack of skill in caring for their young if mother and pup have been separated during the first few hours following delivery. Harry Harlow's studies of rhesus monkeys show that mothers who are not allowed to touch their infants, but are allowed to see them through a window, soon lose interest in those infants.

Specific patterns of behavior seem to be sensitive to factors other than separation. Pregnant rats lick their genital areas during labor and just before birth. This behavior carries over to the pups after birth. If the behavior pattern is changed, the result can be abnormal mothering. In one experiment, high collars were placed on the necks of pregnant rats to prevent self-licking. The collars were removed shortly before birth, but the rats did not lick their infants clean in the normal fashion. Instead, the mothers ate some of the pups. The mothers even refused to suckle those pups that weren't eaten.

For a period after delivery, weeks or even months, most animal species show characteristic maternal behavior patterns such as licking, nesting and grooming. Observations of humans suggest that such behavior patterns are also found in human mothers. In many societies, for instance, there is some regularized method of dealing with newborns. Anthropological studies show that in many cultures, the mother and infant are secluded during the first three to seven days after birth while the navel heals. In Israeli kibbutzim, separation does not usually occur until after the fifth day. In Russia, mothers are not separated from their infants during the first weeks of life. Klaus and his colleagues point out that "routine complete separation of mother and infant in the first days after delivery exists only in the high-risk and premature nurseries of the Western world." And even after normal births, some degree of separation of mother and child is the standard procedure.

It is this disruption of what appears to be a normal human behavior pattern that is the subject of Klaus's research. Evidence of the danger of immediate separation of mother and child comes from studies of premature infants who were taken away from their mothers for special treatment. At the turn of the century,



A newborn rests on its mother's abdomen before being rinsed gently in warm water.



Photos: Alfred A. Knopf

Pierre Budin, a specialist in infant care, noted that, "Unfortunately . . . a certain number of mothers abandon the babies whose needs they have not had to meet, and in whom they have lost all interest. The life of the little one has been saved, it is true, but at the cost of the mother."

Another example comes from the work of Martin Cooney, who, in 1896, displayed a "child hatchery" that was used to isolate and protect premature infants. Cooney traveled as an exhibitor to fairs in England and the United States where he exhibited premature infants in their "hatcheries." Significantly, Cooney sometimes had difficulty getting parents to take their children back.

Because the human infant is wholly dependent on its mother or caretaker for all physical and emotional needs, the strength of the attachment bond between the two is important in determining whether a child will survive and develop optimally. The battered child syndrome, for instance, is one of the most dramatic examples of disturbed mothering. In one study of battered children, the incidence of prematurity or serious illness (problems such as Rh disease or diabetes may require immediate separation of mother and child) was 39 percent. Although many factors contribute to the battered child syndrome (such as the mother's own rearing), Klaus suggests that early separation may be a significant factor.

If the separation of mother and child immediately after birth, for medical reasons, can have such dramatic effects on the mother-child affection bond and on future behavior, then it is possible that any separation might have subtle, but still important, effects on the mother-child relationship.

In 1970, after reviewing the information on the separation of mothers and infants, Klaus and John H. Kennell concluded that "it would not be unreasonable to change many of our existing rules and regulations. However, no widespread change should take place until there is strong evidence that what we are doing is damaging, and that a change would be desirable." Since then, Klaus and his colleagues have been collecting that evidence.

They are studying the mothers of full-term, rather than premature, infants. They are testing the hypothesis that there is a period shortly after birth that is uniquely important for the mother-to-infant attachment in humans. For the study, 28 women were selected and placed in two groups. The 14 mothers in the control group had traditional contact with their infants: a glimpse of the baby shortly after birth, brief contact and identification at 6 to 12 hours and then visits for 20 to 30 minutes every four hours for bottle feeding. In addition to this contact, the other 14 mothers, those in the extended-contact group, were given their nude babies for one hour within the first three hours of

birth and also five extra hours of contact each afternoon on the first three days after delivery—a total of 16 hours of extra contact.

