Birth, Sexuality and Orgasm

Dr. Michel Odent

Esther Rantzen was visiting our maternity unit in Pithiviers (near Paris) when a baby was born feet first. Half an hour after the birth, the (UK) television presenter asked the young mother, who had had no previous experience of giving birth, 'How did you feel during the last contraction?' The unhesitating reply was, 'It was like an orgasm!' In a book about breast-feeding Sheila Kitzinger echoes what she has heard from many breast-feeding mothers: 'A woman who relishes breast-feeding may feel sexually aroused as her baby tugs and sucks.'

A new generation of western women now dare to make comparisons between lovemaking, giving birth and breast-feeding. These comparisons are easily interpreted in the scientific context of the nineties.

During a recent lecturing tour in the USA, I was supposed to talk to midwives, doctors and other health professionals about the physiology of the birth process. Instead, I found myself constantly deviating, comparing giving birth with breast-feeding and intercourse. Finally, by the end of the day, everyone was convinced that these events are not separate topics and that sexual life is a whole. This new vision of sexuality is the key which brings together recent data still scattered in scientific literature and confirms that there is a hormone of love on the one hand, and also a reward system which operates each time we (the sexualised animals) do something which is necessary for the survival of the species.

In any aspect of love, oxytocin is involved. Oxytocin is secreted by a primitive structure of the brain called the hypothalamus. Then it is sequestered in the posterior pituitary gland and in precise circumstances, it is suddenly released in the bloodstream. Until recently, oxytocin was thought of as a female hormone whose only role was to stimulate contractions of the uterus during labour and delivery and contractions of the breast during lactation. Now it is seen as a male and female hormone involved in all the different aspects of sexual life.

Its role during sexual arousal and orgasm has recently been brought to light. Of course, there have been countless experiments with rats and other animals and oxytocin. For example when domestic fowl and pigeons are injected with oxytocin the majority of them start waltzing, grabbing combs, mounting and mating within a minute of the injection.

For several decades, oxytocin has been used to cope with the mating problems of many animals in captivity. We now have scientific studies of oxytocin levels during orgasm among humans. Mary Carmichael's team from Stamford University in California has published such a study in the American Journal of Endocrinology and Metabolism. Oxytocin levels among women and men during masturbation and orgasm were measured, thanks to blood samples collected continuously through indwelling venous catheters. Levels during self-stimulation before orgasm were higher amongst women than men. Indeed they were higher during the second phase of the menstrual cycle than during the first phase. During orgasm women reached higher levels of oxytocin than men and multi-orgasmic women reached a higher peak during the second orgasm. During male orgasm the release of oxytocin helps to induce contractions of the prostate and seminal vesicle.

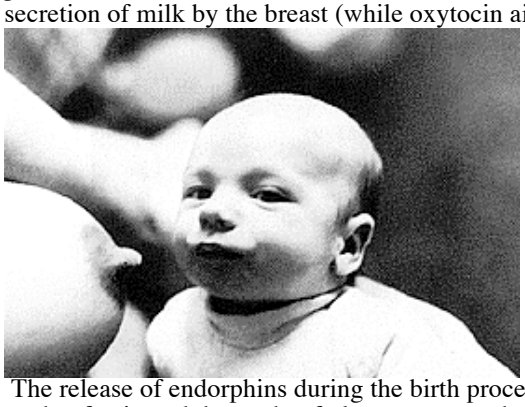
The immediate effect of the release of oxytocin during female orgasm is to induce uterine contractions which can help the transportation of the sperm towards the egg. This was shown as early as 1961 by two American surgeons during a gynaecological operation. Before making the abdominal incision, they introduced particles of carbon into the woman's vagina close to the cervix and at the same time they gave her an injection of oxytocin. Later, they found particles of carbon in the Fallopian tubes. Anthropologists such as Margaret Mead noticed that many societies have totally ignored female orgasm, but explained that it has no biological role. At the same stage in the history of biological sciences, Wilhelm Reich, in his pioneering book, The Function of the Orgasm, was also unable to account for this reproductive role in female orgasm.

Of course, a release of oxytocin is needed during the birth process. Obstetricians have been aware of this for a long time. Up to now, they have not been interested in the peak of oxytocin released just after the delivery of the baby. The importance of this fact is highlighted when it is linked with the knowledge that oxytocin can induce maternal behaviour. When it is injected into the brain of virgin or male rats they begin to take care of pups and behave like mothers. If, on the other hand, antagonists of oxytocin are injected into the brain of mother rats just after delivery, they do not take great care of their babies. It can be claimed that one of the greatest peaks of love hormone a woman can have in her life is just after childbirth, if it happens without hormone-substitutes. It also seems that the foetus releases oxytocin which could contribute to the onset of labour; this may shape the baby's own ability to release the love hormone

Certain aspects of the release of oxytocin during lactation have been clarified recently. It has been shown

that as soon as the mother can perceive the signal given by her hungry baby, her level of oxytocin increases. A parallel can be made with sexual arousal which frequently starts before there is any skin stimulation. As the baby sucks, the level of oxytocin released by the mother is about the same as during orgasm... another parallel between these two events in sexual life. Furthermore, there is oxytocin in human milk. In other words, the breast-feeding baby absorbs a certain quantity of love hormone via the digestive tract. If we add that when we share a meal with companions, we increase our level of oxytocin then the conclusion is undoubtedly that there is an altruistic hormone, a love hormone.