To determine if the additional contact altered later behavior, the mothers were asked to return to the hospital one month after delivery for three separate observations. They were interviewed, observed while the child was being examined and filmed while feeding their infants. The extended-care mothers scored higher on questions related to caretaking and seemed to interact more with their infants. They were also more likely to soothe the child if it cried during the physical examination. Films showed that while feeding, the extended-contact mothers spent more time fondling and making eye-to-eye contact with their infants. The eye contact is thought to be especially important, and some researchers have even suggested that eye-to-eye contact between mother and child might be an innate releaser of maternal caretaking behavior.

The researchers concluded that the differences between the two groups in eye contact and tactile stimulation that probably occurred during the first month, in more than 200 feedings, and in numerous other encounters, may have definite effects on the infant. Studies show, for instance, that increased maternal attentiveness facilitates exploratory behavior as well as the early development of cognitive behavior in infants.

The differences between the two groups of mothers were obvious, but still, the researchers said, "It is premature to make any recommendations regarding which regimen is preferable. Caution is recommended before any drastic changes are made in hospital policies. . . ." But since that study was completed, the mothers have been seen again, at one year and at two years. The results of these observations are what has convinced Klaus that changes in hospital practices must be made.

One year after giving birth, the mothers in the two groups continued to be significantly different in their answers to interview questions and in their behavior during a physical examination of the child. The extended-contact mothers continued to display more fondling behavior and "en face" or eye-to-eye contact behavior. Of the mothers who had returned to work or school, the extended-contact women were more preoccupied with their babies than were the control mothers. "We were surprised at the consistency of the differences over a span of 11 months," said the researchers, who concluded that it was time for "a thorough review and evaluation of our present perinatal practices." And these changes might have to extend to fathers, notes Klaus. A study done in Sweden suggests that fathers who had extended contact with their infants during the first five days after birth were more likely to spend more time interacting with

their children.

During the two-year follow-up, mother-child verbal interaction was observed and recorded. After an initial interview, each mother was left alone with her child for a "free play" period in a room containing toys. The situation was taped and analyzed, and several measures of verbal behavior were made: rate, length and variety of utterances, grammatical structure, form class and type or function of sentences.

The differences between the groups were again apparent. When talking with their children, the mothers in the extended-contact group had a verbal output distinctly greater in variety and elaboration. Their utterances were somewhat longer and contained more function words (i.e., prepositions and conjunctions that are characteristic of more mature speech).

The extended-contact mothers used more appropriate forms for imparting information, for eliciting a response from the child and for elaborating on simple concepts. They addressed twice as many questions to their children and initiated more teaching behavior. The mothers in the control group used more content words, the type of concise speech one might use in giving basic information. They also used more imperatives, suggesting the use of more controlling behavior.

From these results, it appears that the extended-contact mothers have a greater awareness of the growing needs of their children to assess and interpret their widening external environment. Such sensitivity and increased attention could have a significant bearing on the child's behavior as well as on its future cognitive and linguistic development. Thus, say the researchers, permission for a mother to spend a few additional hours with her newborn infant immediately following delivery may change the linguistic environment she provides for her child in its first years of life, and this, in turn, may affect the child's learning and language far into the future.

Maternal behavior is known to be determined by a multitude of factors—the mother's genetic and cultural background, her relations with her husband and family, the planning and course of her pregnancy and her own mothering as an infant. Considering the number of determinants involved, it is surprising that just 16 hours during the first three days of life can have an effect that lasts for at least two, and perhaps many, years. And, as the researchers note, this extra contact is perhaps one of the most easily manipulated of the determinants of maternal behavior. Since an infant's mental and emotional development is dependent on its mother's behavior and care, it does not seem unreasonable, as Klaus says, that present hospital practice with regard to mothers and their newborns may have to undergo drastic alterations. □