Not only is any episode of sexual life characterised by the release of an altruistic hormone, but it is also rewarded by a release of morphine-like substances. These 'endomorphins' are at the same time hormones of pleasure and natural pain-killers. During intercourse both partners release high levels of endomorphins. It is well known by certain migraine sufferers that intercourse is a natural remedy for headache. The endomorphin release during copulation among different species of mammals is well documented. For example, beta endorphin levels in the blood of male hamsters after their fifth ejaculation was 86 times higher than those of control animals. The release of endorphins during labour and delivery has been studied amongst humans. The data we have at our disposal have radically changed the basis of debates which were commonplace 40 years ago: Is the pain during labour and delivery physiological or is it the result of cultural conditioning? Today, the concept of physiological pain is accepted, a pain compensated for by a system of protection, which is the release of opiates. This is the beginning of a long chain of reactions; for example, beta endorphin releases prolactin, a hormone which adds the final touch to the maturation of the baby's lungs and is necessary for the secretion of milk by the breast (while oxytocin aids milk ejection).



The release of endorphins during the birth process gives the opportunity to emphasise that in the 1990s the study of pain and the study of pleasure cannot be separated. The system which protects against pain is one which also gives us pleasure.

During the birth process the baby itself releases its own endorphins, so that in the hour following birth, both mother and baby are impregnated with opiates. We all know that opiates create a state of dependency. Now we are in the position to understand that when mother and baby are close to each other and have not yet eliminated their opiates, the beginning of a dependency, or attachment is created. One can also understand that when sexual partners are close to each other and impregnated with opiates, another kind of dependency is created, which follows the exact same model as the attachment between mother and baby.

Lactation is also necessary for the survival of mammals. It is not surprising that the reward system is involved. When a woman is breast-feeding, her level of beta endorphins peaks at twenty minutes. The baby is also rewarded: there are endorphins in human milk. That is why after being breast-fed, babies sometimes act as if on a high.

Our knowledge of endorphins is still new. Only 20 years ago, Pert and Snyder, in an historic article published in Science revealed the existence of cells sensitive to opiates in the nervous tissue of mammals. As a result they could predict the release by our body of substances similar to those extracted from the opium poppy. When all the published scientific data regarding endomorphins is fully understood we will have a new basis to consider such issues as relationships between pain and pleasure, masochistic and sadistic behaviours, the philosophy of suffering, religious ecstasy, and substitutes for sexual gratification, to name but a few.

Oxytocin, the love hormone, and endorphins, the hormones of pleasure, are always part of a complex hormonal balance. For example in the case of a sudden release of oxytocin, the need to love can be directed in different ways, according to the hormonal balance. If a woman has a high level of prolactin, for example if she is breast-feeding, she tends to concentrate her capacity to love towards the baby. If a woman has a low level of Prolactin, (if she is not breast-feeding), she has a tendency to direct her love towards a sexual partner. Prolactin, the hormone necessary for the secretion of milk, depresses sexual arousal. When a man has a tumour releasing prolactin, the first symptom is sexual impotence. Anti-prolactin drugs can induce erotic dreams. It is well known among many species of mammals that the lactating mother is not receptive to the male. In most tribal societies lovemaking and breast-feeding are considered incompatible. Since the advent of the Greek-Roman model of strict monogamy, the tendency has been towards the reduction of the duration of breast-feeding: finding substitutes for mother's milk (milk of nursing slaves, wet nurses, different animals, formulas and so on).

Another aspect common to the different episodes of sexual life is that they are inhibited by the hormones of the adrenaline family, the hormones released when we (humans and other mammals) are frightened or when we are cold. These arc the emergency hormones which give us the energy to protect ourselves by fighting or running away. If the female of a mammal is threatened by a predator when in labour, the release of adrenaline tends to stop the birth process, to postpone it and to give the mother the energy to fight or escape. Couples cannot make love during a bombardment. A farmer knows that if a cow is frightened she cannot

release milk.

Not only are the same hormones involved in the different episodes of sexual life, but the same patterns, the same sorts of scenarios are reproduced. The final phase is always an ejection reflex'. Terms such as 'sperm ejection reflex', 'foetus ejection reflex', 'milk ejection reflex' are very suggestive of this parallel. I have adopted the term 'foetus ejection reflex' - which had previously been used for non-human mammals - to refer to the very last contractions before the birth of humans in the case of an undisturbed, unguided scenario. This reflex is almost unknown in hospitals and even at home, if another person takes the role of a 'coach', a 'guide', a 'helper', a 'support person' or an 'observer'.

As far as human beings are concerned, the most important point to clarify is that during the different episodes of sexual life the main gland at work is the brain. In modern biological sciences the brain is primarily a gland-releasing hormones. But only the primitive brain structures which arc around the hypothalamus and which we share with the most primitive mammals, are active. What is particular to human beings is that these brain structures are covered by a highly developed new brain, a neocortex which supports the intellect. When this rational brain is overactive, it tends to inhibit the primitive brain. During the birth process there is a time when the mother behaves as though she is on another planet. She has to change her conscious level and reduce the activity of the neocortex. Inversely during the birth process and any kind of sexual experience, any stimulation of the neocortex tends to have an inhibitory effect: logical words, feeling observed, bright lights, etc. Few couples can make love if they feel observed, or if their neocortex is stimulated by bright lights or logical words.

It is ironic that non-human mammals whose neocortex is not as developed as ours have a strategy to give birth in a state of privacy. A feeling of security is a prerequisite to a state of privacy. To feel secure you have to feel protected. Let us remember that the original midwife was the mother of the one giving birth. The first midwives were substitutes for the mother, who is first and foremost a protective person.

To look at sexuality as a whole has many implications. It helps to understand that in societies where genital sexuality is highly repressed, women are less likely to have easy births. Conversely, routine over-control of the birth process, as carried out in most known cultures, probably influences other aspects of sexual life.

A revolution will occur when health professionals finally see the birth process as an episode of sexual life